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NOUS L'AVONS REÇUE
THE DEVELOPMENT AND EVALUATION OF
WRITTEN SIMULATION AS A TOOL
FOR INSTRUCTING NURSING PROCESS

by

Emily R. Knor
B.Sc.N., University of Alberta, 1970

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS (EDUCATION)
in the Faculty
of
Education

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The Development and Evaluation of Written Simulation as a Tool for Instructing Nursing Process

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ABSTRACT

A major concern in nursing education is teaching clinical problem solving or the nursing process. In this process, the nurse identifies selected information in a complex environment, attaches meaning to this information, accurately estimates the patient problem(s), and chooses appropriate action for patient care. A significant problem in nursing education is that students can explain the purposes and steps of the nursing process but experience difficulty applying that knowledge at the bedside. Thus, better methods for instructing the nursing process must be designed and validated.

Nursing literature well describes the nursing process. Unfortunately the cognitive skills that underlie this process and methods for teaching these skills are poorly detailed. Educational psychology and medical education provide some empirical basis for designing methods to teach these skills, particularly learning to make judgements based on information that is not certain and using feedback to aid learning. Simulation is appropriate because it provides learners with opportunities to experience processes and conditions imitating the real world.

The purpose of this study was to develop and test a set of written simulations to instruct cognitive skills inherent in the nursing process. Eight simulations were developed incorporating three elements: a sequence of activities typifying the components of the nursing process; a method for learning cognitive inference/action tasks; and feedback in qualitative and quantitative forms. One of the simulations was subjected to two field trials to test the format of the exercise and the clarity of instructions. The content validity of the exercises and the qualitative feedback
was established by using case histories, current textbooks, and the responses of a panel of nursing experts to the simulations. In a pretest-posttest control group design, six dependent variables were studied to examine the effect of the simulations on students' learning of the nursing process. A posttest measured the six dependent variables: patient problem identification, cue use, correct first action, and three self-confidence variables. A scoring key was developed and validated with reference to current textbooks and responses of a panel of nursing experts on the test instrument.

An Hotelling's $T^2$ test showed no statistically reliable difference between the experimental and the control groups on the posttest. Subsequent univariate $t$ tests however, did show statistically reliable differences between the group means for patient problem identification, cue use, and correct first action, using a liberal $p$ value extending to .11. The statistical power of the test for an effect size equivalent to a change in grade from a C to a B at a significance level of .10 was computed to be .73. Observed effect sizes showed a favorable difference equivalent to a change in grade from a C to a B for the experimental group on patient-problem-identification and cue-use scores. For correct first action the group mean difference was equivalent to a change in grade from a C to an A-. No difference was found between the group means on the self-confidence variables.

This study was limited by a small sample size, weak experimental control, and difficulties with the experimental treatment identified primarily as problems in providing feedback and keeping records. Given these limitations, the results suggest a positive treatment effect on students' learning of the cognitive skills inherent in the nursing process. The study should be replicated using a larger sample size and improved simulation exercises.
ACKNOWLEDGEMENTS

It has been over two years since this project was undertaken, growing from an idea seeded by Roger D. Gehlbach during a session on human problem solving. As the project developed there were times when barriers and problems seemed greater than progress and success. With the help, guidance, and encouragement of many these difficulties were overcome and the task was completed.

I am especially grateful to the members of my supervisory committee from whom I learned so much. I am indebted to Philip H. Winne, my senior supervisor, for his support and guidance. His critical questions and comments forced me to think and express my thoughts more deeply and clearly. Additionally, his inherent expectation for excellence motivated a personal desire in me to do my best. I am also indebted to Roger D. Gehlbach and Ronald W. Marx. Their encouragement, criticisms, and counsel provided needed direction.

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CHAPTER 1

PURPOSE OF THE RESEARCH

Context of the Problem

A major concern in nursing education is the teaching of clinical problem solving. In nursing this is commonly called "the nursing process". Generally stated, this "process" involves a series of steps in which the nurse assesses, plans, implements, and evaluates the care for a patient. Kelly (1966) outlined three cognitive or intellectual functions that are essential to applying the nursing process in clinical practice. These are observing the patient, making inferences based on observations, and taking appropriate courses of action. Carlson (1972) and Malleck (1977) defined the current problem in nursing education by saying that new graduates and students can demonstrate an understanding of the theory of nursing process but lack ability to apply it in clinical practice. That is, they can explain the purposes and the steps of the nursing process, including principles and guidelines for its use. Yet, they are unable to apply that knowledge in their day-to-day care of patients at the bedside. For example, Malleck observed that students make individualized nursing diagnoses for their assigned patients but write care plans that follow the textbook rather than the patients' needs, thus
The problem-solving process as applied to nursing practice has been well formulated and explicitly described by various authors. Very little, however, has been contributed to understanding the intellectual or cognitive skills that are presumed to underlie this process in giving patient care (Grier, 1977; Kelly, 1964).

Further, the nursing literature provides virtually no guidance to the educator on methods for teaching cognitive skills such as making inferences, judgements, and decisions. Kelly (1966) argued that the question of how to prepare the nurse for these functions is an important problem faced by schools of nursing. Yet, an examination of the nursing literature from 1964 to the present revealed that research into developing methods for teaching these skills to students is virtually nonexistent.

This writer believes that nursing educators must direct their attention to the understanding of the cognitive processes involved in problem solving and to developing effective methods for teaching students to use these skills in clinical practice. The literature of instructional psychology and medical education provides some empirical basis for designing methods of teaching these cognitive skills essential to the nursing process. Written simulation is particularly appropriate because it places the student in a learning environment that reflects clinical practice. It allows the educator to control the learning experience, yet permits the student freedom to learn the skills required for clinical problem solving without imposing limitations on the understanding of the cognitive processes involved in problem solving.

Written simulation is particularly appropriate because it allows the educator to control the learning experience, yet permits the student freedom to learn the skills required for clinical problem solving without imposing limitations on the understanding of the cognitive processes involved in problem solving.
potential harm on the patient. Written simulation has been used effectively in other health professions; it has yet to be evaluated as an instructional tool for nursing process.

Thus, this study focused on two concerns. The first was the development of a set of written simulation exercises aimed at teaching the cognitive processes inherent in clinical problem solving. The second focus was the evaluation of the effectiveness of these simulations in relation to traditional classroom methods.

Statement of Purpose

The purpose of this study was to develop and evaluate a set of written simulations intended to teach nursing students aspects of problem solving in patient care. Essentially it sought to determine whether written simulations combined with clinical practice were better than writing nursing care plans combined with clinical practice for teaching cognitive skills inherent in the nursing process. A pretest-posttest design was used to measure how well students were able to acquire and use information for making an inference about the state of the patient and a decision for subsequent care. Basic to this test was the assumption that before students can develop skill in applying the nursing process, they must acquire knowledge of the cognitive tasks inherent in that process. Thus, ability to apply the process was taken to mean that knowledge of the tasks had been achieved.
Delimitations

This study did not attempt to contribute to the understanding of the cognitive skills inherent in nursing process. That is to say, it was not designed to explain psychologically how nurses acquire and use information. This task is left to research on learning.

In addition, the study was not designed to prove that high performance achieved on written simulation necessarily means high achievement in clinical practice. Concurrent and comprehensive clinical performance assessment would be required to achieve this correlative information.

Organization of Report

The report outlined herein will include a review of related literature, a description of the development of the written simulation exercises, and a discussion of the evaluation of these as a tool for instructing nursing process. Chapters 2, 3, and 4 deal respectively with the review of literature pertaining to nursing process, the cognitive psychology of clinical inference and inquiry, and curricular issues. Chapter 5 describes the development of the written simulation exercises. Chapter 6 outlines the method used to study the effectiveness of the simulations; chapter 7 describes the results. A discussion of the results and conclusions is presented in chapter 8.
CHAPTER 2

REVIEW OF THE RELATED LITERATURE:

NURSING PROCESS

Structural Components

The problem-solving or scientific approach to nursing practice is commonly called the "nursing process". This process is defined as a systematic series of steps used to plan and implement patient care. A number of authors, notably Bower (1972), Du Gas (1977), Lewis (1976), Marriner (1975), Mayers (1972), Monken (1975), Roy (1975), and Yura and Walsh (1973), put forth models, each specifically describing the structural components, or the steps or phases of the nursing process. Variations exist in the names, definitions, and number of the phases involved in the various models. Nonetheless, all of the models describe a method for determining patient problems, developing a plan of care, implementing the plan of care, and evaluating the extent to which the plan was effective in resolving the problems identified. Marriner (1975) suggested that one reason for the differences in the names and definitions of these structural components is probably that the phases of the process are often interrelated and sometimes overlapping. Further, each step within the process is dependent on the one before it, with assessment and evaluation
occurring throughout (Monken, 1975). The structural components found most commonly in the various models are classified as assessment, planning, implementation, and evaluation.

Assessment

Assessment is the first step of the nursing process. It involves four sets of activities on the part of the nurse: the collection of information, the analysis of that information, the synthesis of information from all sources, and the identification of problems (Du Gas, 1977, p. 146). The statement of an identified patient problem is referred to by several authors as the "nursing diagnosis" (Gebbie & Lavin, 1974; Marriner, 1975; Monken, 1975; Mundinger & Jauron, 1975; Roy, 1975). More specifically, a nursing diagnosis is defined as the summary statement or judgement made about the data gathered (Roy, 1975, p. 91), or the statement of a patient problem which is arrived at by making inferences from the data collected (Mundinger & Jauron, 1975, p. 91). The concept of patient problem is defined as "... one that can be alleviated by nursing intervention" (Mündinger & Jauron, 1975, p. 96).

Patient problems are seen as actual or potential (Du Gas, 1977; Lewis, 1976; Mayers, 1973). An actual problem is one which exists and is supported by the data collected. A potential problem is one which is not present, but which could arise because of the patient's health problems, or because of the diagnostic or therapeutic regimen. As well, a potential problem may arise when preventive measures are not taken. Commonly the problem statement includes a patient's specific behavioral response to a health problem, and a listing of the factor(s) contributing to or causing the patient problem (Mundinger & Jauron, 1975; Roy, 1975). Thus, an
example of a nursing diagnosis could be pain due to abdominal distention. A diagnostic statement written in such a way indicates intervention choices that the nurse may make in the planning phase of the nursing process.

**Planning**

Planning refers to the phase of the nursing process in which a plan of care is made. Typically, this phase involves the selection of appropriate nursing interventions to meet specified goals for patient care (Du Gas, 1977, p. 183). Beginning with a number of identified patient problems, the nurse sets priorities and formulates objectives as statements of desired outcomes in patient behavior which should result from nursing care (Lewis, 1976, p. 2). A number of solutions may be applicable for meeting the stated objectives. The essential task of the nurse is to select the most appropriate action from the many possibilities. To do this, the nurse must be able to apply her knowledge of the physical and psychosocial sciences related to the basic needs of the individual, the patient's health related problems, and the physician's plan of care. In addition, this task calls for sound judgement and decision-making ability.

The plan of care is called a nursing care plan. It includes the nursing diagnosis, the objectives for care, the selected nursing actions, and a plan for evaluation.

**Implementation**

Implementation is defined as the action phase (Du Gas, 1977; Marriner, 1975; Yura & Walsh, 1973) in which the nurse applies her psychomotor skills to provide nursing care as planned.
Evaluation

Evaluation is defined as the process of determining the degree to which the objectives for patient care have been attained (Du Gas, 1977, p. 190). Although it is considered the final phase of the nursing process, evaluation occurs continuously throughout. Monken described this phase well. She stated: "the nurse uses her assessment skills to determine the patient's response to her interventions, compares it to the criteria she established for successful achievement of goals, and either continues with the same approach, or alters her approach in light of information obtained" (Monken, 1975, p. 112). Evaluation is the phase which makes the nursing process an ongoing one by the continuous assessment of a patient and his response to care.

Cognitive Skills For Nursing Process

The cognitive skills required by the nurse to use the nursing process are described by Yura and Walsh (1973, p. 86) as problem solving, critical thinking, making nursing judgements, and making decisions. To date the nursing literature has not adequately explained the nature of these skills nor has it clearly described the ways in which practising nurses apply these cognitive processes when giving patient care. A major attempt to do so, however, was made by Kelly (1964, 1966), whose interest and belief in the cognitive functions underlying nursing process stimulated a three-phase study of clinical inference in nursing (Hammond, Kelly, Schneider, & Vancini, 1966). Kelly believed that such a study would provide
nursing educators with the information needed to develop effective curricula for teaching students the cognitive skills required for problem solving in clinical practice.

The three-phase study focused on clinical inference and decision making. Clinical inference was defined as a conclusion or judgement made about the state of the patient and/or the nursing needs of the patient when the nurse is in a face-to-face relationship with the patient. Decision making was defined as the process of determining the nursing action which would provide optimal benefit to the patient. The primary purpose of the study was to provide an understanding of the way in which a practising nurse selects, organizes, and uses signs and symptoms, along with other information in reaching a judgement about the state or condition of a patient, and then takes appropriate action based on such a judgement.

In Phase I a nonrandom sample of 212 descriptions of actions taken in response to a patient's complaint of post-operative pain were provided by practising nurses from 30 hospitals throughout 12 different states of the U.S.A. The data were collected on a form containing specific questions concerning the decisions made by a nurse following a complaint of abdominal pain by a post-abdominal surgery patient. Tabulations of frequencies revealed that the cognitive tasks encountered by the nurse are many, varied, and complex. From the sample of 212 descriptions, 17 nursing actions were identified for 165 cues. The data also suggested that none of the cues independently provided a basis for action. The cognitive task was found to be complex with respect to: 1) the number of cues involved, 2) the number of responses to the task, and 3) the relation between cues and actions.
The purpose of Phase II was to compare the information value of various cues as they are used by nurses. The information value of a cue was referred to as the usefulness of each item to a particular inference about the state of a patient. This usefulness was rated on a five-point scale ranging from useless to extremely useful. The cues derived from Phase I were further tested. Six nurses were presented with 100 cases randomly selected from the 212 cases selected in Phase I. Their task was to infer the State of the Patient (SOP) from the cues provided in the case situations. Information-theory analysis was undertaken to identify single cues or cue groupings, if any, which constituted a message unit. This analysis attempted to determine the amount of uncertainty which is reduced in a nurse by information from a cue or cue grouping in relation to a particular inference made.

The data showed that no single cue held any independent significance for the six nurse subjects. As well, no groups of cues, arranged in various ways, were found to be related to the inferences made by the nurse subjects about the SOP. If, indeed, the cues and cue groupings did carry information of common knowledge the six participants did not use them consistently. Thus, this phase failed to provide an increased understanding of cues and cue groupings and how they are used by the nurse when giving patient care. The investigators argued, however, that the question of which cues are used by the nurse when applying the nursing process should be answered with further research.

In Phase III, two problems were investigated. The first dealt with the nature of the strategies a nurse employs to seek out information. The subjects were five registered nurses who volunteered to participate. Presented with 12 cases, replicated from those in Phase I, the subjects were required to formulate a hypothesis
and then seek information which would enable them to accept or reject the hypothesis.

Two sets of data were collected for analysis: the order in which cues were selected, and a probability estimate of the value of the information carried by each of the cues. The results demonstrated that the nursing participants did not pursue a consistent strategy for seeking information.

The second problem investigated in Phase III was to analyze the process whereby a nurse revises her judgements about the state of the patient as new information is received. The method of study compared the nurse's revised judgement as she received new information about the patient with the revisions made by a mathematical model. The mathematical model used in this study was Bayes' Theorem. Six female registered nurses participating as subjects were presented with four of 12 cases (all were replicas of cases collected in Phase I). For each of the four cases presented, the subject selected individual cues which might confirm the presence \( (H_1) \) or absence \( (H_2) \) of a condition, assigned a subjective probability estimate that the condition was present, and finally, made a revision of the probabilities of \( H_1 \) and \( H_2 \) after receiving information about the cue selected. The results confirmed the hypothesis that nurses manipulate probabilities of signs and symptoms and SOP's not only in a self-consistent manner, but also in a manner consistent with logic. The average correlation between the nurses' probabilities and those produced by the mathematical models was .93. Further, the results determined that nurses were cognitively cautious. They lagged behind the mathematical model in revising their judgements.
In conclusion, the study on clinical inference in nursing did not conclusively provide all of the information that the investigators proposed it would. It did, however, shed some light on the inference task of the nurse. As a result, Kelly summarized four characteristic features of the inference task as:

1. The inferences nurses make have a high social significance.
2. The inferences nurses make are based on probabilistic and incomplete data.
3. The inferences nurses make are followed by immediate action.
4. The inferential task is complex. (1966, p. 24)

Thus, the inference task in nursing is seen to be one in which the nurse must infer or deduce the state of the patient from signs and symptoms that are not always clear and certain. An understanding of the way in which a practising nurse does this has not been demonstrated by the nursing literature.

Bower (1972) presented a model for assessing and identifying patient problems using a stress response model. Data about patients are gathered by observation and interviewing techniques, and by studying diagnostic findings and records. The data are classified according to the following categories: personal characteristics, social data, medical data, and goals and expectations. Once classified, the data are analyzed to determine the nature, significance, and relationship of data in one category to that in another. This activity should allow the nurse to arrive at a conclusion about the needs of the patient. Using deductive and inductive reasoning, generalizations about the patient's condition are formed which explain or predict relationships among the collected data. Such generalizations form the basis of actual or potential patient problems. When the inductive process is used, generalizations are made from a set of facts.
Example: Inductive Process

<table>
<thead>
<tr>
<th>Observations</th>
<th>Generalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noncommunication</td>
<td>Depression resulting in difficulty</td>
</tr>
<tr>
<td>Anorexic</td>
<td>maintaining the acts of daily living.</td>
</tr>
<tr>
<td>Insomnic</td>
<td></td>
</tr>
<tr>
<td>Immobile</td>
<td></td>
</tr>
</tbody>
</table>

Knowledge of the psychodynamics of depression would verify this conclusion.

When a deductive process is used, the nurse begins with a generalization. 'Using her knowledge about that generalization she hypothesizes problems an individual potentially or actually may have.

Example: Deductive Process

<table>
<thead>
<tr>
<th>Generalization</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immobilization creates stasis in the</td>
<td>Lung congestion</td>
</tr>
<tr>
<td>circulatory and alimentary systems.</td>
<td>Constipation</td>
</tr>
<tr>
<td></td>
<td>Poor venous return</td>
</tr>
</tbody>
</table>

Further data collection will verify or rule out the conclusion.

Once assessment and problem identification is complete, the nurse begins to generate possible solutions. Alternative actions are hypothesized by using predictive principles defined by Douglas and Bevis (1970, p. 3) to be a set of circumstances, conditions, or behaviors that produce a given definable outcome.

Bower maintains that predictive principles are a means for organizing information and theoretical knowledge. Use of such principles provides the nurse with direction by relating in a systematic way the observed data, an action, and
probable results of that action. Further, Bower maintains that predictive principles provide a mechanism for determining the possible consequences and value or risk of the proposed actions.

A predictive principle may suggest several alternative actions to meet a desired goal. Bower outlines a decision-making process to aid the problem solver in selecting the best or most desirable action. This process is based on an estimate of probability of occurrence of the consequence of nursing actions, and the desirability of the consequences that result from those actions. Bower defines probability as a predicted estimate of the events' occurrence. The estimate is based on past experience and on data pertinent to the situation. The probability of occurrence of a consequence can be expressed as words such as high, medium or low, or on a quantitative scale ranging from 0.00 to 1.00.

Probability of the consequences of proposed actions is viewed as one tool to assist the nurse in making a decision about care because it helps her to critically analyze nursing actions in the light of each patient's individual needs. A decision about care is also influenced by the value or desirability of the probabilistic outcomes related to alternative actions, and the risk of the consequences of these actions to the patient. Decisions based on judgements of the desirability of the expected outcomes result from the nurse's philosophy of life, past experiences, preferences expressed by the patient, and social and cultural mores. Another aspect that aids the nurse in choosing nursing actions is the risk of consequences to the patient. Judgements of risk are based on medical, legal and moral implications of the situation, and the policy of the agency in which the nurse is working.
A nursing action must be evaluated in the light of its possible risk to the patient, the nurse, and the agency. A rule for making a decision presented by Bower (p. 21) is "choose that action whose consequences have the highest probability of occurring and whose overall values are high for the desired effect yet create the least risk to the client, the nurse, or the agency."

Grier (1976) studied decision making by practising nurses in relation to patient care. Twenty-nine medical-surgical nurses from a general hospital and 21 nurses employed by a visiting nurses' association in one metropolitan area of the United States were used in the study. Four written descriptions of situations pertaining to patient care were developed from 100 patient records maintained by the visiting nurses' association. Each situation contained three nursing actions and seven related outcomes. The subjects were directed to read each of the four situations and rank the three nursing actions as 1 for best, 2 for second best, and 3 for poorest. Then they estimated the probability (0-100%) that the outcome would occur as a result of the action, and predicted the value (0-100%) of the outcome for the described patient. A total of 185 decisions were analyzed: 83 for visiting nurses and 102 for hospital nurses.

The decision making was analyzed by comparing the amount of agreement between groups on the highest expected value of an action (EV) and the first ranked action, and on the ordering of the EV's and the ranking of actions. The EV was operationally defined as the probability of an occurrence of an outcome multiplied by the value of that outcome, and then added for all outcomes of an action. Odds ratios were used to determine agreement between the ranked EV's and nursing actions.
Odds ratios of one and over indicated that in both groups nurses tended to agree between the first ranked action and the highest EV. Chi square analysis was used to test the significance between agreements. The null hypothesis of no differences between visiting and hospital nurses pertaining to the agreements between first ranked action and highest EV were rejected for two of the situations ($\chi^2 = 11.1; p < .001; \chi^2 = 43.3, p < .001$), and were retained for two ($\chi^2 = .007, p > .01; \chi^2 = .30, p > .01$).

The null hypothesis that there would be no agreement between the ordering of EV's and the ranking of nursing actions was tested using Kendall's tau. Further, the significance of Kendall's tau was tested using a two-tailed t-test. The correlations were all found to be greater than zero and were significant ($p < .01$). Therefore the null hypotheses were rejected for all four situations.

In summary, this study found that more than half of the decisions did fit a model of decision making in which the values and probabilities of outcomes could be assigned for selected nursing actions.

Lewis (1976) discussed cognitive tasks involved in the analysis of data on the processes of comparison, synthesis, inductive reasoning, and deductive reasoning. Comparison involves examining assessment data in relation to knowledge about normal, healthy versus abnormal, unhealthy processes. Lewis maintained that such a task should indicate sources of problems by comparing the data collected to knowledge of the normal, healthy state. When there is a difference between the data collected by assessment and knowledge of the normal state, the assumption is made that a patient problem likely exists.
Synthesis is described as a process of combining and arranging pieces of data to create a pattern to identify a patient problem. Lewis (p. 77) stated that: the resultant pattern represents more than the sum of the individual pieces. For example, a patient who has experienced a significant loss may, in turn, display denial, anger, sadness, guilt. Rather than deal with these behaviors as a specific problem, the nurse would synthesize the information about the patient's loss and the behaviors he is manifesting. The nurse would recognize the pattern as a grief response.

Knowledge of the grief response would alert the nurse to actual or potential patient problems.

Summary

A systematic framework within which a nurse can base her care is indeed described in the literature. By using a series of steps the nurse is able to "individualize her care and be accountable for providing a scientifically based service" (Roy, 1975, p. 91). Knowledge and understanding of this systematic framework provides the educator with direction in developing curricula intended to teach the structural components of the nursing process, i.e., assessing, planning, implementing, and evaluating.

The nursing literature, however, does not adequately describe and explain the cognitive skills needed to apply the process in clinical practice. Kelly (1966) identified four characteristic features of the inference task in nursing. She was, however, unable to clearly describe the cognitive nature of the components involved in this task. That is to say, how do practising nurses select and use signs and symptoms along with other information to make a judgement about
the state or condition of a patient. Grier (1976) described decision making as an open system where complete knowledge of the variables affecting patient care is not always available. In this way, Grier's definition of decision making in nursing supported the findings of Hammond et al. (1966) which indicated that decision making is probabilistic and often based on judgements made from information that may not be complete, completely reliable, or completely valid.

Lewis and Bower do provide the nursing educator with some understanding of the decision-making process in nursing. The greatest weakness in their descriptions, however, is the absence of clear explanations of the diagnostic or inferential process. Little insight is provided beyond what is known about the common sense application of knowledge and the inescapable use of inductive and deductive reasoning in determining patient problems.

Given the weaknesses evident in the nursing literature pertaining to clinical inference and decision making, a review of the literature of educational psychology and medical problem solving was conducted. While the clinical inference and decision-making tasks of the nurse are not concerned with the diagnosis and management of disease per se, they are concerned with the diagnosis and management of patients' behavioral responses to illness. The research findings from instructional psychology and medical problem solving have been used by other disciplines such as the military, education, and medical education in developing curricula to instruct the cognitive elements in problem solving. Thus, it was assumed that this literature would provide an empirical basis for designing an instructional method to teach the cognitive tasks inherent in nursing process.
CHAPTER 3

REVIEW OF THE RELATED LITERATURE:

THE COGNITIVE PSYCHOLOGY OF

CLINICAL INFERENCE AND MEDICAL INQUIRY

Davis (1973) cited Dewey (1938), Shulman (1965, 1967), and Shulman, Loupe, and Piper (1968) in describing the sequence of activities involved in human problem solving. He stated:

... the encounter with a problem seems more to resemble a sequence of activities ... as: 1) problem sensing, in which a person initially detects, to his discomfort, that some kind of problem or incongruity exists; 2) problem formulation, wherein the person subjectively defines a particular problem and develops his own anticipated form of solution; 3) searching, in which the individual questions, hypothesizes, gathers information, and occasionally backtracks; and 4) problem resolving, the final phase in which the person becomes satisfied that he has solved the problem or "found out why", thus removing the disequilibrium.

(p. 79)

Davis called this process of human problem solving "inquiry". Research into inquiry has dealt with attempts to understand how information is acquired, processed, and used when making judgements and decisions about particular events. Shulman and Elstein (1975) presented a comprehensive review of representative studies and theoretical proposals which can be drawn upon. The focus of the literature review

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which follows, however, will concentrate mainly on the psychology of medical inquiry and clinical inference.

**Medical Inquiry**

Elstein, Shulman, and Sprafka (1978) completed an extensive study of medical inquiry, also termed medical problem solving and clinical reasoning. In their study Elstein et al. found that clinical reasoning employed a process of hypothesis generation and verification. They identified four major components to this reasoning process: data acquisition, hypothesis generation, cue interpretation, and hypothesis evaluation. Data acquisition is the process whereby information is obtained by the clinician using a variety of methods. Elstein et al. proposed Newell and Simon's information-processing theory (1972) as a way of explaining how a physician may organize and sequence his data collection activities. Newell and Simon described the information-processing theory with the following characteristics:

1. A few, and only a few, gross characteristics of the human information-processing system are invariant over task and problem solver.

2. These characteristics are sufficient to determine that a task environment is represented (in the information-processing system) as a problem space, and that problem solving takes place in a problem space.

3. The structure of the task environment determines the possible structures of the problem space.

4. The structure of the problem space determines the possible programs that can be used for problem solving. (Simon & Newell, 1971, p. 148)
Elstein et al. (1978) applied this theory to medical reasoning by arguing that:

In clinical medicine, as in other domains of problem solving, the potential size of the problem space is enormous; there are a vast number of elements (states of knowledge about the patient) that could be obtained in an exceedingly large number of potential operators (interview questions, physical examination maneuvers, laboratory tests) for obtaining them. The early generation of diagnostic formulations would appear to be a major strategy that is used by physicians to determine the regions of the potential problem space that are most likely to yield a solution. (p. 176)

Once the problem space has been determined the clinician plans his workup to test or refine the initial formulations of problems.

Memory was found to play an important role in hypothesis generation. In all of their studies Elstein et al. (1978, p. 279) determined that hypotheses are retrieved from long-term memory using an associative process that links a particular salient cue or combination of cues to knowledge stored in memory. Further, these studies found that there is a limit to the number of hypotheses that can be considered at one time. This size was determined to average around four or five with an upper limit of seven. Elstein et al. cited Wortman (1970) and Simon (1974) when saying that "these estimates are entirely consistent with other estimates of memory capacity for complex material" (1978, p. 279).

In the studies of medical reasoning, cues were interpreted by both experienced physicians and students on a three-point scale, as confirming, disconfirming a hypothesis, or as noncontributory (Elstein et al., 1978). In addition, these studies found that a seven-point weighting scheme, intended to identify pathognomonic cues, had no greater explanatory power than a three-point scale.
The interpretation of cues in a relation to hypotheses generated is a process that is not well understood. Elstein et al. (1978, p. 280) speculated that "... the process may involve retrieval of lists of features from memory, each list being nested under a hypothesis, and then a comparison of the findings in a case with the expectations implied by the lists." These authors maintained that accuracy of the lists would likely be dependent on memory and prior knowledge. Further, they suggested that clinicians may be inconsistent in their problem solving across cases because the adequacy of these lists for different hypotheses may vary or not vary, not only between physicians but also within individuals from time to time.

Hypothesis evaluation is the process of making a judgement about the hypotheses after cues or clusters of cues are interpreted. In their studies of medical reasoning Elstein et al. (1978) explored three models for evaluating diagnostic judgements. In the first model, physicians chose the hypothesis with the maximum number of confirming or positive cues, while in the second model, they rejected the hypothesis with the largest number of disconfirming or negative cues. In the third model, physicians selected the hypothesis with the maximum difference between positive and negative cues. The authors concluded models 1 and 3 did have broad usefulness to the judgemental task. That is, physicians who used models 1 and 3 made a greater number of accurate predictions of the correct diagnosis in a situation than did physicians who used model 2. The models, however, were not found to be appropriate for all diseases, since different diseases are diagnosed by different rules and requirements.
Clinical Inference

Shulman and Elstein (1975, p. 25) cited Brunswik (1955, 1956), Hammond (1972), Hammond, Hursch, and Todd (1964), and Hammond and Summers (1972) in describing a model of inference making in which the relationship between the perceiver of the problem and the objects of perception are uncertain and probabilistic. Named after its originator, Brunswik's lens model conveys a relationship between the problem solver and the task of solving the problem. That is, the lens model is concerned with how the problem solver interprets the cues he has acquired from the environment to form a judgement about a particular event. Figure 1 gives a graphic representation of Brunswik's lens model.

Figure 1. Brunswik's Lens Model
Hammond, Stewart, Brehmer, and Steinmann (1975, p. 274) described the lens model as employing a "principle of parallel concepts". Each concept on one side of the lens is paralleled by a concept on the other side. The concept on the left-hand side of the lens pertains to the criterion or the state to be judged. This is termed the ecological or the task side. It includes the event to be judged and the cues that can be used in the process of making the judgement. The concept on the right-hand side refers to the judgement or inference a person makes about the particular state on the ecological side. It reflects how the problem solver used the cues to form a judgement. Brehmer (1974) refers to this part of the lens model as the cognitive system.

The cues used in making an inference may vary in their relation to the state on the ecological side; for a given cue, the correlation between its values and the values of the criterion is called ecological validity. A problem solver's use of the cues in making an inference may also vary. This correlation between the use of a given cue and the inference made is called the utilization coefficient. The Brunswikian lens model expresses achievement as the correlation between the problem solver's judgement and the criterion, while taking into account the multiple correlations between the cues and the criterion, and the multiple correlations between the use of the cues and the problem solver's judgement. Judgemental accuracy is determined by the degree to which a task is predictable, the knowledge of the properties of the task, and by the cognitive control over the use of that knowledge (Shulman & Elstein, 1975). Hammond and Summers (1972, p. 3) explained cognitive control as the "... extent to which the subject controls the
execution of his knowledge; it indicates the predictability of the subject's response (Ys) from the cues (Xt)." Statistically, it is the multiple correlation between the cues and the response. In addition, cognitive control is statistically independent from knowledge. Therefore, "... to improve judgement or decisions, one may either increase knowledge of the task, or increase the consistency with which knowledge is used" (Hammond & Summers, 1972 as cited in Shulman & Elstein, 1975, p. 26).

Following is an example of how the lens model may be applied to clinical problem solving pertaining to nursing practice. Figure 2 presents a descriptive diagram of how a nurse arrives at an inference or estimate of a patient's true state or condition. The patient's true state (for the example) is that he is hemorrhaging internally from an abdominal incision.

![Figure 2. Lens Model Applied to Nursing](image)
According to his true state the patient transmits certain signs and symptoms (cues) which are uncertain and probabilistic depending on the degree or severity of the condition. For illustrative purposes the data presented here are hypothetical. In this example, the excruciating abdominal pain indicates a .9 probability of hemorrhage; that is, it is a strong indicator of the true state. The elevated temperature has 0 probability of indicating hemorrhage since with shock body temperature lowers. The distended abdomen has a .8 probability or 80% chance of predicting that the patient is hemorrhaging. The blood pressure has a .6 or 60% probability of meaning that the patient is hemorrhaging internally, since it is known that in the early stages of shock blood pressure changes may be unreliable. The arterial pressure may be normal or higher even though other factors indicating hemorrhage are present. The inference that the nurse makes is dependent upon her ability to use the cues in the environment. Based on her knowledge, she assigns probabilities to the cues as indicators of certain conditions. The four cues could mean that the patient is hemorrhaging, that he has an infection, that he is developing gastric dilatation, or that he is developing paralytic ileus. The inference she makes depends on the reliance she places on the cues as indicators of the true state.

In Figure 2 the nurse correctly estimated that the patient was hemorrhaging since the probabilities she placed on the cues, her cue utilization coefficients, were similar to their ecological validity. Had she placed strong predictive reliance on elevated temperature and low reliance on blood pressure, she likely would have estimated the true state to be infection.
The lens model as applied to nursing provides for three types of measurement. As outlined by Kelly (1964, p. 315) they are:

1. The relationship between the sign or symptom and the true state of patient. This is a measure of ecological validity.

2. The relationships between the cue and the nurse's use of the cue. This is a measure of cue utilization.

3. The relationship between the inference and the state of patient. This is a measure of the nurse's achievement.

If a nurse places too much reliance on a sign or symptom that has little or no ecological validity, or if she ignores a cue with high ecological validity, her achievement will be low.

**Learning the Skills Comprising Inquiry and Inference**

The nursing literature provides little in the way of describing how the learning of skills comprising inquiry and inference might be promoted. The literature of educational psychology and medical reasoning, however, does provide some empirical information which can be drawn upon when designing instructional procedures to facilitate the learning of these cognitive processes by nursing students. That is to say, there is some basis, though weak, for the processes of teaching inference and judgement that are essential to applying the nursing process.

Research into inference and judgement based on Brunswik's lens model has been termed multiple cue probability learning. The primary focus of this research has been to determine how subjects use, and then learn to use probabilistic cues or stimuli in making judgements about particular events. Castellan (1977,
p. 117) stated that "... one aspect common to all such tasks is that the cues upon which the judgements are ultimately based are not completely valid—that is, the cues are probabilistic." Hammond (1971, p. 903) presented three propositions pertinent to learning the process of judgement:

Premise 1. There is irreducible uncertainty in diagnostic tasks.
Implication: The student cannot learn--cannot discover--an infallible rule for organizing and evaluating information. Because the task includes irreducible uncertainty, it requires the exercise of judgement, as well as knowledge.

Premise 2. Diagnostic tasks require integrating cues of various degrees of uncertainty. Implication: In exercising his judgement, the student must learn to assign differential weights to various cues, depending upon the degree of uncertainty of the cues.

Premise 3. Cues will differ in the form of their functional relation to the state to be inferred. Implication: The student must learn to integrate data from nonlinear relations as well as linear ones.

Hammond and Summers (1972) argued that when learning to make judgments, the student must first acquire knowledge of the task, and second, develop an ability to apply that knowledge in problem-solving situations. Skill in applying knowledge of the task that has already been acquired is called cognitive control. In their study of the acquisition and application of knowledge in complex inference tasks, Deane, Hammond, and Summers (1972) found that even when subjects acquired full knowledge about the properties of the task (presented either verbally or pictorially), performance was less than optimal as a result of difficulties in applying this knowledge consistently. This finding was consistent with those of other investigations which found that "... judgement policies (in a variety of
domains) are frequently correct, . . . but are executed in an inconsistent manner" (Dudycha & Naylor, 1966; Goldberg, 1970; Ward & Davis, 1965 as cited in Hammond & Summers, 1972, p. 62).

Hammond (1971) and Hammond and Summers (1972) argued that subjects do not apply their knowledge of the task more consistently because the form of feedback used during the learning process is ineffective. Traditionally, the type of feedback used to promote the learning of judgement making has been outcome feedback. Hammond and his associates argued that the use of outcome feedback is detrimental to learning. Instead, Hammond (1971) proposed a form of feedback which makes explicit the characteristics of a person's judgemental system and relates these to the characteristics of the judgemental task. He stated:

More specifically, [the learner] should be provided with an opportunity to compare (i) the differential weights he actually assigns to the task, and (ii) the form of the functional relations between the cues and his judgments with the form of the functional relations required by the task. (p. 904)

Hammond and his associates termed this form of feedback as "cognitive" or "process" feedback.

A study into the effectiveness of cognitive feedback in relation to outcome information was completed by Hammond (1971). Specifically, three different types of information to learners were compared: 1) traditional outcome feedback; 2) verbal and pictorial information about the task; and 3) computer-graphic techniques, which provided pictorial comparisons of what the learner did to what should have been done. The learning task was a simulated diagnostic problem in which the learner was required to arrive at a judgement that integrated three cues. Each
of the cues was differentially weighted and was related in a nonlinear way to the criterion. Finally, there was irreducible uncertainty in the task in that no rule could be formulated by the learner to permit consistent achievement on each trial. The results indicated that the task could not be learned when outcome feedback and pictorial information about correct cue weights were used. Achievement of the correct diagnosis was enhanced when learners were informed about correct weights and functional relationships both verbally and pictorially. However, learning was slow and inefficient. When the learner was provided with process feedback using computer graphics, allowing him to compare his performance with that required by the judgemental task, learning was rapid. Further research by Hammond and Summers (1972) and Deane et al. (1972) supported the research findings of Hammond's 1971 study. They concluded essentially that the use of process or cognitive-oriented feedback versus outcome feedback facilitated the acquisition of knowledge about task properties. Furthermore, they concluded that the addition of outcome feedback to process feedback conditions served to decrease cognitive control and thus contributed to a less than optimal achievement by subjects (Hammond & Summers, 1972).

A study into the use of feedback in training medical students to generate initial formulations of problems (e.g., ulcerative colitis, diabetes) was conducted by Elstein et al. (1978). Two types of feedback were explored: feedback on the outcomes of physicians' formulations of problems, and feedback on the processes by which physicians arrived at these outcomes. The authors viewed the second type
of feedback as closer to what Hammond and Summers (1972) call "cognitive feedback". Of the feedback on the processes by which physicians arrived at their diagnoses, Elstein et al. (1978, p. 201) stated that:

A major feature is that it does not provide the student with a single "correct" model of either outcomes or processes. Rather, it indicates both the convergent and divergent aspects of the performance of experienced physicians — that is, the common and differing characteristics of nearly all physicians with respect to the generation of a set of initial problem formulations. Thus in using the feedback to evaluate his own performance, the student must engage in a series of relatively complex cognitive activities. He must examine, synthesize, and draw inferences from a sample of the performance of experienced practitioners in this field.

These authors developed a model to train medical students in initial formulation of problems. This model included six simulated problem-solving exercises with the provision of process and outcome feedback. Color films were used to simulate the first four to six minutes of a clinical workup. Forty-eight medical students were assigned at random to one of three experimental conditions: training with outcome feedback, training with outcome and process feedback, or no training. Both treatment conditions were conducted in the same manner. Two films were presented at each of three training sessions. After viewing each of the films, the subject recorded his problem formulations and brief tentative assessments of the patients simulated in the training cases.

The two experimental conditions differed with respect to the type of feedback provided. Outcome feedback was characterized by the subjects' receiving written examples of problem formulations and tentative assessments generated by physicians for each of the training cases. In addition to this same outcome feedback,
subjects receiving process feedback in the second treatment were provided audio supplements of physicians "thinking aloud" about the processes by which they generated their formulations of problems.

The subjects in the control group received an orientation to the posttest by carrying out the task of generating an initial problem and writing a tentative assessment for one film training case. This was done to reduce the expected decrease in task performance by the novelty of the procedure. Feedback was not provided.

Following the three experimental training sessions or the control group's orientation, all subjects completed the posttest. At this session the subject carried out the basic experimental task on each of two films. The subject's performance was measured in terms of four variables. The first was the cue-use score which pertained to the list of cues the subject extracted from each film and used to generate the initial problem. The second dependent variable was the problem-formulation score which pertained to the list of problems that were generated for each case. The third variable was the cue-classification score. This score pertained to the way the subject classified the cues he selected in relation to the problems he generated. The fourth dependent variable was a relationship-among-problem-formulations score. This score was based on the information recorded by the subject for his tentative assessment of each case, and pertained to the functional relationships he hypothesized to exist among the formulations of initial problems he had generated. The subject's performance on each of the dependent variables was determined by comparing his answers to a scoring key. This key was derived from the performance of a sample of physicians on the posttest cases.
On all four variables, the results showed that outcome feedback alone was superior to outcome plus process feedback. These results were, indeed, in conflict with those found by Hammond (1971). This divergence could be explained by the differences in research methods, notably the techniques for providing both forms of feedback, and the number of trials for learning the judgemental task.

Elstein et al. did not attempt to study the effect of process feedback using computer-graphic displays. Hammond found that the provision of process feedback using computer-graphic forms was more effective in promoting judgemental learning than other forms, i.e., verbal and pictorial. The form of process feedback provided in Elstein et al.'s (1978) study, i.e., the audio supplements of physicians "thinking aloud" was similar to Hammond's verbal information provided to the subjects about the properties of the judgemental task. Hammond found that this type of feedback promoted slow and inefficient learning; Elstein et al. found no effect on learning. This difference could have been due to the number of trials during learning. Whereas subjects in Elstein et al.'s study had essentially six trials, those in Hammond's study had 200. Hammond's results may have been different given fewer trials for learning. Nonetheless, Hammond demonstrated that process feedback in verbal form was less effective than computer-graphic form.

Elstein et al. (1978) proposed two reasons why outcome feedback was more effective for promoting learning of diagnostic judgement while outcome plus process feedback was not. The first reason was that having been given outcome feedback, the students were able to infer the physician's thinking process and, in effect, generate a process of their own. The second reason put forth by these authors was
that outcome plus process feedback gave too much information leading to decreased interest. The authors observed that subjects in this experimental condition were not too attentive. Further, they commented that the feedback materials were overly redundant, which may have had the effect of decreasing interest and motivation. In addition, it may have had the effect of confusing the subject, resulting in a decrease in the learning of the judgemental task.

**Summary**

The literature of medical problem solving and clinical inference does provide some empirically based information which can be drawn upon when designing instructional procedures to facilitate the learning of the cognitive skills comprising inquiry and inference. That is to say, there is some basis, though weak, for teaching inference and judgement that are essential to applying the nursing process.

Hammond (1971) outlined three tasks required for learning to make inferences that are relevant to nursing. The first pertained to the information (cues) used to make inferences. Since there is uncertainty (i.e., unreliability or invalidity) in the information transmitted by the cues, there is also uncertainty in the inferential task. Therefore, the student cannot discover an infallible rule which will assist her to apply her knowledge of the task in a consistent manner. Instead she must learn to exercise her judgement as well as her knowledge.

The exercise of judgement in the inferential process requires integrating cues that each have varying degrees of association with a particular state of being. When exercising judgement, the student's second task is to assign different weights
to each cue depending on the degree of relationship each cue has to a particular patient problem. The research into medical judgement (Elstein et al., 1978) which proposed the use of a three-point scale (i.e., as confirming or disconfirming a hypothesis, or as noncontributory) for interpreting cues in relation to a particular patient problem can be applied to the inferential process of the nurse.

Once the cues are weighted the next learning task is to integrate the cues in relation to the state being inferred. The work by Elstein et al. (1978) on the models for evaluating diagnostic judgements in medicine can be drawn upon. That is, students could be given a general rule for integrating and evaluating the interpreted cues in relation to the identified patient problems. For example, they could be directed to choose those patient problems with the highest number of positive weights, and to disconfirm those with the highest number of negative weights.

Finally, the literature of medical problem solving and clinical inference provides some direction in the use of feedback to aid learning. In particular, the type of feedback which Elstein et al. (1978) termed outcome feedback can be applied to methods of teaching the cognitive skills for nursing process. In addition, a method of providing aspects of process feedback in pictorial form could be established. Notably, this could include a mechanism for presenting the correct weights of cues and their functional relationships to identified patient problems.
CHAPTER 4

REVIEW OF THE RELATED LITERATURE:
CURRICULAR ISSUES PERTAINING TO
THE NURSING PROCESS

Learning Problem Solving in Nursing

A search of the literature in the Cumulative Nursing Index from 1964 to the present revealed that research into methods for teaching problem solving in nursing is virtually nonexistent. Malleck (1977) described the state of current education relating to nursing process when she said, "Educators devote hours of classroom time to discussing it and require students to write nursing care plans during their clinical experience" (Malleck, 1977, p. 245). She further argued that nursing knowledge is taught outside the context of the nursing process, which poorly prepares students to engage in problem-solving behavior at the bedside. She strongly urged that training programs begin organizing nursing knowledge within the framework of the nursing process, as a method of enhancing students' abilities in clinical problem solving.

McIntyre, McDonald, Bailey, and Claus (1972) described an experimental curriculum which emphasized problem-solving and decision-making behavior. The
curriculum focused on providing practice in decision making and in evaluating the strategies used for resolving particular patient problems. Essentially the students compared and contrasted the kinds of decisions they made for differing types of patient problems. The curriculum was evaluated by two methods. The first was an assessment of the students' clinical practice using observations and rating scales. The second method of evaluation was a simulated clinical nursing test. The test instrument comprised one patient situation in which a wide range of nursing interventions was required. The test was arranged in 12 sections, each representing a phase of the patient's experience from the time of his arrival at the emergency room to a period of time after his return to his home and community. There was a total of 81 items on the test, classified into data gathering actions, patient care actions, communications, environmental management, professional referrals and recording. The results revealed that the classes exposed to the experimental curriculum did have significantly higher scores on some criterion measures, namely communication and data gathering skills. Furthermore, the experimental classes demonstrated a greater tendency to select actions that were beneficial to the care of the patient.

The use of simulations and games as instructional tools in nursing is new (Clark, 1976; Schneider, 1979). Schneider (1979) reviewed the types of simulations and their respective uses in training nurses. In addition, Twelker (1970) described the use of simulations and games that may be applied in nursing education.

The use of simulation as a method for teaching problem solving is based on a fundamental principle in education. That is, problem solving can be taught
best by providing the learner with opportunities to experience the processes and conditions closely approximating those occurring in the real world (Bruner, 1966; Dewey, 1963; Gagné, 1971). The student is placed in a position of having to use his judgement, solve problems, and make decisions about appropriate courses of action. Bevis (1973) and Lange (1976) identified two advantages of simulations and games as instructional tools for problem solving. The first advantage is that students can learn without placing real patients in unsafe circumstances. The second advantage is that simulations and games may be used without the limitation of time which often is present in the real world. That is, the student can take as long as is necessary to explore the problem situation and consider a range of alternatives toward resolution of the problem(s). A further advantage of using simulations and games for instructing problem solving provided by Barrows (1968), Twelker (1971) and McGuire (1976) is that the student is able to learn in a setting which is controlled and precisely defined. The simulations are developed to contain only those parts of reality that are essential to the learning task. In this way, the student focuses on those elements or conditions necessary for learning without having to deal with variables that may be present in the real world but not necessary to the task at hand. Further, the student’s responses can be recorded and evaluated objectively according to a predetermined set of criteria.

There are many types of simulations that may be used for teaching problem solving in nursing. Some of these include live simulations which use role playing or trained simulated patients, written simulation exercises, and computer-assisted
simulation exercises. Since the primary interest in this study is the effectiveness of written simulation as an instructional tool for problem solving in nursing, the discussion which follows will focus on the written simulation format.

Written Simulation as an Instructional Tool

To date little research has been done on the use of written simulation for teaching problem solving to nursing students. McGuire's (1963, 1976) work on using simulations to teach and test problem-solving skills in medical education may be drawn upon. She argued that simulation is advantageous for teaching interpretive and problem-solving skills because it places the student in a situation which imitates the real world. In order to cope effectively with a problem, as he would in reality, the student must gather data using a wide variety of resources; interpret the data collected; set priorities of data gathering and decision making; take appropriate action; evaluate that action; and readjust decisions and actions in response to changing conditions within the problem environment. The student is allowed the freedom to make mistakes and to learn from them without jeopardizing the health of a patient. A disadvantage to simulation is that, regardless of its superiority as a teaching method, it cannot imitate all aspects of reality. A general assumption underlying the use of simulation for evaluation of problem-solving performance is that individuals who make good decisions in a simulated situation will do so in clinical practice. This assumption has never been fully investigated.

One of the earliest written simulations used the tab-item method developed by Glaser, Damrin, and Gardner (1954). This method was originally designed to
test mechanics' proficiency in solving problems pertaining to complex radar equipment. The simulations consisted of lists of symptoms describing set malfunctions, procedures which might be used to detect set malfunction, and units or components which if defective may cause malfunctions. Next to each of the items listed was information covered by paper that was perforated in such a way that allowed lifting of the paper over each item separately. Information was thus revealed in the form of written or diagrammed description of results the mechanic might find in real practice upon choosing a particular item of investigation.

Rimoldi (1955, 1961) developed a "Test of Diagnostic Skills" in medicine using the tab-item method. He developed his simulation from real cases to evaluate:

a) information requested by medical students or physicians when diagnosing a clinical case;

b) the order in which this information was requested;

c) diagnosticians' exploration of clues and verification of diagnostic hypotheses; and

d) the accuracy of the final diagnosis.

This test of diagnostic skills set the stage for future study and evaluation of medical problem solving. McGuire and her associates further developed this concept through a series of simulations called patient management problems or PMP (McGuire, 1976; McGuire, Solomon, & Bashook, 1976).

In the next section McGuire's model for developing written simulation exercises will be discussed.
Model for Constructing Written Simulation Exercises

McGuire's model of patient management problems, using the written simulation format, contains a number of essential characteristics (McGuire et al., 1976, p. 7). First, the exercise must be initiated in a realistic manner. The problem must be presented to the student as it would be encountered in the real world. Second, the written simulation requires a series of sequential, interdependent decisions representative of the various stages in the definition, analysis, and resolution of the problem. Third, the exercise must allow the student to make decisions and to obtain realistic information about the results of each inquiry or action as a basis for subsequent decision and action. Fourth, once such information has been obtained, it must be impossible to retract a decision or an action even if it was found to be ineffective or harmful. Fifth, the written simulation must be constructed in a way that permits each student to approach the problem in his or her own way. Therefore, the exercise must contain alternate paths toward resolution of the problem, with variations in feedback appropriate to each of the particular approaches that may be selected. Sixth, the simulation must be dynamic; that is, the problem must evolve and change in response to the prior decision and specific actions taken by each of the students.

A written simulation exercise based on these characteristics begins with a brief introduction to the problem. This may be in the form of verbal description, or by film or videotape revealing only those aspects of the situation that the student would encounter in the real setting. The student must then decide how to approach the problem. To do this, he is presented with a list of general types of inquiries
and/or actions. After deciding his initial approach, the student erases an opaque overlay or develops a latent image in a specially treated answer booklet to obtain an instruction directing him to a section in the exercise booklet appropriate to his choice of approach. There, the student is presented with a list of specific inquiries or actions of the type he initially sought. The student is directed to choose from the list those activities he thinks are necessary in light of his knowledge about the problem at this point. He then obtains the results of his choices by developing the appropriate choices in the answer booklet. On the basis of this new information, the student must decide upon the next step he wishes to take. Again he works the answer booklet to obtain direction to the next appropriate section of the simulation exercise.

A written simulation exercise contains many such sections. Not all of these sections are relevant or beneficial to optimal resolution of the problem. In each new section the student must make a decision about each of many specific activities, followed by a strategic decision about the approach to the next section.

The route, that is, the sequence of approaches and the specific inquiries and actions taken to resolve the problem, will differ from student to student. The student who chooses effective approaches, avoiding potential complications or harmful actions, will be directed through the exercise until the particular problem is resolved. On the other hand, the student who chooses approaches leading to ineffective or harmful results will be directed to sections where he has the opportunity to rectify previous errors. If this student fails to take effective remedial measures, he will be instructed that the problem is terminated due to insoluble
complications. Thus, a simulation exercise can be made to evolve through many stages until it is concluded when the problem is resolved, or when it is terminated as a result of harmful approaches taken by the student.

The stages of the exercise and the results of the specific choices the student may make must simulate an actual situation. Whenever possible, the results of specific inquiries and actions should be presented in the form in which they occur in real life. Therefore, tabular, graphic, diagrammatic, pictorial, and other methods of reporting should be used to supplement written presentation of the results. An essential feature of such results is that an interpretation of the data is neither offered nor demanded of the student. The data are merely provided as they are selected, and the student is required to act on them as he would in real life.

McGuire (1976) described two types of formats for written simulation exercises. The simplest form of written simulation is called linear. In this format, the participant is required to progress from one section to another in exactly the same sequence until the problem is resolved. Figure 3 presents an outline and diagram of a written simulation using the linear format.

The form of written simulation in which the participant is permitted to follow differing sequences is called branching. Three types of techniques are used to build a simulation on the branching format: free branching, modified free branching, and forced branching. The free-branching technique is used to permit the participant to make all of the major decisions regarding the sequence of approaches, inquiries, and actions that may be taken to resolve the problem. There should be a number of attack strategies built into the exercise, each leading
In the opening scene, the task presented is "Identify an unknown powder."

All students are directed to a data-gathering section concerning the physical properties of the powder.

All students are then directed to a section concerning the chemical properties of the powder.

After completion of all data-gathering sections, students are directed to a management section in which they have an opportunity to test any hypotheses they have generated.

Students are then directed to a final section in which they will be required to identify the powder. Although this section includes the "solution" to the problem, it also includes all unsatisfactory terminations for the exercise.

Figure 3. Outline and Diagram of a Written Simulation Using the Linear Format (McGuire, Solomon, & Bashook, 1976, p. 267)

Ultimately to a successful resolution of the problem, or to a harmful termination. Table 1 illustrates the free-branching technique. A distinguishing feature of this format is that the instructor places no restraints on the student's strategies as he progresses through the exercises.

The modified-free-branching technique is used to allow the participant to indicate his preferred next approach, but at the same time controls the sections to which he is directed. This technique is illustrated in Table 2. Use of the
Table 1
Free-Branching Technique
(McGuire, Solomon, & Bashook, 1976, p. 123)

<table>
<thead>
<tr>
<th>PROBLEM BOOKLET</th>
<th>ANSWER BOOKLET</th>
</tr>
</thead>
<tbody>
<tr>
<td>You would now (Choose ONLY ONE):</td>
<td></td>
</tr>
<tr>
<td>40. Visit some of the Kowalskis you have located</td>
<td>40. Turn to Section N.</td>
</tr>
<tr>
<td>41. Phone some of the amber firms</td>
<td>41. Turn to Section H.</td>
</tr>
<tr>
<td>42. Phone some of the import-export companies</td>
<td>42. Turn to Section J.</td>
</tr>
<tr>
<td>43. Get expert assistance</td>
<td>43. Turn to Section C.</td>
</tr>
</tbody>
</table>

The modified-free-branching format enables the instructor to determine a student's problem-solving style, while at the same time exerting some control over his selection of strategies to resolution of the problem.

The forced-branching technique is used to direct the student to different sections, based exclusively on the consequences of the decisions he has made. This type of branching is illustrated in Figure 4. The illustration suggests that some choices of activities in Section A would lead to improvement, while others would cause complications or death. Thus, the choices the student makes will lead to different consequences, and as a result to different sections of the exercise.

All three of the branching techniques described here may be used in the same simulation.
Table 2

Modified-Free-Branching Technique
(McGuire, Solomon, & Bashook, 1976, p. 125)

<table>
<thead>
<tr>
<th>PROBLEM BOOKLET</th>
<th>ANSWER BOOKLET</th>
</tr>
</thead>
<tbody>
<tr>
<td>You would now (Choose ONLY ONE EACH TIME you are directed to this section):</td>
<td></td>
</tr>
<tr>
<td>40. Visit some of the Kowalskis you have located</td>
<td>40. Turn to Section N.</td>
</tr>
<tr>
<td>41. Phone some of the amber firms</td>
<td>41. A special operator advises you everyone has left for the day because of the holiday; make another choice from this section.</td>
</tr>
<tr>
<td>42. Phone some of the import-export companies</td>
<td>42. A special operator advises you everyone has left for the day because of the holiday; make another choice from this section.</td>
</tr>
<tr>
<td>43. Get expert assistance</td>
<td>43. Turn to Section C.</td>
</tr>
</tbody>
</table>
Figure 4. Diagram of a Simulation Using the Forced-Branching Technique (McGuire, Solomon, & Bashook, 1976, p. 127)
There are several structural parts to a written simulation exercise. The first part is the opening scene, which introduces the subject to the problem or problems to be solved in the exercise. Following the opening scene is a series of sections, each corresponding to a different stage in the evolution and resolution of the problem. The sections usually contain two parts: an option segment and a bridging segment. The option segment includes the list of inquiries or actions available to the participant. The bridging segment includes either one statement directing the participant to the next section, or a list of strategic approaches (branches) from which the student must choose. Both options and branches are called items. Each item, printed visibly in the exercise booklet, is paired with an item printed in latent image or covered by an opaque overlay. Responses to options provide the feedback to the inquiry or action presented in the item. Responses to branches direct the participant to the next appropriate section. Finally, each segment of a section begins with an instruction that informs the participant about the kind of response to be made in that segment (McGuire et al., 1976, p. 21). Figure 5 outlines a written simulation in diagram form.
INTRODUCTORY INFORMATION

OPTION SEGMENT

SECTION X: (Title)

Stem Directive

At this time you would (Select AS MANY AS you WISH):

| 1. Option |
| 2. Option |
| 3. Option |
| 4. Option |

SECTION X: (Title)

Stem Directive

You would now (Choose ONLY ONE):

| 5. Branch |
| 6. Branch |
| 7. Branch |
| 8. Branch |

Response

Response

Response

Response

Response

Response

Response

*In a linear simulation this segment consists of a single statement: "Turn to Section Y."

Figure 5. Diagram of a Written Simulation (adapted from McGuire, Solomon, & Bashook, 1976, p. 22)
The Use of Written Simulation in Nursing

Among the first written simulations in nursing were those developed for the purpose of measuring problem-solving ability in students (de Tornyay, 1968; Dincher & Stidger, 1976; McIntyre et al., 1972). These simulation tests shared a number of features. First, the design was based on McGuire's model of patient management problems. Second, the scoring procedures were basically adapted from the systems devised by Williamson (1965) and McGuire (1967). Third, all used similar methods to establish validity and reliability of the tests and their scoring systems.

Scoring Procedures for Written Simulations

The scoring systems developed by Williamson (1965) and McGuire (1963) use the results of a group of experts as criteria for comparing the results of examinees on the simulation. The experts classify all of the choices available in the exercise into inquiries and actions that were helpful, harmful, or irrelevant to the problem. Each choice is assigned a weight reflecting the judgement of the criterion group. Thus an inquiry or action that is helpful to the care of the patient is awarded a positive (+) weight, while one that is not beneficial or that is harmful is given a negative (-) weight. A choice identified as irrelevant to the problem is assigned a zero (0) weight.

Williamson (1965) devised a scoring procedure that provided for three indexes of measurement: an efficiency index (El), a proficiency index (Pl), and a competency index (Cl). The efficiency index is the percentage of choices
pertaining to inquiry and action that were helpful to the care of the patient. It is calculated by dividing the total number of helpful choices by the total number of choices selected on the test. The proficiency index is the percentage of agreement between an examinee and the criterion group in selecting beneficial and avoiding harmful interventions. "It is obtained by calculating the algebraic sum of the weights of the items selected by the student and rated essential by the criterion group and subtracting the algebraic sum of the weights of the items selected by the student but rated harmful by the criterion group. This score is then divided by the maximum possible score which could be achieved by selecting all of the essential items in the test" (de Tornyay, 1968, p. 8). The competency index is estimated by combining the EI and PI scores to indicate a percentage of overall agreement with the criterion group. The formula for CI and an example is presented following.

\[ CI = \frac{(PI \times EI/100) + PI}{2} \]

To illustrate the computation of these indices, suppose a physician made the following selection from a long list of items that contained only 12 that were classified as helpful:

<table>
<thead>
<tr>
<th>Item Classification</th>
<th>Number Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helpful (12 available)</td>
<td>7</td>
</tr>
<tr>
<td>Not Helpful, Not Harmful</td>
<td>2</td>
</tr>
<tr>
<td>Harmful</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Selected</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

In this example, since seven of the physician's 10 selections were rated helpful, his Efficiency Index would be 70 per cent. Since he selected seven of the 12 necessary items, together with one harmful procedure, his Proficiency Index would be 50 per cent. *

*This example is oversimplified. In computing proficiency, items should be weighted by the extent to which they are helpful or harmful to the patient.
The computations are:

\[ E_I = \frac{7}{10} \times 100 = 70\% \]

\[ P_I = \frac{7 - 1}{12} \times 100 = 50\% \]

\[ C_I = \frac{(50 \times 70/100) + 50 \times 100}{2} = 43\% \text{ (rounded)} \]

(Williamson, 1965, p. 182)

In addition to the three indexes outlined earlier, McGuire and Babbott (1967) used two others. These represent errors of omission and errors of commission. Errors of omission are calculated by subtracting from 100 the sum of the positive points chosen by the examinee divided by the maximum number of positive weights for the problem, and then converting to a percentage. The errors of commission are derived by finding the sum of the negative points chosen by the examinee divided by the maximum number of negative weights for the problem, and then converting to a percentage. The two formulas are expressed following.

\[ EO = 100 - \left( \frac{\text{Sum (+)}}{\text{maximum}} \times 100 \right) \]

\[ EC = \frac{\text{Sum (-)}}{\text{maximum}} \times 100 \]

Neither Williamson nor McGuire included a score for cue utilization with respect to problem formulations. Elstein et al. (1978) presented one model which can be drawn upon to accomplish this. The first element in this model is the number of cues selected by the examinee. This score is a measure of thoroughness of the data collection. It is calculated by dividing the number of cues acquired (excluding those not selected by the criterion group of physicians) by the total number of cues.
selected by the criterion group for that case. The second element pertains to
accuracy of interpretation of the cues in relation to the problem. A subject's inter-
pretation of a cue is considered accurate if the weight assigned is the same as that
determined by the criterion group. The accuracy of interpretation score is a per-
centage, derived by dividing the number of correct interpretations by the total
number of interpretations. A method for scoring interpretive error is also outlined.
This includes an overinterpretation, underinterpretation, and misinterpretation
score.

Establishing Validity and Reliability of Written Simulations

The third common feature shared by the three written simulation tests for
problem solving in nursing was the estimation of validity and reliability. Content
validity of the tests was established by having them reviewed by nursing and medical
experts. In addition, current textbooks were consulted. The validity of the scoring
keys was estimated by having nursing experts classify all of the available choices
according to a set of predetermined categories adapted from weighting schemes
developed by Williamson (1965), McGuire (1963), and McGuire and Babbott (1967).
Essentially, item choices were weighted by their value to assessment and management
of patient care. Positive weights were given to those items that should have been
included in resolving the problem. The range of positive weights included, on one
extreme, items that were critical to the care of the patient, and on the other extreme,
items that were helpful but not essential. Negative weights were assigned to items
that were contraindicated as harmful to the patient's welfare. Zero weights were
assigned to items that were noncontributory to the care of the patient.
There is one outstanding problem with simulated tests: the assumption that high performance on a test will predict high performance in clinical practice.

Dincher and Stidger (1976) compared the performance of subjects on a simulation test to their performance in clinical practice as judged by the clinical instructors. Due to methodological difficulties, however, the results were deemed invalid.

A study on the predictive validity of patient management problems found that, "on the average physicians did better on PMP's than in actual practice, but those doing best on the PMP's did not consistently do best in actual practice" (Goran, Williamson, and Gonnella, 1973, p. 177). "The instrument thus provides an estimate of an upper level of capability of performance but does not indicate what performance in the field setting will be" (Elstein et al., 1978, p. 19).

The reliability of simulated problem-solving tests has generally been low, with coefficients ranging in the 0.20 and 0.30 range (Elstein et al., 1978, p. 19). McGuire and Babbott (1967, p. 8) posed four features of such tests which may reduce their reliability:

1) items are differentially weighted;
2) items are interdependent;
3) differential amounts of feedback obtained by examinees necessarily result, after the initial judgement, in dissimilarity among the subjects with respect to the nature of the problem posed by any given term; and
4) an individual student may be denied the opportunity of responding to many of the items, because his earlier decisions have led him to an instruction to omit entire sections of the exercise.
McIntyre et al. (1972) and de Tornyay (1968) used test-retest reliability to estimate the consistency of individuals' responses to their simulated test instruments. The rationale for this method was that, "The simulated clinical problem test is not designed to have the degree of internal consistency found in conventional tests, because every item in the simulated clinical problem test is interrelated with other items and all students do not respond to every item. Therefore, the classical split-half method of determining internal consistency cannot be utilized for this type of test" (de Tornyay, 1968, p. 34).

The test-retest reliability coefficients for de Tornyay's simulated tools ranged between 0.41 and 0.57. McIntyre et al. did not report actual coefficients but stated that the test-retest correlations were significant.

Dincher and Stidger (1976) employed a method shown by Cattell (1964) who "proposed the use of the term 'consistency of measurement' as a substitute for 'reliability', a term he considered vague. He proposed that the 'consistency of measurement' has at least three main aspects: 1) consistency across occasions (reliability); 2) consistency across tests (homogeneity); and 3) consistency across people (transferability)" (Dincher & Stidger, 1976, p. 283). These authors measured the reliability of their test by examining consistency between scores when different weights were assigned to the items. That weight awarded an item by the majority of the judges was assigned to the tool for the first scoring (efficiency and proficiency, number one). Items weighted differently by at least one-third but less than the majority of the judges who coded that item were assigned that weight in the alternate scoring procedure (efficiency and proficiency, number two). Items that
received identical weights by more than two-thirds of all judges were held constant at that weight. The rank order of students that resulted from the utilization of the two scoring procedures were compared using Spearman rho. (Dincher & Stidger, 1976, p. 283)

The reliability coefficients obtained by comparing the two scoring procedures were found to be low.

Lewey and McGuire (1966) studied several approaches for estimating the reliability of simulation exercises. These authors viewed reliability of a measure as an attribute related to its generalizability with respect to different facets in a universe. Of particular interest are the estimates of the extent to which scores on similar exercises are generalized to many possible similar tests. An application of this concept was made by Helfer and Slater (1971). The reliability of their instrument was estimated by asking senior medical students to solve two dissimilar diagnostic management problems and comparing the scores. The correlation coefficient was found to be 0.66 ($P < .01$).

**Evaluation of Written Simulations to Instruct Nursing Process**

Two series of simulated exercises entitled *Nursing Decisions, Series One* and *Series Two* (1977) were developed by the Docent Corporation in collaboration with practising nurses and nurse educators. The series consultant was de Tornyay. The exercises were "designed to teach and assess clinical judgement and problem solving, and . . . to apply previously acquired knowledge in clinical settings" (de Tornyay, 1977, p. 55). These exercises appear to be an adaptation of the written simulation technique described by McGuire (1976). Although the exercises are based on the written simulation model to teach problem solving outlined by
McGuire et al. (1976) they are characteristically different. First, a large amount of information is presented in the introductory and subsequent sections. Second, the students are given specific guidelines as to the number and type of activities relating to assessment or nursing action to be selected. Third, the feedback information is openly displayed. Therefore, a student could read the feedback and then make an appropriate selection. An evaluation of the effectiveness of this series for learning problem solving is not evident in the literature. The characteristics outlined above, however, demonstrate an inherent weakness in the de Tornyay simulations. The students are not given the opportunity to explore the patient problem beginning with a minimal amount of information. Nor are they allowed the opportunity to make mistakes and take the responsibility for these in the form of subsequent decision making. This feature is contrary to the fundamental basis of simulation; that is, the student must be provided the opportunity to experience the process and conditions she would experience in the real world. She should be allowed to make mistakes and take appropriate action accordingly.

An evaluation of the use of written simulation as a learning tool was completed by Page and Saunders (1978). Although the results were not overly revealing they did indicate that the students endorsed the simulations as a learning tool. The authors concluded by presenting a number of reasons why nursing must explore new ways of teaching and evaluating problem-solving skills:

1. Clinical decision making deals with human problems, for this reason, learning experiences are of necessity limited in both number and nature, a problem magnified by increased student enrollment and the subsequent increase in desired clinical teaching and evaluation experiences.
2. There are factors in the clinical setting that are non-conducive to learning. The invasion of client's privacy, the safety of the client, and the needs of agency personnel are but three of these factors. In addition, small group teaching, or a one-to-one ratio between students, teachers and clients, while effective, may be a most inefficient and costly approach to assisting students develop selected problem-solving skills.

3. It is frequently difficult to assess decision-making abilities in the clinical settings. The real life situation is fraught with factors which can distract or contaminate an evaluation. Some of these factors are the limitations associated with the appropriateness and availability of clients, the time required to assess student performance, the reliability of clinical ratings, as well as the lack of standardization of the basis for assessment.

4. The clinical situation does not permit the implementation of a weak or faulty solution to a health problem whose consequences and subsequent follow-up would provide the basis for an optimal learning experience. (Page & Saunders, 1978, p. 32)

Page and Saunders further advocated that in view of its success in other professions, the potential of this approach to learning and evaluating clinical problem-solving skills must be explored.

Summary

Clearly, the advantage of simulation as an instructional tool is that it places the student in a problem-solving encounter approximating that which occurs in real life. To resolve the problem, the student must learn to: sense a problem; gather data pertaining to that problem; interpret the data collected; set priorities of data gathering and decision making; take appropriate action; evaluate that action; and readjust decisions and actions in response to changing conditions.
within the problem environment. A further advantage of simulation is that the
student is able to make mistakes during the learning process without jeopardizing
the health of the patient. In addition, the student is allowed the opportunity to
remedy her mistakes through subsequent decisions and actions.

McGuire and her associates provided explicit guidelines for the construction
of written simulation exercises which can be applied to the nursing process. Her
model, however, does not directly focus on learning how to interpret data collected
in light of the hypothesized patient problems. Rather, it assumes that if the problem
was resolved, the data were interpreted accurately. The work of Elstein et al.
(1978) on teaching medical students how to interpret cues pertaining to hypothesized
problems may be drawn upon. Specifically, McGuire's model can be adapted to
include directives in appropriate sections, asking participants to classify and
evaluate the data gathered in relation to the hypothesized patient problems.

The scoring mechanisms for written simulation developed by Elstein et al.
(1978), McGuire (1963, 1976), and Williamson (1965) may be drawn upon for
establishing a scoring procedure for written simulations in nursing. In addition,
the procedures outlined for establishing content validity and reliability of scores
for written simulations may be used by the nursing educator when developing such
exercises to instruct nursing process.
CHAPTER 5

DEVELOPMENT OF WRITTEN SIMULATIONS

The Design of the Simulations

A series of eight simulation exercises intended to teach students how to apply the nursing process in clinical practice was developed. The design of the simulations included three main elements or conditions for learning this skill: allowing the student to practise a sequence of activities required to resolve patients' problems in clinical practice; engaging the student in applying the cognitive inference/action tasks inherent in the nursing process; and providing feedback which would enable the student to evaluate her performance on each exercise.

Sequence of Activities

The first element of learning, the sequence of activities required for resolution of patient problems, was based on the educational principle that problem solving can be most effectively taught by providing the student with experience in problem situations that closely resemble the depth and complexity of those found in real life (Bruner, 1966; Dewey, 1963; Gagné, 1971). Therefore, the simulations were based on actual-case histories. In addition, they were designed to allow the student freedom to manipulate the sequence of activities in completing each exercise as she might.
behave in clinical practice. Built into each simulation, however, was an optimal route typifying the components of the nursing process. The optimal sequence, referred to hereafter as the modal route, typified a consistent sequence of activities required to assess and validate patient problems, and to initiate and evaluate patient care. The sequence of activities contained in each of the simulations is outlined in Figure 6. The modal routes in two of the simulations, however, varied in their sequences of activities. Instead of beginning with assessment activities, both began with initiation of care. The purpose of this alteration was to demonstrate that in some cases, for example, a diabetic patient needing insulin at a specified time, the provision of care takes precedence over assessment procedures. After the initiation of care, the modal routes in both simulations followed the typical sequence of activities.

The repetition of activities in sequential fashion was aimed at providing the student with a heuristic for problem solving. Through redundant practice with such a series of activities it was hypothesized that the student would internalize a method of formulating patient problem and implementing care. This hypothesis was supported by Gordon (1973) who found that a conscious effort to use heuristics did have a positive effect on performance in medical problem solving.

Learning the Cognitive Tasks Inherent in the Nursing Process

The second element incorporated into the simulation exercises was a method for learning the cognitive tasks inherent in the problem-solving process. Explicitly, these were to identify a subset of relevant and valid cues within a
INTRODUCTORY INFORMATION

seeks information from one or a combination of physical assessment, interview of patient, chart, Kardex, team leader

formulates initial version of patient's problem(s)

validates patient's problem(s) by seeking further information from one or a combination of physical assessment, interview of patient, chart, Kardex, team leader

consults team leader to validate plan of care

initiates care

initiates care

informs team leader of care

evaluates care

Figure 6. Sequences of Activities in Modal Routes
complex environment, attach proper meanings to these cues, accurately estimate the patient's problem(s), and establish appropriate courses of action.

The nursing literature provided little insight toward understanding these inference/action processes which could be applied to instruction. The literature of psychological inference, judgement, and medical reasoning, however, did present valuable information which could be drawn upon. Therefore, the following aspects were used in developing a method for learning the cognitive tasks described above.

Hammond (1971) outlined three tasks pertinent to learning the processes of inference and judgement which are relevant to nursing. The first pertained to information (cues) used to make inferences. Hammond argued that since there is uncertainty, i.e., unreliability, invalidity, in the information transmitted by the cues, there is also uncertainty in the inferential task. Therefore, the student cannot learn or discover "an infallible rule for organizing and evaluating information" (Hammond, 1971, p. 903). He stated further that, "because the task includes irreducible uncertainty, it requires the exercise of judgement as well as knowledge" (Hammond, 1971, p. 903).

The exercise of judgement in the process of inference requires integrating cues that each have varying degrees of association to a particular state of being. In exercising judgement, the student's second task is to assign differential weights to each cue depending on the degree of relationship each cue has to a particular patient problem. Research into medical judgement found that physicians interpreted cues as confirming or disconfirming a hypothesis, or as not contributing to it (Elstein et al., 1978, p. 279). A study into the effectiveness of a model for
training problem formulations found that medical students were effectively able to justify their problem formulations using this three-point scale for interpreting cues.

The third learning task outlined by Hammond (1971, p. 903) was based on the premise that, "cues will differ in the form of their functional relation to the state to be inferred." He stated further that students must learn to integrate data from linear and nonlinear relations in completing the task (Hammond, 1971, p. 903). Elstein et al. (1978) found that although the integration of cues into a diagnostic judgement in medicine was complex enough to warrant an assignment of differential weights and probabilities to the relation of cues and hypotheses, physicians tended to make linear assignments of relationship instead. Thus, these authors studied three linear models for diagnostic judgement. In the first model, physicians selected the hypothesis with the largest number of confirming cues while in model 2 they rejected the hypothesis with the largest number of disconfirming cues. In the third model, physicians chose the hypothesis with the maximum difference between confirming and disconfirming cues. The authors concluded that models 1 and 3 had broad usefulness to the judgemental task. That is, they were found to "do an average to good job" in predicting clinical decisions (Elstein et al., 1978, p. 98).

Given the conditions for learning outlined above, a design for promoting the learning of the inference/action tasks was incorporated into the simulations in the following way. Lists of cues were presented in a form in which they would normally be found when assessing patient problems. These included physical
assessment activities, questions to solicit information from the patient, and data which could be obtained by reading the chart or Kardex or by consulting the team leader. The student was instructed to select only those cues she felt were relevant and necessary for the care of the patient. After making this selection of cues, the student was directed to identify any actual or potential patient problems. She was then instructed to interpret the cues in light of the patient problems generated. A three-value weighting scheme was adapted from Elstein et al. (1978) to describe the relationship of the cues to the patient problem(s) as positive, negative, or noncontributory. A positive cue was one which indicated or confirmed a particular patient problem. A negative cue was one which did not indicate a patient problem, when, based on knowledge of the particular problem, it should have been positive. A noncontributory cue identified information which had no direct relationship to the particular patient problem.

A general rule for integrating and evaluating the interpreted cues in relation to the identified patient problems was not given to the student. For example, she was not instructed to choose those patient problems with the highest number of positive weights or to eliminate those with the highest number of negative weights. Rather, it was predicted that repetition of the task aided by feedback would induce the student to discover a heuristic for this complex skill.

Provision of Feedback

The third element contained in the simulation exercises was the provision of outcome feedback, presented in qualitative and quantitative forms. Immediately after completing each of the simulations, the student was given a modal answer
record against which she compared her performance. In addition, the investigator verbally explained the rationale for the selection of optimal cues, the patient problem(s) formulated, the interpretation of cues, and the appropriate nursing care activities. As well, alternate sequences of approaches which led to effective resolution of patient problems, and ineffective approaches which led to harmful nursing care activities were presented and explained. In this way the qualitative feedback was closer to what Elstein et al. (1978, p. 201) termed a process model. A major feature of this type of feedback was that although a modal route to resolution of the patient's problems was presented, alternate approaches demonstrating equally acceptable ways of providing patient care were given. These alternate approaches were obtained from the performance of a sample of nursing experts. As such, they provided the student with a picture of the commonalities and differences in the judgemental processes used by experts in providing patient care. In evaluating her performance, the student was required to analyze her own answer record and draw conclusions against the performance of experts in her field.

In addition to qualitative feedback, quantitative feedback was provided on a week-by-week "Record of Progress" as illustrated in Figure 7. This record consisted of a cumulative display of scores pertaining to the student's achievement regarding cue acquisition, patient problem formulation, cue interpretation, and nursing action. The criterion measures for each of the scores were taken from the modal answer records. Each of the scores on the record of progress was defined in the following way:
<table>
<thead>
<tr>
<th>Scoring Criteria</th>
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<th>5</th>
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<th>7</th>
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<tr>
<td>Number of Cues Selected</td>
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<td>Number of Actual Problems Identified</td>
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<td>Number of Potential Problems Identified</td>
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<td>Number of Accurate Interpretations</td>
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<td>Overinterpretation</td>
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<td>Underinterpretation</td>
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<td>Misinterpretation</td>
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<td>Number of Optimal Actions Identified</td>
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<td>Number of Harmful Actions Selected</td>
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Figure 7. Record of Progress
1) Cue acquisition scores. There were two scores relating to cue acquisition.

The first score was a measure of the number of cues selected in relation to the total number of cues available in the exercise. The second score measured the number of optimal cues selected in relation to the number of optimal cues available.

2) Problem formulation scores. There were two problem formulation scores. The first score was a measure of the number of actual patient problems identified in relation to the total number of actual patient problems in the exercise. The second score pertained to the number of potential patient problems identified in relation to the total number of potential patient problems in the exercise.

3) Cue interpretation and utilization scores. There were four scores related to cue interpretation and utilization. The first score measured accuracy of cue use and interpretation. It was calculated as the percentage of the number of accurate interpretations to the total number of optimal interpretations in relation to the patient problem(s) in the exercise. The second, third, and fourth scores measured error in cue interpretation, namely, overinterpretation, underinterpretation, and misinterpretation. It was surmised that knowledge of the specific type of error committed would assist students with their approach strategies on subsequent simulations. The overinterpretation score reflected the number of positive or negative weights that were assigned to noncontributory items of information. The underinterpretation score measured the number of zero weights assigned to items of information that were either positive or negative indicators of a particular patient problem. The misinterpretation score pertained to the number of positive and negative cues that were assigned weights the opposite of those on the modal answer record.
4) Nursing action scores. Two nursing action scores were calculated. The first score provided a measure of the number of optimal actions selected in relation to the total number of optimal actions in the exercise. The second score was a measure of the number of harmful actions selected in relation to the total number of harmful actions in the exercise. The scoring key for the record of progress is further outlined in Figure 8.

Development of the Written Simulation Exercises

Overview

A set of eight written simulation exercises was developed. Each exercise comprises a number of sections designed to move the student through a sequence of acquiring, interpreting, and using a number of cues when assessing patient problems and making decisions about nursing actions. A cue refers to any information such as a sign, symptom, medical diagnosis, medical treatment regimen, or laboratory result, that the nurse utilizes when assessing patient problems and making decisions about patient care. A patient problem is a statement which summarizes the behavioral response of an individual to a health problem, including the contributing or causal factors. An example could be: difficulty walking due to incisional pain. Nursing action refers to an intervention that a nurse may initiate to attempt to resolve an identified patient problem. In some of the sections (bridging sections) the student is instructed to select, from a number of strategic alternatives, her next approach to resolution of the patient problem(s). The strategic alternatives include such approaches as "complete a physical assessment", "read the chart", "consult the
1) **Cue Acquisition Score**

   a) **Number of cues selected**  
      \[
      \frac{\text{Total # of cues available}}{\times 100}
      \]

   b) **Number of optimal cues selected**  
      \[
      \frac{\text{Total # of optimal cues}}{\times 100}
      \]

2) **Problem Formulation Score**

   a) **Number of actual problems identified**  
      \[
      \frac{\text{Total # of actual problems}}{\times 100}
      \]

   b) **Number of potential problems identified**  
      \[
      \frac{\text{Total # of potential problems}}{\times 100}
      \]

3) **Cue Interpretation and Utilization Score**

   a) **Accuracy:**  
      \[
      \frac{\text{Number of accurate interpretations}}{\text{Total # of optimal interpretations}} \times 100
      \]

   b) **Overinterpretation:**  
      \[
      \frac{\text{Number of positive and negative weights assigned to "zero" weight cues}}{\text{Total # of "zero" weight cues}} \times 100
      \]

   c) **Underinterpretation:**  
      \[
      \frac{\text{Number of "zero" weights assigned to positive or negative cues}}{\text{Total # of positive and negative cues}} \times 100
      \]

   d) **Misinterpretation:**  
      \[
      \frac{\text{Number of positive and negative cues assigned opposite weights to those optimally given}}{\text{Total # of positive and negative cues}} \times 100
      \]

4) **Nursing Action Scores**

   a) **Number of optimal actions selected**  
      \[
      \frac{\text{Total # of optimal actions}}{\times 100}
      \]

   b) **Number of harmful actions selected**  
      \[
      \frac{\text{Total # of harmful actions in exercise}}{\times 100}
      \]

*Figure 8. Scoring Key for Record of Progress*
team leader", or "initiate care". In other sections (option sections) the student is directed to select those activities she thinks are necessary to assess patient problems or to initiate appropriate nursing actions. The choices available to the student in both bridging and option sections are called items. Each item, which is printed in visible form in an exercise booklet, is paired with a result printed by latent image in a fact booklet. The results of the option items are presented in the manner they would be found in an actual patient care setting. The results of the bridging items direct the student to the next appropriate section of the exercise. The stages through which each student proceeds is dependent upon the assessments and decisions she makes. The exercise is terminated when the student reaches an acceptable resolution or is faced with disruptive alternatives brought about by her own judgements and decisions.

The format for the simulations was adapted from McGuire's model of patient management problems (McGuire, 1963, 1976; McGuire & Babbott, 1967; McGuire et al., 1976). The adapted model incorporates two essential features not present in McGuire's written simulations. The first feature is a method for promoting the learning of the cognitive inference/action tasks inherent in the nursing process. The second feature of the adapted model is a procedure for recording all of the student's responses and results of the responses, as she progresses through the exercise. The form used for this purpose is called the "answer record."
The simulations progress in complexity beginning with the assessment and management of a single patient problem and ending with a maximum of nine problems that concurrently impinge on making optimal decisions underlying nursing care. The type of cases used in developing the exercises included patients with gallbladder disease, peptic ulcer disease, hernias, diabetes, tumors, and immunological disorders.

Construction of the Answer Record

The answer record was constructed as a method enabling the student to write down her strategic approaches, cues selected, formulation(s) of patient problem(s), cue interpretations, and nursing actions.

As illustrated on page 73, the answer record consists of a matrix on which strategic approaches and cues selected are listed horizontally in the columns entitled "Cues". Formulations of actual and potential patient problems are stated in the boxes at the top of the columns for actual and potential patient problems. The cue interpretation weightings and nursing actions are indicated in the spaces corresponding to the cue lines and the patient problem columns.

Construction of the First Simulation Exercise

An actual medical record of a patient was used to obtain a realistic case history. All reference to the particular patient was deleted to protect the individual's right to privacy.
<table>
<thead>
<tr>
<th>Item</th>
<th>Cues</th>
<th>Label: Actual Problems as a Patient Problems</th>
</tr>
</thead>
<tbody>
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<td>1</td>
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</table>

**Answer Record**
The simulation begins with an opening scene labelled "Introductory Information." The type of information presented in the opening scene is similar to that obtained in clinical practice, during a change-of-shift report. After the introductory information a directive is given, instructing the student to record any cues she may have selected from the opening scene, into the "Cue" column of the answer record. The student is then directed to Section A where she must decide on her first approach to the care of the patient. On page 75 is the introductory information and Section A as presented in the first simulation exercise. The directives in Section A provide instruction about the type of choice that can be made among the alternative approaches, how to record the information, and how to use the fact booklet.

Having completed all of the instructions in Section A, the student is directed to proceed as stated in the fact booklet. Suppose, for example, the student chose Item A1: "Complete a physical assessment." Her fact booklet would have directed her to Section C of the exercise booklet which, for illustrative purposes, is presented on page 76.

As in Section A the student is instructed about the type of choices she can make among the available options. Again, directives about recording and using the fact booklet are presented. In addition, the student is instructed to state any actual or potential patient problem(s) she may have identified, and to indicate her interpretation of cues in relation to the problem(s) identified. She is then instructed to a bridging segment in which she is permitted to choose her next strategic approach.
INTRODUCTORY INFORMATION

You are working the day shift and are assigned to care for Mrs. Allan, a 57 year old woman who was admitted for investigation of an abdominal mass. Yesterday she went to the O.R. for a laparotomy and biopsy of nodules in her liver. The night nurse reports that Mrs. Allan spent a restless night. At 0300 and 0700 she received Demerol 100 mg I.M. for post-operative abdominal pain. Her I.V. has been infusing well.

Record any cues into the "Cue" column of the ANSWER RECORD. Proceed to Section A.

SECTION A

Choose ONLY ONE initial approach.

Record the item selected into the "Item" column of the ANSWER RECORD.

A2. Read the Kardex and chart.
A3. Interview the patient.
A4. Initiate morning care.
A5. Consult the team leader.

Using your special marker, gently rub the corresponding box in the FACT BOOKLET.
Enter the result of your approach, and/or the directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in FACT BOOKLET.
SECTION C

At this point select AS MANY items as needed.

Record ALL of the items, in the order that they were selected, into the "Item" column of the ANSWER RECORD.

C1. Body alignment and position.
C2. Facial expression.
C3. Eyes.
C4. Mouth.
C5. Scalp and hair.
C6. Ears.
C7. Throat.
C8. Skin color and temperature.
C9. Respiration.
C10. I.V. site.
C11. I.V. rate of flow.
C12. Abdominal dressing.
C15. Bowel sounds.
C16. Legs and feet.
C17. Neurological signs.
C18. T.P.R. and B.P.

Then, using your special marker, gently rub each corresponding box in the FACT BOOKLET, in the order that the items were selected. As you rub each corresponding box, immediately enter the cue into the "Cue" column adjacent to the item number in the ANSWER RECORD.

Now, identify any actual or potential patient problems, and record them, in order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD.

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Now select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD.

J2. Check chart and Kardex.
J3. Interview the patient.
J4. Consult the team leader.
J5. Initiate care.

Then, using your special marker, gently rub the corresponding box in the FACT BOOKLET.

Enter the result of your approach, and/or the directive given into the "Cue" column adjacent to the item number in the ANSWER RECORD.

Then, proceed as directed in the FACT BOOKLET.
The simulation exercise contains many such sections, some of which are not beneficial to the care of the patient. As the simulation evolves, the student is directed to select strategic approaches and activities pertaining to assessment or action, based on the patient problems she identified and the specific responses of the patient as evoked by her own decisions.

Once constructed, the simulation exercise was put to a field test. This preliminary study is described below.

Field Test 1

The purpose of this pilot study was to test the simulation exercise. Two Semester IV students and two instructors from the nursing program at Vancouver Community College, Langara, participated in the study. The Semester IV students were selected because it was assumed that, having completed Semester III of the program, they had acquired sufficient knowledge to deal with the patient problem(s) simulated in the exercise.

The exercise booklet was typed and duplicated. The latent image materials were not available at this time. Therefore, a fact booklet was improvised. The booklet was typed and the items were covered with a translucent tape. Then labels were applied over the tape so that when they were removed, printed material could be read through the tape. The answer record was duplicated.

Each participant received an exercise booklet, a fact booklet, and an answer record. The investigator then provided verbal instructions. Due to the participants' heavy time schedules only one hour was available for testing. Both instructors completed the exercise within this time; both students did not. They
were, however, able to finish one sequence of activities involving the assessment of patient problems. At the end of one hour the investigator conducted a verbal evaluation of the exercise. The results are described below.

Question 1. WHAT DIFFICULTIES DID YOU ENCOUNTER AS YOU WORKED THROUGH THE EXERCISE?

One instructor stated that having to pull off the labels was messy. She experienced no difficulty working through the exercise; however, she did not feel completely sure about the cue interpretations. Another instructor experienced some confusion with the directives in the exercise booklet. More specifically, she found the additional directives at the end of a set of activities, followed by a new list of approaches, difficult to work with. She stated one instance as, "Section B was confusing. I missed a number of directives following the assessment activities because I assumed the section was finished when I had selected the relevant items. It was after trying to figure out where I go next that I discovered the continuation of the section with nursing care activities." As well, this instructor felt some uncertainty with the weights assigned for cue interpretation, stating that "I am not sure if this is how you wanted it done." Both students felt difficulty in following the directives and uncertainty about their cue interpretations. In addition, they did not know how to begin their approach to care. When asked to clarify, they stated that they felt unsure of their initial approach knowing only what was in the "Introductory Information". The exercise required that they make a decision independently. This was a task the students felt uncomfortable about doing.
Question 2. WHAT RECOMMENDATIONS WOULD YOU MAKE TO IMPROVE THE SIMULATION?

All of the participants recommended that an example of a simulation, working through one patient problem, and including an answer record would help to clarify the mechanical aspects involved. One of the instructors felt that the simulation could be improved in the following ways:

a) Each section should contain only one approach and its activities. For example, Section B should be separated after the physical assessment activities, and the nursing care activities should become a new section. In addition, the bridging items should be put into separate sections.

b) The student should be directed to select any of the assessment items in the order which she would follow in the clinical area.

c) The student should be directed to select the nursing care items according to the priority in which she placed the identified patient problems.

d) The student should be directed to indicate, in some way, when she thinks an identified patient problem has been resolved. Likewise, she should be given directives as to how to proceed when an identified patient problem has not been resolved.

Upon examining the answer records of the four participants, it was interesting to note that all had proceeded with the care of the patient in the same way. That is, after selecting appropriate information from the "Introductory Information" they proceeded with physical assessment and collection of necessary
In conclusion, three major weaknesses were apparent in the simulation exercise. The first pertained to the format in which the option and bridging segments were contained in one section. The participants found this format confusing and suggested that the exercise might be easier to work through if the option and bridging segments were separated into individual sections.

The second weakness in the exercise was that the directives lacked clarity. These should be rewritten to tell explicitly how to select items for assessment and action, and how to proceed when a patient problem has or has not been identified.

The third weakness in the exercise was the lack of adequate instructions to participants. Written instructions including an example of the assessment and management of one patient problem was recommended by all participants to assist a respondent in learning the mechanical aspects of the exercise.

Reconstruction of the First Simulation

The simulation exercise was subsequently revised. The option and bridging segments were divided into separate sections. The directives were made more explicit in relation to how items should be selected and to what the respondent should do when a patient problem was or was not resolved. The following example serves to demonstrate the revisions and improvements made to the directives.
At this time select AS MANY nursing actions as necessary in the order that you would implement them when caring for the patient.

Record ALL of the items, in the order that they were selected, into the "Item" column, and enter the nursing actions into the spaces corresponding to the "Item" lines and the "Patient Problem" columns of the ANSWER RECORD.

G9. Offer the patient sips of water.

G10. Offer the patient sips of clear tea.

G11. Offer the patient sips of ginger ale.

Then, using your special marker, gently rub each corresponding box in the FACT BOOKLET in the order that the items were selected.

As you rub each corresponding box, immediately enter the result of your nursing action into the "Cue" column adjacent to the appropriate item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space below the nursing action in the appropriate "Patient Problem" column.

If the result of a nursing action indicates that a patient problem has NOT been resolved, immediately proceed as directed below, unless otherwise directed in the FACT BOOKLET.

Now, proceed to Section M.

A set of "Instructions to Students" including an example of the assessment of one patient problem was developed to orient the participants to the mechanical aspects of the simulation. The revised simulation was then field tested.
The purpose of this pilot study was to test the simulation exercise. Nineteen Semester VI students from the nursing program, Vancouver Community College, Langara, participated in the second pilot study.

The exercise booklet and the "Instructions to Students" were typed and duplicated. Additional answer records were duplicated. A fact booklet was prepared using latent image materials. When the items were developed with the special marker, the printing was not clearly visible. Therefore, a fact booklet had, again, to be improvised by typing items with the same number from each of the sections on a separate page. For example, Items A1, B1, C1, etc., were typed on one sheet while Items A2, B2, C2, etc., were typed on another one. To find the information pertaining to Item B3, for instance, the student would turn to page 3, find Item B3 and read the adjacent printing.

A questionnaire was constructed for written evaluation of the exercise. The form was adapted from a "Student Reaction Questionnaire" developed by McGuire et al. (1976, p. 253).

An exercise booklet, a fact booklet, an answer record, and the instructions were circulated to each of the participants. The participants were asked to read the instructions and examine the example. Then the investigator read the instructions to the group and answered any questions. One hour was provided for completion of the simulation exercise. At the end of one hour the participants completed the evaluation questionnaire.

A summary of the results pertaining to each of the questions is presented below.
Question 1. TIME STARTED - TIME COMPLETED

Only two of the students finished the exercise in one hour. The investigator noted, however, that a large amount of time was spent flipping pages back and forth when using the improvised fact booklet.

Question 2. IN YOUR OPINION, WERE THE INSTRUCTIONS CLEAR AND EASY TO FOLLOW?

Five participants said Yes.
Two participants said Yes and No.
Twelve participants said No.

Question: If No, why not?

Seven students stated that the wording in some areas of the instructions was unclear and confusing.
Two participants stated that unfamiliarity with the method made the instructions difficult to understand.
Three participants stated that "too many sections and packets" made the instructions difficult to follow.
One student stated that she felt overwhelmed by the amount of instructions.
Seven of the 19 participants gave no response.

Question 3. PLEASE SUGGEST WAYS THAT YOU THINK THE INSTRUCTIONS COULD BE IMPROVED.

Four participants stated that the instructions should be short, concise statements, preferably in point form.
One student suggested the sections should be color coded.
Four students suggested that the instructions should be followed by a complete, condensed example of a study.

One student suggested that the instructions could be improved by working through a short exercise involving one patient problem rather than presenting an example already worked out.

Nine of the participants did not respond.

Question 4. ON THE WHOLE, I FOUND THE EXERCISE:

a) TOO EASY
b) TOO DULL
c) REPETITIVE IN THINGS I ALREADY KNOW OR COULD DO
d) TOO DIFFICULT
e) REQUIRED THINGS I NEVER LEARNED
f) INFORMATIVE
g) CHALLENGING

One student found the exercise too dull.

Two students found the exercise repetitive in things they already knew and could do.

Two students stated the exercise required things they never learned.

Eight students felt the exercise was informative.

Seventeen of the students found the exercise challenging.

Question 5. COMPARED TO OTHER MATERIALS ON THE TOPIC, DID YOU PERSONALLY FEEL MORE (OR LESS) INVOLVED WITH THE PATIENT PROBLEMS AS YOU WORKED THROUGH THE EXERCISE?

Eighteen of the participants felt more involved.

One of the respondents felt less involved because of her feeling of confusion.
Question 6. DID THE PROBLEMS BEING SIMULATED IN THIS EXERCISE APPEAR TO YOU AS REALISTIC OR TRUE TO LIFE?

Sixteen respondents said Yes.

Two participants said No.

One student did not answer the question.

Question 7. WAS THE EXERCISE CONFUSING OR FRUSTRATING? IF SO, AT WHAT POINTS?

Nine students said it was both confusing and frustrating. Four of these nine stated the frustration was due to the mechanical aspects whereby they had to flip through so many pages in the fact booklet to obtain the desired information.

Six of the respondents said the exercise was confusing during the instruction period, and initially when beginning the exercise.

Three of the students stated the exercise was frustrating because it "seemed to never end" or "it required a lot of work."

One student said the exercise was confusing because "it was new and different."

One student stated frustration with relating cues to patient problems.

Two of the students stated that they did not find the exercise confusing or frustrating.

They found it challenging and suggested the exercise "would be a very good learning tool."

Two of the participants did not respond.

Question 8. WAS THE FEEDBACK YOU RECEIVED HELPFUL TO YOU? IN WHAT WAYS, IF ANY, WAS IT CONFUSING OR UNCLEAR?

Seven of the students said that the feedback was clear.

Twelve of the students did not respond to this question.
Question 9. IN YOUR OPINION, WOULD THIS EXERCISE BE USEFUL IN ASSISTING NURSING STUDENTS TO:

a) GAIN KNOWLEDGE OF NURSING

b) APPLY KNOWLEDGE IN NURSING SITUATIONS

c) UNDERSTAND THE NURSING PROCESS

d) APPLY THE NURSING PROCESS IN CLINICAL PRACTICE

Eight of the participants stated the exercise would be useful in assisting students to gain knowledge of nursing.

Fifteen students stated the exercise would help students apply knowledge in nursing situations.

Twelve of the students said the exercise would be useful in assisting students to understand the nursing process.

Fifteen students stated that the exercise would be useful in assisting students to apply the nursing process in clinical practice.

Question 10. WOULD YOU IDENTIFY CRITICAL ELEMENTS THAT MADE WORKING THROUGH THIS SIMULATION A GOOD OR BAD EXPERIENCE.

Two of the students stated the exercise was realistic, challenging, and fun.

Two students stated a critical element of a good experience as making her think through a patient problem step by step.

Four students identified a critical element of a bad experience as the shuffling back and forth of the exercise booklet and fact booklet, and the large volume of material to work with.

Eleven of the students did not respond.
Question 11. WHAT NEEDS TO BE DONE TO THIS EXERCISE TO MAKE IT BETTER?

Four of the students stated that the instructions should be shortened and made more concise.

Four of the students recommended that the simulation be shortened and the layout improved so that it be easier to follow.

Finally, the investigator observed that the major mechanical difficulty encountered by the participants as they progressed through the simulation occurred because they failed to read the directives following a list of activities for a section. This fact was pointed out to three-fourths of the students during the course of the test.

In conclusion, two major areas of weakness in the simulation were the instructions and the placement of the directives within the sections. Confusing and unclear wording, coupled with too many sections and packets, made the instructions difficult to follow. The instructions could be improved by condensing the information preferably into short statements presented in point form. In addition, a short case study as an example, or a short exercise involving one patient problem to be worked through following the instructions, would facilitate an understanding of the mechanical aspects of the simulation. The mechanical difficulty caused by failure to read those directives placed at the end of the sections could be alleviated by placing all of the directives ahead of the list of activities in each section.
The simulation exercise promoted a personal involvement with the simulated patient. In addition, the participants found it realistic, true-to-life, informative, challenging, and fun.

Final Development of Exercises

After the second field test, revisions were made to the simulation exercises. The instructions were condensed and simplified. Minor changes were made in the wording of the directives to enhance their clarity. In addition, all of the directives were placed before the list of approaches or activities for a section. The first simulation in the series was then restructured to become a working example of the exercises. This involved a case study simulating the assessment and management of one patient problem. A modified-free-branching technique was used to lead the student through the process of assessing and validating the patient problem, and implementing and evaluating an appropriate course of action.

The remaining seven simulations were rewritten according to the revised model. All of the exercise booklets were typed and duplicated. The fact booklets were typed using improved latent image materials; upon developing with a special marker printed material was clearly visible.

All of the simulation exercises were then submitted to a panel of nursing experts. This panel comprised five members, all experienced as educators and practitioners. Their task was to complete each of the simulation exercises, functioning as they would in clinical practice. The results served two purposes. The first was a validation of the modal answer records, which will be discussed later.
The second purpose was a check on the simulation model and the content of each exercise for accuracy and clarity. Two of the simulations required two or three changes relating to the information provided in the fact booklet for respective items of assessment or action. One of the simulations had to be completely redeveloped due to an error in the bridging directives, which prevented effective resolution of the patient problem when two of the alternate paths were selected. Once rewritten, this simulation was again subjected to the scrutiny of the nursing experts. Subsequently, final amendments were made and the simulations were considered ready for use as the experimental treatment. A sample of the "Instructions to Students" and Exercise One including its corresponding fact booklet is presented on pages 90-115. The remaining seven exercises and fact booklets are appended in Appendix III.
INTRODUCTION

This is an exercise in applying the nursing process. It represents a real-life situation in which you are required to identify a number of patient problems, implement appropriate courses of nursing action, and evaluate the care given.

MATERIALS

The materials that you will use in completing the exercise are a/an:

a) EXERCISE BOOKLET
b) FACT BOOKLET
c) ANSWER RECORD
d) SPECIAL MARKER
e) PEN.

DEFINITIONS

There are several terms you must be familiar with before you are ready to begin.

Cue. A cue refers to any information such as a sign, symptom, medical diagnosis, medical treatment regimen, laboratory result, or socioeconomic state that the nurse uses when applying the nursing process.

Patient Problem. A patient problem is a statement which summarizes the behavioral response of an individual to a health or an illness problem including the contributing or causal factors. An example could be pain due to abdominal distention. The patient problems may be actual or potential. An actual problem is one which exists and is supported by assessment data; a potential problem is one which is not present. It may arise because of the patient's health or illness problem, because of the diagnostic or therapeutic regimen, or because some preventive measures have not been taken.

Cue Interpretation Weight. A cue interpretation weight describes how a cue relates to an identified patient problem. A cue interpretation weight can be positive, negative, or noncontributory. Designated by a "+" sign, a cue weight is positive if, from your knowledge, the cue usually indicates a particular patient
problem. Designated by a "-" sign, a cue weight is negative if the cue is NOT indicating a particular patient problem when, from your knowledge, it could be. Designated by a "0" sign, a cue weight is noncontributory if the cue has no relationship to an identified patient problem.

Nursing Action. Nursing action refers to the care that the nurse can implement to resolve an identified patient problem.

Item. The word "Item" refers to the number given to each approach or activity within the exercise.

INSTRUCTIONS

1. Take the EXERCISE BOOKLET and begin by reading the "Introductory Information". There you will find several cues about the state of the patient.

2. Proceed to Section A. In Section A you will find a list of several initial approaches you can take in the care of the patient. You must decide upon one initial approach; the cues found in the "Introductory Information" should assist you in this task.

3. When you have selected your initial approach, take the FACT BOOKLET and find the corresponding item. Then, using your special marker, gently rub the entire box adjacent to the item. Follow the instructions which appear in the box.

4. The initial approach will lead you to subsequent sections. These later sections will contain lists of activities you might want to implement. From the lists, select those activities you think are necessary in light of what you know about the patient. The results of each of the activities that you choose will reveal further cues, or will direct you to another section of the exercise. Continue working through the exercise until you reach the statement END OF EXERCISE in either the EXERCISE BOOKLET or the FACT BOOKLET.

5. Throughout the exercise you will keep a record of the cues acquired, activities selected, actual and potential patient problems, cue interpretation weights, and nursing actions. Recording instructions will be provided throughout the exercise.

The sections are arranged randomly; thus you will skip back and forth as you work through the exercise.

*** COMMENCE EXERCISE ***
SIMULATION #1
EXERCISE BOOKLET
INTRODUCTORY INFORMATION

You are working the day shift and are assigned to care for Mrs. Andrew, age 60. At the change of shift you learn that Mrs. Andrew was admitted yesterday (January 23) with a hiatus hernia. She is scheduled to have a hiatus hernia repair at 1330 today. Blood work was done and a specimen was sent for urinalysis yesterday. Her abdominal shave prep was done last evening and she was given a Dulcolax suppository at h.s. She refused h.s. sedation. At 0615 Mrs. Andrew ate an anaesthetic breakfast, and was then placed on NPO. She will have an ECG done this a.m. She requires a N/G tube pre-operatively and her pre-operative medication is due at 1230. It is now 0750.

Record any cues into the "Cue" column of the ANSWER RECORD. Proceed to Section A.

Section A.

Choose ONLY ONE initial approach.

A2. Read the Kardex.
A3. Read the chart.
A4. Interview the patient.
A5. Initiate care.
A6. Consult the team leader.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.
Section B.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select "ONLY ONE" approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

B1. Read the Kardex.

B2. Read the chart.

B3. Interview the patient.

B4. Initiate care.

B5. Consult the team leader.
Section C.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section K, unless otherwise directed in the FACT BOOKLET.

C1. Vital sign pattern.
C2. Medical orders.
C3. Ability to rest.
C4. Emotional status prior to surgery.
C5. Pre-operative lab. tests.
C7. Medical treatment regimen.
C8. History of dyspnea.
C11. History of cough.
C13. History of problems related to eating or drinking.
C15. Amount of usual fluid intake per day.
C16. Routines before and after meals.
C17. Food and fluid likes.
C18. Food and fluid dislikes.
C19. Weight and Height.
C20. Change in weight within the last three months.
C22. Medication taken at home.
C23. Usual bowel habits.
C24. Bowel elimination aids.
C25. Usual urinary habits.
C27. Interests and hobbies.
C28. Specific exercise program.
C29. Adequate energy to accomplish daily activities.
C30. Activity restrictions.
C31. Hours of sleep.
C32. Quality of sleep.
C33. Requirements for sleep.
C34. Visual ability.
C35. Hearing ability.
C36. Hand dominance.
C37. Usual bathing habits.
C38. Assistance bathing.
C40. Special makeup, lotions.
C41. Allergies.
C42. Reason for hospitalization.
C43. History of present illness.
C44. Family history.
C45. Expected length of hospitalization.
C46. Previous surgeries or hospitalization.
C47. What could be done to improve hospital stay?
C48. Occupation.
C49. Effect of health/illness problem on way of life.
C50. Effect of health/illness problem on future.
C51. Home responsibilities for which assistance is required.

C52. Most significant person(s).
C53. Visitors expected in hospital.
C54. Religious beliefs and practices that influence care.
C55. Feelings about strange environments.
C56. Feelings about accepting help from others.
C57. How does the patient cope with stressful events in her life?
C58. Has there been a recent stressful event that may affect this hospitalization?
C59. Ability to communicate.
C60. Language of choice.
C61. Date of last Pap test.
C62. Abnormal Pap test.
C63. Vaginal discharge.
C64. Frequency of self breast check.
C65. Number of pregnancies.
C66. Physio Progress Note.
C67. Has the consent for surgery been signed?
C68. Pre-operative Chest X-ray.
Section D.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

D1.  Read the Kardex.

D2.  Read the chart.

D3.  Initiate care.

D4.  Consult the team leader.
It is now 0930.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section F.

E1. Allow the patient to verbalize her fears about her surgery.

E2. Tell the patient not to worry; everything will be fine.

E3. Reassure the patient that the ECG is routine for anyone who has had a heart attack and that there is probably nothing to worry about.

E4. Reassure the patient that the ECG was done as a precautionary measure. It will give the doctor a good indication of the state of her heart, which will assist him with her medical care.

E5. Explain to your patient the pre-operative care she will receive. In addition, explain what she will experience in the operating room immediately before surgery, and in the recovery room and on the ward post-operatively.

E6. Explain and demonstrate deep breathing and coughing, turning, and relaxing and contracting leg exercises.

E7. Ask the patient to demonstrate deep breathing and coughing, turning, and relaxing and contracting leg exercises.

E8. Ask the patient to take a tub bath.
E9. Ask the patient to take a shower.

E10. Encourage the patient to do her own mouth care.

E11. Ask the patient to think of any more questions she may have, and tell her you will talk about them when you are doing the Phisohex abdominal scrub.

E12. Ask the patient if she has any other concerns at present.
Section F.

It is now 1015.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

F1. Complete a physical assessment.
F2. Read the Kardex.
F3. Read the chart.
F4. Interview the patient.
F5. Continue with care.
F6. Consult the team leader.
Section G.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

G1. Medications and times of administration.
G2. Treatments and times.
G3. Identified patient problems and nursing approaches.
G4. Activity level.
G5. Side Rails.
G6. Hygienic needs.
G7. Diet and Fluids.
G9. Intake and Output.
G10. Mental Status.
G11. Bowel and bladder care.
G12. Frequency of vital signs.
G13. Physical traits.
G15. Prosthesis.
G17. Allergies.
Section H.

At this time select AS MANY items as needed in your interview with the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section D.

H1. How is she generally feeling?

H2. How well did she sleep?

H3. Has the doctor discussed the surgery with her?

H4. Has she brought up any sputum?

H5. Has she had any shortness of breath?

H6. Does she have an appetite?

H7. Has she ever had surgery?

H8. Does she know what will happen to her before, during and after surgery?

H9. Would she prefer to have her wedding band removed or taped?

H10. Does she know how to deep breathe and cough, turn, and do relaxing and contracting leg exercises?

H11. Will someone visit following her surgery?

H12. Does she have a special soap or lotion she would like used during her bath?

H13. What are her major concerns at present?

H14. Would she prefer a shower or a tub bath?
Just as you are about to begin, your patient is taken to the lab for an ECG. She returns at 0915.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

11. Continue with physical assessment.
12. Continue reading the Kardex.
13. Continue reading the chart.
14. Continue with the interview.
15. Continue with care.
16. Consult the team leader.
Section J.

At this time select AS MANY items as needed when consulting the team leader.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed you will have reached the END OF THE EXERCISE.


J2. What are the results of the ECG?

J3. Recommend that the doctor be informed of the patient's fear due to her previous coronary, and that he visit her pre-operatively.

J4. What size of N/G tube is routinely used?

J5. Is there special O.R. clothing?

J6. Are there special procedures for handling valuables?

J7. Can wedding bands be taped?
Section K.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

K1. Complete a physical assessment.

K2. Read the Kardex.

K3. Interview the patient.

K4. Initiate care.

K5. Consult the team leader.
Section L.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section B.

L1. Rate, rhythm and depth of respiration.
L2. Pattern and character of respirations.
L3. Chest symmetry and general chest expansion.
L4. Duration of inspiration versus expiration.
L5. Presence and character of cough.
L7. Temperature of extremities.
L8. Color of skin.
L13. Rate, rhythm and quality of radial pulse.
L14. Quality of pedal pulses.
L15. Rate, rhythm and quality of apical beat.
L17. Height.
L18. Weight.
L20. Lips.
L21. Tongue.
L22. Gums.
L23. Teeth.
L25. Mucous membranes.
L27. Pharynx.
L29. Intravenous fluid intake.
L30. Intravenous rate and flow.
L31. Type and amount of food intake.
L32. Abdomen for scars, striae, rashes and lesions, dryness, sweating or oiliness.
L33. Umbilicus.
L34. Contour and symmetry of abdomen.
L35. Frequency and character of bowel sounds.
L37. Stool color, odor, consistency, frequency and control.
L38. Urine color, odor, amount, clarity and continency.
L39. Level of consciousness.
L40. Level of responsiveness.
L41. Pupillary reaction.
L42. Strength and quality of movement in upper and lower extremities.
L43. Range of motion.
L44. Coordination.
L45. Posture and position.
L46. Presence of inflammation.
L47. Condition and symmetry of eyes, and presence of discharge.
L48. Patency of external ear, and presence of discharge.
L49. Patency of nostrils, and presence of discharge.
L50. Skin turgor, vascularity, texture, cleanliness, lesions and discharges.
L51. Hair texture and cleanliness.
L52. Facial expressions.
L53. Quality, quantity and organization of speech.
L54. Mood and manner.
L55. Posture and motor behavior.
L56. Grooming and dress.
L57. Symmetry, size, contour and appearance of breasts.
L58. Nipple size and shape, and presence of discharge.
A1. You find your patient resting with closed eyes. Make another selection in Section A.

A2. Proceed to Section G. When you have finished reading the Kardex RETURN to Section A and make another selection.

A3. Proceed to Section C.

A4. You find your patient resting with closed eyes. Make another selection in Section A.

A5. You find your patient resting with closed eyes. Make another selection in Section A.

A6. The team leader is off the ward. Make another selection in Section A.

B1. Proceed to Section G. When you have finished reading the Kardex RETURN to Section B and make another selection.

B2. Proceed to Section C. When you have finished reading the chart RETURN to Section B and make another selection.

B3. Proceed to Section H.

B4. You find your patient looking worried and tense. Make another selection in Section B.

B5. The team leader is not available. Make another selection in Section B.

C1. T - 36.6 - 37.2
   P - 72 - 84
   R - 18 - 20
   B.P. - 140/80

C2. Seconal 100 mg q.h.s.

C3. Awoke x1 during night.

C4. Appears tense. Frequently questioning whether a heart attack of a year and a half ago will cause problems.

C5. Hemoglobin - 12.9
    Hematocrit - 38.8
    WBC - 13.9 (x10^3)
    RBC - 4.12 (x10^6)
    BUN - 18, Bilirubin - 0.3
    ESR - 28 mm/hr.

C6. Hiatus Hernia.


C8. None.

C9. Smokes one package a day.

C10. None.

C11. None.

C12. Has been avoiding spicy, fried foods.

C13. Has always had heartburn after meals, but this has been getting much worse over the last six months.

C14. None.
C15. About eight glasses.
C17. Most foods.
C19. Wt. - 65 kg, Ht. - 170 cm.
C20. None.
C22. Intrafer i daily.
C23. B.M. q2days.
C24. None.
C26. None.
C27. Bowling and needle crafts.
C28. Walks five blocks daily.
C29. Yes.
C30. None.
C31. Usually 2315 to 0715.
C32. -Good.
C33. Nothing special.
C34. Requires glasses for reading.
C35. Normal.
C36. Right.
C37. Tab every 2 days.
C38. None.

C39. Upper and lower dentures.
C40. Uses an all day lotion.
C41. None known.
C42. To have her hiatus hernia repaired.
C43. Long history of heartburn especially after meals.
C44. None contributory. Husband alive and well. No children.
C45. Eight days.
C46. Ectopic pregnancy 25 years ago. Heart attack 1½ years ago.
C47. Please tell her what she is getting in hypodermic injections. States that she gets nauseated when she doesn't know.
C48. Housewife.
C49. Has affected eating habits and has been unable to walk as much as necessary due to heartburn and abdominal discomfort.
C50. Expecting that surgery will relieve difficulties.
C51. None.
C52. Husband.
C53. Husband, two sisters and some friends.
C54. Belongs to United Church.
C55. Make her feel alone and afraid.
C56. States she does not mind receiving help when she needs it.

C57. Smoking helps and she gets a lot of support from her husband.

C58. No, but she is concerned that the heart attack she had may cause problems during the operation.

C59. Speaks clearly. Seems well oriented to hospital procedure.

C60. English.

C61. Last August.

C62. No.

C63. Normal discharge.

C64. Does not do breast self examination.

C65. One ectopic pregnancy.


C67. Yes.

C68. Chest clear. No pulmonary infiltration seen. Heart and mediastinal contours are centrally located and do not appear abnormal.

D1. Proceed to Section G. When you have finished reading the Kardex RETURN to Section D and make another selection.

D2. Proceed to Section C. When you have finished with the chart RETURN to Section D and make another selection.

D3. Proceed to Section E.

D4. The team leader is not available. Make another selection in Section D.

E1. The patient thanks you for listening and that she feels better talking about it.

E2. The patient begins to cry.

E3. The patient states, "How do you know there is nothing to worry about?"

E4. The patient states, "So I shouldn't be so worried that it might mean my heart will fail during the operation."

E5. The patient thanks you and states, "It makes me feel better to know what will happen to me even though I don't look forward to the tube in my nose."

E6. The patient states, "The physio lady explained it all to me yesterday."

E7. Done well.

E8. The patient consents to do this.

E9. The patient asks if she could take a tub bath instead.
E10. The patient states, "I have already done so but I would like to rinse my mouth again, it is so dry."

G3. None identified.


G5. At h.s.

G6. Tub.

G7. NPO following anaesthetic breakfast.

G8. Self.

G9. No.

G10. Alert.

G11. Self.

G12. T.P.R. @ 1600
B.P. on admission.

G13. Right handed.

G14. Reading glasses.

G15. Upper and lower dentures.

G16. Physio to teach deep breathing and coughing exercises.

G17. None.

H1. States she is feeling somewhat jumpy, with butterflies in her stomach.

H2. States she was able to sleep.

H3. Yes, he explained that he would repair the hiatus hernia. He also told her she would need a stomach tube for a few days.

H4. No.

E11. The patient thanks you and says she will.

E12. The patient states, "I do feel better but I would like to see my doctor before the operation."

F1. Your patient is taking a bath. Make another selection in Section F.

F2. Proceed to Section G. When you have finished with the Kardex RETURN to Section F and make another selection.

F3. Proceed to Section C. When you have finished reading the chart RETURN to Section F and make another selection.

F4. Your patient is taking a bath. Make another selection in Section F.

F5. Your patient is taking a bath. Make another selection in Section F.

F6. Proceed to Section J.

G1. Dulcolax suppository i evening preoperative.
Secosal 100 mg h.s.
Valium 10 mg and Atropine 0.4 mg p.o 1 hr. preoperative.

Phisohex scrub in a.m. following bath. N/G tube preoperative.
H5. States not really.

H6. No.

H7. States 25 years ago but really cannot remember much about it.

H8. States sort of because she was with her sister following a bowel operation.

H9. States she would like to have it taped.

H10. States yes. The nice physio lady explained everything to her, and she practiced last evening.

H11. States her husband will visit in the evening.

H12. States no, but she does use an all day lotion on her face.

H13. States the doctor took a tracing of my heart. Does that mean he is concerned about it? "I am worried that I may have a heart attack during the operation and I just can't relax."

H14. Tub bath.

11. Proceed to Section L.

12. Proceed to Section G. When you have finished reading the Kardex RETURN to Section I and make another selection.

13. Proceed to Section C. When you have finished reading the chart RETURN to Section I and make another selection.

14. Proceed to Section H.

15. The patient appears worried. Make another selection in Section I.

16. The team leader is not available. Make another selection in Section I.

J1. The team leader indicates that you are doing fine. She states she can understand why the patient is anxious.

J2. The phoned results indicated normal sinus rhythm. There is evidence of an old extensive myocardial infarction.

J3. The team leader states that the doctor will be in to visit the patient pre-operatively. The team leader will inform him of the patient's anxiety.


J5. A hospital gown and leggings. The O.R. staff will place a cap on the patient.

J6. All valuables go into a labelled envelope and are locked in the cupboard. Money over $20.00 must go into safe keeping.

J7. Yes.

K1. Proceed to Section L.

K2. Proceed to Section G. When you have finished reading the Kardex RETURN to Section K and make another selection.

K3. Proceed to Section L.

K4. Proceed to Section L.
K5. Proceed to Section I.

L1. R - 24, regular, moderately deep.

L2. Costal, clear, equal.

L3. Equal.

L4. Equal.

L5. None heard.

L6. 36.2° C.

L7. Hands cool to touch.

L8. Slightly flushed.


L11. Pale Pink.


L13. P - 88, irregular, strong.


L15. Apex 84, irregular, strong.


L17. 170 cm.

L18. 65 kg.

L19. Large boned, slightly overweight.

L20. Pink and moist.


L22. Pink and firm.

L23. Upper and lower dentures.

L24. No halitosis.

L25. Pink and moist.


L27. Pink.

L28. NPO.

L29. No I.V.

L30. No I.V.

L31. On NPO.

L32. Skin clear, dry and has been shaved.

L33. Indented.

L34. Protruding, symmetrical.

L35. Bowel sounds present.

L36. None.

L37. None.

L38. Voiding in bathroom q.s.


L40. Attentive.

L41. React normally.

L42. Strong and equal.

L43. Moves without difficulty.

L44. Normal.

L45. Standing erect.
L46. None.

L47. Sclera white, conjunctiva pink, symmetrical eye movements, no discharge.

L48. No wax deposits, no drainage.

L49. Clear, no discharge.

L50. Resilient skin, smooth, moist, no lesions or discharge.

L51. Hair soft and clean.

L52. Tense.

L53. Coherent, speech rapid and hesitant, voice quavering.

L54. Hyperactive.

L55. Tense.

L56. Wearing own nightgown and housecoat.

L57. Symmetrical, large, pendulous.

L58. Small, protruding, no discharge.
Development of Modal Answer Records

A modal answer record was developed concurrent with each simulation exercise. Each record reflected an optimal route for providing patient care; i.e., the collection and interpretation of data for the assessment of patient problems, the validation of these patient problems, and the initiation and evaluation of appropriate nursing care. Within this optimal route the cues and the subsequent nursing actions were taken from actual medical records. In addition, current nursing textbooks were consulted to ensure the accuracy of the choices presented in the lists of activities pertaining to the assessment and subsequent care of the patient. On this basis the content of the modal answer records was considered to be provisionally valid.

A further check on the content validity of the modal answer records was initially intended to be made empirically by comparing the performance of the nursing experts to the optimal routes established for each exercise. More explicitly, this was to determine whether the optimal routes reflected how practitioners would sequence their approaches, which cues they would select when identifying and validating patient problems, and which activities they would choose when initiating nursing action. In the cases where there was disagreement between the optimal routes and the performance of the nursing experts, adaptations were incorporated into the modal answer records. The most frequently occurring sequences of approaches and choices of activities made by the nursing experts were to be used in finalizing the modal answer records. To enhance the validity of the modal answer records, the nursing experts were oriented only to the mechanical aspects
associated with completing the exercises. Each of the experts was directed to read the "Instructions to Students" and ask for further clarification, if necessary. The investigator answered only those questions pertaining to the mechanical aspects of completing the exercises. The nursing process model upon which the simulation exercises were based was neither presented nor discussed. This approach to orientation was based on the assumption that the relevant issue in establishing validity of the modal answer records was to ensure that the performance of the experts reflected accurately what they would do in a real situation. The literature of psychological and medical problem solving has demonstrated that simulation exercises provide an estimate of a practitioner's upper level of capability of performance but do not necessarily indicate true performance in actual practice (Elstein et al., 1978; Goran et al., 1973). Thus, the investigator felt that orienting the experts to the optimal route upon which the simulations were designed would weaken the validity of the modal answer record.

Use of the empirical method outlined above, however, was not effective in establishing the validity of the modal answer records. At the outset, there was divergence among the experts in the approaches taken to provide patient care. There was only one simulation in which two of the experts took an identical route. In all of the other exercises, each of the experts took a different sequence of approaches and activities in providing care. Furthermore, the nursing process model upon which the simulation exercises were based was rarely applied. In only three of the simulations, one of the experts was in agreement with the modal answer record. Very frequently, patient problems were identified following
physical assessment or interview activities but were not validated. Rather, the
experts proceeded directly with patient care. In seven of the simulations, the
identification of a number of patient problems was contingent on completion of
physical assessment activities. Some of the experts did not always gather informa-
tion about their patients using this approach. Thus, a number of patient problems
within each of the exercises was not identified. In fact, the expert committee
identified an average of 68.5% of the patient problems around which the simulation
exercises were constructed. Finally, intraindividual consistency from simulation
to simulation was low. Not one of the experts appeared to be applying a unique
sequence of approaches in repetitive fashion. This seemed to suggest, as was
found by Elstein et al. (1978), that the problem solvers' perception and knowledge
of the problem space (Simon & Newell, 1970) strongly determined how resolution
to the patient problems was approached. A further explanation was that perhaps
these variations reflected experts' abilities to simplify or circumvent all the details
to which novices would need to attend. Thus, the sequences of approaches and
activities taken by the nursing experts were not really an invalidation of the nursing
process that should be taught to students, but reflected more the ways that step-
by-step routines for non-experts can be shortened with experience.

Given the divergence in the performance of the nursing experts, the
modal answer records as constructed concurrent with each of the exercises were
used as valid criterion measures. There were, however, routes taken by the
experts which demonstrated application of the nursing process and which terminated
in effective resolution of patient problems. In addition, although the nursing
experts were divergent in their sequences of approaches, they were convergent in some aspects of performance. For example, all of the experts may have begun a simulation with physical assessment activities and then diverged in their next approach. Thus, sequences of approaches and activities taken by the experts which portrayed application of the nursing process and areas of strong agreement within routes were taken as valid alternative ways of providing patient care. These formed the basis of the alternate routes outlining the divergence and convergence in the performance of the nursing experts, which were presented in the feedback sessions.

The modal answer records and alternate routes for each of the simulation exercises are presented in Appendix IV.
CHAPTER 6

METHOD

Design

The method used to evaluate the effectiveness of the written simulations for teaching the nursing process and its attendant cognitive abilities to students, was a pretest-posttest control group design.

Sample

Initially, the sample consisted of 30 registered nursing students enrolled in Semester III (May to August, 1979) of the program at Vancouver Community College, Langara. During the first month of the term seven students dropped out for personal or academic reasons. As a result 23 students participated in the study.

The Semester III students were selected for two reasons. First, it was assumed that they had an understanding of the structural components of the nursing process. In Semesters I and II of the nursing program, students learned the theoretical basis for using the nursing process in giving patient care. This included a definition of the nursing process and its structural components, and a description
of how each of the steps could be applied in clinical practice. A lesson plan for the class on nursing process taught in Semester II is appended (Appendix II). In addition to an understanding of the structural components, it was assumed that the students could successfully apply the steps of the nursing process during clinical practice. Clinical practice consisted of one day a week over 12 weeks in a maternity setting. Each week students were assigned to the care of one or two patients. Further, they were required to submit weekly a written assignment describing the application of the nursing process for one of the assigned patients. This consisted of a detailed assessment of the patient using data from all relevant sources and a nursing care plan. The nursing care plan included one patient problem which was determined by analyzing the data collected by assessment. Students analyzed their data by comparing the findings with knowledge of normal physiological processes and conditions in order to determine deviations from normal. These deviations from normal formed the basis of the patient problems. Once a patient problem was defined, students then completed the nursing care plan by stating the goal(s) of patient care, the approach(es) taken to meet the goal(s), and an evaluation of the effectiveness of the approach(es) in relation to the stated goal(s).

The second reason the Semester III students were selected was that at this stage of the program the learning objectives changed in focus from the care of individuals who were ostensibly healthy to the care of those who were experiencing health problems due to pathophysiological causes. It was important that the participants had an understanding of the steps of the nursing process but that they had not already attained a level of skill in the task that would preclude learning by
experimental treatment. That is, it was assumed that the participants' performance on the task would not have been affected by prior experiences in which they learned to determine particular patient problems by comparing abnormal findings with knowledge of normal processes and conditions.

Following written consent for participation in the study, the students were randomly assigned to the control and experimental groups. Twelve students participated in the experimental group while 11 took part in the control group.

**Context**

At the Semester III level of the nursing program at Vancouver Community College, Langara, the nursing process is not taught in the classroom. Rather it is taught in clinical practice, supplemented by submission of a weekly nursing care plan for one assigned patient.

Students in both the experimental and the control groups completed one and one half days of clinical practice weekly on a medical-surgical ward in two of four acute care agencies. That is, half of the students spent six weeks on a medical ward and then six weeks on a surgical area. The other half spent six weeks on a surgical ward and then six weeks on a medical area. Each student was assigned to the care of one, two, or three patients and was expected to apply the nursing process as outlined in the clinical objectives (Appendix I). Instead of submitting a weekly nursing care plan on one assigned patient, the students in the experimental group completed one written simulation exercise weekly for eight weeks.
Independent Variable

The independent variable was the series of eight written simulation exercises intended to teach students how to apply the nursing process in clinical practice. Each student completed one exercise a week for each of eight weeks. The students met with the investigator for one and one half hours weekly. One hour and 15 minutes was scheduled for completing the exercise and 15 minutes was provided for feedback.

The first session began with an orientation to the exercises. The materials, including the instructions, an exercise booklet, a fact booklet, an answer record, and a latent image marker were distributed. The investigator explained the materials, defined terms, and outlined the procedure for completing the exercise.

The students received no assistance from the investigator while completing the exercises. In the 15-minute sessions for feedback, each student was given a modal answer record against which she compared her own record. The investigator then explained the reasons for the choices made in the modal answer record. Alternate routes which were effective in resolving the patient problem(s) were also presented and explained. In addition, harmful or ineffective routes and choices of options were presented and explained.

In addition to the qualitative feedback, quantitative feedback was provided on the record of progress. Beginning with the second week, each student reviewed her record of progress in which were entered the scores obtained on the exercise completed the previous week.
Moderator Variables

Final grades in the form of A (distinguished achievement), B (above average achievement), C (average achievement), P (minimum passing), and F (insufficient achievement) were obtained for the Semester III nursing theory and clinical practice courses from the records in the Nursing Department, Vancouver Community College, Langara. The scores were used to gauge the relationship between students' level of knowledge and clinical performance, and scores on the dependent variables.

Dependent Variables

Test Instrument

The subjects' performance on the pretest and posttest was measured in terms of six dependent variables. These were: a patient-problem-identification score, a cue-use score, an order-of-process score, and three self-confidence scores.

A paper-and-pencil test was developed (see Appendix V). The design of the test instrument was based on the notion of fixed-order problems (Elstein et al., 1978, p. 152). As such, the test called for an analysis of patient problems and a resulting statement of sequence of actions with respect to nursing process from a set data base. In addition, the items were varied so that a participant's performance at different stages of the nursing process could be measured. The patient encounter in each item was based on actual situations taken from medical
records and/or current nursing literature. Five domains of patient encounters were selected, all representing common reactions to the health problems studied in Semester III of the nursing program. There were eight items for each domain in the test. The domains included patient problems pertaining to: anxiety, fear, and stress; rest and comfort; fluid, electrolyte, and chemical imbalances; drug and blood reactions; and oxygen supply.

The test contained 40 items, each consisting of a patient encounter in which a number of cues was presented. For each item the subject was required to provide four sets of responses. The first response pertained to identification of the patient problem. After reading the patient situation, the subject stated what she thought the patient problem to be. The second set of responses pertained to cue use. Here, the respondent listed the cues she used to formulate the patient problem. Further, she indicated the relationship of these cues to the identified patient problem using the three-point positive, negative, or noncontributory response format. The third response provided an order-of-process score. Based on the patient problem identified, the student stated the order in which she would proceed with the nursing process. Given a fixed list of approaches, the respondent was to place in rank order those approaches she thought were appropriate for resolving the identified patient problem. The fourth set of responses pertained to the student's confidence in her answers on the first three variables. Using a five-point scale, with the high scores indicating certainty, the participant stated how confident she felt with respect to her choice of patient problem, the use of cues, and the order of process. The scale was adapted from Hammond et al. (1966). The scores were used to
measure the degree of relationship between the participant's feeling of confidence in her performance and her obtained scores on the first three dependent variables.

It was assumed that students who learned the nursing process would experience increased confidence when applying it on the test. In this way the degree of confidence in one's answer could be taken as a measure of having learned that process.

An example of one of the test items is illustrated in Figure 9.

**Scoring Key**

The subject's performance on patient problem identification, cue use, and order of process was measured by means of a scoring key. The key was developed concurrent with the construction of test items. Since each item was designed to test a participant's performance on a fixed number of cues with pre-determined validities to the task, the scoring key was assumed to have criterion validity a priori. However, the key was further validated by comparing it to the performance of the five nursing experts who participated in validating the modal answer records. This validation occurred in the following manner.

A test-retest estimate of the stability of the nursing experts' responses on the test instrument was obtained. There was a time period of two months between each of the tests to suppress the effect of memory on the retest responses. The estimate of stability of the nursing experts' responses was considered important since others (Elstein et al., 1978) found that intraindividual consistency on problem-solving measures was low. If the test-retest estimates of stability were found to be low, the performance of the nursing experts could not be used to validate the
SITUATION: Mrs. Green, age 57, is in for investigation of an abdominal mass. She sleeps poorly, and picks at her food stating that it makes her feel nauseous. She appears to treat her condition lightly, stating, "I'm not worried; I'm in good hands."

Part A: Patient Problem

<table>
<thead>
<tr>
<th>Part B: Cue Use</th>
<th>-1 0 +1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-1 0 +1</td>
</tr>
<tr>
<td></td>
<td>-1 0 +1</td>
</tr>
<tr>
<td></td>
<td>-1 0 +1</td>
</tr>
<tr>
<td></td>
<td>-1 0 +1</td>
</tr>
</tbody>
</table>

Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

<table>
<thead>
<tr>
<th>Choice of problem</th>
<th>1 2 3 4 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of cues</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Order of process</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Figure 9. Example of One Item on the Test Instrument
scoring key. Instead, the scoring key, as originally established, would be accepted as a valid criterion since it was logically developed on the basis of real cases and information in current textbooks. However, if the test-retest estimates of stability were found to be high, the performance of the nursing experts would be used in the validation of the scoring key.

The test-retest stability of the nursing experts' performance was established by calculating the percentage of intraindividual agreement between responses on the two tests. At this point, the performance of the nursing experts was not compared to the scoring key, since it was assumed that the responses of the experts were correct. Therefore the calculation of a reliability coefficient using an index such as Pearson product-moment correlation was not appropriate. Rather, a tabulation was made of the number of times each of the experts gave the same response for a test item on both test and retest. Responses for patient problem identification, cue use, and order of process were tabulated separately. The raw scores were then converted into a percentage of the total number of items for each of the variables. The results are presented in Table 3. The mean percentage of intraindividual agreement of the responses for each item between the test and retest was 92 for patient problem identification, 48.5 for cue use, and 12.5 for order of process. A discussion of these results and the consequent validation of the scoring key follows.
Table 3
Mean Percentage of Intraindividual Agreement on Items for Patient Problem Identification, Cue Use, and Order of Process between the Test and Retest Responses

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean Percentage of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient problem identification</td>
<td>92</td>
</tr>
<tr>
<td>Cue use</td>
<td>48.5</td>
</tr>
<tr>
<td>Order of process</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Patient problem identification. Assuming that nursing experts cognitively function in a manner similar to medical practitioners, the high percentage of intraindividual agreement on items for patient problem identification can be explained by the findings of Elstein et al. (1978). These authors found that physicians formulate problems from a small number of cues primarily by an associative process that linked cues to knowledge stored in long-term memory. Thus, given that the nursing experts were considered to have a level of knowledge relating to the domains of patient problems represented in the test instrument, it follows that the test-retest stability would be high on this kind of item.

Given the high consistency of the nursing experts' responses for patient problem identification between test and retest, these were consequently compared to the scoring key. Table 4 presents the mean percentage of agreement and the test-retest coefficient of the experts' responses for patient problem identification.
as compared to the scoring key. Overall, the agreement between the responses of the experts and the scoring key was high. There was 93% agreement on the test and 92% agreement on the retest between the nursing experts' responses and the scoring key. The Pearson product-moment correlation coefficient was lower than expected, given this high agreement. However, it was likely attenuated due to the very small variance.

Table 4

Mean Percentage of Agreement and the Test-Retest Reliability Coefficient of Nursing Expert Responses for Patient Problem Identification as Compared to the Scoring Key

<table>
<thead>
<tr>
<th></th>
<th>Test</th>
<th>Retest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean percentage of agreement</td>
<td>93</td>
<td>92</td>
</tr>
<tr>
<td>Sd</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Test-retest correlation</td>
<td></td>
<td>.79</td>
</tr>
</tbody>
</table>

Cue use. The mean percentage of intraindividual agreement of the nursing experts' responses for cue use between the test and retest was 48.5. This result can be explained on the basis of findings from research on medical reasoning. Elstein et al. (1978) found that accuracy of diagnostic outcome was related to accuracy of cue interpretation. They speculated further that accuracy of cue interpretation was directly dependent on memory and prior knowledge. The inconsistencies between physicians and within physicians, with respect to cue use, therefore,
vary as a result of the physician's ability to retrieve lists of features from memory for particular hypotheses, and then to compare the information in a case with those retrieved from memory. Granting that nursing experts function similarly, the decreased consistency with which the experts used cues from test to retest could have been directly related to their memory and prior knowledge across tests.

Elstein et al. (1978) also found that physicians formulated problems on the basis of small clusters of salient cues. The responses of the nursing experts were, therefore, analyzed to determine clusters of cues that might have been used consistently in the generation of patient problems. This was done by creating a cue-use matrix, as illustrated in Figure 10 below.

<table>
<thead>
<tr>
<th>Item</th>
<th>Scoring Key</th>
<th>Expert Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cues</td>
<td>Validities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Had vagotomy and pyloroplasty this morning</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>increased pain</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>nausea</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>analgesic one hour ago</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>stasis of fluid in nasogastric tube</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>age</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>male</td>
<td>0</td>
</tr>
</tbody>
</table>

*Space was left blank if the expert did not select a cue from the patient encounter.*

Figure 10. Sample of One Item on Cue-Use Matrix
The analysis of cues found that for each of the patient problems identified (i.e., were in agreement with the scoring key), the nursing experts used a number of cues consistently on the test and retest. For example, on the item illustrated in Figure 10, all of the experts selected and interpreted increased pain, nausea, and stasis of fluid in nasogastric tube. Consequently, these results formed the basis for validating the scoring key with respect to cue use. For each item, the cues that were selected and interpreted with 100% agreement between and within the experts across the tests were accepted as valid. Thus the resulting scoring key for cue use contained only the cue clusters with perfect intraindividual and interindividual agreement among the nursing experts on the test and retest.

Order of process. The mean percentage of intraindividual agreement on order of process was 12.5. This low result is not surprising since others (Elstein et al., 1978; Hammond et al., 1966; Kleinmuntz, 1968) have found a high degree of variability on the strategies used in problem solving. Another explanation for this low result is that the variable called for a response that went beyond the information presented in each of the patient encounters. The respondent was asked to state a priori how she would proceed with resolving the identified patient problem. To do this, the respondent had, in effect, to create a mental image of the structure of the problem without available information. Given what is known about the variability of interpretation of information that is given (Elstein et al., 1978; Newell & Simon, 1972; Shulman et al., 1968) it is reasonable to assume that a response without complete information would contain even more variance. Thus, it was concluded that the response called for on order of process was not logical and could not be used, with validity, for evaluating treatment effect.
One aspect of the order-of-process variable could, however, be used. That was the first action taken in an attempt to resolve the patient problem presented in an encounter. This was considered logical, since the response would have been based on available information. The responses of the nursing experts were retabulated to determine intraindividual agreement on the first action across tests. The mean intraindividual agreement of the responses for first action on the test and retest was 54.5 with a standard deviation of 7. Given this amount of variability in the responses, the first ranked approach in the order of process as originally established was taken as the valid criterion measure for first approach. This was considered logical since the test items were designed to measure a subject's performance at pre-determined stages of the nursing process.

The complete scoring key is presented in Appendix VI.

Procedure

The procedure followed a pretest-posttest control group design. The same test form was used for both pretest and posttest.

The pretest was administered to all of the subjects before they were randomly assigned to the control or experimental group. A test booklet including the instructions was circulated to each of the participants. The investigator read the instructions aloud and then answered any questions pertaining to the mechanical aspects of the test. Two hours were allowed for completion.

Subjects in the control group completed one nursing care plan a week for eight weeks. These were submitted to the regular course instructors and treated
in the usual way. Instead of handing in a weekly nursing care plan, participants in the experimental group worked through one simulation exercise a week for eight weeks. These subjects met with the investigator for one and one half hours weekly.

One hour and 15 minutes was scheduled for completing the exercise, and 15 minutes was provided for feedback.

At the end of eight weeks all of the participants wrote the posttest. The instructions were again circulated, and read aloud by the investigator. Two hours were provided for completing the test.

Data Analysis

Six scores were obtained for each student. The first three pertained to the subject's responses on each test item for patient problem identification, cue use, and correct first action. The last three scores indicated the subject's self-confidence ratings of her responses on the first three dependent variables. The scores can be described as a matrix pictured below:

<table>
<thead>
<tr>
<th>Response</th>
<th>Patient Problem Identification</th>
<th>Cue Use</th>
<th>Correct First Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-confidence rating of response</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The variable, patient problem identification, was scored dichotomously as correct or incorrect. The student's score indicated the number of responses that were correct as compared to the scoring key. The cue-use score was determined by calculating the proportion of cues that were selected as compared to the number of optimal cues listed for each item on the scoring key. A proportion was used because the number of optimal cues varied from item to item. The proportions for each of the items were then summed to obtain a score for each subject. The correct first action score was obtained by comparing the subject's responses to the scoring key. Scored dichotomously, it indicated the number of responses that were the same as those on the scoring key. The three self-confidence scores were obtained by summing the subject's ratings, on a scale of 1 to 5, of her responses for patient problem identification, cue use, and correct first action.

Originally, it was intended to test the effectiveness of the written simulation exercises by a multivariate analysis of covariance using the pretest scores as the covariate measures. Due to the substantial decrease in sample size, however, the results obtained by such analysis would not be sensitive to effects. Therefore, the final results were based on an analysis of posttest scores only. Pretest scores were used to demonstrate equivalence of groups with respect to initial abilities in applying the nursing process.

The reliabilities of the scores on patient problem identification, cue use, and correct first action were estimated using Guttman's model for reliabilities (Guttman, 1945). This model was selected because it provided an estimate of the lower bounds of the reliability coefficient for the scores on a single test instrument.
Multivariate and subsequent univariate statistical tests were conducted to determine whether the written simulation exercises were more effective than nursing care plans for teaching the nursing process to students, as measured by the six dependent variables. The Hotelling's $T^2$ (Tatsuoka, 1971) was used for the multivariate analysis because it provided an index of difference between the experimental and control groups, taking into account all six dependent variables. In addition, it made adjustments for possible correlations among the dependent variables.

Intercorrelations among the six dependent variables and the students' final marks for their theory and clinical courses in Semester III of the nursing program were established. The purpose of these were to help interpret, if any, the treatment effects.
CHAPTER 7

RESULTS

The research findings are presented in two sections. The first section outlines the results of the statistical analyses of the data. The second section presents a summary of student reactions to the set of written simulation exercises.

Results of Statistical Analyses of Data

The means, standard deviations, reliabilities, and intercorrelations of the six dependent variables for both conditions are presented in Table 5 for the pretest scores, and in Table 6 for the posttest scores. In addition to the six dependent variables, the results in Table 6 include the two moderator variables, i.e., the final grades for the nursing theory and clinical courses in Semester III of the nursing program. A histogram of means is presented in Figure 11. This graph compares the experimental group and the control group with respect to the means for patient problem identification, cue use, and correct first action on the pretest and posttest. In Figure 12, the means for both conditions are compared with respect to the self-confidence ratings for the responses on the first three dependent variables on the pretest and posttest.
<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>First action</td>
<td>0.9</td>
<td>0.89</td>
<td>0.83</td>
<td>0.85</td>
<td>0.86</td>
<td>0.87</td>
<td>0.88</td>
<td>0.89</td>
</tr>
<tr>
<td>Correct first</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Correct use</td>
<td>0.88</td>
<td>0.87</td>
<td>0.86</td>
<td>0.85</td>
<td>0.84</td>
<td>0.83</td>
<td>0.82</td>
<td>0.81</td>
</tr>
<tr>
<td>Identification</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
</tr>
<tr>
<td>Problem identification</td>
<td>0.32</td>
<td>0.32</td>
<td>0.32</td>
<td>0.32</td>
<td>0.32</td>
<td>0.32</td>
<td>0.32</td>
<td>0.32</td>
</tr>
<tr>
<td>Key</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Mean</td>
<td>5.4</td>
<td>5.4</td>
<td>5.4</td>
<td>5.4</td>
<td>5.4</td>
<td>5.4</td>
<td>5.4</td>
<td>5.4</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Dependent Variables for Control and Experimental Groups on Prestest: Means, Standard Deviations, Reliabilities, and Intercorelations of the Variables.
### Table 6

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>sd</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

For Nursing Theory and Clinical Courses for Control and Experimental Groups on Posttest

Means, Standard Deviations, Reliabilities, and Intercorrelations of the Dependent Variables and Final Grades
The pretest results indicated that both groups were quite similar in their abilities pertaining to patient problem identification, cue use, and correct first action. The means differed by 1.3 - 1.6 points out of a maximum of 40 items on the test. The means differed more on the three self-confidence variables. However, this difference could not be attributed to any known factor because the groups were assigned randomly (Cronbach & Furby, 1970). Since the Guttman reliabilities of the scores were relatively high the mean scores were assumed to be accurate. In addition, there was an apparent trend of similarity among the intercorrelations of the variables for both conditions. The scores for patient problem identification, cue use, and first action correlated substantially with one another. In the experimental group, the scores for patient problem identification correlated .98 with cue use, and .90 with correct first action; cue use correlated .90 with correct
first action. In the control group, the correlation of patient problem identification with cue use was .98, and with correct first action was .92. The correlation of cue use and first action was .93. These three response variables, however, correlated poorly with the self-confidence ratings for patient problem identification, cue use, and correct first action. On both conditions the intercorrelations of the self-confidence variables with patient problem identification, cue use, and correct first action were low positive, or negative. The three self-confidence variables,
on the other hand, correlated substantially with one another in both the control and experimental groups.

On the posttest, the means suggested a trend in favor of the experimental treatment. The mean scores for the experimental group were higher than those for the control group on patient problem identification, cue use, and correct first action. Given the high Guttman reliabilities for these variables, the means were considered accurate. The scores on patient problem identification, cue use, and correct first action correlated highly with one another. The groups differed with respect to the correlations of the three response variables with the three self-confidence variables. In the experimental group the correlations of patient problem identification, cue use, and correct first action with the respective self-confidence variables were low but positive. In the control group these intercorrelations were all negative. For example, the correlation of cue use with self-confidence for cue use was .15 for the experimental group and -.51 for the control group. The significance of the difference between the pairs of correlation coefficients for the two groups was tested using Fisher's $z_r$ transformation (Ferguson, 1976). For all of the pairs of correlation coefficients, i.e., a response variable and the respective self-confidence variable, the difference between conditions was not significant ($p > .05$).

The means and standard deviations of the final grades for the nursing theory and clinical courses were basically the same for both groups. The intercorrelations of the scores on the dependent variables with final course grades for both groups were not found to be significantly different ($p > .05$) when tested with Fisher's $z_r$ transformation (Ferguson, 1976).
The results of the multivariate and subsequent univariate statistical tests comparing the experimental and the control group means on the six dependent variables are presented in Table 7 for the pretest and in Table 8 for the posttest. On both the pretest and posttest, the results of the multivariate Hotelling's $T^2$ test supported the null hypothesis, that there was no significant difference between the two conditions when the set of dependent variables was taken together. For each of the tests the level of statistical significance for the associated F value was considerably greater than .05. Even though the multivariate analysis found no statistically significant effect for treatment on the posttest scores, there was substantial positive gain in experimental-group means on all of the dependent variables. The control-group means for patient problem identification, cue use, and correct first action remained relatively unchanged from pretest to posttest while those for the three self-confidence variables increased considerably. The results of univariate tests of differences between the means on the three response variables demonstrated a reliable change in performance using a slightly liberal p value extending to .11. For patient problem identification the t statistic was $-1.66$ with 21 degrees of freedom, and $p = .11$. The t statistic for cue use was $-1.69$ with 21 degrees of freedom, and $p = .11$. For correct first action the t statistic was $-2.11$ with 15.8 degrees of freedom, and $p = .05$. The group means for each of the three self-confidence variables were not found to be significantly different.

On Tables 7 and 8 the t statistics are reported as either "pooled" or "separate". The decision to use a pooled or separate t statistic for each of the dependent variables was based on the F ratio for variances between the groups.
Table 7
Multivariate and Univariate Statistical Tests Comparing the Experimental and the Control Group Means for all Dependent Variables on the Pretest

<table>
<thead>
<tr>
<th></th>
<th>statistics</th>
<th>p</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multivariate Test</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotelling's $T^2$</td>
<td>6.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-value</td>
<td>0.83</td>
<td>0.56</td>
<td>6,16</td>
</tr>
<tr>
<td><strong>Univariate Tests</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient problem identification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T (pooled)</td>
<td>0.58</td>
<td>0.57</td>
<td>21</td>
</tr>
<tr>
<td>F (for variances)</td>
<td>1.95</td>
<td>0.30</td>
<td>11,10</td>
</tr>
<tr>
<td>Cue use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T (pooled)</td>
<td>0.53</td>
<td>0.60</td>
<td>21</td>
</tr>
<tr>
<td>F (for variances)</td>
<td>1.99</td>
<td>0.29</td>
<td>11,10</td>
</tr>
<tr>
<td>Correct first action</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T (pooled)</td>
<td>1.06</td>
<td>0.30</td>
<td>21</td>
</tr>
<tr>
<td>F (for variances)</td>
<td>1.35</td>
<td>0.64</td>
<td>11,10</td>
</tr>
<tr>
<td>Self confidence for patient problem identification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T (pooled)</td>
<td>-1.50</td>
<td>0.15</td>
<td>21</td>
</tr>
<tr>
<td>F (for variances)</td>
<td>3.02</td>
<td>0.08</td>
<td>10,11</td>
</tr>
<tr>
<td>Self confidence for cue use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T (pooled)</td>
<td>-1.76</td>
<td>0.09</td>
<td>21</td>
</tr>
<tr>
<td>F (for variances)</td>
<td>1.80</td>
<td>0.35</td>
<td>10,11</td>
</tr>
<tr>
<td>Self confidence for correct first action</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T (pooled)</td>
<td>-1.82</td>
<td>0.08</td>
<td>21</td>
</tr>
<tr>
<td>F (for variances)</td>
<td>1.04</td>
<td>0.96</td>
<td>11,10</td>
</tr>
</tbody>
</table>
Table 8

Multivariate and Univariate Statistical Tests Comparing the Experimental and the Control Group Means for all Dependent Variables on the Posttest

<table>
<thead>
<tr>
<th></th>
<th>statistics</th>
<th>p</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multivariate Test</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotelling's $T^2$</td>
<td>6.51</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>F-value</td>
<td>0.83</td>
<td>0.57</td>
<td>6,16</td>
</tr>
<tr>
<td><strong>Univariate Tests</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient problem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>identification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$T$ (pooled)</td>
<td>-1.66</td>
<td>0.11</td>
<td>21</td>
</tr>
<tr>
<td>$F$ (for variances)</td>
<td>1.71</td>
<td>0.41</td>
<td>11,10</td>
</tr>
<tr>
<td>Cue use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$T$ (pooled)</td>
<td>-1.69</td>
<td>0.11</td>
<td>21</td>
</tr>
<tr>
<td>$F$ (for variances)</td>
<td>1.58</td>
<td>0.48</td>
<td>11,10</td>
</tr>
<tr>
<td>Correct first action</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$T$ (separate)</td>
<td>-2.11</td>
<td>0.05</td>
<td>15.8</td>
</tr>
<tr>
<td>$F$ (for variances)</td>
<td>4.68</td>
<td>0.02</td>
<td>11,10</td>
</tr>
<tr>
<td>Self confidence for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>patient problem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>identification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$T$ (pooled)</td>
<td>-0.05</td>
<td>0.96</td>
<td>21</td>
</tr>
<tr>
<td>$F$ (for variances)</td>
<td>1.79</td>
<td>0.35</td>
<td>10,11</td>
</tr>
<tr>
<td>Self confidence for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cue use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$T$ (pooled)</td>
<td>-0.43</td>
<td>0.67</td>
<td>21</td>
</tr>
<tr>
<td>$F$ (for variances)</td>
<td>1.05</td>
<td>0.95</td>
<td>11,10</td>
</tr>
<tr>
<td>Self confidence for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>correct first action</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$T$ (pooled)</td>
<td>-0.65</td>
<td>0.52</td>
<td>21</td>
</tr>
<tr>
<td>$F$ (for variances)</td>
<td>1.60</td>
<td>0.45</td>
<td>10,11</td>
</tr>
</tbody>
</table>
The t test for a significant difference between means assumes that the independent samples have equal variances. When this is the case, as determined by a nonsignificant F ratio, a t (pooled) statistic is appropriate. If the variances between groups are not equal, adjustments must be made in the t value giving a t (separate) statistic. Since the F (for variances) ratio was not significant for patient problem identification, cue use, and the three self-confidence variables, the t (pooled) statistic was reported. The F (for variances) ratio for correct first action on the posttest was significant at .02; therefore, the t (separate) statistic was reported.

To aid in the interpretation of results an effect size, or the degree of acceptable difference between group means, was established. An effect size was arbitrarily set as the difference equivalent to a change in grades from a C to a B. To give a meaningful scale for interpretation the range of grades from F to A was converted to stanines such that the C grade was equivalent to a stanine of 5 while the B grade was equivalent to a stanine of 6.75. These stanines were then converted to standard scores with the fifth stanine placed at the mean of 0 standard units. The stanine of 6.75 was then computed to be .84 standard units from the mean. Thus the degree of difference between the group means equivalent to a change in grades from C to B was .84 standard units.

To further assist with the interpretation of results, the statistical power of the tests was calculated. Power refers to the probability of rejecting the null hypothesis. For an effect size of .84 standard units at a significance level of .10 the power of tests was found to be .73. This meant that there was slightly less than a 75% chance of observing a true difference of .84 standard units in means between
the experimental and control groups. At the .05 level of significance power was found to be .61, thus reducing the chance of finding a difference between group means to approximately 60%. A decrease in power increases the risk of Type II error or the chance of failing to reject a null hypothesis that is false. Thus, although a significance level of .10 may be traditionally high in terms of risking a Type I error, or chance of false rejection of the null hypothesis, it was accepted here because it provided better power to detect differences between group means.

Given the weaknesses of the study with respect to power but the presence of suggestive findings, actual effect sizes were computed on the six dependent variables in terms of grades. This was done by transforming the means into grade equivalents and then comparing the differences between conditions. The comparison was made by defining the mean of the control group (equivalent to a C grade) to be 0, calculating z scores for the experimental means and then transforming these to grade equivalents. The control group was used as the reference group since it represented results that were unaffected by the experimental treatment.

The observed effect sizes for the six dependent variables on the posttest are presented in Table 9. The results indicated some differences which should not be overlooked. The most substantial findings were with respect to the three response variables. The z scores for patient problem identification and cue use were .81 which was equivalent to a B grade. The z score for correct first action was 1.46 standard units or the equivalent of an A− grade. This suggested that the written simulations did have some positive effect on behavior change as measured by the three response variables. There was no substantial change, however, in the z scores between group means on the three self-confidence variables.
### Table 9
Actual Effect Sizes for all Dependent Variables on the Posttest

<table>
<thead>
<tr>
<th>Variable</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>Grade for Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>patient problem identification</td>
<td>0</td>
<td>0.81</td>
<td>B</td>
</tr>
<tr>
<td>cue use</td>
<td>0</td>
<td>0.81</td>
<td>B</td>
</tr>
<tr>
<td>correct first action</td>
<td>0</td>
<td>1.46</td>
<td>A^-</td>
</tr>
<tr>
<td>self confidence for patient problem identification</td>
<td>0</td>
<td>0.02</td>
<td>C</td>
</tr>
<tr>
<td>self confidence for cue use</td>
<td>0</td>
<td>0.18</td>
<td>C</td>
</tr>
<tr>
<td>self confidence for correct first action</td>
<td>0</td>
<td>0.24</td>
<td>C</td>
</tr>
</tbody>
</table>
**Student Reactions to the Written Simulation Exercises**

Anecdotal records were kept for each of the sessions during which the experimental group completed the simulation exercises. A summary of the students' behaviors and reactions during these sessions is outlined below.

**Session Number One**

The instructions and materials for Simulation 1 were distributed. The investigator read the instructions out loud, then questions were answered. Several questions were asked in relation to the mechanical aspects of completing the exercise. Three of the students expressed difficulty understanding the explanation for cue interpretation weightings. These were clarified.

All of the students required assistance in following the directives and in working back and forth between the exercise booklet and the fact booklet.

Six of the 12 students did not finish the exercise in the allotted hour and 15 minutes. During the feedback session students silently compared their answer records to the modal answer record. No questions were asked.

**Session Number Two**

Six of the students required guidance with mechanical aspects of the exercise. For example, two of the students could not remember how to begin recording their responses on the answer record. Four students were unable to complete this simulation exercise in the allotted time. During the feedback session, students listened attentively as the investigator explained the modal record, alternate routes, and harmful actions. No questions were asked.
Session Number Three

During this session two of the students experienced difficulty working through the simulation. One of these students said that the thinking process was new to her. She found it difficult to change the thinking process required to complete the simulation. Four of the students felt frustrated with having to write all of the information from the exercise and fact booklets onto the answer record. One of the students stated she still did not know how to use negative cue weights. All of the students stated they did not like the task of weighting the cues. Further, they felt this was an unnecessary, time-consuming task which did not assist with identifying the patient problems.

Session Number Four

The students appeared more at ease working through Simulation 4. One student (as in session three) again expressed difficulty with the required thinking process, stating, "This is foreign to my way of thinking." All of the students completed the exercise.

The students expressed satisfaction with being able to complete the exercise. One of the students found the exercise mentally exhausting, stating further that even writing exams did not require as much effort. The investigator then asked, "What have you learned from the exercises that you have used in the clinical area?" Two of the students responded that they learned a clear way of approaching patient care. Four other students felt they could apply the nursing process on the ward, yet had difficulty doing so on paper. Further to this, another student felt that the
mechanics of the simulation posed difficulty with her thinking process. For example, on the ward she observes and questions a patient at the same time. In the simulations these two aspects were separated. Thus, the amount of time and manipulation of the exercise to complete these two tasks simultaneously created an unrealistic and cumbersome situation. All of the students agreed with this felt problem.

**Session Number Five**

One student displayed extreme frustration and was crying toward the end of the session. She stated that she cannot apply the process on paper as she does in the clinical area. The other students worked methodically with no outward display of frustration. All of the students finished Simulation 5.

**Session Number Six**

The students worked ordently with no display of difficulty. All students completed Simulation 6; three students were finished in one hour. During the feedback session, four students stated that they recognized that the cues were more subtle in this simulation, and that they had to apply their knowledge in an evaluative sense in order to interpret the cues accurately.

**Session Number Seven**

The students worked methodically to completion of Simulation 7. When asked, "How do you feel about the exercises now?", all agreed that they liked the exercises but disliked the large amount of writing required.
Session Number Eight

All of the students worked quietly and methodically. Two students became frustrated when they worked themselves into an incorrect track. All students finished Simulation 8.

At the end of the feedback session, the investigator conducted a short evaluation session. The comments are presented below.

Final Evaluative Comments

Question: WHAT THINGS MADE THE SIMULATIONS A GOOD OR A BAD EXPERIENCE?

a) All students did not like the fact that they had to be at the sessions at 0830 Mondays. Since no other meeting time was available they thought it might have been better if they could have completed the exercises at home.

b) All students did not like the amount of writing involved. They recommended that the investigator consider ways of decreasing the amount of information required on the answer records.

c) One student said, again, that she did not like to weight the cues, but realized that it was part of the exercise. When the investigator asked for additional response from the other students, none came.

d) All students indicated that the exercise demanded deep, concentrated thinking and application of knowledge. They summarized the required thinking as "exhausting".
Question: GIVEN THAT SOME OF THE UNDESIRABLE ASPECTS OF THE SIMULATIONS WERE IMPROVED UPON, WHAT WOULD YOU RATHER DO, SIMULATION EXERCISES OR NURSING CARE PLANS?

Ten out of the 12 students said they definitely would rather do the simulation exercises. Two of the 12 preferred nursing care plans for learning nursing process.

In summary, once oriented to the mechanical aspects, 83% of the students favored written simulation exercises as a learning tool. It was suggested, however, that improvements be made to attempt to decrease the amount of record keeping involved in the exercises.
CHAPTER 8

DISCUSSION AND CONCLUSIONS

This study attempted to develop and test the effectiveness of a tool to instruct the cognitive tasks believed to be inherent in the nursing process. These cognitive tasks were to identify a subset of relevant and valid cues in a complex environment, attach proper meanings to these cues, accurately estimate the patient's problem(s), and establish appropriate courses of action for patient care. A set of written simulation exercises was developed which incorporated a method for learning these cognitive skills. Subsequently, a test instrument was created to measure the degree of learning which might have taken place as a result of the written simulation exercises. Six dependent variables were studied to determine the degree of difference between the experimental group, who completed the series of written simulation exercises, and the control group, who continued with the regular form of instruction. In addition, the relationship between the dependent variables and the final grades for the nursing theory and clinical courses was examined to determine the influences, if any, each may have had on the other. This chapter will present some limitations of the study, an interpretation of results, the conclusions reached, and recommendations for further study.
Limitations to the Study

There were several limitations to the study which affected the interpretation of results. The first of these was a lack of experimental control. During the period of time the experiment was conducted the participants were subjected to other learning with respect to the nursing process in the nursing theory and clinical courses. Particularly in the clinical courses participants were subjected to different learning tasks, experiences, instructors, and settings. This combination of treatments, i.e., experimental and other learning, likely produced effects that would not have resulted under circumstances where only the experimental treatment was applied. Thus, the internal and external validity of the study was weakened.

The second limitation to the study was the small sample size. This likely had the effect of decreasing the statistical power of the tests by increasing the standard error of the means for the experimental and the control groups. Consequently, the probability that the differences between group means were a result of the experimental treatment could not be reported with a traditionally acceptable degree of accuracy, i.e., a confidence level of .05. As a result, the external validity of the study was weakened, since the sample could not be assumed to be representative of the entire population of nursing students.

The third limitation to the study pertained to the written simulation exercises and the conduct of the experimental treatment. The time allowed for completing the exercises and the feedback provided were inadequate. Due to the students’ limited time schedules, only one and one half hours per week were available for the experimental treatment. Once oriented to the exercises, the students
were able to complete the exercises in the allowed time (one hour and 15 minutes).

The time available for the feedback sessions was too short. The investigator was able to explain the modal answer records and alternate routes; however, not enough time was available for students to compare their answer records to the modal and alternate tracks. This probably limited learning, since the students did not have the opportunity to examine, in depth, their judgements with respect to formulations of patient problems and approaches to care. As a result they were either unable to acquire knowledge of the properties of the cognitive tasks or to develop ability to apply this knowledge if, indeed, it was acquired.

Another limitation to the written simulation exercises was the amount of writing. Students were required to record all of the information collected, the patient problems identified, the cue-interpretation weightings, and the nursing-care activities. Not only did this take much of the time for completing the exercises, but also it created a negative attitude with respect to the exercises. Additionally, it may have been a distracting factor in the students' learning process. Students clearly stated they did not like the large amount of writing involved.

Interpretation of Results

The mean scores on patient problem identification, cue use, and correct first action were lower than expected. This was, in part, due to the scoring method used for each of these variables. A strict comparison was made of the students' responses to the scoring key. For patient problem identification, only those responses that contained the correct full problem statement were accepted, i.e., that included
a statement of the patient problem and its contributing cause. This was important for accurate measurement of learning, since a problem statement presented in this way summarized the student's inference about a set of cues. Thus, responses that included only one part of the patient problem statement, i.e., the problem, or the contributing cause, were not accepted. The cue-use and correct-first-action variables were compared to the scoring key and marked only if the patient problem for the item was correctly identified. It was assumed that if the student was unable to identify the patient problem she was also unable to correctly use the cues or identify the first approach. Thus, cue use and correct first action were a function of correctly identifying the patient problem. Given that the student was able to identify the patient problem, she was also in a position to be able to use the cues and state her first action.

The findings supported this relationship among the three response variables, i.e., patient problem identification, cue use, and first action. That is, the intercorrelations were high. The correlation of patient problem with cue use was .98; patient problem with correct first action was .90; and cue use with correct first action was .90 for the experimental group on the posttest, for example.

The multivariate Hotelling’s $T^2$ test found no statistically significant differences between the mean vectors for the six dependent variables taken together on the posttest. The univariate $t$ tests however, did find a statistically significant difference between group means on the three response variables, i.e., patient problem identification, cue use and correct first action, accepting a slightly liberal $p$ value extending to .11. It was assumed that the differences between means found
with the univariate analysis were not evident in the multivariate analysis because those dependent variables with substantial mean differences (i.e., the three response variables) were overshadowed by those with little mean differences (i.e., the three self-confidence intervals). In addition, the nonsignificant difference between mean vectors on the Hotelling's $T^2$ test was likely due to large standard errors for the means because of small samples. For these reasons, the multivariate results did not reach traditional levels of significance. However, in light of the limitations to the study the differences demonstrated by the univariate tests and the actual effect sizes are accepted as suggestive of treatment effect.

Conclusions

Given the suggestive results of the univariate tests and the actual effect sizes, and the likelihood that the nonsignificant results of the multivariate analysis could have been due to a small sample size, the following conclusion was made. The written simulation exercises had a small, but positive effect on learning the cognitive skills inherent in the nursing process. The experimental treatment, however, had little effect on the students' self confidence with respect to their ability to apply the process on a paper-and-pencil test. There were some identified limitations to the experimental treatment. Once these are corrected, the study should be replicated with a larger sample size.
Recommendations

Given the conclusions of the statistical analyses and the identified limitations of the written simulation exercises, the following recommendations are proposed. The first recommendation is that curricular improvements in the written simulation exercises be made and the study replicated using a larger sample size. Clearly, more time should be scheduled for completion of the exercises and for feedback. A superior method should be developed for record keeping.

A second recommendation is that computer-assisted simulation as a tool for instructing nursing process should be explored. An advantage of this method is its efficiency. Difficulties with record keeping and working back and forth between sections in the exercise booklet and the fact booklet would be eliminated. A disadvantage, however, is that it does not lend itself as easily to independent study that the student can complete away from school. Thus, as in recommendation 1, written simulation must be further developed.

The third recommendation is that a study be undertaken in an attempt to capture the policies of nurses with respect to the cognitive tasks presumed to underlie nursing process. The nursing profession must begin to answer questions such as the following: How do nurses acquire and use information to identify patient problems? How do they use this information to make subsequent decisions pertaining to the care of patients in clinical practice? Questions such as these must be answered before educators can develop effective curricula. In the meantime, a model, such as the one in this study, adapted from the literature of medical reasoning, could be used as a basis for teaching the cognitive tasks required for nursing process.
APPENDIX I

NURSING 338 OBJECTIVES
FOR NURSING PROCESS
The student will effectively utilize the nursing process when helping assigned individuals to maintain, restore, and protect their health.

(a) assess assigned individuals utilizing all data sources;
(b) explain the significance of the information collected in relation to how assigned individuals meet their basic needs;
(c) outline nursing care plans for assigned individuals based on assessment;
(d) implement his plans of care;
(e) evaluate his plans of care;
(f) modify his plans of care appropriately.

Bibliography

Books


Articles

LESSON PLAN FOR NURSING PROCESS
(taken from Nursing 238 Lab. Manual,
Semester II, Nursing Department, Vancouver
Community College, Langara, 1979)

Specific Objectives

Upon completion of this review class the student will:

a) define the nursing process;

b) state the purpose of the nursing process;

c) define each of the steps, i.e., assessing, planning, implementing, evaluating;

d) state the rationale for each of the steps;

e) describe how each of the steps would be applied when giving patient care.
WHAT IS THE NURSING PROCESS?

The nursing process is a problem-solving approach to nursing care.

It is a systematic approach as opposed to an intuitive approach.

Example:

The nurse finds her client lying in bed, crying quietly with lips drawn tightly. She had surgery 6 hours ago and last had something for pain 3½ hrs ago.

INTUITIVELY: The nurse might conclude she needs something for pain and get it.

If she was right, the result could be:

"Aren't you wonderful, I didn't even have to ask."

But if her intuition was wrong, the result could be:

"I don't need that, I'm crying because I can't find my teeth."

POINT OF STORY - nursing care can and often is provided by intuition. However, this may not always be reliable or effective. The result is poor quality care.

PURPOSE - WHY DO WE USE THE NURSING PROCESS?

We use the nursing process to provide a systematic method of giving nursing care suited to the needs of each particular patient. This ensures a high quality care.

HOW IS THE PROCESS CARRIED OUT?

The nursing process is carried out by the application of 4 steps.

These are: assessment, planning, implementing, evaluating.

There is one additional component that guarantees the success of these 4 steps. This component is called validation.
**ASSESSMENT**

Assessment is defined as the process by which an estimate of the value (or merit) of something is made relative to a standard.

Assessment involves 2 steps:
1) data collection
2) data analysis

Why do we collect data?

1) To assist the patient with his present health status.
2) To identify areas where nursing interventions are required (problem areas).
3) To identify areas where other health professionals can assist the patient.

**What kind of data do we want to collect?**

1) Data from a physical assessment
   - according to basic needs
   - gathered from the senses

2) Data from questions
   - gathered from talking with the patient's family or significant others
   - Ex: medical or nursing history

3) Data from other sources
   - health team, chart; Kardex, lab. data

**How do we obtain this data?**

1) Observation - watch carefully for facts that may be significant (use of senses)
2) Interviewing - any nurse-patient interaction
   - one of the interviews you will have with your patient will be to take
   - a nursing history (before doing - review purpose and method)

**How do we know the data we have gathered is correct?**

1) Validation ASK - definition.
   - does all data need validating?
   - no - check discrepancies, data used to make plans, or incomplete or confusing data
   - with whom - patient, family
   - when - during data collection or after as a summary
How do we organize and record this data?

1) Data is organized and recorded on the nursing assessment form. This form is based on the seven needs studied in our program,
   - now (Semester I format and knowledge plus Semester II knowledge)
   - next week (Semester II assessment guide which will have the same kind of data)

How do we analyze this data?

1) Look for deviations from the normal

Example: need for elimination
   normal lochia p.p. 4 = serosa (pink mucoid)
   observe = greenish, foul smelling
   assumption = lochia not normal

Example: need for sexuality
   normal breasts = nipples dry and intact
   observe = no redness, cracks or tenderness.
   assumption = normal breasts

2) Are all the basic needs being met?

3) Are there any interferences in meeting basic needs?
   If so, what needs are interfered with?
   Ex: elimination, sexuality
   were the needs interfered with in example above?

4) Is it a problem?

   A problem is defined as any condition or situation in which the patient needs help.

   It can be an actual problem - a problem causing difficulty, and preventing the patient from meeting his/her basic needs at the present time.

   It can be a potential or predicted problem - a problem the patient has a high risk of developing. It is not causing difficulty now but may do so later.
How do we know the problems we have formulated are correct?

1) validation
2) with whom – person having problem (patient)
   May find patient has concerns you didn't know about or she may not
   agree with what you think are problems.
3) when – involving the patient will encourage her to be more responsible
   for her health care.

How do we know what problem to work on first?

1) Prioritize problems according to:
   a) Basic Need Altered
      usually physiological problems must be resolved before psycho-
      logical problems
   b) Degree of Alteration
      which need is affected most
      Ex: O₂ - life-saving needs are very important
          choking vs head cold
   c) Value System of nurse, client, family
      determine which each sees as a priority as there may be a conflict
      will have to resolve client problem before gaining his cooperation
      for yours
   d) Available time and resources
      if client in hospital x 2 days for minor surgery there isn't time to
      work on major problem like smoking

Exercise - Priorize the following problems
4. poor vision due to contacts left at home
3. constipation due to decreased muscle tone
2. tenderness and swelling of both breasts due to milk production
1. low grade fever due to urinary retention

2) Guidelines for stating clients' problems
   a) Date all problems
   b) State the problem and its cause or "due to"
      - if no apparent cause - may omit
      Ex: "persistent headache due to..."
   c) State problems briefly and precisely
      - allows for easier decisions re interventions
   d) Put problems in order of priority
   e) Sign name (when writing on Kardex)

NB: must be patient centered - patient problem, not nurse problem
Example:

March 31/78  Fatigue due to six hours of lecture.
          R.U. Willingtotry

April 1/78  A. P.  (Patient has) Broken area 3 cm wide, 1/2 cm deep on right hip due to immobility

April 1/78  A. P.  Fear of surgery due to father's death during operation
          B. Leigh

PLANNING

1) Steps to planning

(Moger - Sea horse story)

a) State goals or objectives
   - defined as the result or behavior to be attained by our patient
   - we write goals to:
     1) state the behavior that will indicate if the objective has been met
     2) provide a way to measure the nursing care the patient receives
   - written goal statements provide a channel of communication between the patient, family, and staff

b) Select interventions
   - how are we going to achieve that goal? We must know the cause or "due to" of the problem to resolve it.

c) Involve patient
   - essential when choices are to be made (i.e., what are the goals and how will I achieve them)

d) Continuous validation with patient

e) Record
   - write a nursing care plan on the nursing Kardex (However, Semester II will write one problem from a nursing care plan and turn it in to instructors)
2) **Components of the goal statement**

- **a)** patient centered
- **b)** R.U.M.B.A.
  - (realistic
    - understandable
  - measurable
  - behavioral
  - achievable)

3) **How to write goals**

There are 4 necessary elements in a goal statement: the subject, the behavior, the criteria, and the condition (optional).

- **a)** Subject – the patient
- **b)** Behavior – what we want to accomplish
  - what the patient will achieve
  
  Example: the patient will walk
  
  identify, talk, understand

- **c)** Criteria – gives instruction on how to achieve the desired outcome.
  
  Enables us to measure if the goal has been achieved.

  Example: the patient will walk to the hall and back three times
  
  a day within four days

- **d)** Condition – provides circumstances under which a behavior is performed; therefore helps to measure the goal.

  Example: the patient will walk to the hall and back three times
  
  a day within four days, using a cane.

**Exercise – Pick out the elements**

<table>
<thead>
<tr>
<th>subject</th>
<th>behavior</th>
<th>criteria</th>
<th>condition</th>
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</thead>
<tbody>
<tr>
<td>The patient will drink / 3000 cc of fluid daily / with a straw.</td>
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<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>subject</th>
<th>behavior</th>
<th>criteria</th>
<th>condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>The patient will lose / 10 pounds in 3 weeks / by following the Scarsdale diet.</td>
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</table>
In one year, the student will collect and analyze data, plan, implement, and evaluate nursing interventions for one to two adult clients.

**INTERVENTIONS**

1) Characteristics of nursing interventions

- are nurse centered, not patient centered
- must be specific so other health team members can read them and know exactly what should be done
- the more specific the goal and problem statement, the easier it is to write interventions
- Semester II students must write all possible nursing interventions.
  (In higher semesters, students will not write the routine interventions, i.e., Standards of care; they will write only the interventions that relate specifically to the assigned patient.)

2) Elements of an intervention

   a) action verb - behavior
   b) subject (optional as is usually the patient)
   c) object
   d) specific times
   e) condition (optional)

**Exercise - Pick out the elements**

<table>
<thead>
<tr>
<th>action</th>
<th>verb subject object condition times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rub / (patient's) / back / with lotion / at 2200.</td>
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</table>

<table>
<thead>
<tr>
<th>verb object</th>
<th>times</th>
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<tbody>
<tr>
<td>Walk / from bed to nursing station and back to bed / at 1000,</td>
<td></td>
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<tr>
<td>1400, and 1900. /</td>
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</tbody>
</table>

3) Rationale

- explains why you chose the intervention you did
- on nursing care plan number the rationale so that it corresponds to the correct intervention
Evaluation is defined as the review of a client's progress to see if he has reached his specific goals.

1) Steps
   a) Compare data collected initially and data gathered after nursing interventions to find out:
      1) was the care plan successful?
      if not, why not?
      2) are there new problems evident?
   b) modify plan p.r.n.
APPENDIX III:

SIMULATIONS 2 TO 8:

EXERCISE BOOKLETS
AND
FACT BOOKLETS
SIMULATION #2

EXERCISE BOOKLET
You are on the day shift. You are assigned to care for Mrs. Blair, a 63 year old lady, admitted two days ago with suspected adenocarcinoma of the uterus. Yesterday she underwent an abdominal hysterectomy with a salpingo-oophorectomy. The night nurse reported that Mrs. Blair slept most of the post-operative evening; she received Demerol 100 mg for pain and Gravol 50 mg at 0015, and Demerol 100 mg and Gravol 50 mg I.M. for pain and nausea at 0615. At 2330 yesterday 1000 ml D-5-W was absorbed and 1000 ml of the same was added; 200 ml remain to be absorbed. Mrs. Blair's abdominal dressing was dry and intact, and no drainage was evident from the vaginal penrose drain. Her foley was draining clear amber urine and her output was 500 ml of urine. Her vitals signs have been stable. Breakfast arrives at 0815 on this ward.

Record any cues into the "Cue" column of the ANSWER RECORD. Proceed to Section A.

Section A.

Choose ONLY ONE initial approach.

A2. Read the Kardex.
A3. Read the chart.
A4. Interview the patient.
A5. Initiate care.
A6. Consult the team leader.

Then proceed as directed in the FACT BOOKLET.
Section B.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

B1. Medications and times of administration.

B2. Treatments and times.

B3. Identified patient problems and nursing approaches.

B4. Activity level.

B5. Side Rails.

B6. Hygienic needs.

B7. Diet and Fluids.

B8. Feeding.

B9. Intake and Output.

B10. Mental Status.

B11. Bowel and bladder care.

B12. Frequency of vital signs.

B13. Physical traits.


B15. Prosthesis.

B16. Therapy.

B17. Allergies.
Section C.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

C1. Read the Kardex.

C2. Read the chart.

C3. Interview the patient.

C4. Initiate care.

C5. Consult the team leader.
Section D.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section C.

D1. Rate, rhythm and depth of respiration.

D2. Pattern and character of respirations.

D3. Chest symmetry and general chest expansion.

D4. Duration of inspiration versus expiration.

D5. Presence and character of cough.


D7. Temperature of extremities.

D8. Color of skin.


D13. Rate, rhythm and quality of radial pulse.

D14. Quality of pedal pulses.

D15. Rate, rhythm and quality of apical beat.


D17. Height.

D18. Weight.


D20. Lips.

D21. Tongue.

D22. Gums.

D23. Teeth.


D25. Mucous membranes.


D27. Pharynx.


D29. Intravenous fluid intake.

D30. Intravenous rate and flow.

D31. Type and amount of food intake.
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<tbody>
<tr>
<td>D34.</td>
<td>Contour and symmetry of abdomen.</td>
<td>D52.</td>
<td>Hair texture and cleanliness.</td>
</tr>
<tr>
<td>D37.</td>
<td>Stool color, odor, consistency, frequency and control.</td>
<td>D55.</td>
<td>Mood and manner.</td>
</tr>
<tr>
<td>D42.</td>
<td>Pupillary reaction.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D43.</td>
<td>Strength and equality of movement in upper and lower extremities.</td>
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<tr>
<td>D44.</td>
<td>Range of motion.</td>
<td></td>
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</tr>
<tr>
<td>D45.</td>
<td>Coordination.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D46.</td>
<td>Posture and position.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D47.</td>
<td>Presence of inflammation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D48.</td>
<td>Condition and symmetry of eyes, and presence of discharge.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D49.</td>
<td>Patency of external ear, and presence of discharge.</td>
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</tbody>
</table>
Section E.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

E1. Intake since surgery.
E2. Voiding pattern since surgery.
E4. Order for oral fluids.
E5. Order for I.V. fluids.
E7. Pain pattern since surgery.
E8. Time of last analgesic.
E10. Ability to rest.
E11. Emotional status prior to surgery.
E12. Has the patient had any difficulty deep breathing and coughing?
E14. Has the patient had any difficulty moving?
E15. Results of surgery.
E16. Has the patient been told the results of surgery?
E17. Post-operative blood electrolytes.
E18. Pre-operative urinalysis.
E19. Pre-operative Hemoglobin and Hematocrit.
E20. Medical diagnosis.
E23. Smoking habit.
E24. History of dizziness and weakness.
E27. History of problems related to eating or drinking.
E29. Amount of usual fluid intake per day.
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>E32.</td>
<td>Food and fluid dislikes.</td>
<td>E54.</td>
</tr>
<tr>
<td>E34.</td>
<td>Change in weight within the last three months.</td>
<td>E56.</td>
</tr>
<tr>
<td>E38.</td>
<td>Bowel elimination aids.</td>
<td>E60.</td>
</tr>
<tr>
<td>E39.</td>
<td>Usual urinary habits.</td>
<td>E61.</td>
</tr>
<tr>
<td>E42.</td>
<td>Specific exercise program.</td>
<td>E64.</td>
</tr>
<tr>
<td>E43.</td>
<td>Adequate energy to accomplish daily activities.</td>
<td>E65.</td>
</tr>
<tr>
<td>E44.</td>
<td>Activity restrictions.</td>
<td>E66.</td>
</tr>
<tr>
<td>E46.</td>
<td>Quality of sleep.</td>
<td>E68.</td>
</tr>
<tr>
<td>E47.</td>
<td>Requirements for sleep.</td>
<td>E69.</td>
</tr>
<tr>
<td>E49.</td>
<td>Hearing ability.</td>
<td></td>
</tr>
<tr>
<td>E50.</td>
<td>Hand dominance.</td>
<td></td>
</tr>
<tr>
<td>E51.</td>
<td>Usual bathing habits.</td>
<td></td>
</tr>
</tbody>
</table>
E71. How does the patient cope with stressful events in her life?

E72. Has there been a recent stressful event that may affect this hospitalization?

E73. Ability to communicate.

E74. Language of choice.

E75. Date of last Pap test.

E76. Abnormal Pap test.

E77. Vaginal discharge.

E78. Frequency of self breast check.

E79. Number of pregnancies.
Section F.

It is now 0830.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

F1. Read the Kardex.

F2. Read the chart.

F3. Interview the patient.

F4. Continue with care.

F5. Consult the team leader.
Section G.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

G1. Continue with physical assessment.

G2. Read the Kardex.

G3. Read the chart.

G4. Initiate care.

G5. Consult the team leader.
Section H.

At this point select AS MANY items as needed in your interview with the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section G.

H1. How is she generally feeling?
H2. How frequently as she been deep breathing and coughing?
H4. Has she brought up any sputum?
H5. Has she had any shortness of breath?
H6. Does she have an appetite?
H7. Would she like to drink some fluid?
H8. What would she like to drink?
H9. Does she have a sore throat?
H10. Does she have any difficulty swallowing?
H11. Does she have any abdominal pain?
H12. Does she have any other discomforts?
H13. Is there anything that aggravates her pain and discomforts?
H14. How well did she sleep?
H15. Does she have a special soap or lotion she would like used during her bath?
H16. What are her major concerns at present?
Section I.

At this time select AS MANY items as needed when consulting the team leader.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed you will have reached the END OF THE EXERCISE.


12. Recommend an order for anti-emetic.

13. Recommend an extension of the I.V. order.

14. Recommend that the analgesic order be changed to something that does not cause nausea.

15. Inform the team leader that the I.V. is nearly absorbed and that you will be discontinuing it.
Section J.

It is now 0800.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section F.

J1. Adjust the I.V. rate and flow to 25 gts per minute.
J2. Adjust the I.V. rate and flow to 50 gts per minute.
J3. Position the patient in semi-Fowler's position.
J4. Position the patient in a lateral position.
J5. Position the patient in a high Fowler's position.
J6. Administer a complete bed bath.
J7. Assist the patient with a partial bath.
J8. Set the patient up for a self bath.
J9. With a sponge swab clean the patient's mouth with mouth wash.
J10. With a sponge clean the patient's tongue with Hydrogen Peroxide. Then ask her to rinse with mouth wash.
<table>
<thead>
<tr>
<th>J11.</th>
<th>Assist the patient to brush her teeth and rinse her mouth with mouth wash.</th>
<th>J25.</th>
<th>Offer the patient ice chips.</th>
</tr>
</thead>
<tbody>
<tr>
<td>J13.</td>
<td>Apply an abdominal binder.</td>
<td>J27.</td>
<td>Encourage the patient to drink the juice and tea provided on her tray for breakfast.</td>
</tr>
<tr>
<td>J16.</td>
<td>Assist the patient with deep breathing and coughing by supporting her incision with a pillow.</td>
<td>J30.</td>
<td>Encourage the patient to do her own peri care.</td>
</tr>
<tr>
<td>J17.</td>
<td>Assist the patient with deep breathing and coughing by supporting her incision with your hands.</td>
<td>J31.</td>
<td>Provide catheter care.</td>
</tr>
<tr>
<td>J18.</td>
<td>Put the patient's limbs through passive range of motion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J19.</td>
<td>Encourage the patient to exercise her limbs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J20.</td>
<td>Assist the patient to dangle at the edge of the bed.</td>
<td></td>
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</tr>
<tr>
<td>J21.</td>
<td>Assist the patient to walk in the hall.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J22.</td>
<td>Assist the patient to sit in a chair.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J23.</td>
<td>Make an occupied bed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J24.</td>
<td>Make an unoccupied bed.</td>
<td></td>
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</tbody>
</table>
Section K.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section I.

K1. Regulate the I.V. rate to 33 gtts per minute.

K2. Regulate the I.V. rate to 42 gtts per minute.

K3. Regulate the I.V. rate to 100 gtts per minute.

K4. Assist the patient to transfer back to bed.

K5. Encourage the patient to take deep breaths in through her nose and exhale through her mouth.

K6. Administer an antiemetic.

K7. Tell the patient she shouldn't drink anything till her nausea subsides.

K8. Explain that nausea and vomiting is fairly common following surgery like hers.


K11. Position the patient in a semi-Fowler's position.

K12. Position the patient on her side with the head of the bed slightly raised.

K13. Offer the patient some ginger ale.

K14. Reassure the patient that her nausea will subside.

K15. Inform the patient that you will give her an antiemetic as soon as it is due.
SIMULATION #2

FACT BOOKLET
A1. Proceed to Section D.

A2. Proceed to Section B. When you have finished reading the Kardex RETURN to Section A and make another selection.

A3. Proceed to Section E. When you have finished reading the chart RETURN to Section A and make another selection.

A4. Proceed to Section H.

A5. Proceed to Section J.

A6. The team leader is not available. Make another selection in Section A.

B1. Demerol 50-100 mg q3h p.r.n.
Gravol 50 mg q4h p.r.n.

B2. Vaginal drain out on Friday. Change abdominal dressing on third post-operative day, then once daily. Abdominal binder at all times.

B3. None.


B5. Constantly.


B7. Begin fluids first post-operative day.
I.V. D-5-W - 100 ml per hr. Discontinue in a.m.

B8. Self.

B9. Record.

B10. Alert.

B11. Foley catheter to straight drainage.

B12. Routine.

B13. Right handed.

B14. None.

B15. None.

B16. Physio - deep breathing and coughing and ROM exercises.

B17. None.

C1. Proceed to Section B. When you have finished reading the Kardex RETURN to Section C and make another selection.

C2. Proceed to Section E. When you have finished reading the chart RETURN to Section C and make another selection.

C3. Proceed to Section H.

C4. Proceed to Section J.

C5. You are unable to find the team leader. Make another selection in Section C.

D1. R - 22, regular; moderately deep.

D2. Costal, clear, equal.


D4. Equal.

D5. None heard.

D6. 36.6° C.

D7. Warm.
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>D20.</td>
<td>Pink and dry.</td>
<td>D42.</td>
<td>Equal.</td>
</tr>
<tr>
<td>D22.</td>
<td>Pink and firm.</td>
<td>D44.</td>
<td>Full.</td>
</tr>
<tr>
<td>D23.</td>
<td>All present.</td>
<td>D45.</td>
<td>Coordinated.</td>
</tr>
<tr>
<td>D25.</td>
<td>Pink and moist.</td>
<td>D47.</td>
<td>None.</td>
</tr>
<tr>
<td>D27.</td>
<td>Pink and moist.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D30.</td>
<td>Infusing at 35 gtt's per minute. I.V. set has a 20 ml drop factor.</td>
<td>D51.</td>
<td>Skin returns quickly, some veins visible, smooth, clean, no lesions or discharges.</td>
</tr>
<tr>
<td>Time</td>
<td>Event/Procedure</td>
<td></td>
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<td>---------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>E1</td>
<td>2600 ml I.V. 60 ml oral.</td>
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<tr>
<td>E2</td>
<td>Foley catheter. Output - 1200 ml.</td>
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<tr>
<td>E3</td>
<td>B.P. - 110/70 - 180/90, P - 60 - 78, R - 20 - 22.</td>
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<tr>
<td>E4</td>
<td>May begin oral fluids.</td>
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<tr>
<td>E5</td>
<td>D-5-W 100 ml/hr. Discontinue in a.m.</td>
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<tr>
<td>E6</td>
<td>Demerol 50-100 mg q3h p.r.n. Gravol 50 mg q4h p.r.n.</td>
<td></td>
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</tr>
<tr>
<td>E7</td>
<td>Moderate to severe abdominal pain at irregular intervals. Required Demerol once on the evening shift and twice during the night.</td>
<td></td>
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<tr>
<td>E8</td>
<td>0645 today.</td>
<td></td>
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<tr>
<td>E9</td>
<td>0645 today.</td>
<td></td>
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<tr>
<td>E10</td>
<td>Slept all evening and rested fairly well during the night.</td>
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<tr>
<td>E11</td>
<td>Anxious to have surgery as soon as possible.</td>
<td></td>
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<tr>
<td>E12</td>
<td>Deep breathing and coughing well when encouraged.</td>
<td></td>
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<tr>
<td>E13</td>
<td>May be up in chair on first postoperative day.</td>
<td></td>
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<tr>
<td>E14</td>
<td>Moves slowly with encouragement.</td>
<td></td>
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<tr>
<td>E16</td>
<td>No evidence on chart.</td>
<td></td>
<td></td>
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<tr>
<td>E17</td>
<td>No postoperative results on chart.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E18</td>
<td>SP. GR. - 1.013, pH - 6, albumin - 0, sugar - 0, acetone - 0, WBC - 80-100, RBC - 0-2, epithelial cells - 0, casts - 0, crystals - 0, bacterial - several.</td>
<td></td>
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<tr>
<td>E19</td>
<td>Hemoglobin 14, no Hematocrit.</td>
<td></td>
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</tr>
<tr>
<td>E20</td>
<td>Adenocarcinoma - body of uterus.</td>
<td></td>
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<tr>
<td>E21</td>
<td>Immediate hysterectomy with salpingo-oophorectomy, with postoperative irradiation.</td>
<td></td>
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<tr>
<td>E22</td>
<td>None.</td>
<td></td>
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</tr>
<tr>
<td>E23</td>
<td>Never smoked.</td>
<td></td>
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<tr>
<td>Question</td>
<td>Answer</td>
<td></td>
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<tr>
<td>E24. Sometimes feels dizzy when she changes position quickly.</td>
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<tr>
<td>E25. Usually none.</td>
<td></td>
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<tr>
<td>E26. Three meals a day, no snacks. On a low calorie diet.</td>
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<tr>
<td>E27. Has always had a weight problem.</td>
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<tr>
<td>E28. None.</td>
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<tr>
<td>E29. Approximately 6-8 glasses.</td>
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<td></td>
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<tr>
<td>E30. None.</td>
<td></td>
<td></td>
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<tr>
<td>E31. Apple and grape juice. Most foods.</td>
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<td></td>
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<tr>
<td>E32. Orange juice, cottage cheese and pork.</td>
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<tr>
<td>E33. Wt. - 70.5 kg, Ht. - 164 cm.</td>
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<tr>
<td>E34. None.</td>
<td></td>
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<tr>
<td>E35. Social, 2-3 times a week.</td>
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<tr>
<td>E36. Dalmane occasionally for sleeping. Diuretic pill - unable to state the name.</td>
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<tr>
<td>E37. Once daily.</td>
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<tr>
<td>E38. None.</td>
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<tr>
<td>E39. About four times a day, once during the night.</td>
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<tr>
<td>E40. None.</td>
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<tr>
<td>E41. Belongs to the United Church Women's Club.</td>
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<tr>
<td>E42. Walks five blocks daily.</td>
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<td>E43. Yes.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>E44. None.</td>
<td></td>
<td></td>
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<tr>
<td>E45. 8 hours.</td>
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<tr>
<td>E46. Wakes once a night to void. Then occasionally has difficulty getting back to sleep.</td>
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<tr>
<td>E47. Dalmane occasionally.</td>
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<tr>
<td>E48. No disturbances known.</td>
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<tr>
<td>E49. Hears well.</td>
<td></td>
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<tr>
<td>E50. Right.</td>
<td></td>
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</tr>
<tr>
<td>E51. Tub three times weekly.</td>
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<tr>
<td>E52. None.</td>
<td></td>
<td></td>
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<tr>
<td>E53. None. Own toothpaste and toothbrush.</td>
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<tr>
<td>E54. None.</td>
<td></td>
<td></td>
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<tr>
<td>E55. None.</td>
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<tr>
<td>E56. For removal of uterus, tubes and ovaries.</td>
<td></td>
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<tr>
<td>E57. Has had vaginal bleeding since a vaginal exam and Pap smear in December, 1978. Has felt periodic back pain and lower abdominal discomfort since then.</td>
<td></td>
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<tr>
<td>E59. One week.</td>
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</tbody>
</table>

F1. Proceed to Section B. When you have finished reading the Kardex RETURN to Section F and make another selection.

E61. Nothing.

F2. Proceed to Section E. When you have finished reading the chart RETURN to Section F and make another selection.

E62. Retired widow.

F3. The patient states that she feels very nauseated and wants to return to bed. Make another selection in Section F.

E63. Will curtail her involvement in her club for about six months.

E64. Stated, "That depends on how well the cancer will be cured."

F4. Proceed to Section K.

E65. None.

F5. Proceed to Section I.

E66. Sister.

G1. You begin taking the patient's B.P. when she states, "My mouth is so dry. Can't you do something about it?" Make another selection in Section G.

E67. Friends.

G2. Proceed to Section B. When you have finished reading the Kardex RETURN to Section G and make another selection.

E68. United Church.

G3. Proceed to Section E. When you have finished reading the chart RETURN to Section G and make another selection.

E69. Stated that they do not bother her.

E70. Stated that it feels okay.

G4. Proceed to Section J.

E71. Turns to her religious beliefs.

G5. The team leader is still in conference. Make another selection in Section G.

E72. No.

H1. States she is feeling tired and nauseated.

E73. Speaks clearly and fluently.

H2. States, "whenever the nurses have been reminding me."

E74. English.

G6. The team leader is still in conference. Make another selection in Section G.


E76. No.

E77. Bleeding since Pap test.

E78. About every two months.

E79. None.
H3. Yes, she has been feeling increased abdominal pain with coughing. Also, her chest hurts when she tries to cough.

H4. None.

H5. No.

H6. No.

H7. States, "I would like to drink something to help my dry mouth."

H8. States, "water or weak tea."

H9. States, "not really."

H10. States, "my throat hurts when I swallow."

H11. States, "I can feel my incision but it is not really painful when I lie still."

H12. States she feel nauseated.

H13. States moving and changing positions, and deep breathing and coughing make pain worse.

H14. States, "I woke up often and I feel tired."

H15. None.

H16. States, "I really would like to brush my teeth now."

J1. The I.V. is now infusing at 75 ml per hour (20 ml gtt factor). There are 120 ml remaining.

J2. The I.V. is now infusing at 150 ml per hour (20 ml gtt factor).

J3. The patient states she feels comfortable.

J4. The patient states she would like to lie on her back with the head of the bed raised.

J5. The patient states the head of the bed is too high.

J6. The patient states she would like to wash her own hands and face.

J7. Completed.

J8. Five minutes later you find the patient has only washed her hands and face.

J9. The patient states she would like to brush her teeth.

J10. The patient refuses to have this done.
J11. The patient states it feels good to have brushed her teeth.

J12. The patient refuses glycerine.

J13. The patient states the binder feels nice and snug.

J14. The patient is deep breathing and coughing well.

J15. The patient states she knows how to deep breathe and cough.

J16. The patient states the binder gives her plenty of support.

J17. The patient states the binder gives her plenty of support.

J18. The patient states she can do this by herself.

J19. Moving and exercising well.

J20. The patient moved well with assistance. She stated she feels a bit dizzy.

J21. The patient's knees buckle when you get her to stand at the side of the bed.

J22. The patient moved slowly but tolerated transfer well.

J23. The patient asks if she could sit in a chair while you make her bed.

J24. Done.

J25. The patient states she would like some tea.

J26. The patient states she feels quite nauseated but will try some tea.

J27. The patient immediately vomits her tea.

J28. The patient vomits the ginger ale.


J30. The patient states she can't reach that far without causing pain in her abdomen.

J31. Tubing patent, and catheter draining clear amber urine.

K1. The I.V. is infusing at 100 ml per hour (20 ml gtt factor). There are 75 ml remaining.

K2. The I.V. is infusing at 142 ml per hour (20 ml gtt factor). There are about 30 ml remaining.

K3. The I.V. is infusing at 300 ml per hour (20 ml gtt factor). Your patient develops pulmonary edema. END OF EXERCISE.

K4. The patient thanks you for assisting her back to bed.

K5. The patient becomes irritable and states that it hurts her incision when she breathes in deeply through her nose.

K6. When you check the chart you find that the antiemetic is not due till 1045.

K7. The patient agrees to this.
K8. The patient states, "It makes me feel so miserable."

K9. The patient states her nausea is worse when lying in this position.

K10. The patient states she is comfortable.

K11. The patient asks to lie on her side.

K12. The patient states she is comfortable.

K13. The patient vomits her ginger ale.

K14. The patient states, "I sure hope so."

K15. The patient thanks you.
SIMULATION #3

EXERCISE BOOKLET
INTRODUCTORY INFORMATION

You are on the evening shift. You are assigned to care for Mrs. Greene. This 60 year old lady underwent a hiatus hernia repair at 1330 today. The day shift team leader reported that pre-operatively she was anxious and expressed fear of problems which could occur due to a coronary she had 1½ years ago. It is 1610 when she arrives on the ward.

Record any cues into the "Cue" column of the ANSWER RECORD. Proceed to Section A.

Section A.

Choose ONLY ONE initial approach.

A2. Read the Kardex.
A3. Read the chart.
A4. Interview the patient.
A5. Initiate care.
A6. Consult the team leader.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.
Section B.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed, proceed to Section C.

B1. Rate, rhythm and depth of respiration.


B3. Chest symmetry and general chest expansion.

B4. Duration of inspiration versus expiration.

B5. Presence and character of cough.


B7. Temperature of extremities.

B8. Color of skin.


B13. Rate, rhythm and quality of radial pulse.


B15. Rate, rhythm and quality of apical beat.


B17. Height.

B18. Weight.


B20. Lips.

B21. Tongue.

B22. Gums.

B23. Teeth.


B25. Mucous membranes.


B27. Pharynx.


B29. Intravenous fluid intake.

B30. Intravenous rate and flow.

B31. Type and amount of food intake.
<table>
<thead>
<tr>
<th>B32</th>
<th>Abdominal dressing.</th>
<th>B30</th>
<th>Patency of nostrils, and presence of discharge.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B33</td>
<td>Abdominal incision.</td>
<td>B31</td>
<td>Skin turgor, vascularity, texture, cleanliness, lesions and discharges.</td>
</tr>
<tr>
<td>B34</td>
<td>Contour and symmetry of abdomen.</td>
<td>B32</td>
<td>Hair texture and cleanliness.</td>
</tr>
<tr>
<td>B35</td>
<td>Frequency and character of bowel sounds.</td>
<td>B33</td>
<td>Facial expressions.</td>
</tr>
<tr>
<td>B36</td>
<td>N/G tube for patency.</td>
<td>B34</td>
<td>Quality, quantity and organization of speech.</td>
</tr>
<tr>
<td>B37</td>
<td>N/G tube output.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B38</td>
<td>Functioning of gomco machine.</td>
<td>B35</td>
<td>Mood and manner.</td>
</tr>
<tr>
<td>B39</td>
<td>Urine color, odor, amount, clarity and continency.</td>
<td>B36</td>
<td>Posture and motor behavior.</td>
</tr>
<tr>
<td>B40</td>
<td>Level of consciousness.</td>
<td>B37</td>
<td>Grooming and dress.</td>
</tr>
<tr>
<td>B41</td>
<td>Level of responsiveness.</td>
<td>B38</td>
<td>Symmetry, size, contour and appearance of breasts.</td>
</tr>
<tr>
<td>B42</td>
<td>Pupillary reaction.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B43</td>
<td>Strength and equality of movement in upper and lower extremities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B44</td>
<td>Range of motion.</td>
<td>B59</td>
<td>Nipple size and shape, and presence of discharge.</td>
</tr>
<tr>
<td>B45</td>
<td>Coordination.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B46</td>
<td>Posture and position.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B47</td>
<td>Presence of inflammation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B48</td>
<td>Condition and symmetry of eyes, and presence of discharge.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B49</td>
<td>Patency of external ear, and presence of discharge.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section C.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

C1. Read the Kardex.

C2. Read the chart.

C3. Interview the patient.

C4. Continue care.

C5. Consult the team leader.
Section D.

At this point select AS MANY items as needed in your interview with the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section Q.

D1. How is she generally feeling?

D2. How frequently has she been deep breathing and coughing?

D3. Does she have any discomfort when deep breathing and coughing?

D4. Has she brought up any sputum?

D5. Has she had any shortness of breath?

D6. Does she have to void?

D7. Does she have a sore throat?

D8. Does she have any difficulty swallowing?

D9. Does she have any abdominal pain?

D10. Does she have any other discomforts?

D11. Is there anything that aggravates her pain and discomforts?

D12. Is there anything else that concerns her?
Section E.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section I.

1. Exercise the patient's hand.

2. Position the patient's hand on a pillow.

3. Administer Demerol 100 mg I.M.

4. Administer Gravol 50 mg I.M.

5. Tell the patient she shouldn't take any ice chips until the nausea subsides.

6. Explain that nausea is fairly common following surgery like this.

7. Position the patient in a supine recumbent position.

8. Position the patient in a lateral recumbent position.


10. Position the patient on her side with the head of the bed slightly raised.
E11. Encourage the patient to deep breathe and cough.

E12. Assist the patient to deep breathe and cough by supporting her incision with a pillow.

E13. Assist the patient to deep breathe and cough by supporting her incision with your hand.

E14. Encourage the patient to contract and relax her leg muscles.

E15. Offer the patient a bedpan.

E16. Reassure the patient that her pain and nausea will subside.

E17. Allow the patient to rest.
Section F.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS-MANY items as needed proceed as directed in the FACT BOOKLET.

F1. Medications and times of administration.
F2. Treatments and times.
F3. Identified patient problems and nursing approaches.
F4. Activity level.
F5. Side Rails.
F6. Hygienic needs.
F7. Diet and Fluids.
F9. Intake and Output.
F10. Mental status.
F11. Bowel and bladder care.

F12. Frequency of vital signs.
F13. Physical traits.
F15. Prosthesis.
F16. Therapy.
F17. Allergies.
Section G.

It is now 1830.

At this time indicate any actual or potential patient-problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

G1. Complete a physical assessment.

G2. Read the Kardex.

G3. Read the chart.

G4. Initiate care.

G5. Consult the team leader.
Section H.

It is now 1650.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section M.

H1. Adjust the I.V. rate and flow to 25 gtt's per minute.
H2. Adjust the I.V. rate and flow to 33 gtt's per minute.
H3. Position the patient in semi-Fowler's position.
H4. Position the patient in a lateral recumbent position.
H5. Position the patient in supine position.
H6. Position the patient in a lateral position with head slightly raised.
H7. Position the patient in a high Fowler's position.
H8. Administer a complete bed bath.
H9. Assist the patient with a partial bath.
H10. Set the patient up for a self bath.
H11. With a sponge swab clean the patient's mouth with mouth wash.
H12. With a sponge clean the patient's tongue with Hydrogen Peroxide. Then ask her to rinse with mouth wash.
H13. Insert patient's dentures.
H14. Apply glycerine to the patient's lips.

H15. Apply an abdominal binder.

H16. Encourage the patient to deep breathe and cough as instructed yesterday.

H17. Assist the patient to deep breathe and cough by explaining the procedure first.

H18. Assist the patient with deep breathing and coughing by supporting her incision with a pillow.

H19. Assist the patient with deep breathing and coughing by supporting her incision with your hands.

H20. Put the patient's limbs through passive range of motion.

H21. Encourage the patient to contract and relax her leg muscles.

H22. Assist the patient to dangle at the edge of the bed.

H23. Offer the patient a bedpan.

H24. Offer the patient ice chips.

H25. Offer the patient sips of water.

H26. Allow the patient to rest.
Section 1.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

11. Complete a physical assessment.

12. Read the Kardex.

13. Read the chart.


15. Consult the team leader.
Section J.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

J1. Doctor's orders.
J2. Anaesthetic Record.
J4. Emotional status prior to surgery.
J5. Has the patient had any difficulty deep breathing and coughing?
J6. Has the patient had any difficulty moving?
J7. Pre-operative E. C. G.
J8. Pre-operative laboratory results.
J10. Medical diagnosis.
J11. Medical treatment regimen.
J15. History of cough.
J17. History of problems related to eating or drinking.
J19. Amount of usual fluid intake per day.
J20. Routines before and after meals.
J22. Food and fluid dislikes.
J23. Weight and Height.
J24. Change in weight within the last three months.
J27. Usual bowel habits.
J29. Usual urinary habits.
| J34. | Activity restrictions. | J55. | Home responsibilities for which assistance is required. |
| J35. | Hours of sleep. | J56. | Most significant person(s). |
| J40. | Hand dominance. | J61. | How does the patient cope with stressful events in her life? |
| J41. | Usual bathing habits. | J62. | Has there been a recent stressful event that may affect this hospitalization? |
| J42. | Assistance bathing. | J63. | Ability to communicate. |
| J44. | Special makeup, lotions. | J65. | Date of last Pap test. |
| J49. | Expected length of hospitalization. |   |   |
| J50. | Previous surgeries or hospitalization. |   |   |
| J51. | What could be done to improve hospital stay? |   |   |
Section K.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section R.

K1. Rate, rhythm and depth of respiration.
K2. Pattern and character of respirations.
K3. Chest symmetry and general chest expansion.
K4. Duration of inspiration versus expiration.
K5. Presence and character of cough.
K7. Temperature of extremities.
K8. Color of skin.
K13. Rate, rhythm and quality of radial pulse.
K15. Rate, rhythm and quality of apical beat.
K17. Mouth.
K20. Intravenous rate and flow.
K21. Intravenous site.
K22. Abdominal dressing.
K23. Frequency and character of bowel sounds.
K25. N/G tube for output.
K27. Urine color, odor, amount, clarity and continency.
K28. Level of consciousness.
K29. Range of motion.
K30. Condition and symmetry of eyes, and presence of discharge.
K31. Patency of external ear, and presence of discharge.

K32. Patency of nostrils, and presence of discharge.

K33. Skin turgor, vascularity, texture, cleanliness, lesions and discharges.

K34. Facial expressions.

K35. Mood and manner.
Section L.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

L1. Complete a physical assessment.
L2. Read the Kardex.
L3. Read the chart.
L4. Interview the patient.
L5. Consult the team leader.
Section M,

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

M1. Complete a physical assessment.
M2. Read the Kardex.
M3. Read the chart.
M4. Interview the patient.
M5. Initiate care.
M6. Consult the team leader.
Section N.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed you will have reached the END OF THE EXERCISE.

N1. Position the patient in a lateral recumbent position.

N2. Position the patient on her side with the head of the bed slightly raised.

N3. Position the patient in a supine position.

N4. Position the patient in a semi-Fowler's position.

N5. With a sponge swab clean the patient's mouth with mouth wash.

N6. Assist the patient to rinse her mouth well with mouth wash.

N7. With a sponge clean the patient's tongue with Hydrogen Peroxide. Then assist her to rinse with mouth wash.

N8. Apply glycerine to the patient's lips.

N9. Encourage the patient to deep breathe and cough as instructed yesterday.

N10. Assist the patient to deep breathe and cough by explaining the procedure first.

N11. Assist the patient with deep breathing and coughing by supporting her incision with a pillow.

N12. Assist the patient with deep breathing and coughing by supporting her incision with your hands.
N13. Put the patient's limbs through passive range of motion.

N14. Encourage the patient to exercise her limbs.

N15. Assist the patient onto a bedpan.

N16. Reassure the patient that her nausea was likely due to the blocked N/G tube, and that the ice chips should not worsen the nausea if the N/G tube is open and draining.

N17. Offer the patient ice chips.

N18. Ensure patency of N/G tube and functioning of gomco machine.

N19. Tell the patient that you are going to give her an injection of Demerol for pain.

N20. Administer Demerol 100 mg I.M.

N21. Allow the patient to rest for 20–30 minutes.

N22. Discontinue the I.V.

N23. Ask an R.N. to restart the I.V.

N24. Phone the I.V. team and ask them to restart the I.V.
Section O.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE, proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section L.

01. Transfer the patient into her bed.
02. Attach the N/G tube to gomco machine.
03. Ensure that gomco is on and set at "LOW" and "Intermittent" pressure.
04. Position the patient in high Fowler's position.
05. Position the patient in a lateral recumbent position.
06. Position the patient in a supine position:
07. Position the patient in a lateral position with head slightly raised.
08. Position the patient in a supine position with head slightly raised.
09. Position the patient in a semiprone position.
O10. Ensure that the patient is adequately covered.

O11. Encourage the patient to deep breathe and cough.

O12. Encourage the patient to do her contracting and relaxing leg exercises.

O13. Ensure that the side rails are up.
Section P.

At this point select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.


P2. What is the routine regarding wound care?

P3. What is the routine regarding N/G tube care?

P4. What is the routine regarding hygienic care?

P5. How frequently should vital signs be taken?

P6. Can the patient suck on ice chips?
Section Q.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

Q1. Continue with physical assessment.

Q2. Read the Kardex.

Q3. Read the chart.

Q4. Continue care.

Q5. Consult the team leader.
Section R.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

R1. Continue with physical assessment.

R2. Read the Kardex.

R3. Read the chart.


R5. Consult the team leader.
Section S.

At this point select AS MANY items as needed in your interview with the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section G.

S10. Does she have to void?

S11. Would she like to try using the bedpan?

S12. Is there a position she would prefer to be in?

S1. How is she generally feeling?

S2. Has she been deep breathing and coughing?

S3. Has she brought up any sputum?

S4. Has she had any shortness of breath?

S5. Does she have a sore throat?

S6. Does she have any difficulty swallowing?

S7. Does she have any abdominal pain?

S8. Does she have any other discomforts?

S9. Is there anything that aggravates her pain and discomfort?
Section T.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed RETURN to Section K.

T1. Discontinue the I.V.

T2. Ask the team leader to discontinue the I.V.

T3. Ask the team leader to restart the I.V.

T4. Phone the I.V. team and ask them to restart the I.V.

T5. Inform the team leader of the patient's progress.
SIMULATION #3
FACT BOOKLET
A1. Your patient is still on the stretcher and the O.R. nurse is waiting for someone to help transfer the patient into her bed. Make another selection in Section A.


B13. 72, irregular, moderate.


B15. 70, irregular, moderate.

A2. The team leader has the Kardex. Make another selection in Section A.

B16. 140/80.

B17. 170 cm.

B18. 65 kg.

A3. The P.A.R. nurse hands you the chart and asks you to help transfer your patient into her bed. Make another selection in Section A.

A4. The P.A.R. nurse asks you to help transfer your patient back into bed. Make another selection in Section A.

B19. Large boned, slightly overweight.

B20. Dry.

B21. Dry and coated.

B22. Moist and pink.

B23. No teeth.

A5. Proceed to Section O.

B24. Halitosis.

B25. Dry.


B27. Reddened.

B28. None.

B29. 900 ml Ringer's Lactate with Vicert remaining in bottle.

B30. i.V. infusing at 25 gtt per min. (15 ml gtt factor).

B31. None.

B32. Dry and intact.
| B33. Covered by dry dressing. | B52. Hair soft and clean. |
| B37. Very small amount. | B56. Lying in lateral, head raised position, some hand tremor. |
| B38. Set at "Low" and "Intermittent" pressure. | B57. Hospital apparel. |
| B41. Drowsy but responds. | C1. Proceed to Section F. When you have finished reading the Kardex RETURN to Section C and make another selection. |
| B42. Reactive. | C2. Proceed to Section J. When you have finished reading the chart RETURN to Section C and make another selection. |
| B43. Weak and equal. | C3. Proceed to Section D. |
| B44. Moves slowly. | C4. Proceed to Section H. |
| B45. Hand tremor. | C5. Proceed to Section P. When you have finished consulting the team leader RETURN to Section C and make another selection. |
| B46. Lying in a lateral position with head raised. | D1. States she feels tired and her mouth feels so dry. |
| B47. None. | D2. States, "I haven't been." |
| B48. Sclera white, conjunctiva pink, symmetrical eye movements, ointment evident on eyes. | D3. States, "I don't know but I am afraid it will hurt too much." |
D4. No.
D5. No.
D6. No.
D7. States that her throat feels raw.
D8. States, "It hurts to swallow."
D9. States that she has some pain but it is not too bad when she lies quietly.
D10. States her dry mouth is very uncomfortable. Also the ointment in her eyes is bothersome.
D11. States it really hurts when she tries to move.
D12. States, "Could I have my dentures, please."
E1. The patient states her hand continues to be very sore.
E2. The patient states her hand continues to be very sore.
E3. Done.
E4. Done.
E5. The patient states, "I wish I could because my mouth is so dry."
E6. The patient states, "Why does it have to happen to me?"
E7. The patient becomes more restless and states that the pain and nausea are worse in this position. Make another selection in this section.
E8. The patient states this position feels better.
E9. Done.
E10. The patient appears comfortable.
E11. The patient is uncooperative because of her pain and nausea.
E12. The patient is uncooperative because of her pain and nausea.
E13. The patient is uncooperative because of her pain and nausea.
E14. The patient makes a feeble attempt.
E15. The patient refuses, stating she does not have to void.
E16. The patient states, "I hope so."
E17. Done.
F1. Demerol 100 mg q2-3h p.r.n. I.M.
Gravol 50 mg q6h p.r.n. I.M.
Valium 10 mg q.h.s. I.M.
F2. N/G tube to gomco suction. No abdominal binder.
F3. None identified.
F4. Bedrest.
Out of bed first postoperative day.
F5. Constantly.
F7. NPO.
I.V. Ringer's Lactate 2500 ml in 24 hrs. with Vicert.
F8. Self.
F9. Record.
F10. Alert.
F12. q2h this evening then q4h.
F13. Right handed.
F15. Upper and lower dentures.
F16. IPPB and chest physio TID.
F17. None.

G1. When you begin your assessment your patient begs you to give her something for the pain. Make another selection in this section.

G2. Proceed to Section F. When you have finished RETURN to Section G and make another selection.

G3. Proceed to Section J. When you have finished RETURN to Section G and make another selection.

G4. Proceed to Section N.

G5. Proceed to Section P. When you have finished consulting the team leader RETURN to Section G and make another selection.

H1. I.V. infusing at 100 ml per hr. (15 ml gtt factor).
H2. I.V. infusing at 130 ml per hr. (15 ml gtt factor).
H3. Done.
H4. The patient appears comfortable.
H5. Done.
H6. The patient appears comfortable.
H7. The patient complains of incisional pain and nausea.
H8. Done. The patient states she feels refreshed but is nauseated.
H9. The patient tries to wash her face but is too drowsy to continue. She states that she feels nauseated.
H10. You return to find the patient has done nothing. She is sleeping.
H11. The patient states her mouth feels so much better.
H12. The patient violently dislikes the hydrogen peroxide.
H13. The patient thanks you.
H14. The patient thanks you.
H15. The patient complains that the binder causes difficulty with breathing and makes her feel nauseated.
H16. The patient is drowsy and does not cooperate.
H17. The patient is drowsy and does not cooperate.
H18. The patient is drowsy and does not cooperate.
H19. The patient is drowsy and does not cooperate.

H20. Done.

H21. The patient is drowsy and does not cooperate.

H22. The patient is very drowsy. She is too heavy for you and both of you fall to the floor. She suffers a dehiscence of her wound and is immediately taken to the O.R. for resuturing.

H23. The patient refuses, stating she does not have to void.

H24. The patient sucks a few but is very drowsy.

H25. The water is immediately sucked into the gomco bottle.

H26. Done.

J1. Jan. 23 - Seconal 100 mg q.h.s.

J2. 500 ml D-5-W started using jelco intracath in left hand at 1335.

J3. 500 ml Ringer's lactate 2500 ml in 24 hrs. with Vicert.

J4. You enter the team leader's room to find the I.V. which had gone interstitial. Also, the team leader found the patient lying on her N/G tube, blocking it. This was likely making her nauseated.

J5. The team leader tells you that the patient's I.V. was interstitial. She has now restarted it. Also, your patient was lying on the N/G tube and blocking it. This was likely making her nauseated.

J6. Jan. 24 - Post-operative:
   - Demerol 100 mg q2-3h p.r.n. I.M.
   - Gravol 50 mg q6h p.r.n. I.M.
   - Levine to suction.
   - IPPB and chest physio T.I.D.
   - Out of bed tomorrow.
   - Ringer's Lactate 2500 ml in 24 hrs. with Vicert.
   - Valium 10 mg at h.s. I.M.

J7. Valium 10 mg p.o.

J8. Atropine 0.4 mg 1 hr. pre-op.

J9. Atropine 0.4 mg

J10. Prostagmine 1.5 mg

J11. Demerol 50 mg at 1435


J14. You enter the patient's room to find the team leader restarting the I.V. which had gone interstitial. Also, the team leader found the patient lying on her N/G tube, blocking it. This was likely making her nauseated.

J15. END OF EXERCISE.

J16. END OF EXERCISE.

J17. END OF EXERCISE.
J3. 1445 - Admitted to P. A. R.
Levine attached to wall suction.
B.P. - 190/90 - 160/80
P - 96 - 74
R - 20 - 24

1512 - Demerol 25 mg I.M.
1530 - Demerol 12.5 mg I.M.
1540 - I.V. 500 ml D-5-W absorbed 1000 ml
Ringer's Lactate with Vicert added.

1605 - Awake but drowsy.
Transferred to ward.

J4. Tense and worried that a coronary of 1½ years ago would cause problems during this surgery.

J5. No record.
J6. No information on chart.

Old anteroseptal M.I. (extensive).

Hematocrit - 38.8
WBC - 13.9 (x10^3)
RBC - 4.12 (x10^6)
BUN - 18
Billirubin - 0.3
ESR - 28 mm/hr.


J12. None.
J13. Smokes one package a day.

J14. None.

J15. None.

J16. Has been avoiding spicy, fried foods.

J17. Has always had heartburn after meals, but this has been getting much worse over the last six months.

J18. None.
J19. About eight glasses.


J22. Fatty foods.

J23. Wt. - 65.5 kg, Ht. - 170 cm.

J24. None.

J25. Occasional social drink.

J26. Intrafer i daily.

J27. B.M. q2days.

J28. None.

J29. Nothing unusual.

J30. None.

J32. Walks five blocks daily.
J33. Yes.
J34. None.
J35. Usually 2315 to 0715.
J36. Good.
J37. Nothing special.
J38. Requires glasses for reading.
J40. Right.
J41. Tub every two days.
J42. None.
J43. Upper and lower dentures. Brought own denture brush and cleaner.
J44. Uses an all day lotion.
J45. None known.
J46. To have her hiatus hernia repaired.
J47. Long history of heartburn, especially after meals.
J49. Eight days.
J50. Ectopic pregnancy 25 years ago. Heart attack 1 ½ years ago.
J51. Please tell her what she is getting in hypodermic injections. States that she gets nauseated when she doesn't know.
J52. Housewife.
J53. Has affected eating habits and has been unable to walk as much as necessary due to heartburn and abdominal discomfort.
J54. Expecting that surgery will relieve difficulties.
J55. None.
J56. Husband.
J57. Husband, two sisters and some friends.
J58. Belongs to United Church.
J59. Make her feel alone and afraid.
J60. States that she does not mind receiving help when she needs it.
J61. Smoking helps, and she gets a lot of support from her husband.
J62. No, but she is concerned that the heart attack she had may cause problems again.
J63. Speaks clearly. Seems well oriented to hospital procedure.
J64. English.
J65. Last August.
J66. No.
J67. None.

J68. Does not do breast self examination.

J69. One ectopic pregnancy.

K1. 20, regular, moderately deep.

K2. Costal, clear, equal.

K3. Equal.

K4. Equal.

K5. None.

K6. 36.6° C.

K7. Warm hands and feet.

K8. Pink.


K11. Pink.

K12. Pink.

K13. 72, irregular, moderate.


K15. 72, irregular, moderate.

K16. 145/84.

K17. Mouth and lips dry, tongue clean.


K19. 700 ml Ringer’s Lactate with Vicert remaining.

K20. The I.V. is not dripping.

K21. The I.V. site is red and puffy.

K22. Abdominal dressing is dry and intact.

K23. None heard.

K24. Fluid is not moving in N/G tube.

K25. There is a small amount of bile colored fluid in bottle.


K27. Has not voided.

K28. Alert and not so drowsy.

K29. Full.

K30. Clear, symmetrical, no discharge on eyes.


K32. N/G tube in left nostril. Right nostril patent, no discharge.

K33. Resilient skin, smooth, dry, no lesions except for left hand which is red and puffy.

K34. Worried and somewhat tense.

K35. Somewhat restless.
<table>
<thead>
<tr>
<th>L1.</th>
<th>Proceed to Section B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>L2.</td>
<td>The Kardex contains no information pertaining to the patient's postoperative care. Make another selection in Section L.</td>
</tr>
<tr>
<td>L3.</td>
<td>Proceed to Section J. When you have finished reading the chart RETURN to Section L and make another selection.</td>
</tr>
<tr>
<td>L4.</td>
<td>Proceed to Section D.</td>
</tr>
<tr>
<td>L5.</td>
<td>The team leader is at supper. Make another selection in Section L.</td>
</tr>
<tr>
<td>M1.</td>
<td>Proceed to Section K.</td>
</tr>
<tr>
<td>M2.</td>
<td>Proceed to Section F. When you have finished with the Kardex RETURN to Section M and make another selection.</td>
</tr>
<tr>
<td>M3.</td>
<td>Proceed to Section J. When you have finished with the chart RETURN to Section M and make another selection.</td>
</tr>
<tr>
<td>M4.</td>
<td>When you greet your patient you find her quite restless. She states her left hand is sore, she feels nauseated and the pain in her abdomen is getting worse. Make another selection in Section M.</td>
</tr>
<tr>
<td>M5.</td>
<td>Proceed to Section E.</td>
</tr>
<tr>
<td>M6.</td>
<td>The team leader is not available. Make another selection in Section M.</td>
</tr>
</tbody>
</table>

| N1. | The patient states she would like the head of the bed slightly raised. |
| N2. | The patient states that she feels comfortable. |
| N3. | The patient asks to lie on her side with the head of the bed slightly raised. |
| N4. | Done. |
| N5. | The patient states, "That feels better." |
| N6. | The patient states, "That feels better." |
| N7. | The patient refuses the hydrogen peroxide. |
| N8. | The patient states, "That feels fine." |
| N9. | The patient states, "Oh, I'm afraid it will make my incision hurt." |
| N10. | The patient states, "I know how to do it." |
| N11. | The patient deep breathes with support. She makes a feeble attempt to cough. |
| N12. | The patient deep breathes with support. She makes a feeble attempt to cough. |
| N13. | The patient states, "Don't I move them enough." |
| N14. | The patient states, "I have been moving them." |
N15. The patient is unable to void after 10 minutes.

N16. The patient states, "I hope you are right."

N17. The patient tolerated the ice chips.

N18. Done.

N19. The patient thanks you.

N20. After 30 minutes the patient's pain has decreased and she appears more calm and relaxed.

N21. The patient sleeps lightly.

N22. Done.

N23. The R.N. restarts a jelco intracath into the patient's right hand at 1830.

N24. The I.V. team state they will restart the I.V. at 1845.

O1. The patient is very drowsy.

O2. Done.

O3. The Gomco is set at "Low" and "Intermittent" pressure.

O4. The patient complains of pressure on her incision.

O5. The patient appears comfortable.

O6. The patient states there is a pulling sensation on her incision.

O7. The patient appears comfortable.

O8. The patient appears comfortable.

O9. The patient refuses this position.

O10. Done.

O11. The patient begins to weep and asks to be allowed to sleep.

O12. The patient makes a feeble attempt but really wants to sleep.

O13. The side rails are up.

P1. Done.

P2. Change dressing only if excessively soaked. The patient's doctor does not like abdominal binders following hiatus hernia repair.

P3. Irrigate with normal saline when obstructed.

P4. Mouth care q2h. Sponge bath postoperatively.

P5. q2h this evening.

P6. Yes, she may suck on small amounts of ice chips.

Q1. Proceed to Section B.

Q2. Proceed to Section F. When you have finished reading the Kardex RETURN to Section Q and make another selection.

Q3. Proceed to Section J. When you have finished reading the chart RETURN to Section Q and make another selection.

Q4. Proceed to Section H.
Q5. Proceed to Section P. When you have finished consulting the team leader RETURN to Section Q and make another selection.

R1. Proceed to Section F. When you have finished with the Kardex RETURN to Section R and make another selection.

R2. Proceed to Section J. When you have finished with the chart RETURN to Section R and make another selection.

R3. Proceed to Section S.

R4. You find your patient quite restless. Make another selection in Section R.

R5. The team leader is not available. Make another selection in Section R.

S1. The patient states she is generally feeling miserable.

S2. The patient states, "No, I have been too tired. Now I am afraid it will hurt too much."

S3. No.

S4. No.

S5. The patient states the tube makes her throat more uncomfortable than sore.

S6. No.

S7. The patient states that her abdominal pain is becoming sharp and severe.

S8. The patient states that her mouth is dry but she is afraid to suck on ice chips because of the nausea she had. She states that she is not as nauseated now and doesn't want to do anything that will make it worse.

S9. The patient states that moving around and breathing deeply makes her pain worse.

S10. The patient states she doesn't feel like voiding.

S11. The patient states she will try if you want her to.

S12. Yes, she likes to lie on her side with the head of the bed slightly raised.

T1. Done.

T2. The team leader states that you are able to do it.

T3. The team leader states she will phone the I.V. team.

T4. The I.V. team state they will restart the I.V. in about 15 minutes.

T5. The team leader thanks you.
INTRODUCTORY INFORMATION

You are on the evening shift Sept. 26 assigned to care for Mr. Dicky. Mr. Dicky, age 52, had an incisional hernia repaired on Sept. 16. He now has an infection in his wound. A culture and sensitivity report of this morning revealed Staphylococcus Aureus. The doctor changed the antibiotic order from Ampicillin to Cloxacillin 500 mg q6h orally, and placed Mr. Dicky on isolation. Mr. Dicky was transferred into a single room and isolation was set up. He was upset and bewildered by the transfer but settled, somewhat after his doctor spoke with him.

Mr. Dicky has a fever; his temperature at 1200 was 38.4. It was brought down to 37.6 with Aspirin 600 mg. He received Darvon 60 mg once for incisional pain. He had his first dose of Cloxacillin at 1100. It is now 1550.

Record any cues into the "Cue" column of the ANSWER RECORD. Proceed to Section A.

Section A.

Choose ONLY ONE initial approach. Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

A2. Read the Kardex.
A3. Read the chart.
A4. Interview the patient.
A5. Initiate care.
A6. Consult the team leader.

Then proceed as directed in the FACT BOOKLET.
It is now 1600.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section L.

B1. Keep the patient's room cool and quiet.
B2. Encourage the patient to drink fluids frequently.
B3. Encourage the patient to rest and keep physical activity to a minimum.
B4. Offer the patient an oral analgesic for pain.
B5. Offer the patient a snack.
B6. Administer Aspirin 600 mg.
B7. Ensure strict isolation technique during care, and when handling equipment, supplies and linen.
B8. Assist the patient to understand why he was transferred to isolation.
B9. Explain isolation procedure and necessary precautionary measures.
B10. Provide support to the patient and allow him to work through his feelings.

B11. Spend time with the patient and ensure that he does not become lonely.

B12. Offer the patient a back rub.

B13. Allow the patient to rest.
### Section C.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section I.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Rate, rhythm and depth of respiration.</td>
</tr>
<tr>
<td>C2</td>
<td>Pattern and character of respirations.</td>
</tr>
<tr>
<td>C3</td>
<td>Chest symmetry and general chest expansion.</td>
</tr>
<tr>
<td>C4</td>
<td>Duration of inspiration versus expiration.</td>
</tr>
<tr>
<td>C5</td>
<td>Presence and character of cough.</td>
</tr>
<tr>
<td>C6</td>
<td>Body temperature.</td>
</tr>
<tr>
<td>C7</td>
<td>Temperature of extremities.</td>
</tr>
<tr>
<td>C8</td>
<td>Color of skin.</td>
</tr>
<tr>
<td>C9</td>
<td>Color of lips.</td>
</tr>
<tr>
<td>C10</td>
<td>Color of nailbeds.</td>
</tr>
<tr>
<td>C11</td>
<td>Color of upper extremities.</td>
</tr>
<tr>
<td>C12</td>
<td>Color of lower extremities.</td>
</tr>
<tr>
<td>C13</td>
<td>Rate, rhythm and quality of radial pulse.</td>
</tr>
<tr>
<td>C14</td>
<td>Quality of pedal pulses.</td>
</tr>
<tr>
<td>C15</td>
<td>Rate, rhythm and quality of apical beat.</td>
</tr>
<tr>
<td>C16</td>
<td>Blood pressure.</td>
</tr>
<tr>
<td>C17</td>
<td>Height.</td>
</tr>
<tr>
<td>C18</td>
<td>Weight.</td>
</tr>
<tr>
<td>C19</td>
<td>Body build.</td>
</tr>
<tr>
<td>C20</td>
<td>Lips.</td>
</tr>
<tr>
<td>C21</td>
<td>Tongue.</td>
</tr>
<tr>
<td>C22</td>
<td>Gums.</td>
</tr>
<tr>
<td>C23</td>
<td>Teeth.</td>
</tr>
<tr>
<td>C24</td>
<td>Breath.</td>
</tr>
<tr>
<td>C25</td>
<td>Mucous membranes.</td>
</tr>
<tr>
<td>C26</td>
<td>Palate.</td>
</tr>
<tr>
<td>C27</td>
<td>Pharynx.</td>
</tr>
<tr>
<td>C28</td>
<td>Oral fluid intake.</td>
</tr>
<tr>
<td>C29</td>
<td>Food intake.</td>
</tr>
<tr>
<td>C30</td>
<td>Abdominal dressing.</td>
</tr>
<tr>
<td>C31</td>
<td>Frequency and character of bowel sounds.</td>
</tr>
</tbody>
</table>
C32. Abdomen for distention.

C33. Stool color, odor, consistency, frequency and control.

C34. Urine color, odor, amount, clarity and continency.

C35. Level of consciousness.

C36. Level of responsiveness.

C37. Pupillary reaction.

C38. Strength and equality of movement in upper and lower extremities.


C40. Coordination.

C41. Posture and position.

C42. Condition and symmetry of eyes, and presence of discharge.

C43. Patency of external ear, and presence of discharge.

C44. Patency of nostrils, and presence of discharge.

C45. Skin turgor, vascularity, texture, cleanliness, lesions and discharges.

C46. Hair texture and cleanliness.

C47. Facial expressions.

C48. Mood and manner.
Section D.

At this point select AS MANY items as needed in your interview with the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section K.

D1. How is he generally feeling?
D2. Does he have a cough?
D3. Does he have any shortness of breath?
D4. Does he experience dizziness when up?
D5. Does he have any difficulty moving and ambulating?
D6. What is the state of his appetite?
D7. How well has he been drinking fluids?
D8. Does he have any fluid likes and dislikes?
D9. Does he have any abdominal pain?
D10. Does he have any other discomforts?
D11. Is there anything that aggravates his pain and discomforts?
D12. What was the cause of his distress when he was transferred to isolation?
D13. How is he feeling about the transfer now?
D14. Is there anything you can do to make his stay in isolation better?
D15. Does he have any other major concerns at present?
D16. Does he have any difficulty voiding?
D17. Did he have a B.M. today?
Section E.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

E1. Medications and times of administration.

E2. Treatments and times.

E3. Identified patient problems and nursing approaches.

E4. Activity level.

E5. Side Rails.

E6. Hygienic needs.

E7. Diet and Fluids.


E9. Intake and Output.

E10. Mental Status.

E11. Bowel and bladder care.

E12. Frequency of vital signs.

E13. Physical traits.


E15. Prosthesis.


E17. Allergies.
Section F.

At this time select AS MANY items as needed when consulting the team leader.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

F1. How frequently is the abdominal dressing changed?

F2. Is there any special care to the patient's incision?

F3. At what time does dinner arrive on the ward?

F4. Recommend that you begin an I & O Record.

F5. Recommend that a fan be placed in the patient's room.

F6. How much ambulation and self care activity should the patient be allowed?

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET:

G1. Intake since surgery.
G2. Elimination pattern since surgery.
G5. Medication orders.
G6. Pain pattern since surgery.
G7. Time of last analgesic.
G8. Activity level.
G9. Ability to rest.
G10. Emotional status prior to surgery.
G13. Care and condition of incision.
G14. Pre-operative ECG.
G15. Pre-operative blood work reports.
G16. Post-operative blood work reports.
G17. Urinalysis reports.
G18. Bacteriology reports.
G19. Medical diagnosis.
G20. Medical treatment regimen.
G22. Smoking habit.
G24. History of cough.
G26. History of problems related to eating or drinking.
G27. History of assistance needed with meals.
G28. Amount of usual fluid intake per day.
G29. Routines before and after meals.
G30. Food and fluid likes.
G31. Food and fluid dislikes.
<table>
<thead>
<tr>
<th>G32. Weight and Height</th>
<th>G33. Change in weight within the last three months</th>
</tr>
</thead>
<tbody>
<tr>
<td>G34. Usual alcohol intake</td>
<td>G35. Medication taken at home</td>
</tr>
<tr>
<td>G36. Usual bowel habits</td>
<td>G37. Bowel elimination aids</td>
</tr>
<tr>
<td>G40. Interests and hobbies</td>
<td>G41. Specific exercise program</td>
</tr>
<tr>
<td>G42. Adequate energy to accomplish daily activities</td>
<td>G43. Activity restrictions</td>
</tr>
<tr>
<td>G44. Hours of sleep</td>
<td>G45. Quality of sleep</td>
</tr>
<tr>
<td>G46. Requirements for sleep</td>
<td>G47. Visual ability</td>
</tr>
<tr>
<td>G48. Hearing ability</td>
<td>G49. Hand dominance</td>
</tr>
<tr>
<td>G50. Usual bathing habits</td>
<td>G51. Assistance bathing</td>
</tr>
<tr>
<td>G52. Oral hygiene needs</td>
<td>G53. Allergies</td>
</tr>
<tr>
<td>G54. Reason for hospitalization</td>
<td>G55. History of present illness</td>
</tr>
<tr>
<td>G56. Family history</td>
<td>G57. Expected length of hospitalization</td>
</tr>
<tr>
<td>G58. Previous surgeries or hospitalization</td>
<td>G59. What could be done to improve hospital stay?</td>
</tr>
<tr>
<td>G60. Occupation</td>
<td>G61. Effect of health/illness problem on way of life</td>
</tr>
<tr>
<td>G62. Effect of health/illness problem on future</td>
<td>G63. Home responsibilities for which assistance is needed</td>
</tr>
<tr>
<td>G64. Most significant person(s)</td>
<td>G65. Visitors expected in hospital</td>
</tr>
<tr>
<td>G66. Religious beliefs and practices which influence care</td>
<td>G67. Feelings about strange environments</td>
</tr>
<tr>
<td>G68. Feelings about accepting help from others</td>
<td>G69. How does the patient cope with stressful events in his life?</td>
</tr>
<tr>
<td>G70. Has there been a recent stressful event that may affect this hospitalization?</td>
<td>G71. Ability to communicate</td>
</tr>
<tr>
<td>G72. Language of choice</td>
<td></td>
</tr>
</tbody>
</table>
Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed you will have reached the END OF THE EXERCISE.

H1. Keep the patient's room cool and quiet.

H2. Encourage the patient to drink fluids frequently.

H3. Offer the patient a snack.

H4. Encourage the patient to rest and keep physical activity to a minimum.

H5. Administer Darvon as ordered.

H6. Administer Aspirin 600 mg.

H7. Ensure strict isolation technique during care, and when handling equipment, supplies and linen.

H8. Assist the patient to understand why he was transferred to isolation.

H9. Explain isolation procedures and necessary precautionary measures.

H10. Provide support to the patient and allow him to work through his feelings.

H11. Spend time with the patient and ensure that he does not become lonely.

H12. Change the abdominal dressing.


H15. Set the patient up for oral hygiene.

H16. Provide a clean pair of pyjamas.

H17. Make an unoccupied bed with a complete change of linen.

H18. At 1700 administer oral Cloxacillin 600 mg.

H19. Allow the patient to rest till dinner time.
Section 1.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

11. Read the Kardex.
12. Read the chart.
13. Interview the patient.
15. Consult the team leader.
Section J.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section M.

J1. Rate, rhythm and depth of respiration.
J2. Pattern and character of respirations.
J3. Chest symmetry and general chest expansion.
J4. Duration of inspiration versus expiration.
J5. Presence and character of cough.
J7. Temperature of extremities.

J13. Rate, rhythm and quality of radial pulse.
J15. Rate, rhythm and quality of apical beat.
J17. Height.
J18. Weight.
J20. Lips.
J22. Gums.
J23. Teeth.
J25. Mucous membranes.
J27. Pharynx.
J29. Food intake.
J30. Abdominal dressing.
J31. Frequency and character of bowel sounds.
J32. Abdomen for distention.

J33. Stool color, odor, consistency, frequency and control.

J34. Urine color, odor, amount, clarity and continency.

J35. Level of consciousness.

J36. Level of responsiveness.

J37. Pupillary reaction.

J38. Strength and equality of movement in upper and lower extremities.


J40. Coordination.

J41. Posture and position.

J42. Condition and symmetry of eyes, and presence of discharge.

J43. Patency of external ear, and presence of discharge.

J44. Patency of nostrils, and presence of discharge.

J45. Skin turgor, vascularity, texture, cleanliness, lesions and discharges.

J46. Hair texture and cleanliness.

J47. Facial expressions.

J48. Mood and manner.
Section K.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

K1. Complete a physical assessment.
K2. Read the Kardex.
K3. Read the chart.
K4. Initiate care.
K5. Consult the team leader.
Section L.

It is now 1620.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

L1. Complete a physical assessment.
L2. Read the Kardex.
L3. Read the chart.
L4. Interview the patient.
L5. Consult the team leader.
At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

M1. Read the Kardex.
M2. Read the chart.
M3. Interview the patient.
M4. Initiate care.
M5. Consult the team leader.
SIMULATION #4

FACT BOOKLET
A2. Proceed to Section E. When you have finished reading the Kardex RETURN to Section A and make another selection.

A3. Proceed to Section G. When you have finished reading the chart RETURN to Section A and make another selection.

A4. Proceed to Section D.

A5. Proceed to Section B.

A6. Proceed to Section F. When you have finished consulting the team leader RETURN to Section A and make another selection.

B1. Done.

B2. The patient states that he has been drinking at least a glass every hour.

B3. The patient states abruptly, "There isn't much else to do, is there?"

B4. The patient states that he doesn't need anything for pain yet.

B5. The patient refuses, stating that he would rather just drink some juice.

B6. As you are preparing the Aspirin your instructor suggests that perhaps you should check the patient's temperature first.

B7. Done.

B8. The patient states, "Yes, my doctor explained that the bacteria causing the infection in my wound can spread quickly. Why did I have to get it though?"

B9. The patient states, "It sounds like you have everything under control."

B10. The patient had a difficult time accepting the fact that the infection in his wound was so serious. He thought it really was nothing to worry about and that the antibiotics would clear it up. He was counting on going home tomorrow; now it looked like he would be in hospital for several more days.

B11. Done.

B12. You find that the patient is perspiring profusely.

B13. The patient states that is a good idea as he is feeling tired.

C1. 20, regular and moderately deep.

C2. Equal and quiet.

C3. Equal.

C4. Equal.

C5. None.

C6. 37.2

C7. Warm.
C11. Pink. C34. None noted.
C15. 84, regular, strong. C38. Strong and equal.
C17. 185 cm. C40. Normal.
C18. 86 kg. C41. Lying in supine position with head of bed raised.
C19. Large frame. C42. Sclera white, eyes symmetrical, no discharge.
C26. Present. D1. States, "Miserable, I've been perspiring and I'm wringing wet."
C27. Pink, moist. D2. States, "Not now."
C29. None noted.
<table>
<thead>
<tr>
<th>D4.</th>
<th>States, &quot;No.&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>D5.</td>
<td>States, &quot;No. I'm feeling a bit weak but I have no difficulty moving and walking about.&quot;</td>
</tr>
<tr>
<td>D6.</td>
<td>States, &quot;It hasn't been too good today.&quot;</td>
</tr>
<tr>
<td>D7.</td>
<td>States, &quot;Well, I've been drinking a glassful at least every hour.&quot;</td>
</tr>
<tr>
<td>D8.</td>
<td>States, &quot;I only dislike tomato juice.&quot;</td>
</tr>
<tr>
<td>D9.</td>
<td>States, &quot;Yes, the pain in my incision is getting worse again. Maybe I should have a pain pill now.&quot;</td>
</tr>
<tr>
<td>D10.</td>
<td>States, &quot;Yes, I hate being so wet.&quot;</td>
</tr>
<tr>
<td>D11.</td>
<td>States, &quot;No, not really.&quot;</td>
</tr>
<tr>
<td>D12.</td>
<td>You found that the patient had a difficult time accepting the fact that the infection was so serious he had to be put on isolation. He thought it was nothing to worry about and that the antibiotic would clear it up. He was counting on going home tomorrow; now it looked like he would be in hospital for several more days.</td>
</tr>
<tr>
<td>D13.</td>
<td>States, &quot;There isn't much I can do but grin and bear it, but that doesn't mean I'm happy about it.&quot;</td>
</tr>
<tr>
<td>D14.</td>
<td>States, &quot;Yes, fix me up so I can go home tomorrow.&quot;</td>
</tr>
<tr>
<td>D15.</td>
<td>States, &quot;Yes, will I be able to have visitors? My wife, brother and his wife are supposed to be coming.&quot;</td>
</tr>
<tr>
<td>D16.</td>
<td>States, &quot;No, except I am going to the B.R. quite a lot.&quot;</td>
</tr>
<tr>
<td>D17.</td>
<td>States, &quot;Yes.&quot;</td>
</tr>
</tbody>
</table>

| E1. | Darvon 60 mg q4h p.r.n. Noludar 300 mg q4h Cloxacillin 500 mg q6h - 0600 - 1200 - 1700 - 2200 Aspirin 600 mg q4h p.r.n. for temp. above 37.4 |
| E2. | Change abdominal dressing when soiled. |
| E3. | None noted on chart. |
| E5. | No. |
| E7. | Full. |
| E8. | Self. |
| E9. | No. |
| E10. | Alert. |
| E11. | Self. |
| E12. | T.P.R. q4h. |
| E13. | Right handed. |
| E14. | None. |
| E15. | None. |
None.

Whenever it is soiled.

Cleanse the wound with hydrogen peroxide and apply a dry dressing.

Dinner arrives at 1730.

The team leader states that an I & O Record are really not necessary as the patient is drinking very well.

The team leader states that the patient's temperature is not high enough to warrant a fan.

The patient should walk about for short periods and to the bathroom. He should be allowed to do some self care. Ensure, however, that he does not become too fatigued.

The team leader states that his condition has improved since last evening.

Taking fluids q.s.
Tolerating a full diet.
Appetite decreased.

Voiding q.s.
B.M. q2-3 days.

B.P. - 130/76 - 140/80
T - 36.6 - 37 till two days ago. Then 37.6 - 39.
P - 80 - 88
R - 18 - 22
At 1100 today T.P.R. - 37.8 - 84 - 20.

G4. Full.

Darvon 60 mg q4h p.r.n.
Noludar 300 mg q.h.s.
Cloxacin 500 mg q6h.
Aspirin 600 mg q4h p.r.n. for temp. above 37.4.

Has experienced little incisional pain till two days ago. Since then required Darvon q4-6h for incisional pain.

1100 today.

Up walking ad. lib.
Has appeared lethargic for the last two days; however, states he does not feel too weak or tired.

Sleeping well during the night. Sleeps for short periods during the day. Taking h.s. sedation.

Stable, cooperative and alert.

Stable, cooperative and alert. Appeared upset and confused when transferred to isolation. Calmed down somewhat after his doctor spoke with him.

Taking Magnolax q2-3days on request.

Sept. 20. Dressing changed.
Sept. 22. Drain removed.
Sept. 23. Sutures removed. Lower end of incision slightly reddened.
Sept. 24. Distal portion of incision reddened and swollen. Incision probed by doctor and
G13. (continued)
swab sent for C & S.
Dry dressing applied.
To be changed when soiled.
Sept. 26. Moderate amount of foul drainage from distal end of incision. Dressing changed approx. once per shift.


G15. WBC - 6.2 (x10^3).
RBC - 4.65 (x10^6).
Hemoglobin = 15 gm.
Hematocrit - 43.3%.
Serum Glucose - 115 mg %.
BUN - 12
Na⁺ - 134
K⁺ - 4.3
Cl⁻ - 90
HCO₃ - 30

G16. None on chart.

G17. Pre-operative - SP. GR. - 1.008, pH - 6, Sugar - 0, Protein - 0, WBC - occ., RBC - rare, Epithelial cells - few, and casts, bacteria and crystals - 0.
Sept. 24 - SP. GR. - 1.014, pH - 6, Sugar - 0, Protein - 0, Ketones - neg., WBC - occ., RBC - rare, Epithelial cells - few, and casts, bacteria and crystals - occ.

G18. (continued)
Sept. 26 - second report:
Mod. growth of Staphalococcus Aureus.
S - Tetracycline, Erythromycin and Cloxacillin.
R - Ampicillin.

G19. Left incisional hernia.


G21. None.

G22. Smokes between one and two packages a day.

G23. None ordinarily.

G24. Upon arising in the a.m.

G25. Eats three meals a day with an afternoon snack.

G26. None.

G27. None.

G28. Approx. 10-12 glasses.

G29. Nothing noted on chart.

G30. Likes most foods.

G31. Does not like cottage cheese.

G32. Wt. - 86 kg.; Ht. - 185 cm.

G33. None.

G34. Has a couple of drinks in the evening; more on weekends.
G35. 222's for headache.
G36. Usually has a B.M. daily.
G37. Nothing needed.
G38. Normal.
G39. None.
G40. Likes boating, fishing and scuba diving. Is a scuba diving instructor examiner in his spare time.
G41. Nothing planned. His work requires a lot of walking and strenuous exertion.
G42. Yes.
G43. Has had to be careful about his activity since he has had attacks of small bowel obstruction.
G44. Approx. 2330 to 0630.
G45. Good.
G46. None.
G47. Normal.
G49. Right.
G50. Shower.
G51. None required.
G52. Brushes teeth twice daily.
G53. None.
G54. To repair hernia.
G55. Thirty years ago he sustained a knife wound in the left side of his abdomen. The wound was repaired and healed, however, he developed a hernia through this area. Quite a large amount of bowel has been coming out and he has had several attacks of subacute small bowel obstruction.
G56. Noncontributory.
G57. About a week.
G58. Repair of abdominal wound thirty years ago.
G59. Nothing noted on chart.
G60. Installs telecommunications towers.
G61. Has caused a restriction in strenuous activity and exercise. At time he work demands strenuous activity.
G62. Hopes the problem will be eliminated.
G63. None.
G64. Wife.
G65. Wife and brother.
G66. None.
G67. Nothing noted on chart.
G68. Nothing noted on chart.
G69. Nothing noted on chart.
G70. Nothing noted on chart.
G71. Communicates clearly.
<p>| G72. English. | H13. The patient develops a chill which prolonged the infection for at least another day. END OF EXERCISE. |
|--------------|------------------------------------------------------------------------------------------------|---|
| H1. Done.    | H14. The patient commented that the bath was very refreshing. | --- |
| H2. The patient states that he has no problem drinking fluids. | H15. The patient stated that he rinsed his mouth just a while ago, when up to the bathroom. | --- |
| H3. The patient declines, stating that he would rather wait until dinner time as it will arrive in less than an hour. | H16. The patient thanks you. | --- |
| H4. The patient states that he will do so. | H17. Done. | --- |
| H5. Effective for incisional pain. | H18. Taken and tolerated. | --- |
| H6. As you are preparing the Aspirin the team leader informs you that the patient does not require Aspirin at this time. | H19. The patient falls asleep. | --- |
| H7. Done. | 11. Proceed to Section E. When you have finished reading the Kardex RETURN to Section I and make another selection. | --- |
| H8. The patient states, &quot;Yes, my doctor explained that the bacteria causing my infection can spread quickly throughout the hospital. Why did I have to get it though?&quot; | 12. Proceed to Section G. When you have finished reading the chart RETURN to Section I and make another selection. | --- |
| H9. The patient thanks you and states that he will cooperate. | 13. Proceed to Section D. | --- |
| H10. The patient thanks you for listening and states he feels better after talking about it. | 14. Proceed to Section H. | --- |
| H11. The patient thanks you for talking with him. | 15. Proceed to Section F. When you have finished consulting the team leader RETURN to Section I and make another selection. | --- |
| H12. There was a moderate amount of purulent, foul-smelling drainage from the wound. The distal end of the incision was reddened and swollen. | J1. 20, regular, moderately deep. | --- |
| | J2. Equal and quiet. | --- |
| | J3. Equal. | --- |
| | J4. Equal. | --- |
| J6. | 37.2. | J29. | None noted. |
| J15. | 84, regular, strong. | J38. | Strong and equal. |
| J27. | Pink, moist. |  |  |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>K1.</strong></td>
<td>Proceed to Section J.</td>
<td><strong>M2.</strong> Proceed to Section G. When you have finished reading the chart RETURN to Section M and make another selection.</td>
</tr>
<tr>
<td><strong>K2.</strong></td>
<td>Proceed to Section E. When you have finished reading the Kardex RETURN to Section K and make another selection.</td>
<td><strong>M3.</strong> As you begin the patient complains of increasing pain in his incision. Make another selection in Section M.</td>
</tr>
<tr>
<td><strong>K3.</strong></td>
<td>Proceed to Section G. When you have finished reading the chart RETURN to Section K and make another selection.</td>
<td><strong>M4.</strong> Proceed to Section H.</td>
</tr>
<tr>
<td><strong>K4.</strong></td>
<td>Proceed to Section H.</td>
<td><strong>M5.</strong> Proceed to Section F. When you have finished consulting the team leader RETURN to Section M and make another selection.</td>
</tr>
<tr>
<td><strong>K5.</strong></td>
<td>Proceed to Section F. When you have finished consulting the team leader RETURN to Section K and make another selection.</td>
<td></td>
</tr>
<tr>
<td><strong>L1.</strong></td>
<td>Proceed to Section C.</td>
<td></td>
</tr>
<tr>
<td><strong>L2.</strong></td>
<td>Proceed to Section E. When you have finished reading the Kardex RETURN to Section L and make another selection.</td>
<td></td>
</tr>
<tr>
<td><strong>L3.</strong></td>
<td>Proceed to Section G. When you have finished reading the chart RETURN to Section L and make another selection.</td>
<td></td>
</tr>
<tr>
<td><strong>L4.</strong></td>
<td>Proceed to Section D.</td>
<td></td>
</tr>
<tr>
<td><strong>L5.</strong></td>
<td>Proceed to Section F. When you have finished consulting the team leader RETURN to Section L and make another selection.</td>
<td></td>
</tr>
<tr>
<td><strong>M1.</strong></td>
<td>Proceed to Section E. When you have finished reading the Kardex RETURN to Section M and make another selection.</td>
<td></td>
</tr>
</tbody>
</table>
SIMULATION #5
EXERCISE BOOKLET
INTRODUCTORY INFORMATION

You are on the day shift (April 9) and are assigned to care for Mrs. Wall, age 63. Three days ago (April 6), Mrs. Wall had a cholecystectomy for gallstones. In report you learn that last evening she was started on clear fluids which she tolerated; her I.V. has been infusing well. At 0200 1000 ml D-5-W with KCl was absorbed and 1000 ml Ringer's Lactate was added; 375 ml remain. She required Demerol 100 mg twice on evenings for incisional pain. She spent a restless night, requiring Demerol at 0200 and 0630 for abdominal pain. She has been reluctant to move and refusing to deep breathe and cough for fear of pain. Her dressing has been dry and intact. The total T-tube drainage has been 300 ml. Urine output has been 780 ml plus bathroom. The total I.V. intake was 1000 ml D-5-W with KCl and 2000 ml Ringer's Lactate, and the total oral intake was 175 ml. It is now 0750.

Record any cues into the "Cue" column of the ANSWER RECORD. Proceed to Section A.

Section A.

Choose ONLY ONE initial approach.


A2. Read the Kardex.

A3. Read the chart.

A4. Interview the patient.

A5. Initiate care.

A6. Consult the team leader.

Then proceed as directed in the FACT BOOKLET.
Section B.

At this time select AS MANY items as needed when consulting the team leader.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

B1. Will the I.V. continue as ordered or will they be discontinued?

B2. When does breakfast arrive?

B3. Is the T-tube clamped at any time?

B4. Is there any special wound care?

B5. Is there any special care to the T-tube?

Section C.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section J.

C1. Adjust the I.V. rate and flow to 42 gtt's per minute.

C2. Adjust the I.V. rate and flow to 33 gtt's per minute.

C3. Position the patient in a semi-Fowler's position.

C4. Position the patient in a lateral recumbent position.

C5. Position the patient in a supine position.

C6. Position the patient in a lateral position with her head slightly raised.

C7. Position the patient in a high Fowler's position.

C8. Administer a complete bed bath.

C9. Assist the patient with a partial bath.
C10. Set the patient up for a self bath.

C11. Set the patient up to brush her teeth.

C12. Apply a scultitus binder.

C13. Encourage the patient to deep breathe and cough.

C14. Assist the patient to deep breathe and cough by splinting her incision.

C15. Put the patient’s limbs through passive ROM.

C16. Encourage the patient to do active ROM.

C17. Take the patient to the B.R. on the commode.

C18. Assist the patient to walk to the B.R.

C19. Offer the patient some water.

C20. Offer the patient some clear juice or tea.

C21. Allow the patient to rest.
Section D.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

D1. Continue with assessment.
D2. Read the Kardex.
D3. Read the chart.
D4. Initiate care.
D5. Consult the team leader.
Section E.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

E1. Medications and times of administration.
E2. Treatments and times.
E3. Identified patient problems and nursing approaches.
E4. Activity level.
E5. Side Rails.
E6. Hygienic needs.
E7. Diet and Fluids.
E9. Intake and Output.
E10. Mental Status.
E11. Bowel and bladder care.
E12. Frequency of vital signs.
E13. Physical traits.
E15. Prosthesis.
E17. Allergies.
Section F.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section I.

F1. Rate, rhythm and depth of respiration.
F2. Pattern and character of respirations.
F3. Chest symmetry and general chest expansion.
F5. Duration of inspiration versus expiration.
F8. Temperature of extremities.
F14. Rate, rhythm and quality of radial pulse.
F15. Quality of pedal pulses.
F16. Rate, rhythm and quality of apical beat.
F17. Blood pressure.
F18. Height.
F19. Weight.
F22. Tongue.
F23. Gums.
F24. Teeth.
F25. Breath.
F26. Mucous membranes.
F27. Palate.
F28. Pharynx.
F30. Intravenous fluid site.
F31. Intravenous rate and flow.
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<tr>
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<tbody>
<tr>
<td>F34.</td>
<td>Condition of skin around T-tube.</td>
<td>F52.</td>
<td>Symmetry, size, contour and appearance of breasts.</td>
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<tr>
<td>F36.</td>
<td>Frequency and character of bowel sounds.</td>
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<tr>
<td>F37.</td>
<td>Urine color, odor, amount, clarity and frequency.</td>
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<td>F38.</td>
<td>Level of consciousness.</td>
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<td>F39.</td>
<td>Level of responsiveness.</td>
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<td>F40.</td>
<td>Pupillary reaction.</td>
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<td>F41.</td>
<td>Strength and equality of movement in upper and lower extremities.</td>
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<td>F42.</td>
<td>Range of motion.</td>
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<td>F43.</td>
<td>Coordination.</td>
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<td>F44.</td>
<td>Posture and position.</td>
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<td>F45.</td>
<td>Condition and symmetry of eyes, and presence of discharge.</td>
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<td>F46.</td>
<td>Patency of external ear, and presence of discharge.</td>
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<td>F47.</td>
<td>Patency of nostrils, and presence of discharge.</td>
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<tr>
<td>F48.</td>
<td>Skin turgor, vascularity, texture, cleanliness, lesions and discharges.</td>
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<td>F49.</td>
<td>Hair texture and cleanliness.</td>
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</tbody>
</table>
Section G.

At this point select AS MANY items as needed in your interview with the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section D.

G10. Does she have any other discomforts?

G11. How long has she felt the chest pain?

G12. How well did she sleep?

G13. Would she like to begin her bath now?

G14. Does she have to void?

G15. Is there anything that aggravates her pain and discomfort?

G1. How is she generally feeling?

G2. How frequently has she been deep breathing and coughing?

G3. Does she have any discomfort when deep breathing and coughing?

G4. Has she brought up any sputum?

G5. Has she had any shortness of breath?

G6. Would she like to drink some fluid?

G7. Does she have a sore throat?

G8. Does she have any difficulty swallowing?

G9. Does she have any abdominal pain?
Section H.

At this time, select as many items as needed when consulting the team leader.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting as many items as needed, proceed to Section P.


H2. Recommend that the doctor be notified.

H3. Recommend that the patient be given some Demerol now.

H4. Recommend an order for a sedative.
At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

11. Read the Kardex.
12. Read the chart.
13. Interview the patient.
15. Consult the team leader.
Section J.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

J1. Continue with physical assessment.

J2. Read the Kardex.

J3. Read the chart.

J4. Interview the patient.

J5. Consult the team leader.
Section K.

It is now 0820.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section O.

K1. Regulate I. V. to 42 gtt's per minute.
K2. Regulate I. V. to 33 gtt's per minute.
K3. Administer Demerol 100 mg.
K4. Position the patient in semi-Fowler's position.
K5. Position the patient on her right side.
K6. Position the patient on her left side.
K7. Position the patient in a supine position.
K8. Administer a complete bath.
K9. Assist the patient with a partial bath.
K10. Set the patient up for a partial bath.
K11. Assist the patient to brush her teeth.
K12. Apply a scultitus binder.
K13. Encourage the patient to deep breathe and cough.
K14. Assist the patient to deep breathe and cough by splinting her incision.
K15. Put the patient's limbs through passive ROM.

K16. Encourage the patient to do active ROM.

K17. Take the patient to the B.R. on the commode.

K18. Assist the patient to walk to the B.R.

K19. Assist the patient to drink the clear fluids on her breakfast tray.

K20. Reassure the patient that you will inform the doctor of her discomfort.

K21. Tell the patient that you will return in a little while, and remain with her.
At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section M.

<table>
<thead>
<tr>
<th>Section L.</th>
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</table>
L32. Type and amount of food intake.
L50. Patency of nostrils, and presence of discharge.

L33. Abdominal dressing.
L51. Skin turgor, vascularity, texture, cleanliness, lesions and discharges.

L34. Abdominal incision.
L52. Hair texture and cleanliness.

L35. T-tube drainage.
L53. Facial expressions.

L36. Condition of skin around T-tube.
L54. Quality, quantity and organization of speech.

L37. Condition of T-tube, drainage tubing, and bag.
L55. Mood and manner.

L38. Frequency and character of bowel sounds.
L56. Posture and motor behavior.

L39. Urine color, odor, amount, clarity and continency.
L57. Grooming and dress.

L40. Level of consciousness.
L58. Symmetry, size, contour and appearance of breasts.

L41. Level of responsiveness.
L59. Nipple size and shape, and presence of discharge.

L42. Pupillary reaction.

L43. Strength and equality of movement in upper and lower extremities.

L44. Range of motion.

L45. Coordination

L46. Posture and position.

L47. Presence of inflammation.

L48. Condition and symmetry of eyes, and presence of discharge.

L49. Patency of external ear, and presence of discharge.
Section M.

It is now 0800 and the patient's fluid tray arrives.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

M1. Read the Kardex.

M2. Read the chart.

M3. Interview the patient.

M4. Initiate care.

M5. Consult the team leader.
Section N.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tbody>
<tr>
<td>N1</td>
<td>Intake</td>
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<tr>
<td>N2</td>
<td>Output</td>
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<td>N3</td>
<td>Vital sign pattern</td>
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<td>N4</td>
<td>Order for fluids</td>
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<td>N5</td>
<td>Medication orders</td>
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<tr>
<td>N6</td>
<td>Order for treatments</td>
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<td>N7</td>
<td>Pain pattern</td>
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<tr>
<td>N8</td>
<td>Time of last analgesic</td>
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<td>N9</td>
<td>Condition of incision</td>
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<tr>
<td>N10</td>
<td>Emotional status and ability to rest</td>
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<tr>
<td>N11</td>
<td>Emotional status prior to surgery</td>
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<td>N12</td>
<td>Has the patient had any difficulty deep breathing and coughing?</td>
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<td>N13</td>
<td>Ambulation order</td>
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<tr>
<td>N14</td>
<td>Has the patient had any difficulty moving?</td>
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<td>N15</td>
<td>Post-operative blood electrolytes</td>
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<td>N16</td>
<td>Pre-operative chest x-ray</td>
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<td>N17</td>
<td>Pre-operative ECG</td>
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<td>N18</td>
<td>Pre-operative urinalysis</td>
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<td>N19</td>
<td>Pre-operative lab. tests</td>
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<td>N20</td>
<td>Medical diagnosis</td>
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<td>N21</td>
<td>Medical treatment regimen</td>
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<td>N22</td>
<td>History of dyspnea</td>
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<tr>
<td>N23</td>
<td>Smoking habit</td>
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<tr>
<td>N24</td>
<td>History of dizziness and weakness</td>
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<td>N25</td>
<td>History of cough</td>
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<tr>
<td>N26</td>
<td>History of eating habits</td>
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<tr>
<td>N27</td>
<td>History of problems related to eating or drinking</td>
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<td>N28</td>
<td>History of assistance needed with meals</td>
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<td>N29</td>
<td>Amount of usual fluid intake per day</td>
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<td>N30</td>
<td>Routines before and after meals</td>
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<tr>
<td>N34.</td>
<td>Change in weight within the last three months.</td>
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<td>N38.</td>
<td>Bowel elimination aids.</td>
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<td>N39.</td>
<td>Usual urinary habits.</td>
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<td>N42.</td>
<td>Specific exercise program.</td>
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<td>N43.</td>
<td>Adequate energy to accomplish daily activities.</td>
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<td>N44.</td>
<td>Activity restrictions.</td>
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<td>N47.</td>
<td>Requirements for sleep.</td>
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<td>N49.</td>
<td>Hearing ability.</td>
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<tr>
<td>N50.</td>
<td>Hand dominance.</td>
</tr>
<tr>
<td>N51.</td>
<td>Usual bathing habits.</td>
</tr>
<tr>
<td>N52.</td>
<td>Assistance bathing.</td>
</tr>
</tbody>
</table>
N72. Has there been a recent stressful event that may affect this hospitalization?

N73. Ability to communicate.

N74. Language of choice.

N75. Date of last Pap test.

N76. Vaginal discharge.

N77. Frequency of self breast check.

N78. Number of pregnancies.
At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

O1. Continue with physical assessment.
O2. Read the Kardex.
O3. Read the chart.
O4. Interview the patient.
O5. Consult the team leader.
The doctor has now visited the patient. He left the following orders:
Morphine 10 mg I.M. stat
Chest x-ray and Lung Scan.stat
CPK, SGOT, LDH, CBC stat
1PPB and chest physio q2hourly
You administered the Morphine as ordered and the blood work was done.
The patient has just arrived back from x-ray. The chest x-ray and lung scan
both indicated atelectasis of the right lower lobe. It is now 1000, and the
physio therapist is just finishing therapy.

At this time indicate any actual or potential patient problems and record
them, in the order of priority, into the spaces at the top of the "Patient
Problem" columns of the ANSWER RECORD. (Problems that you have
identified in another section and still exist do NOT have to be
recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient
Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as
necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER
RECORD, and enter the nursing action into the space corresponding to the
"Item" line and the "Patient Problem" column of the ANSWER RECORD.

Then, with your special marker gently rub the corresponding box in the FACT
BOOKLET and enter the result of your nursing action into the "Cue" column
adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has
been resolved, draw a bold line in the space in the appropriate "Patient
Problem" column.

When the result of your nursing action indicates that a patient problem has
NOT been resolved, make another appropriate selection in this section.
If another appropriate item is NOT AVAILABLE proceed as directed
below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed you
will have reached the END OF THE EXERCISE.

P1. Continue monitoring the patient's respiratory and ventilatory
condition.

P2. Administer analgesics as ordered to control chest pain.

P3. Administer hygienic care and assist with personal needs.

P4. Assist the patient with hygienic care.

P5. Encourage the patient to drink clear fluids.

P7. Reassure the patient that her condition will improve with care and therapy.

P8. Encourage and assist the patient to deep breathe and cough between physiotherapy.

P9. Assist the patient to ambulate.

P10. Allow the patient to remain in bed until chest pain, dyspnea subside. Then ambulate.

P11. Encourage the patient to do active ROM hourly.

P12. Monitor the patient's T.P.R. and B.P.

P13. Monitor the patient's I.V. at the correct rate of flow, and add solutions as ordered.

P14. Allow the patient to rest for intervals between therapy.

P15. Position the patient in semi-Fowler's position.

P16. Position the patient on her right side.

P17. Position the patient on her left side.

P18. Raise the head of the bed slightly.
SIMULATION #5

FACT BOOKLET
A1. Proceed to Section E.
A2. Proceed to Section E. When you have finished reading the Kardex RETURN to Section E and make another selection.
A3. Proceed to Section N. When you have finished reading the chart RETURN to Section A and make another selection.
A4. Proceed to Section G.
A5. Proceed to Section C.
A6. Proceed to Section B. When you have finished consulting the team leader RETURN to Section A and make another selection.

B1. The team leader advises that you continue with the I.V. as ordered yesterday.
B2. At 0800.
B3. The T-tube is to remain unclamped.
B4. The team leader advises that you check the Kardex.
B5. Ensure that the skin around the tube is clean and that the bag and tubing are not leaking.
B6. The team leader suggests that you watch the patient closely for respiratory difficulty.

C1. The I.V. is infusing at 125 ml per hour.
C2. The I.V. is infusing at 100 ml per hour.
C3. The patient states that she feels comfortable.
C4. The patient asks that you raise the head of the bed slightly.
C5. The patient complains of severe abdominal and chest pain in this position.
C6. The patient thanks you.
C7. The patient complains of too much pressure on her incision.
C8. The patient thanked you for bathing her. She stated that she felt so weak and miserable she couldn't do it herself.
C9. The patient states she feels too weak and ill to do any of the bath herself.
C10. The patient states that she feels too weak and ill to do any of the bath by herself.
C11. The patient brushes her teeth but appears to have difficulty due to weakness.
C12. Done.
C13. The patient is uncooperative, stating that her chest hurts when she breathes in deeply.
C14. The patient is uncooperative, stating that her chest hurts even more when you splint her incision.
C15. The patient allows you to do this procedure.
C16. The patient states she is feeling too weak to move around.

C17. The patient states that she does not have to void.

C18. The patient refuses, stating she does not have to void.

C19. The patient takes a few sips of water which she tolerates.

C20. The patient states that she will wait for her breakfast tray.

C21. The patient rests till breakfast comes.

D1. Proceed to Section F.

D2. Proceed to Section E. When you have finished reading the Kardex RETURN to Section D and make another selection.

D3. Proceed to Section N. When you have finished reading the chart RETURN to Section D and make another selection.

D4. Proceed to Section K.

D5. Proceed to Section B. When you have finished consulting the team leader RETURN to Section D and make another selection.

E1. Demerol 100 mg q3-4h p.r.n. 1.m.

Gravol 50 mg q6h p.r.n. 1.m.

Valium 10 mg q.h.s. 1.m.

E2. Change abdominal dressing only if soiled. Scultitus binder.

E3. None identified.

E4. Up for walks in the hall.

E5. At night.

E6. Partial bed bath.

E7. Clear fluids.

1.V. 2000 ml Ringer's Lactate Alternating with 1000 ml D-5-W with 40 mEq KCl.

E8. Self.

E9. Record.

E10. Alert.

E11. Commode, B.R.

E12. Routine.

E13. Right handed.

E14. None.

E15. None.

E16. IPPB and chest physio TID.

E17. Feathers.

F1. R - 24, irregular and moderately shallow.

F2. Complaining of midsternal and right chest pain on inspiration.

F3. Appears to have more chest movement on left side.

F4. Diminished and dull over right chest.
<table>
<thead>
<tr>
<th>F5.</th>
<th>Inspiration shorter than expiration.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F6.</td>
<td>Dry cough.</td>
</tr>
<tr>
<td>F7.</td>
<td>37.9</td>
</tr>
<tr>
<td>F8.</td>
<td>Cool</td>
</tr>
<tr>
<td>F9.</td>
<td>Pale</td>
</tr>
<tr>
<td>F11.</td>
<td>Pale</td>
</tr>
<tr>
<td>F12.</td>
<td>Pale</td>
</tr>
<tr>
<td>F13.</td>
<td>Pale</td>
</tr>
<tr>
<td>F14.</td>
<td>P - 92, regular and strong.</td>
</tr>
<tr>
<td>F15.</td>
<td>Moderately strong.</td>
</tr>
<tr>
<td>F16.</td>
<td>Apex - 90, regular and strong.</td>
</tr>
<tr>
<td>F17.</td>
<td>128/74</td>
</tr>
<tr>
<td>F18.</td>
<td>166 cm.</td>
</tr>
<tr>
<td>F19.</td>
<td>64 kg.</td>
</tr>
<tr>
<td>F20.</td>
<td>Medium build.</td>
</tr>
<tr>
<td>F22.</td>
<td>Pink, moist.</td>
</tr>
<tr>
<td>F23.</td>
<td>Pink, firm.</td>
</tr>
<tr>
<td>F24.</td>
<td>All present.</td>
</tr>
<tr>
<td>F25.</td>
<td>Stale</td>
</tr>
<tr>
<td>F27.</td>
<td>Present</td>
</tr>
<tr>
<td>F28.</td>
<td>Pink, moist.</td>
</tr>
<tr>
<td>F29.</td>
<td>Sips of water.</td>
</tr>
<tr>
<td>F30.</td>
<td>I. V. jelco taped securely to right forearm. No redness or swelling noted.</td>
</tr>
<tr>
<td>F31.</td>
<td>I. V. Ringer's Lactate infusing at 34 gttts per minute (20 ml gtt factor); 275 ml remain.</td>
</tr>
<tr>
<td>F32.</td>
<td>Dry and intact.</td>
</tr>
<tr>
<td>F33.</td>
<td>Small amount of bile.</td>
</tr>
<tr>
<td>F34.</td>
<td>Clean and clear.</td>
</tr>
<tr>
<td>F35.</td>
<td>Bag and tubing clean. No leakage.</td>
</tr>
<tr>
<td>F36.</td>
<td>Infrequent, mild.</td>
</tr>
<tr>
<td>F37.</td>
<td>Has not yet voided this shift.</td>
</tr>
<tr>
<td>F38.</td>
<td>Alert</td>
</tr>
<tr>
<td>F39.</td>
<td>Irritable and tense.</td>
</tr>
<tr>
<td>F40.</td>
<td>Normal</td>
</tr>
<tr>
<td>F41.</td>
<td>Equal and moderate.</td>
</tr>
<tr>
<td>F42.</td>
<td>Full</td>
</tr>
<tr>
<td>F43.</td>
<td>Hands trembling.</td>
</tr>
<tr>
<td>F44.</td>
<td>Lying on her left side with the head of the bed slightly raised.</td>
</tr>
<tr>
<td>F45.</td>
<td>Sclera white, eyes equal, no discharge.</td>
</tr>
<tr>
<td>F46.</td>
<td>Patent, no discharge.</td>
</tr>
<tr>
<td>F47.</td>
<td>Patent, no discharge.</td>
</tr>
</tbody>
</table>
F48. Resilient, sweating.
F49. Fine and clean.
F50. Tense and apprehensive.
F52. Large, pendulous.
F53. Large, protruding.
No discharge.

G1. States, "Tired and ill."

G2. States, "Not since last evening."

G3. States, "Yes, I feel a severe pain in my abdomen whenever I deep breathe and cough."

G4. States, "Not too much."

G5. States, "No."

G6. States, "Could I brush my teeth first?"

G7. States, "No."

G8. States, "No."

G9. States, "Yes, I always have some pain in my abdomen."

G10. States, "Yes, I feel a pain in my chest whenever I breathe in."

G11. States, "It started sometime in the night."

G12. States, "Very poorly. The pain in my abdomen and chest made me feel so restless. I just couldn't settle."

G13. States, "I would like to but I am feeling so miserable, I don't think I can do it myself."

G14. States, "Not now."

G15. States, "Moving around."

H1. The team leader states, "I hope she doesn't have a pulmonary embolus."

H2. The team leader notifies the doctor.

H3. The team leader states, "I will notify the doctor and ask him to visit first."

H4. The team leader states, "The doctor should see her first."

11. Proceed to Section E. When you have finished reading the Kardex RETURN to Section I and make another selection.

12. Proceed to Section N. When you have finished reading the chart RETURN to Section I and make another selection.

13. You find your patient grimacing with pain. She states, weakly, that her chest pain is worse, and she has difficulty breathing. She appears tense and apprehensive. Make another selection in Section I.

14. Proceed to Section K.

15. Proceed to Section H.

J1. Proceed to Section F.
J2. Proceed to Section E. When you have finished reading the Kardex RETURN to Section J and make another selection.

J3. Proceed to Section N. When you have finished reading the chart RETURN to Section J and make another selection.

J4. You find your patient grimacing with pain. She states, weakly, that her chest pain is worse and she has difficulty breathing. She appears apprehensive and tense. Make another selection in Section J.

J5. Proceed to Section H.

K1. The I.V. is infusing at 125 ml per hour.

K2. The I.V. is infusing at 100 ml per hour.

K3. As you are charting that you have given the medication, the team leader informs you that you gave the Demerol in error and must fill out an Incident Report. END OF EXERCISE.

K4. The patient appears comfortable, but continues to have dyspnea.

K5. The patient's dyspnea increases in this position.

K6. The patient continues to have dyspnea.

K7. The patient refuses this position.

K8. The patient does not cooperate due to right chest pain, dyspnea and weakness.

K9. The patient does not cooperate due to right chest pain, dyspnea and weakness.

K10. The patient does not cooperate due to chest pain, dyspnea and weakness.

K11. The patient makes a feeble attempt to brush her teeth.

K12. Done.

K13. The patient begins to weep with right chest pain on inspiration and dyspnea.

K14. The patient weeps with right chest pain on inspiration.

K15. The patient weeps and is uncooperative.

K16. The patient weeps and is uncooperative.

K17. The patient refuses.

K18. The patient refuses.

K19. The patient drinks a bit but has difficulty due to increasing right chest pain and dyspnea.

K20. The patient thanks you.

K21. The patient thanks you.

L1. R - 20, irregular and moderately shallow.
<table>
<thead>
<tr>
<th>LR</th>
<th>Description</th>
<th>LR</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L2</td>
<td>Costal and difficult on inspiration.</td>
<td>L24</td>
<td>All present.</td>
</tr>
<tr>
<td>L3</td>
<td>Diminished over right chest.</td>
<td>L25</td>
<td>Stale.</td>
</tr>
<tr>
<td>L4</td>
<td>Equal.</td>
<td>L26</td>
<td>Pink, moist.</td>
</tr>
<tr>
<td>L5</td>
<td>Inspiration shorter than expiration.</td>
<td>L27</td>
<td>Present.</td>
</tr>
<tr>
<td>L6</td>
<td>Dry cough.</td>
<td>L28</td>
<td>Pink, moist.</td>
</tr>
<tr>
<td>L7</td>
<td>37.8</td>
<td>L29</td>
<td>Sips of water.</td>
</tr>
<tr>
<td>L8</td>
<td>Warm.</td>
<td>L30</td>
<td>I.V. jelco taped securely to Rt. forearm. No redness or swelling noted.</td>
</tr>
<tr>
<td>L9</td>
<td>Pale.</td>
<td>L31</td>
<td>I.V. Ringer's Lactate infusing at 34 gtt per minute (20 ml gtt factor); 300 ml remain.</td>
</tr>
<tr>
<td>L10</td>
<td>Pale pink.</td>
<td>L32</td>
<td>None.</td>
</tr>
<tr>
<td>L11</td>
<td>Pale.</td>
<td>L33</td>
<td>Dry and intact.</td>
</tr>
<tr>
<td>L12</td>
<td>Pale.</td>
<td>L34</td>
<td>Clean.</td>
</tr>
<tr>
<td>L13</td>
<td>Pale.</td>
<td>L35</td>
<td>Small amount of bile drainage in bag.</td>
</tr>
<tr>
<td>L14</td>
<td>P - 88, regular and strong.</td>
<td>L36</td>
<td>Clean and clear.</td>
</tr>
<tr>
<td>L15</td>
<td>Moderately strong.</td>
<td>L37</td>
<td>Bag and tubing clean.</td>
</tr>
<tr>
<td>L16</td>
<td>Apex - 86, regular and strong.</td>
<td></td>
<td>No leakage.</td>
</tr>
<tr>
<td>L17</td>
<td>134/78.</td>
<td>L38</td>
<td>Infrequent, mild.</td>
</tr>
<tr>
<td>L18</td>
<td>166 cm.</td>
<td>L39</td>
<td>Has not yet voided this shift.</td>
</tr>
<tr>
<td>L19</td>
<td>64 kg.</td>
<td>L40</td>
<td>Alert.</td>
</tr>
<tr>
<td>L20</td>
<td>Moderate frame.</td>
<td>L41</td>
<td>Responds appropriately.</td>
</tr>
<tr>
<td>L21</td>
<td>Pale pink, moist.</td>
<td>L42</td>
<td>Normal.</td>
</tr>
<tr>
<td>L22</td>
<td>Pink, moist.</td>
<td>L43</td>
<td>Equal and moderate.</td>
</tr>
</tbody>
</table>
L44. Full.
L45. Slight hand tremor.
L46. Lying in semi-Fowler's position.
L47. None noticed.
L48. Sclera white, equal, no discharge.
L49. Patent, no discharge.
L51. Resilient, fine, clean and dry.
L52. Fine and clean.
L53. Tense and worried.
L54. Speaks slowly with frequent pauses between words. Voice weak.
L55. Irritable and tense.
L56. In semi-Fowler's position.
L57. Wearing hospital gown.
L58. Large, pendulous.
L59. Large, no discharge.
M1. Proceed to Section E. When you have finished reading the Kardex RETURN to Section M and make another selection.
M2. Proceed to Section N. When you have finished reading the chart RETURN to Section M and make another selection.
M3. Proceed to Section G.
M4. Proceed to Section K.
M5. Proceed to Section B. When you have finished consulting the team leader RETURN to Section M and make another selection.
N1. 2400 - 3000 ml of D-5-W alternating with Ringer's Lactate. Oral intake was 175 ml.
N2. Voiding 800-1000 ml plus bathroom. T-tube drainage was 400-250 ml.
P - 72 - 88.
R - 18 - 20.
T - 36.6 - 37.2.
N5. Demerol 100 mg q3-4h p.r.n. I.M.
Gravol 50 mg q6h p.r.n. I.M.
Valium 10 mg q4h h.s. I.M.
N6. Chest physio and IPPB. Change abdominal dressing only if soiled.
Scultitus binder.
N7. Requires analgesic q3-5h.
N8. 0630 today.
| N10. | Anxious. Reluctant to move and deep breathe and cough for fear of pain. Sleeps for short periods only. |
| N11. | Tense and afraid of having surgery. |
| N12. | Required much encouragement to take IPPB. Uncooperative and complained of increased incisional pain with inspiration. Producing small amounts of yellowish phlegm. |
| N13. | May be up walking in hall. |
| N15. | None on chart. |
| N18. | SP. GR. - 1.023, color - golden amber, sugar and protein - negative. |
| N19. | Hemoglobin - 13, Hematocrit - 38, WBC - 14 (x10^3), RBC - 4.3 (x10^6), BUN - 17, Bilirubin - 0.9, and ESR - 27 mm/hr. |
| N22. | No. |
| N23. | Has smoked for 22 years; one package a day. |
| N24. | None. |
| N25. | Morning cough. |
| N27. | Unable to tolerate fatty, bulky foods. These caused indigestion and nausea. |
| N28. | None. |
| N29. | About 6-8 cups. |
| N30. | Often has a sherry before dinner to stimulate appetite. |
| N31. | Likes chicken, cheese and fruits. |
| N32. | Dislikes starchy foods. |
| N33. | Wt. - 64 kg; Ht. - 166 cm. |
| N34. | None. |
| N35. | Moderate social intake. |
| N36. | Valium one tablet occasionally for nervousness and for sleeping. |
| N37. | Usually once daily. |
| N38. | Takes Magnolax occasionally for constipation. |
| N39. | Voids 4-5 times a day. |
| N40. | None. |
| N41. | Reading, crafts. |
| N42. | Walking and bowling. |
| N43. | Yes. |
| N44. | None. |
| N45. | 2330-0800. |
| N46. | Good. |
| N47. | Occasionally takes a Valium tablet to help her get to sleep. |
| N48. | Wears glasses. |
| N49. | Good. |
| N50. | Right. |
| N51. | Tub every 2-3 days. |
| N52. | No. |
| N53. | Brushes teeth twice daily. |
| N54. | Uses a moisturizing lotion. |
| N55. | Allergic to feathers. |
| N56. | To have gallbladder out. |
| N57. | For the past two years has had periodic attacks of severe right upper abdominal pain with nausea and vomiting. A recent X-ray revealed gallstones. |
| N58. | Parents are dead. Husband alive; has a heart condition. Two sons, both alive and well, living in another province. |
| N59. | 1 1/2 - 2 weeks. |
| N61. | No special needs. |
| N62. | Retired housewife. |
| N63. | Gallbladder attacks have limited some of her activities. |
| N64. | Hopes surgery will eliminate gallstone attacks. |
| N65. | None. |
| N66. | Husband and sons. |
| N67. | Husband and a close friend. |
| N68. | Roman Catholic. |
| N69. | Feels lonely. |
| N70. | States that she can accept it. |
| N71. | Nothing noted on chart. |
| N72. | No. |
| N73. | Communicates clearly. |
| N74. | English. |
| N75. | Last November. |
| N76. | No abnormal discharge. |
| N77. | About q3months. |
| N78. | Two. |

01. You find your patient in extreme discomfort. She complains of severe right chest pain, dyspnea and weakness. Make another selection in Section O.
02. Proceed to Section E. When you have finished reading the Kardex RETURN to Section O and make another selection.

03. Proceed to Section N. When you have finished reading the chart RETURN to Section O and make another selection.

04. You find your patient in extreme discomfort. She complains of severe right chest pain and dyspnea. Make another selection in Section O.

05. Proceed to Section H.

P1. By 1500 the patient's condition appeared improved. She felt less dyspnea and chest pain and the chest sounds in the right lower lobe were sounding more highly pitched.

P2. The patient did not require analgesic during the remainder of the day shift.

P3. The patient thanked you for doing this, stating that she felt so much better following hygienic care.

P4. The patient was unable to care for herself due to weakness and fatigue.

P5. The patient drank and tolerated small amounts of clear fluids.

P6. The dressing remained dry and intact. T-tube drainage was 150 ml during the day shift.

P7. The patient became quite settled as the pain lessened and the dyspnea improved. She stated that the IPPB really seemed to help.

P8. The patient was more cooperative but could not tolerate a long procedure.

P9. The patient refuses due to weakness and fatigue, and chest pain.

P10. After lunch the patient's breathing improved. She felt less chest pain and with your assistance ambulated to the B.R. and then sat in a chair.

P11. The patient cooperated.

P12. T - 37.9 - 37.4
    P - 88 - 80
    R - 20 - 24
    B.P. - 136/76 - 148/80

P13. The I.V. was infusing well.

P14. The patient was able to sleep for intervals between therapy.

P15. The patient appeared comfortable.

P16. The team leader informed you that the patient should not be on her right side.

P17. The patient appeared comfortable.

P18. Done.
SIMULATION #6

EXERCISE BOOKLET
You are working the day shift (October 24) and are assigned to care for Jeff Brown, age 18 years. Jeff was admitted 4 days ago (October 20) with a diagnosis of Diabetes Mellitus. On the evening shift, yesterday, his parents visited and saw the slide tape presentation on Diabetes. Also the dietitian talked to Jeff and his parents. Jeff tested his own urine under supervision and practiced giving an injection on his father. He was complaining of still being hungry. On the night shift Jeff slept well. He has had a F.B.S. taken at 0700. He has been testing his own urine for sugar and acetone, with supervision. His urines have been negative for both during the evening and night shifts. This a.m. Jeff is to administer his own insulin, under supervision. The team leader adds that he administered his own insulin yesterday morning. On this ward breakfast arrives at 0815. It is now 0740.

Record any cues into the "Cue" column of the ANSWER RECORD. Proceed to Section A.

Section A.

Choose ONLY ONE initial approach.


A2. Read the Kardex.

A3. Read the chart.

A4. Interview the patient.

A5. Initiate care.

A6. Consult the team leader.

Then proceed as directed in the FACT BOOKLET.
### Section B.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Vital sign pattern.</td>
</tr>
<tr>
<td>B2</td>
<td>Doctor's orders.</td>
</tr>
<tr>
<td>B3</td>
<td>Diagnostic lab. tests.</td>
</tr>
<tr>
<td>B4</td>
<td>Chest x-ray.</td>
</tr>
<tr>
<td>B5</td>
<td>ECG.</td>
</tr>
<tr>
<td>B6</td>
<td>Medical Consultation Report.</td>
</tr>
<tr>
<td>B7</td>
<td>Medical diagnosis.</td>
</tr>
<tr>
<td>B8</td>
<td>Medical treatment regimen.</td>
</tr>
<tr>
<td>B9</td>
<td>History of dyspnea.</td>
</tr>
<tr>
<td>B10</td>
<td>Smoking habit.</td>
</tr>
<tr>
<td>B11</td>
<td>History of dizziness and weakness.</td>
</tr>
<tr>
<td>B12</td>
<td>History of cough.</td>
</tr>
<tr>
<td>B13</td>
<td>History of eating habits.</td>
</tr>
<tr>
<td>B14</td>
<td>History of problems related to eating or drinking.</td>
</tr>
<tr>
<td>B15</td>
<td>History of assistance needed with meals.</td>
</tr>
<tr>
<td>B16</td>
<td>Amount of usual fluid intake per day.</td>
</tr>
<tr>
<td>B17</td>
<td>Routines before and after meals.</td>
</tr>
<tr>
<td>B18</td>
<td>Food and fluid likes.</td>
</tr>
<tr>
<td>B19</td>
<td>Food and fluid dislikes.</td>
</tr>
<tr>
<td>B20</td>
<td>Weight and Height.</td>
</tr>
<tr>
<td>B21</td>
<td>Change in weight within the last three months.</td>
</tr>
<tr>
<td>B22</td>
<td>Usual alcohol intake.</td>
</tr>
<tr>
<td>B23</td>
<td>Medication taken at home.</td>
</tr>
<tr>
<td>B24</td>
<td>Usual bowel habits.</td>
</tr>
<tr>
<td>B25</td>
<td>Bowel elimination aids.</td>
</tr>
<tr>
<td>B26</td>
<td>Usual urinary habits.</td>
</tr>
<tr>
<td>B27</td>
<td>Urinary discomforts.</td>
</tr>
<tr>
<td>B28</td>
<td>Interests and hobbies.</td>
</tr>
<tr>
<td>B29</td>
<td>Specific exercise program.</td>
</tr>
<tr>
<td>B30</td>
<td>Adequate energy to accomplish daily activities.</td>
</tr>
<tr>
<td>B31</td>
<td>Activity restrictions.</td>
</tr>
<tr>
<td>-----</td>
<td>------------------------</td>
</tr>
<tr>
<td>B32</td>
<td>Hours of sleep.</td>
</tr>
<tr>
<td>B33</td>
<td>Quality of sleep.</td>
</tr>
<tr>
<td>B34</td>
<td>Requirements for sleep.</td>
</tr>
<tr>
<td>B35</td>
<td>Visual ability.</td>
</tr>
<tr>
<td>B36</td>
<td>Hearing ability.</td>
</tr>
<tr>
<td>B37</td>
<td>Hand dominance.</td>
</tr>
<tr>
<td>B38</td>
<td>Usual bathing habits.</td>
</tr>
<tr>
<td>B39</td>
<td>Assistance bathing.</td>
</tr>
<tr>
<td>B40</td>
<td>Oral hygienic needs.</td>
</tr>
<tr>
<td>B41</td>
<td>Allergies.</td>
</tr>
<tr>
<td>B42</td>
<td>Reason for hospitalization.</td>
</tr>
<tr>
<td>B43</td>
<td>History of present illness.</td>
</tr>
<tr>
<td>B44</td>
<td>Family history.</td>
</tr>
<tr>
<td>B45</td>
<td>Expected length of hospitalization.</td>
</tr>
<tr>
<td>B46</td>
<td>Previous surgeries or hospitalization.</td>
</tr>
<tr>
<td>B47</td>
<td>What could be done to improve hospital stay?</td>
</tr>
<tr>
<td>B48</td>
<td>Occupation.</td>
</tr>
<tr>
<td>B49</td>
<td>Effect of health/illness problem on way of life.</td>
</tr>
<tr>
<td>B50</td>
<td>Effect of health/illness problem on future.</td>
</tr>
<tr>
<td>B51</td>
<td>Home responsibilities for which assistance is required.</td>
</tr>
<tr>
<td>B52</td>
<td>Most significant person(s).</td>
</tr>
<tr>
<td>B53</td>
<td>Visitors expected in hospital.</td>
</tr>
<tr>
<td>B54</td>
<td>Religious beliefs and practices which influence care.</td>
</tr>
<tr>
<td>B55</td>
<td>Feelings about strange environments.</td>
</tr>
<tr>
<td>B56</td>
<td>Feelings about accepting help from others.</td>
</tr>
<tr>
<td>B57</td>
<td>How does the patient cope with stressful events in his life?</td>
</tr>
<tr>
<td>B58</td>
<td>Has there been a recent stressful event that may affect this hospitalization?</td>
</tr>
<tr>
<td>B59</td>
<td>Ability to communicate.</td>
</tr>
<tr>
<td>B60</td>
<td>Language of choice.</td>
</tr>
<tr>
<td>B61</td>
<td>Insulin Injection Site Chart.</td>
</tr>
<tr>
<td>B62</td>
<td>Diabetic Record.</td>
</tr>
<tr>
<td>B63</td>
<td>Dietary Record.</td>
</tr>
<tr>
<td>B64</td>
<td>Nurse's Notes.</td>
</tr>
</tbody>
</table>
Section C.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

C1. Complete a physical assessment.

C2. Read the Kardex.

C3. Read the chart.

C4. Interview the patient.

C5. Continue with care.

C6. Consult the team leader.
Section D.

Given the patient problems you have identified, select ONLY ONE nursing action.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved; make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed you will have reached the END OF THE EXERCISE.

D1. Administer Toronto insulin 5 u.

D2. Instruct the patient to drink a glass of orange juice mixed with two teaspoons of sugar.

D3. Recommend to the team leader that Glucagon 1 ml I.V. be given.

D4. Recommend to the team leader that I.V. glucose be given.
**Section E.**

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section I.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E11</td>
<td>Color of upper extremities</td>
</tr>
<tr>
<td>E12</td>
<td>Color of lower extremities</td>
</tr>
<tr>
<td>E13</td>
<td>Rate, rhythm and quality of radial pulse</td>
</tr>
<tr>
<td>E14</td>
<td>Quality of pedal pulses</td>
</tr>
<tr>
<td>E15</td>
<td>Rate, rhythm and quality of apical beat</td>
</tr>
<tr>
<td>E16</td>
<td>Blood pressure</td>
</tr>
<tr>
<td>E17</td>
<td>Height</td>
</tr>
<tr>
<td>E18</td>
<td>Weight</td>
</tr>
<tr>
<td>E19</td>
<td>Body build</td>
</tr>
<tr>
<td>E20</td>
<td>Lips</td>
</tr>
<tr>
<td>E21</td>
<td>Tongue</td>
</tr>
<tr>
<td>E22</td>
<td>Gums</td>
</tr>
<tr>
<td>E23</td>
<td>Teeth</td>
</tr>
<tr>
<td>E24</td>
<td>Breath</td>
</tr>
<tr>
<td>E25</td>
<td>Mucous membranes</td>
</tr>
<tr>
<td>E26</td>
<td>Palate</td>
</tr>
<tr>
<td>E27</td>
<td>Pharynx</td>
</tr>
<tr>
<td>E28</td>
<td>Oral fluid intake</td>
</tr>
<tr>
<td>E29</td>
<td>Type and amount of food intake</td>
</tr>
<tr>
<td>E30</td>
<td>Abdomen for scars, striae, rashes and lesions, dryness, sweating or oiliness.</td>
</tr>
</tbody>
</table>
E31. Umbilicus.

E32. Contour and symmetry of abdomen.

E33. Frequency and character of bowel sounds.

E34. Presence of discharge.

E35. Stool color, odor, consistency, frequency and control.

E36. Urine color, odor, amount, clarity and continency.

E37. Level of consciousness.

E38. Level of responsiveness.

E39. Pupillary reaction.

E40. Strength and equality of movement in upper and lower extremities.

E41. Range of motion.

E42. Coordination.

E43. Posture and position.

E44. Presence of inflammation.

E45. Condition and symmetry of eyes, and presence of discharge.

E46. Patency of external ear, and presence of discharge.

E47. Patency of nostrils, and presence of discharge.

E48. Skin turgor, vascularity, texture, cleanliness, lesions and discharges.

E49. Hair texture and cleanliness.

E50. Facial expressions.

E51. Quality, quantity and organization of speech.

E52. Mood and manner.

E53. Grooming and dress.
Section F.

At this point select AS MANY items as needed in your interview with the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section M.

F1. How is he generally feeling?

F2. Does he have any pain or discomfort?

F3. Does he have any shortness of breath?

F4. Does he have a cough?

F5. Is he bringing up any sputum?

F6. Does he have any discomfort when coughing?

F7. What is his height and weight?

F8. How much fluid has he taken in today?

F9. What is his state of appetite?

F10. Does he have any food likes or dislikes?

F11. Is he satisfied with his diet?

F12. Does he have any discomfort when eating?

F13. Does he have any difficulty chewing or swallowing?

F14. When was his last B.M.?

F15. Did he sleep well?

F16. Does he have any difficulty with vision?

F17. Does he have any difficulty hearing?

F18. Does he require any assistance with hygiene?

F19. Will he be using disposable or nondisposable equipment at home?

F20. Why is it important that he rotate injection sites?

F21. What would happen if he did not rotate injection sites?

F22. Which sites could he easily use for self injection of insulin?

F23. How would he store his insulin at home?

F24. When would he discard unused insulin?

F25. What calibration of insulin syringe must he use?
F26. What size of needle should he use to administer his insulin?

F27. Why must he use only sterile needles and syringes and ensure that the top of the insulin bottle is cleaned with alcohol before inserting the needle?

F28. Why must he pull back on the plunger before injecting the insulin into the tissues?

F29. Why must he gently mix the insulin before drawing the required dose into the syringe?

F30. Why is it so important that the insulin be at room temperature when administered?

F31. Why must he bend or break the disposable needle following the injection?

F32. Ask the patient to list the equipment he will need for home use.
Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section J.

G1. Review the procedure for self injection of insulin.

G2. Inform the patient that he did not mix the insulin in the bottle when preparing it.

G3. Explain why insulin must be mixed before preparing it.

G4. Explain why insulin should be at room temperature before administering it.

G5. Inform the patient that he did not pull back on the plunger before injecting the insulin.

G6. Explain why the patient should pull back on the plunger before injecting the insulin.

G7. Inform the patient that he did not bend the needle following administration.

G8. Explain why the patient should get into the habit of bending or breaking the needles after use.

G9. Explain insulin reaction including why it occurs, when it is most likely to occur, early symptoms, and preventive and treatment measures.

G10. Explain hyperglycemia due to inadequate dose of insulin including signs and symptoms, and preventive and treatment measures.
G11. Explain the effects of exercise on the need for insulin.

G12. Explain tissue hypertrophy and atrophy including the causes, signs and symptoms, problems occurring due to tissue hypertrophy and atrophy, and preventive and treatment measures.

G13. Explain erratic insulin action including the causes, and signs and symptoms.

G14. Discuss those things the patient can do to prevent erratic insulin action.

G15. Explain insulin allergy and resistance including the causes, signs and symptoms and treatment measures.

G16. Explain the vascular complications that can occur in diabetics including causes, signs and symptoms, and preventive and treatment measures.

G17. Leave some pamphlets relating to the topic taught for the patient to read.

G18. Allow the patient to rest.

G19. Supervise the patient when he tests his urine at 1130.
Section H.

At this time select AS MANY items as needed when consulting the team leader.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

H1. Which of the topics in the Diabetics Teaching Program have been covered?

H2. Is there a specific topic of the Diabetic Teaching Program that is scheduled for instruction today?

H3. Which injection technique has the patient been taught?

H4. What time does breakfast arrive?

H5. Confirm that the patient will administer his own insulin.

H6. Ask the team leader to check the insulin dose with you.

H7. Does a second nurse have to check the amount of insulin drawn up by the patient?

H8. Which of the methods for urine testing has the patient been taught?

H9. What is the plan for rotating injection sites?
Section 1.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

11. Read the Kardex.
12. Read the chart.
13. Interview the patient.
15. Consult the team leader.
Section J.

It is now 1150. As you enter the patient's room you find him lying on his bed, sleeping. He is very pale, and is sweating excessively. You find it difficult to arouse him. His pulse is 72 and regular and his respirations are 18 and shallow.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

J1. Continue with physical assessment.
J2. Check the Kardex.
J3. Check the chart.
J4. Interview the patient.
J5. Initiate care.
J6. Consult the team leader.
Section K.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient:

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD.

Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section C.

K1. Assemble necessary equipment and insulin and take to the bedside.

K2. Quiz the patient about the equipment he will need for home use.

K3. Ask the patient to tell you what he is going to do and why before he begins the procedure.

K4. Outline the steps in the procedure of preparing and administering the insulin before the patient begins.

K5. Ask the patient to identify the site he is going to use.

K6. Review the need to rotate injection sites.

K7. Identify an appropriate injection site for the patient.

K8. Supervise the patient as he prepares the insulin.
K9. Check the amount of insulin drawn up with that on the drug card.

K10. Supervise the patient as he administers the insulin.

K11. Immediately following the injection outline the things that the patient did well and the things that need improvement.

K12. Tell the patient he did well and indicate that after breakfast you will review the procedure with him.

K13. Immediately following the injection sign, in the appropriate places on the chart, that the insulin has been given by the patient.
Section L.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

L1. Medications and times of administration.
L2. Treatments and times.
L3. Identified patient problems and nursing approaches.
L4. Activity level.
L5. Side Rails.
L6. Hygienic needs.
L7. Diet and Fluids.
L9. Intake and Output.
L10. Mental Status.
L11. Bowel and bladder care.

L12. Frequency of vital signs.
L13. Physical traits.
L15. Prosthesis.
L17. Allergies.
Section M.

It is now 0930.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

M1. Read the Kardex.

M2. Read the chart.

M3. Continue with care.

M4. Consult the team leader.
Section N.

At this time select AS MANY items as needed when consulting the team leader.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.


N2. Which of the topics in the Diabetic Teaching Program have been covered to date?

N3. Is there a specific topic in the Diabetic Teaching Program that is scheduled for instruction today?

N4. Which of the methods for urine testing has the patient been taught?

N5. Is the patient being taught to use disposable or nondisposable equipment?

N6. Confirm your plan for patient teaching today.
Section 0.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently, rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed you will have reached the END OF THE EXERCISE.

01. Stay with the patient and ensure that he does not injure himself.
02. Restrain the patient.
03. Ensure that the side rails are up.
04. Position the patient on his side.
05. Insert something soft between the patient's teeth.
06. Call for help.
07. Force the patient to drink some orange juice mixed with sugar.
08. Recommend that Glucagon be administered I.V.
09. Recommend that I.V. glucose be given.
SIMULATION #6

FACT BOOKLET
A1. As you begin your assessment the patient states, "I think I should give my insulin now." Make another selection in Section A.

A2. Proceed to Section L. When you have finished reading the Kardex RETURN to Section A and make another selection.

A3. Proceed to Section B. When you have finished reading the chart RETURN to Section A and make another selection.

A4. When you greet your patient he states, "I am ready to give my insulin now." Make another selection in Section A.

A5. Proceed to Section K.

A6. Proceed to Section H. When you have finished consulting the team leader RETURN to Section A and make another selection.

B1. T - 36.2 - 38,
P - 60 - 84,
R - 18 - 22.

FBS and 2 hr. p.c.
Dalmane 30 mg q.h.s. p.r.n.
CBC, chest X-ray.
40 u Semilente in a.m.

ECG.
Hemogram.
ETR. BUN.
Creatinine.
Electrolytes.
LDH, SGOT, CPK.

B2. (continued)
Oct. 23. FBS and 2 hr. p.c.

B3. ETR - normal.
Hb. - 14 gm.
RBC - 4,65 million/mm³.
Reticulocytes - 51,000/mm³.
Hematocrit - 41.1%.
Platelets - 182,000.
Clot retraction - normal
Prothrombin (Patient - 12.5 sec.
Control - 12.4 sec.
Partial
Thromboplastin (Patient - 27 sec.
Time (Control - 33 sec.
Fibrinogen - 190 mg %.
Thrombin Time - normal.
WBC - total - 5,700.
Differential - 300
Neutrophils - 58%
Eosinophils - 2%
Basophils - 1%
Staph cells - 1%
Lymphocytes - 30%
Monocytes - 8%
ESR - 8 mm/hr.
Coombs Test (Direct) - neg.
Total Bilirubin - 0.5 mg %.
Mono Test - neg.
FBS - Oct. 21 (0710)
- 254 mg/100 ml.
Oct. 23 (0810)
- 278 mg/100 ml.
2 hr. p.c. Blood Sugars
Oct. 21 (1000)
- 336 mg/100 ml.
BUN - 17 mg/100 ml.
Na⁺ - 139 mEq/L.
K⁺ - 4.2 mEq/L.
Cl⁻ - 106 mEq/L.
HCO₃⁻ - 25 mEq/L.
LDH - 169 I.U./L.
SGOT - 50 I.U./L.
CPK - 26 I.U./L.
<table>
<thead>
<tr>
<th>B3.</th>
<th>Urinalysis - SP. GR. - 1.027, pH - 6.0, Protein - 0, Glucose - 0, Acetone - 0, WBC - OAN, RBC - occ., Casts - 0, Bacteria - 0, Crystals - 0.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B4.</td>
<td>No abnormalities of heart and great vessels noted. Both lungs clear and the costophrenic angles are well defined. The bony thorax is intact.</td>
</tr>
<tr>
<td>B5.</td>
<td>Normal.</td>
</tr>
<tr>
<td>B6.</td>
<td>None on chart.</td>
</tr>
<tr>
<td>B7.</td>
<td>Juvenile Diabetes Mellitus.</td>
</tr>
<tr>
<td>B8.</td>
<td>Control of diabetes with regulation of diet, insulin and exercise.</td>
</tr>
<tr>
<td>B9.</td>
<td>None.</td>
</tr>
<tr>
<td>B10.</td>
<td>Does not smoke.</td>
</tr>
<tr>
<td>B11.</td>
<td>Felt weakness for last two months.</td>
</tr>
<tr>
<td>B12.</td>
<td>None.</td>
</tr>
<tr>
<td>B13.</td>
<td>Has had a good appetite. Usual intake 3000 cal. per day.</td>
</tr>
<tr>
<td>B14.</td>
<td>Noticed increasing thirst. Has been often sick to his stomach without diarrhea or vomiting.</td>
</tr>
<tr>
<td>B15.</td>
<td>None.</td>
</tr>
<tr>
<td>B16.</td>
<td>About 10-15 glasses a day.</td>
</tr>
<tr>
<td>B17.</td>
<td>Nothing special.</td>
</tr>
<tr>
<td>B18.</td>
<td>Likes all foods.</td>
</tr>
<tr>
<td>B19.</td>
<td>Nothing noted.</td>
</tr>
<tr>
<td>B20.</td>
<td>Wt. - 51 kg; Ht. - 180 cm.</td>
</tr>
<tr>
<td>B21.</td>
<td>Last 7 kg over past two months.</td>
</tr>
<tr>
<td>B22.</td>
<td>About four bottles of beer per week at one or two outings.</td>
</tr>
<tr>
<td>B23.</td>
<td>None.</td>
</tr>
<tr>
<td>B24.</td>
<td>No bowel problems.</td>
</tr>
<tr>
<td>B25.</td>
<td>None.</td>
</tr>
<tr>
<td>B26.</td>
<td>Lately has had polyuria and nocturia.</td>
</tr>
<tr>
<td>B27.</td>
<td>Lately has had polyuria and nocturia.</td>
</tr>
<tr>
<td>B28.</td>
<td>Reading, skiing, swimming, plays trumpet.</td>
</tr>
<tr>
<td>B29.</td>
<td>Has done little physical exercise during the past two months. Has had &quot;no energy&quot;.</td>
</tr>
<tr>
<td>B30.</td>
<td>Yes, but has been feeling very tired.</td>
</tr>
<tr>
<td>B31.</td>
<td>Has not gone out with friends as much.</td>
</tr>
<tr>
<td>B32.</td>
<td>2300-0645.</td>
</tr>
<tr>
<td>B33.</td>
<td>Sleep pattern has reversed. He awakes in the middle of the night unable to sleep, yet is very tired during the day.</td>
</tr>
<tr>
<td>B34.</td>
<td>None usually.</td>
</tr>
<tr>
<td>B35.</td>
<td>Wears glasses.</td>
</tr>
<tr>
<td>-----</td>
<td>---------</td>
</tr>
<tr>
<td>B37</td>
<td>Left.</td>
</tr>
<tr>
<td>B38</td>
<td>Shower.</td>
</tr>
<tr>
<td>B39</td>
<td>None.</td>
</tr>
<tr>
<td>B40</td>
<td>Nothing noted.</td>
</tr>
<tr>
<td>B41</td>
<td>None known.</td>
</tr>
<tr>
<td>B42</td>
<td>To control diabetes.</td>
</tr>
<tr>
<td>B43</td>
<td>Has not been healthy for the past two months. Has noticed thirst, nocturia and later polyuria. Has felt sick to his stomach with no diarrhea or vomiting. Has been listless with no energy and has lost 7 kg.</td>
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<tr>
<td>B44</td>
<td>Eldest of three children. Both brother and sister are alive and well. Father healthy. Mother has Crohn's disease and one grandmother has Multiple Sclerosis.</td>
</tr>
<tr>
<td>B45</td>
<td>A week or so.</td>
</tr>
<tr>
<td>B46</td>
<td>None.</td>
</tr>
<tr>
<td>B47</td>
<td>Nothing stated.</td>
</tr>
<tr>
<td>B48</td>
<td>Student at U.B.C.</td>
</tr>
<tr>
<td>B49</td>
<td>Illness has slowed him down and has affected his ability to study.</td>
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</tr>
<tr>
<td>B50</td>
<td>Doesn't know.</td>
</tr>
<tr>
<td>B51</td>
<td>Lives with parents.</td>
</tr>
</tbody>
</table>
B62. (continued)  
- 1615 - 3% sugar  
  - neg. acetone  
- 2200 - 3% sugar  
  - neg. acetone  

Blood sugars  
- 0710 - 254 mg/100 ml.  
- 1000 - 336 mg/100 ml.  

Oct. 22. 0740 - Semilente 40 u.  

Urines - 0700 - 1% sugar  
  - neg. acetone  
- 1135 - trace sugar  
  - neg. acetone  
- 1630, 2100 - neg. sugar and acetone  

Blood sugar  
- 0710 - neg. sugar and acetone  


Oct. 21. Diet History:  
Breakfast 0730 - juice, cereal, milk, coffee.  
Lunch 1200 - sandwich, yogurt or fruit, milk.  
Snack 1600 - fruit  
Dinner 1800 - meat, vegetable, starch, dessert (fruit), milk, tea.  

Few sugars or sweets.  
Intake 2800-3000 cal. daily.  
-Diet instruction commenced.  
-Recommend diet to 2800 cal.  

Oct. 22 and 23 - Diet instruction continues satisfactorily. Seems to understand well. Making excellent sample menus.  
Explained diet and menu planning to mother.  

Oct. 20, 2130 - Up and about.  
No apparent problems.  

Oct. 21, 0500 - Appears to have slept well. Rouses easily.  
1000 - Up and about.  

No complaints. Diabetic Teaching commenced.  
1500 - Diet increased and patient feeling more satisfied. Resting.  
1600 - Slide tape presentation shown. Appears to have absorbed but sighing a lot during presentation.  

Oct. 22, 1000 - a.m. taken. Diabetic Teaching continues. Patient absorbs teaching well.  
1400 - Dietitian visited and discussed diet.  
2200 - Testing own urine with supervision. Anxious to give own insulin.  

Oct. 23, 1100 - Gave own insulin and did very well. Still appears pale. Quiet person but very pleasant.  
1145 - Tested own urine and did well. Reading between teaching. ECG done.  
1510 - Parents visiting.  
1600 - Parents and patient viewed slide/tape presentation. Dietitian spoke to mother. Testing own urine under supervision.  
2100 - Still complains of being hungry.
C1. Proceed to Section E.

C2. Proceed to Section L. When you have finished reading the Kardex RETURN to Section C and make another selection.

C3. Proceed to Section B. When you have finished reading the chart RETURN to Section C and make another selection.

C4. Proceed to Section F.

C5. Proceed to Section G.

C6. Proceed to Section N. When you have finished consulting the team leader RETURN to Section C and make another selection.

D1. The patient begins to convulse. Proceed to Section O.

D2. The patient is too drowsy to cooperate. Make another selection in this section.

D3. Done. The patient awakens and is able to drink the orange juice with sugar. END OF EXERCISE.

D4. The team leader states, "First we will try some Glucogen I.V." The patient awakens and is able to drink the orange juice with sugar. END OF EXERCISE.

E1. 18, regular, moderately deep.

E2. Costal, easy.

E3. Equal.

E4. Equal.

E5. None.

E6. 36.6° C.

E7. Warm.


E13. 72, regular, strong.

E14. Moderately strong.

E15. 72, regular, strong.

E16. 114/70.

E17. 180 cm.

E18. 51 kg.

E19. Tall, thin build.


E22. Pink, firm.

E23. Present.


E25. Pink, moist.
| E32. Flat. | F1. States, "Fine." |
| E33. Frequent. | F2. States, "No." |
| E34. None. | F3. States, "No." |
| E35. Has not had a B.M. today. | F4. States, "No." |
| E39. Equal and reacting. | F8. States, "One glass of water, one glass of milk, and one cup of coffee." |
| E41. Full. | F10. States, "I would like more food; I never get enough on my tray." |
| E42. No fine tremors. | F11. States, "I would like more food on my tray; I am often hungry." |
| E44. None noted. | F13. States, "No." |
| E46. Patent, no discharge. | |
| E47. Patent, no discharge. | |
F15. States, "Yes, I slept well."

F16. States, "No, should I have?"

F17. States, "No."

F18. States, "No, I take a shower."

F19. States, "Disposable."

F20. States, "Because it can toughen my skin. But, isn't that better if I'm going to take injections every day?"

F21. States, "I really don't know."

F22. States, "Thighs, abdomen and upper arms."

F23. States, "I would keep it in the refrigerator. It should never be frozen, nor kept in bright light."

F24. States, "When it has expired or when it has clumps and particles in it."

F25. States, "That's easy. I have to make sure the syringe is in the same unit as is the concentration of insulin in the bottle. The nurse told me yesterday that in Canada, all insulins come in U-100, so I will always use a U-100 syringe."

F26. States, "I will use a 25 or 26 gauge stainless steel needle."

F27. States, "Dirty needles can cause infection."

F28. States, "I don't know."

F29. States, "I can't remember."

F30. States, "I was never told it had to be given at room temperature."

F31. States, "To make sure I don't use it again."

F32. States, "Insulin, disposable syringes and needles, alcohol and cotton balls."

G1. Done.

G2. States, "Yes, I know I didn't but I just couldn't remember being told I should do so."


G4. States, "I can understand that."

G5. States, "I didn't know I had to do that."

G6. States, "It's a safety measure, isn't it."

G7. States, "I just forgot but I did know about having to do it."

G8. States, "I know all about that."

G9. The patient appears to understand. He appears accepting of his condition and willing to learn about it.

G10. The patient states, "I will probably feel like I did before I found I had diabetes."
G11. The patient states, "So I actually would need less insulin when I'm exercising."

G12. States, "Now I understand why I have to rotate my injection sites."

G13. The patient continues to listen.

G14. The patient is able to verbalize that some of the things he could do include proper rotation of injection sites, proper mixing of insulin, accurate measurement of dose and regular exercise and rest periods.

G15. The patient becomes somewhat agitated and states, "This is really confusing me. Could I please be left alone for a while." Make another selection in this section.

G16. As you begin the team leader enters and states, "The topic for today is complications of insulin therapy." Make another selection in this section.

G17. Done.

G18. The patient rests till 1130.

G19. The patient does very well. His urines are negative for sugar and acetone.

H1. (continued)

H2. The complications of insulin therapy and their prevention.

H3. He has been taught to use a ½ inch, 25 gauge needle, and to inject at a 90° angle into a fold of subcutaneous tissue.

H4. 0815.

H5. Yes, he is to administer his own insulin.

H6. Done.

H7. No. You are the patient's witness that the amount he prepared is correct.

H8. He has been taught the Clinitest and Acetest methods.

H9. We will use the upper and lower anterior thigh areas first. Then, when the patient is more adjusted we will use the abdomen and arm areas.

11. Proceed to Section L. When you have finished reading the Kardex RETURN to Section 1 and make another selection.

12. Proceed to Section B. When you have finished reading the chart RETURN to Section 1 and make another selection.

13. Proceed to Section F.

14. Proceed to Section G.
15. Proceed to Section N. When you have finished consulting the team leader RETURN to Section I and make another selection.

J1. As you are assessing your patient, he begins to convulse. Proceed to Section O.

J2. As you are reading the Kardex, the team leader informs you that she found your patient in an insulin reaction. She has given him some orange juice with sugar. END OF EXERCISE.

J3. As you are reading the chart, an R.N. informs you that she found your patient in an insulin reaction. She has given him some orange juice with sugar. END OF EXERCISE.

J4. The patient does not respond. Make another selection in this section.

J5. Proceed to Section D.

J6. The team leader is not available. Make another selection in this section.

K1. Done.

K2. The patient states that he will need insulin, disposable syringes and needles, alcohol and cotton balls. It is now 0855.

K3. The patient outlines the steps very well but it is now 0810 and breakfast is here.

K4. The patient states, "I know what to do."

K5. The patient states that he will use the Lt. upper thigh. Make another selection in this section.

K6. It is now 0815 and the patient's breakfast is here.

K7. Done.

K8. The patient washes his hands. He cleans the top of the insulin bottle, sets plunger at 40 u and injects air into the bottle. He then tips the bottle upside down and draws insulin into the syringe.

K9. The amount is 40 u Semilente, as it is also on the medication card.

K10. He cleans an area of skin on the Rt. upper thigh. Then he pinches up a fold of skin and inserts the needle. He quickly injects the insulin.

K11. The patient states, "May I please eat my breakfast before it gets cold."

K12. The patient states, "Fine."

K13. Done.

L1. Dalmane 30 mg q.h.s. p.r.n. Semilente 40 u q.a.m. a.c.
M4. Proceed to Section N. When you have finished consulting the team leader RETURN to Section M and make another selection.

L3. None recorded.
N1. Done.

N2. He has seen the slide tape presentation which explains what diabetes is, the diet, the medications and urine testing. He has been taught how to test his own urine and how to administer his own insulin.

L5. No.
N3. The complications of insulin therapy and their prevention.

N4. Has has been taught the Clinitest and the Acetest methods.

L7. 2500 cal. CDA.
N5. Disposable.

L8. Self.

L9. No.

L10. Alert.


L12. Routine. TPR daily at 1600.

L13. Left handed.


L15. None.


L17. None.

M1. Proceed to Section L. When you have finished reading the Kardex RETURN to Section M and make another selection.

M2. Proceed to Section B. When you have finished reading the chart RETURN to Section M and make another selection.

M3. Proceed to Section G.

O1. Your instructor enters the room and states she will stay with the patient.

O2. The convulsive movements increase.

O3. The patient bangs his arm against the side rail.

O4. Done.

O5. His jaws are clenched.

O6. The team leader arrives.
07. The patient aspirates the orange juice and dies.
END OF EXERCISE.

08. The team leader gives Glucagon 1 ml i.v.
and the patient regains consciousness.
END OF EXERCISE.

09. The team leader states, "We will try Glucagon
first." The patient regains consciousness.
END OF EXERCISE.
SIMULATION #7
EXERCISE BOOKLET
INTRODUCTORY INFORMATION

You are on the day shift. Your patient is Mr. David Martin, a 34 year old executive admitted last evening (March 10) with a slow bleeding duodenal ulcer. He was X-matched for four units of whole blood. He received two units last evening and is to receive an additional two units this a.m. He has an I.V. of N.S. to run at 125 ml per hour; there are 400 ml remaining. He is on an hourly routine of milk 4 oz. with Maalox 1 oz., and is allowed clear fluids. He is on Pro-Banthine 15 mg T.I.D. and h.s., and on Librium 5 mg T.I.D. He has had one loose tarry stool at 0730. His vitals signs are stable. It is now 0745.

Record any cues into the "Cue" column of the ANSWER RECORD. Proceed to Section A.

Section A.

Choose ONLY ONE initial approach.

A2. Read the Kardex.
A3. Read the chart.
A4. Interview the patient.
A5. Initiate morning care.
A6. Consult the team leader.

Then proceed as directed in the FACT BOOKLET.
Section B.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tbody>
<tr>
<td>B1.</td>
<td>Medications and times of administration.</td>
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<tr>
<td>B2.</td>
<td>Treatments and times.</td>
</tr>
<tr>
<td>B3.</td>
<td>Identified patient problems and nursing approaches.</td>
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<tr>
<td>B4.</td>
<td>Activity level.</td>
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<td>B5.</td>
<td>Side Rails.</td>
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<td>B6.</td>
<td>Hygienic needs.</td>
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<td>B7.</td>
<td>Diet and Fluids.</td>
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<tr>
<td>B8.</td>
<td>Feeding.</td>
</tr>
<tr>
<td>B9.</td>
<td>Intake and Output.</td>
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<td>B10.</td>
<td>Mental Status.</td>
</tr>
<tr>
<td>B11.</td>
<td>Bowel and bladder care.</td>
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<tr>
<td>B12.</td>
<td>Frequency of vital signs.</td>
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<tr>
<td>B13.</td>
<td>Physical traits.</td>
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<tr>
<td>B15.</td>
<td>Prosthesis.</td>
</tr>
<tr>
<td>B16.</td>
<td>Therapy.</td>
</tr>
<tr>
<td>B17.</td>
<td>Allergies.</td>
</tr>
</tbody>
</table>
Section C.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed you will have reached the END OF THE EXERCISE.

C1. Regulate the blood transfusion to 100 gtt's per minute.
C2. Slow the blood transfusion.
C3. Stop the blood transfusion and establish N.S. infusion.
C4. Explain to the patient that he is likely having a blood reaction.
C5. Reassure the patient and tell him that the doctor has been notified.
C6. Take the patient's vital signs q15min.
C7. Obtain a urine specimen as soon as possible and take to the lab for stat. analysis.
C8. Attach a report of the patient's blood reaction and return remaining blood to the blood bank for analysis.
C9. Notify the doctor.
C10. Explain to the patient that he is likely getting the flu.
C11. Reassure the patient that there is nothing to worry about.
Section D.

At this time select AS MANY items as needed when consulting the team leader.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.


D2. Recommend that the blood be slowed.

D3. Recommend that the blood be stopped.

D4. Recommend that the doctor be notified.

D5. Ask the team leader to assess the patient for you.
At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

E1. Complete a physical assessment.

E2. Read the Kardex.

E3. Read the chart.

E4. Interview the patient.

E5. Initiate care.

E6. Consult the team leader.
Section F.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

F1. Intake since admission.
F2. Elimination pattern.
F4. Order for oral fluids.
F5. Order for I.V. fluids.
F6. Medical orders.
F7. Pain pattern.
F8. I.V. infusion site and size of needle.
F10. Ability to rest.
F12. Has the patient had any difficulty deep breathing and coughing?
F14. Has the patient had any difficulty moving?
F15. Results of diagnostic blood tests.
F16. Urinalysis results.
F17. Order for diagnostic tests.
F19. Medical diagnosis.
F20. Medical treatment regimen.
F22. Smoking habit.
F23. History of dizziness and weakness.
F24. History of cough.
F25. History of eating habits.
F26. History of problems related to eating or drinking.
F27. History of assistance needed with meals.
F28. Amount of usual fluid intake per day.
F29. Routines before and after meals.
F30. Food and fluid likes.
<table>
<thead>
<tr>
<th>Question</th>
<th>Question</th>
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</thead>
<tbody>
<tr>
<td>F32. Weight and Height.</td>
<td>F55. History of present illness.</td>
</tr>
<tr>
<td>F33. Change in weight within the last three months.</td>
<td>F56. Family history.</td>
</tr>
<tr>
<td>F34. Usual alcohol intake.</td>
<td>F57. Expected length of hospitalization.</td>
</tr>
<tr>
<td>F35. Medication taken at home.</td>
<td>F58. Previous surgeries or hospitalization.</td>
</tr>
<tr>
<td>F36. Usual bowel habits.</td>
<td>F59. What could be done to improve hospital stay?</td>
</tr>
<tr>
<td>F37. Bowel elimination aids.</td>
<td>F60. Occupation.</td>
</tr>
<tr>
<td>F40. Interests and hobbies.</td>
<td>F63. Home responsibilities for which assistance is needed.</td>
</tr>
<tr>
<td>F41. Specific exercise program.</td>
<td>F64. Most significant person(s).</td>
</tr>
<tr>
<td>F42. Adequate energy to accomplish daily activities.</td>
<td>F65. Visitors expected in hospital.</td>
</tr>
<tr>
<td>F44. Hours of sleep.</td>
<td>F67. Feelings about strange environments.</td>
</tr>
<tr>
<td>F45. Quality of sleep.</td>
<td>F68. Feelings about accepting help from others.</td>
</tr>
<tr>
<td>F46. Requirements for sleep.</td>
<td>F69. How does the patient cope with stressful events in his life?</td>
</tr>
<tr>
<td>F47. Visual ability.</td>
<td>F70. Has there been a recent stressful event that may affect his hospitalization?</td>
</tr>
<tr>
<td>F50. Usual bathing habits.</td>
<td>F73.</td>
</tr>
</tbody>
</table>
Section G.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section N.

G1. Rate, rhythm and depth of respiration.

G2. Pattern and character of respirations.

G3. Chest symmetry and general chest expansion.

G4. Duration of inspiration versus expiration.

G5. Presence and character of cough.


G7. Temperature of extremities.


G13. Rate, rhythm and quality of radial pulse.


G15. Rate, rhythm and quality of apical beat.


G17. Height.

G18. Weight.


G20. Lips.

G21. Tongue.

G22. Gums.

G23. Teeth.


G25. Mucous membranes.


G27. Pharynx.


G29. Intravenous fluid intake.

G30. Intravenous rate and flow.

G31. Intravenous site.
<table>
<thead>
<tr>
<th>G32.</th>
<th>Frequency and character of bowel sounds.</th>
</tr>
</thead>
<tbody>
<tr>
<td>G33.</td>
<td>Abdomen for distention.</td>
</tr>
<tr>
<td>G34.</td>
<td>Stool color, odor, consistency, frequency and control.</td>
</tr>
<tr>
<td>G35.</td>
<td>Urine color, odor, amount, clarity and continency.</td>
</tr>
<tr>
<td>G36.</td>
<td>Level of consciousness.</td>
</tr>
<tr>
<td>G37.</td>
<td>Level of responsiveness.</td>
</tr>
<tr>
<td>G38.</td>
<td>Pupillary reaction.</td>
</tr>
<tr>
<td>G40.</td>
<td>Range of motion.</td>
</tr>
<tr>
<td>G41.</td>
<td>Coordination.</td>
</tr>
<tr>
<td>G42.</td>
<td>Posture and position.</td>
</tr>
<tr>
<td>G43.</td>
<td>Condition and symmetry of eyes, and presence of discharge.</td>
</tr>
<tr>
<td>G44.</td>
<td>Patency of external ear, and presence of discharge.</td>
</tr>
<tr>
<td>G45.</td>
<td>Patency of nostrils, and presence of discharge.</td>
</tr>
<tr>
<td>G46.</td>
<td>Skin turgor, vascularity, texture, cleanliness, lesions and discharges.</td>
</tr>
<tr>
<td>G47.</td>
<td>Hair texture and cleanliness.</td>
</tr>
<tr>
<td>G48.</td>
<td>Facial expressions.</td>
</tr>
</tbody>
</table>
Section H.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

H1. Read the Kardex.
H2. Read the chart.
H3. Interview the patient.
H4. Initiate care.
H5. Consult the team leader.
Section I.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

11. Complete a physical assessment.

12. Read the Kardex.

13. Read the chart.

14. Continue to interview the patient.

15. Initiate care.

16. Consult the team leader.
Section J.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section E.

J1. Regulate the I.V. rate to 33 gtts per minute.

J2. Regulate the I.V. rate to 42 gtts per minute.

J3. Regulate the I.V. rate to 25 gtts per minute.

J4. Administer a complete bedbath.

J5. Set the patient up for a self bath.

J6. Assist the patient with his bedbath.

J7. Set the patient up for self oral hygiene.

J8. Encourage the patient to take a shower.

J9. Assist the patient to the B.R.

J10. Administer the 0800 Pro-Banthine.

J11. Administer milk 4 oz. and Maalox 30 ml.

J12. Leave some milk and Maalox at the patient's bedside and instruct him on his hourly feedings.

J13. Explain why the patient should not use Aspirin for relief of headache or any pain.

J14. Suggest a safe over-the-counter analgesic that the patient could use instead of Aspirin.
J15. Explain the need for deep breathing and coughing, and demonstrate the procedure.

J16. Explain the need for exercising when on bedrest and teach the patient to do range of motion, and muscle contraction and relaxation exercises.

J17. Explain the need for bedrest and encourage the patient to get up to the B.R. only.

J18. Explain the effect of cigarette smoking on ulcer disease and encourage the patient to stop.

J19. Encourage the patient to talk about his concern of possible surgery. Listen and help him explore his feelings.

J20. Allow the patient to rest.
### Section K.

At this time select AS MANY items as needed when consulting the team leader.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>K2.</td>
<td>Is there a special procedure for starting the blood?</td>
</tr>
<tr>
<td>K3.</td>
<td>Recommend that an analgesic be ordered for the patient's headache.</td>
</tr>
<tr>
<td>K4.</td>
<td>Can the milk and Maalox be left at the patient's bedside?</td>
</tr>
<tr>
<td>K5.</td>
<td>Should the side rails be kept up?</td>
</tr>
<tr>
<td>K6.</td>
<td>Can the patient take a shower?</td>
</tr>
<tr>
<td>K7.</td>
<td>Recommend that the doctor be informed about the patient's concern over the possibility of surgery.</td>
</tr>
</tbody>
</table>
**Section L.**

At this point select AS MANY items as needed in your interview with the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section L.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>How is he generally feeling?</td>
</tr>
<tr>
<td>L2</td>
<td>How well did he sleep?</td>
</tr>
<tr>
<td>L3</td>
<td>Does he have any difficulty breathing?</td>
</tr>
<tr>
<td>L4</td>
<td>Has he been deep breathing and coughing?</td>
</tr>
<tr>
<td>L5</td>
<td>Does he have any discomfort when coughing?</td>
</tr>
<tr>
<td>L6</td>
<td>Has he been doing any active range of exercises?</td>
</tr>
<tr>
<td>L7</td>
<td>Has he brought up any sputum?</td>
</tr>
<tr>
<td>L8</td>
<td>Has he had anything to drink this morning?</td>
</tr>
<tr>
<td>L9</td>
<td>How well has he been tolerating clear fluids?</td>
</tr>
<tr>
<td>L10</td>
<td>How well has he been tolerating the milk and Maalox?</td>
</tr>
<tr>
<td>L11</td>
<td>Does he have any discomfort associated with the milk and Maalox treatment?</td>
</tr>
<tr>
<td>L12</td>
<td>Does he have any difficulty swallowing?</td>
</tr>
<tr>
<td>L13</td>
<td>Is he nauseated?</td>
</tr>
<tr>
<td>L14</td>
<td>What is the state of his epigastric and abdominal pain?</td>
</tr>
<tr>
<td>L15</td>
<td>Is there anything that aggravates his epigastric pain?</td>
</tr>
<tr>
<td>L16</td>
<td>When was his last B.M.?</td>
</tr>
<tr>
<td>L17</td>
<td>What was the color and consistency of his last B.M.?</td>
</tr>
<tr>
<td>L18</td>
<td>Does he have any urinary discomforts?</td>
</tr>
<tr>
<td>L19</td>
<td>Has he felt any dizziness?</td>
</tr>
<tr>
<td>L20</td>
<td>Does he need any assistance walking to the B.R.?</td>
</tr>
<tr>
<td>L21</td>
<td>Would he like to brush his teeth, and wash his hands and face before taking his 0800 milk and Maalox?</td>
</tr>
<tr>
<td>L22</td>
<td>Does he have any other discomforts?</td>
</tr>
<tr>
<td>L23</td>
<td>What are his major concerns at present?</td>
</tr>
</tbody>
</table>
### Section M.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section H.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>Rate, rhythm and depth of respiration.</td>
</tr>
<tr>
<td>M2</td>
<td>Pattern and character of respirations.</td>
</tr>
<tr>
<td>M3</td>
<td>Chest symmetry and general chest expansion.</td>
</tr>
<tr>
<td>M4</td>
<td>Duration of inspiration versus expiration.</td>
</tr>
<tr>
<td>M5</td>
<td>Presence and character of cough.</td>
</tr>
<tr>
<td>M6</td>
<td>Body temperature.</td>
</tr>
<tr>
<td>M7</td>
<td>Temperature of extremities.</td>
</tr>
<tr>
<td>M8</td>
<td>Color of skin.</td>
</tr>
<tr>
<td>M9</td>
<td>Color of lips.</td>
</tr>
<tr>
<td>M10</td>
<td>Color of nailbeds.</td>
</tr>
<tr>
<td>M11</td>
<td>Color of upper extremities.</td>
</tr>
<tr>
<td>M12</td>
<td>Color of lower extremities.</td>
</tr>
<tr>
<td>M13</td>
<td>Rate, rhythm and quality of radial pulse.</td>
</tr>
<tr>
<td>M14</td>
<td>Quality of pedal pulses.</td>
</tr>
<tr>
<td>M15</td>
<td>Rate, rhythm and quality of apical beat.</td>
</tr>
<tr>
<td>M16</td>
<td>Blood pressure.</td>
</tr>
<tr>
<td>M17</td>
<td>Pharynx.</td>
</tr>
<tr>
<td>M18</td>
<td>Oral fluid intake.</td>
</tr>
<tr>
<td>M19</td>
<td>Blood transfusion and flow.</td>
</tr>
<tr>
<td>M20</td>
<td>Transfusion site.</td>
</tr>
<tr>
<td>M21</td>
<td>Skin turgor, vascularity, texture, cleanliness, lesions and discharges.</td>
</tr>
<tr>
<td>M22</td>
<td>Mood and manner.</td>
</tr>
<tr>
<td>M23</td>
<td>Posture and position.</td>
</tr>
</tbody>
</table>
Section N.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

N1. Read the Kardex.

N2. Read the chart.

N3. Interview the patient.

N4. Initiate care.

N5. Consult the team leader.
Section 0.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section P.

O1. Regulate the I.V. rate to 33 gts per minute.
O2. Regulate the I.V. rate to 42 gts per minute.
O3. Regulate the I.V. rate to 25 gts per minute.
O4. Administer a complete bed bath.
O5. Set the patient up for a self bath.
O6. Assist the patient with his bed bath.
O7. Set the patient up for self oral hygiene.
O8. Encourage the patient to take a shower.
O9. Assist the patient to the B.R.
O10. Administer the Pro-Banthine at 0800.
O11. Administer milk 4 oz. and Maalox 30 ml at 0800.

O12. Leave some milk and Maalox at the patient's bedside and instruct him on his hourly feedings.

O13. Explain the need for deep breathing and coughing, and demonstrate the procedure.

O14. Explain the need for exercising when on bedrest and teach the patient to do range of motion, and muscle contraction and relaxation exercises.

O15. Explain the need for bedrest and encourage the patient to get up to the B.R. only.
Section P.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

P1. Complete a physical assessment.
P2. Read the Kardex.
P3. Read the chart.
P4. Interview the patient.
P5. Continue with care.
P6. Consult the team leader.
Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section S.

Q1. Regulate the I.V. rate to 33 gttts per minute.
Q2. Regulate the I.V. rate to 42 gttts per minute.
Q3. Regulate the I.V. rate to 25 gttts per minute.
Q4. Administer a complete bed bath.
Q5. Set the patient up for a self bath.
Q6. Assist the patient with his bed bath.
Q7. Set the patient up for self oral hygiene.
Q8. Encourage the patient to take a shower.
Q9. Assist the patient to the B.R.
Q10. Administer codeine 30 mg.
Q11. Ensure that the patient has taken his milk and Maalox at 0900.
Q12. Leave some milk and Maalox at the patient's bedside and instruct him on his hourly feedings.
Q13. With the assistance of a second nurse, start 1 unit of the whole blood as ordered.
Q14. Regulate the blood to flow at 40 gttts per minute.
Q15. Regulate the blood to flow at 100 gtt's per minute.

Q16. Explain why the patient should not use Aspirin for relief of headache or any pain.

Q17. Suggest a safe over-the-counter analgesic that the patient could use instead of Aspirin.

Q18. Explain the need for deep breathing and coughing, and demonstrate the procedure.

Q19. Explain the need for exercising when on bedrest and teach the patient to do range of motion, and muscle contraction and relaxation exercises.

Q20. Explain the need for bedrest and encourage the patient to get up to the B.R. only.

Q21. Explain the effect of cigarette smoking on ulcer disease and encourage the patient to stop.

Q22. Encourage the patient to talk about his concern of possible surgery. Listen and help him explore his feelings.

Q23. Allow the patient to rest.
### Section R.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section V.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R11</td>
<td>Color of upper extremities.</td>
</tr>
<tr>
<td>R12</td>
<td>Color of lower extremities.</td>
</tr>
<tr>
<td>R13</td>
<td>Rate, rhythm and quality of radial pulse.</td>
</tr>
<tr>
<td>R14</td>
<td>Quality of pedal pulses.</td>
</tr>
<tr>
<td>R15</td>
<td>Rate, rhythm and quality of apical beat.</td>
</tr>
<tr>
<td>R16</td>
<td>Blood pressure.</td>
</tr>
<tr>
<td>R17</td>
<td>Height.</td>
</tr>
<tr>
<td>R18</td>
<td>Weight.</td>
</tr>
<tr>
<td>R19</td>
<td>Body build.</td>
</tr>
<tr>
<td>R20</td>
<td>Lips.</td>
</tr>
<tr>
<td>R21</td>
<td>Tongue.</td>
</tr>
<tr>
<td>R22</td>
<td>Gums.</td>
</tr>
<tr>
<td>R23</td>
<td>Teeth.</td>
</tr>
<tr>
<td>R24</td>
<td>Breath.</td>
</tr>
<tr>
<td>R25</td>
<td>Mucous membranes.</td>
</tr>
<tr>
<td>R26</td>
<td>Palate.</td>
</tr>
<tr>
<td>R27</td>
<td>Pharynx.</td>
</tr>
<tr>
<td>R28</td>
<td>Oral fluid intake.</td>
</tr>
<tr>
<td>R29</td>
<td>Intravenous fluid intake.</td>
</tr>
<tr>
<td>R30</td>
<td>Intravenous rate and flow.</td>
</tr>
<tr>
<td>R31</td>
<td>Intravenous site.</td>
</tr>
<tr>
<td>R32.</td>
<td>Frequency and character of bowel sounds.</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>R33.</td>
<td>Abdomen for distention.</td>
</tr>
<tr>
<td>R34.</td>
<td>Stool color, odor, consistency, frequency and control.</td>
</tr>
<tr>
<td>R35.</td>
<td>Urine color, odor, amount, clarity and continency.</td>
</tr>
<tr>
<td>R36.</td>
<td>Level of consciousness.</td>
</tr>
<tr>
<td>R37.</td>
<td>Level of responsiveness.</td>
</tr>
<tr>
<td>R38.</td>
<td>Pupillary reaction.</td>
</tr>
<tr>
<td>R40.</td>
<td>Range of motion.</td>
</tr>
<tr>
<td>R41.</td>
<td>Coordination.</td>
</tr>
<tr>
<td>R42.</td>
<td>Posture and position.</td>
</tr>
<tr>
<td>R43.</td>
<td>Condition and symmetry of eyes, and presence of discharge.</td>
</tr>
<tr>
<td>R44.</td>
<td>Patency of external ear, and presence of discharge.</td>
</tr>
<tr>
<td>R45.</td>
<td>Patency of nostrils, and presence of discharge.</td>
</tr>
<tr>
<td>R46.</td>
<td>Skin turgor, vascularity, texture, cleanliness, lesions and discharges.</td>
</tr>
<tr>
<td>R47.</td>
<td>Hair texture and cleanliness.</td>
</tr>
<tr>
<td>R48.</td>
<td>Facial expressions.</td>
</tr>
</tbody>
</table>

| R49. | Quality of speech.                     |
| R50. | Mood and manner.                       |
Section S.

A few minutes later you check your patient. You find him looking more flushed. He states his headache is returning and he finds it difficult to breathe.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.
Section T.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

T1. Complete a physical assessment.

T2. Read the Kardex.

T3. Read the chart.

T4. Initiate care.

T5. Consult the team leader.
Section U.

At this point select AS MANY items as needed in your interview with the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section T.

U1. How is he generally feeling?

U2. How well has he tolerated clear fluids?

U3. How well has he tolerated his 0800 milk and Maalox?

U4. Is he nauseated?

U5. What is the state of his epigastric and abdominal pain?

U6. Has he had a B.M. since 0730?

U7. Has he felt any dizziness?

U8. Does he have any other discomforts?

U9. What are his major concerns at present?

U10. Is there anything you could do for him at this time?
Section V.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

V1. Read the Kardex.

V2. Read the chart.

V3. Interview the patient.

V4. Initiate care.

V5. Consult the team leader.
SIMULATION #7

FACT BOOKLET
Proceed to Section G.

Proceed to Section B. When you have finished reading the Kardex RETURN to Section A and make another selection.

Proceed to Section F. When you have finished reading the chart RETURN to Section A and make another selection.

Proceed to Section L.

Proceed to Section O.

The team leader is not available. Make another selection in Section A.

Maalox 1 oz. q1h on the hour.
Pro-Banthine Br. 15 mg T.I.D. with meals and at h.s., 0800 - 1200 - 1800 - 2200.
Librium 5 mg T.I.D., 1000 - 1400 - 1800.
Seconal 100 mg q.h.s.

Milk 4 oz. and Maalox 1 oz. q1h.
Mar. 10. Two units whole blood today and two units whole blood tomorrow.

None noted.

Bedrest with B.R. privileges.

No.

Self bed bath with assistance.

Clear fluids.
Milk 4 oz. q1h on the hour.
I.V. N.S. to run at 125 ml per hour.

Ten minutes later the patient suffers a severe blood reaction and must be transferred to I.C.U. END OF EXERCISE.

The patient becomes more flushed. His skin is warm and dry; he complains of headaches, severe lumbar pain and appears quite apprehensive.

Done.

The patient states, "Oh no, that's all that I need now."

The patient states, "I hope he gets here soon."

T - 37.8 - 37.6.
P - 88 - 92.
R - 18 - 22.
B.P. - 100/60 - 110/66.

Done.
C8. As you are doing this the doctor arrives to assess the patient's medical problem and initiate treatment.

C9. The doctor is on his way.

C10. A few minutes later the team leader informs you that the patient is having a blood reaction.

C11. The patient states, "For me it is something to worry about."

D1. The team leader states, "What do you think should be done?"

D2. The team leader states, "I think you should stop the blood."

D3. The team leader states, "You'd better do that right now."

D4. The team leader states, "I will do that promptly."

D5. The team leader confirms your nursing diagnosis.

E1. Proceed to Section R.

E2. Proceed to Section B. When you have finished reading the Kardex RETURN to Section E and make another selection.

E3. Proceed to Section F. When you have finished reading the chart RETURN to Section E and make another selection.

E4. Proceed to Section U.

E5. Proceed to Section Q.

E6. Proceed to Section K. When you have finished consulting the team leader RETURN to Section E and make another selection.

F1. 46 oz. milk.

F2. 975 ml urine. Three loose tarry stools since admission. Last B.M. at 0730.

F3. B.P. - 125/70 - 130/78.


F5. March 10.

F6. Maalox 1 oz. q1h.

F7. Epigastric burning which at times is sharp and stabbing. Has lessened with therapy.

F8. #19 butterfly inserted into Lt. forearm.

F9. Seconal 100 mg administered at 2230, March 10.
F10. Awake x3 during the night with epigastric pain.

F11. Impatient and irritable. Angry that he must come into hospital at this time. Cannot afford to be away from work for long.

F12. No record on chart.


F14. Weak but moving well. States that he feels dizzy when he first stands.

F15. Hemoglobin - 7 g
RBC - 2.37 (x10^6)
Hematocrit 32%
WBC - 7 (x10^3)
Differential
Polys. - 85
Staff. - 2
Baso. - 1
Lymph. - 6
Mono. - 8
Morphology - normal.
Platelet Estimation - normal on film.
BUN - 19
Bili - 0.6
ESR - 30 mm/hr.
pH - 7.3
Na⁺ - 140 mEq/L
K⁺ - 3.6 mEq/L
Cl⁻ - 96 mEq/L
HCO₃⁻ - 22 mEq/L

F16. None on chart.

F17. CBC, BUN, Bilirubin, ESR, pH, serum electrolytes.

F18. O Positive.


F20. Diet, antacids, rest.

F21. None.

F22. Smokes over one package a day.

F23. Dizziness and lightheadedness becoming more frequent over the past two weeks.

F24. Morning cough.

F25. Coffee and toast on cereal for breakfast; light lunch; large meal in the evening.

F26. Spicy, hot and fried foods give him epigastric burning.

F27. None.

F28. 8-12 glasses.

F29. Likes a scotch before dinner. Often has wine with dinner.

F30. Prefers foods that are not fried. Likes apple juice.

F31. Dislikes spinach and corn and tomato juice.

F32. Wt. - 73 kg; Ht. - 168 cm.

F33. Lost about 4 kg.

F34. Consumes one or two drinks in the evening.

F35. Aspirin for headache.

F36. B.M. once or twice daily.
F37. None.

F38. Voids three or four times daily.

F39. None.

F40. Fishing and hunting, building model planes, boats and cars.

F41. Jogs, and plays tennis or racquetball when he has time.

F42. Has been feeling progressively tired over the past two weeks.

F43. None.

F44. 2400 - 0630.

F45. Experiences insomnia with increased pressure at work. Lately has been waking up with epigastric burning.

F46. None.

F47. Normal.


F49. Right.

F50. Shower q.a.m.

F51. None.

F52. Brushes teeth twice daily.

F53. Allergic to feathers, pollens.

F54. To treat bleeding ulcer.

F55. Three years ago he suffered an attack of sharp burning epigastric pain occurring 1½-2 hours after eating. A barium X-ray revealed a duodenal ulcer. Following four months of treatment with diet and Maalox the ulcer healed. Since then the patient has experienced periodic attacks of epigastric burning which he was able to control with diet, Maalox and relaxation. This last attack has persisted, however, for the past four weeks. Two days prior to admission he felt nausea and lower abdominal pain, and passed several loose tarry stools. He felt progressively weaker and fatigued with periods of dizziness and lightheadedness.

F56. Mother had a hiatus hernia.

F57. Does not know but hopes to get home soon.

F58. Three years ago with duodenal ulcer.

F59. No preference noted.

F60. Branch manager for an Investment Syndicate.

F61. Nothing noted on chart.

F62. Nothing noted on chart.

F63. Nothing noted on chart.

F64. Wife.
F65. Wife.

G15. 88, regular, strong.

F66. Nothing noted on chart.

G16. 120/70.

F67. Nothing noted on chart.

G17. 168 cm.

F68. Nothing noted on chart.

G18. 73 kg.

F69. Nothing noted on chart.

G19. Medium frame.

F70. Work pressures have been great. Has been working 12-15 hours a day plus entertaining out-of-town associates.

G20. Dry.


G22. Moist, pale pink.

F71. Communicates clearly and fluently.

G23. Present, clean.

F72. English.

G24. Fresh.

G1. 18, regular, moderately deep.


G3. Equal.

G27. Moist, pale pink.

G28. None noted.

G30. I.V. infusing at 42 gtt per minute (20 ml gtt factor).

G31. I.V. taped securely to Lt. forearm. No redness or swelling noted.

G32. Frequent, moderately strong.

G33. Abdomen soft.

G34. No B.M. as yet.

G35. Has not voided yet.

G36. Alert.
the patient he tells you that he is feeling nauseated, has a headache, and finds it difficult to breathe. He feels warm and his skin is more flushed and you notice an expiratory wheeze. Make another selection in Section H.

Proceed to Section C.

Proceed to Section D. When you have finished consulting the team leader RETURN to Section H and make another selection.

As you begin the patient states, "Shouldn't I have my milk and Maalox now?" Make another selection in Section I.

Proceed to Section B. When you have finished reading the Kardex RETURN to Section I and make another selection.

Proceed to Section F. When you have finished reading the chart RETURN to Section I and make another selection.

As you begin the patient states, "Shouldn't I have my milk and Maalox now?" Make another selection in Section I.

The team leader is not available. Make another selection in Section I.
J1. I.V. infusing at 100 ml per hour (20 ml gtt factor).
J2. I.V. infusing at 125 ml per hour (20 ml gtt factor).
J3. I.V. infusing at 75 ml per hour (20 ml gtt factor).
J4. The patient states, "I can wash myself."
J5. The patient completes most of his bath except for his back and legs.
J6. The patient thanks you.
J7. The patient thanks you.
J8. The patient faints when in the shower. Luckily, he sustained no injury. With help, you assisted him back to bed.
J9. The patient states, "I have already been to the B.R."
J10. Taken and tolerated.
J11. Taken. The patient tells you that some milk and Maalox are usually left at his bedside.
J12. The patient thanks you.
J13. The patient states, "I didn't realize that. I have been using quite a bit of Aspirin lately for my headaches."
J14. The patient thanks you.
J15. The patient redemonstrates the procedure.

J16. The patient redemonstrates the exercises.
J17. The patient states that he will cooperate.
J18. The patient becomes nervous and somewhat irritable stating, "Maybe later but I could not cope if I tried quitting now."
J19. The patient seems resistant to talk openly about his concerns. He stated however that he does not want to have surgery at this time. It would keep him away from his work to which he must return as soon as possible.
J20. Done.
K1. Done.
K2. Collect the blood from the blood bank about half an hour before you put it up. Have a second nurse check all the pertinent information with you. Run the blood slowly for the first fifteen or twenty minutes.
K3. The team leader contacted the doctor. He ordered Codeine 30 mg orally q4h p.r.n. for headache.
K4. Yes, providing the milk is kept in a bowl of ice.
K5. No if the patient is alert.
K6. No.
K7. The team leader states that the doctor is aware of this.
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>L2. States, &quot;Not too well.&quot;</td>
<td>L17. States, &quot;The same as the others I had yesterday.&quot;</td>
</tr>
<tr>
<td>L4. States, &quot;What's that?&quot;</td>
<td>L19. States, &quot;Just when I'm up standing.&quot;</td>
</tr>
<tr>
<td>L5. States, &quot;No.&quot;</td>
<td>L20. States, &quot;No, I can manage by myself.&quot;</td>
</tr>
<tr>
<td>L6. States, &quot;No.&quot;</td>
<td>L21. States, &quot;I've already done that at the sink when I was up to the B.R.&quot;</td>
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</tbody>
</table>
| L7. States, "I always cough up some mucus in the morning." | L22. States, "I have a headache. Do you think I can have a couple of Aspirins for it?"
| L8. States, "About a half a glass of water." | L23. States, "I am concerned about my work and this ulcer. I just hope the ulcer clears quickly. The doctor said he may have to operate if the bleeding doesn't stop." Appears worried and tense. |
| L10. States, "Fine." | L25. States, "Yes, thinking about my work increases the pain. I knew this would happen if I didn't get away for a while, but I just couldn't find the time. I cannot afford to be sick now. There is too much happening at work. I just hope this thing clears up quickly." |
| L14. States, "The burning is the same but the pains are not as sharp. The abdominal cramps are not as severe either." | M4. Equal. |
| L15. States, "Yes, thinking about my work increases the pain. I knew this would happen if I didn't get away for a while, but I just couldn't find the time. I cannot afford to be sick now. There is too much happening at work. I just hope this thing clears up quickly." | M5. Coughed once. |
| | M6. 37.8. |
| | M7. Warm. |
| | M8. Flushed. |
M11. Pink.
M13. 92, regular, strong.
M15. 93, regular, strong.
M16. 110/66.
M17. Moist, pink.
M18. Milk 4 oz., apple juice, 4 oz., jello.
M19. Transfusing at 40 gtt per minute.
M20. No redness or swelling noted.
M21. Resilient, smooth, flushed and dry.
M22. Appears tense and apprehensive.
M23. In semi-Fowler's position.
N1. Proceed to Section B. When you have finished reading the Kardex RETURN to Section N and make another selection.
N2. Proceed to Section F. When you have finished reading the chart RETURN to Section N and make another selection.
N3. Proceed to Section L.
N4. Proceed to Section J.
N5. The team leader is not available. Make another selection in Section N.
O1. I.V. infusing at 100 ml per hour (20 ml gtt factor).
O2. I.V. infusing at 125 ml per hour (20 ml gtt factor).
O3. I.V. infusing at 75 ml per hour (20 ml gtt factor).
O4. The patient states, "I can wash myself."
O5. The patient completes most of his bath except for his back and legs.
O6. The patient thanks you.
O7. The patient thanks you.
O8. The patient faints when in the shower. Luckily, he sustained no injury. With help, you assisted him back to bed.
O9. The patient states, "I have already been to the B.R."
O10. Taken and tolerated.
O11. Taken. The patient tells you that some milk and Maalox are usually left at his bedside.
O12. Done.
O13. The patient redemonstrates the procedure.
O14. The patient redemonstrates the exercises.

Q7. Oral hygiene completed.

Q8. The patient faints when in the shower. Luckily, he sustained no injury. With help you assisted him back to bed.

Q9. The patient states that he has no need to go to the B.R.

Q10. Taken and tolerated.

Q11. Taken and tolerated.

Q12. Done.

P1. Proceed to Section G.

P2. Proceed to Section B. When you have finished reading the Kardex, RETURN to Section P and make another selection.

P3. Proceed to Section F. When you have finished reading the chart RETURN to Section P and make another selection.

P4. Proceed to Section L.

P5. Proceed to Section Q.

P6. Proceed to Section K. When you have finished consulting the team leader RETURN to Section P and make another selection.

Q1. I.V. infusing at 100 ml per hour (20 ml gtt factor).

Q3. I.V. infusing at 75 ml per hour (20 ml gtt factor).

Q4. The patient states, "I can wash myself."

Q5. The patient completes most of his bath except for his back and legs.

Q6. Bath completed.

Q13. One unit of blood now infusing into Rt. forearm.


Q15. Within five minutes the patient appears flushed and tells you he feels cold. Proceed to Section S.

Q16. The patient states, "I didn't realize that. I have been using quite a bit of Aspirin lately for my headaches."

Q17. The patient states, "I'll try that."

Q18. The patient redemonstrates the procedure.

Q19. The patient redemonstrates the exercises.

Q20. The patient states that he will cooperate.

Q21. The patient becomes somewhat defensive, stating, "Maybe later but I could not cope if I tried quitting now."
Q22. The patient states, "I'd rather not talk about it now. I'm feeling tired. Maybe I'll rest."


R22. Moist, pale pink.

R23. Present, clean.

R24. Fresh.

R25. Pale.


R27. Moist, pale pink.


R29. 125 ml N.S. remaining.

R30. I.V. infusing at 42 gtt per minute (20 ml gtt factor).

R31. I.V. taped securely to Lt. forearm. No redness or swelling noted.

R32. Frequent, moderately strong.

R33. Abdomen soft.

R34. No B.M. as yet.

R35. Voided clear amber urine.

R36. Alert.

R37. Responds appropriately.

R38. Equal and reacting.


R40. No restrictions.

R41. No tremors or shaking.

R42. Lying in semi-Fowler's position.
R43. Sclera clear, eyes equal, no discharge.
R44. Patent, no discharge.
R45. Patent, no discharge.
R46. Resilient, smooth, pale, dry, no lesions.
R47. Coarse and clean.
R48. Worried.
R49. Low pitched, slow.
R50. Resigned.
S1. Proceed to Section M.
S2. Proceed to Section B. When you have finished reading the Kardex RETURN to Section T and make another selection.
S3. Proceed to Section F. When you have finished reading the chart RETURN to Section T and make another selection.
S4. Upon questioning you find the patient is becoming more apprehensive. He states the chills are worse and he feels some pain in his back. Make another selection in Section S.
S5. Proceed to Section C.
S6. Proceed to Section D. When you have finished consulting the team leader RETURN to Section S and make another selection.
T2. Proceed to Section B. When you have finished reading the Kardex RETURN to Section T and make another selection.
T3. Proceed to Section F. When you have finished reading the chart RETURN to Section T and make another selection.
T4. Proceed to Section Q.
T5. Proceed to Section K. When you have finished consulting the team leader RETURN to Section T and make another selection.
U1. States, "I sure would like something for this headache. I usually take Aspirin at home."
U2. States, "Fine."
U3. States, "Fine."
U4. States, "No."
U5. States, "No."
U6. States, "No."
U7. States, "Not as much as before."
U8. States, "Not really. I'm being cared for very well."
U9. States, "I just hope this ulcer clears."
U10. States, "No, but thank you for asking."
V1. Proceed to Section B. When you have finished reading the Kardex RETURN to Section V and make another selection.

V2. Proceed to Section F. When you have finished reading the chart RETURN to Section V and make another selection.

V3. Proceed to Section U.

V4. Proceed to Section Q.

V5. Proceed to Section K. When you have finished consulting the team leader RETURN to Section V and make another selection.
SIMULATION #8

EXERCISE BOOKLET
INTRODUCTORY INFORMATION

You are working the day shift and are assigned to care for Mrs. Allan, a 57 year old woman who was admitted for investigation of an abdominal mass, abdominal pain, nausea, fever and tiredness. Yesterday she went to the O.R. for a laparotomy and biopsy of nodules in her liver. The night nurse reports that Mrs. Allan spent a restless night. Valium 10 mgm I.M. given at 0300 had little effect. At 0300 and 0700 she received Demerol 100 mg I.M. for postoperative abdominal pain. At 0500 she voided 50 ml. Her I.V. has been infusing well; at 0700 1000 ml Ringer's Lactate was added to run over eight hours. Her abdominal dressing was dry and intact, and her vital signs have been stable.

Record any cues into the "Cue" column of the ANSWER RECORD. Proceed to Section A.

Section A.

Choose ONLY ONE initial approach.

A2. Read the Kardex.
A3. Read the chart.
A4. Interview the patient.
A5. Initiate morning care.
A6. Consult the team leader.

Then proceed as directed in the FACT BOOKLET.
Section B.

At this time select AS MANY items as needed in the order in which you would observe the patient.

B12. Legs and feet.
B13. Bowel sounds.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section I.

B1. Abdominal dressing.
B3. Abdomen for distention.
B4. B.P., pulse and respiration.
B5. Character of respirations and ventilation.
B6. Color of skin.
B7. Eyes.
B8. Ears.
B9. Mouth.
B10. I.V. rate and flow.
B11. I.V. site.
Section C.

At this time select AS MANY items as needed in the order in which you would observe the patient.

As you select each item, record it into the "item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section 3.

C1. Rate, rhythm and depth of respiration.

C2. Pattern and character of respirations.

C3. Chest symmetry and general chest expansion.

C4. Duration of inspiration versus expiration.

C5. Presence and character of cough.


C7. Temperature of extremities.

C8. Color of skin.


C13. Rate, rhythm and quality of radial pulse.

C14. Quality of pedal pulses.

C15. Rate, rhythm and quality of apical beat.


C17. Height.

C18. Weight.


C20. Lips.

C21. Tongue.

C22. Gums.

C23. Teeth.


C25. Mucous membranes.


C27. Pharynx.


C29. Intravenous fluid intake.

C30. Intravenous rate and flow.

C31. Intravenous site.
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<tr>
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<tbody>
<tr>
<td>C35.</td>
<td>Stool color, odor, consistency, frequency and control.</td>
<td>C52.</td>
<td>Nipple size and shape, and presence of discharge.</td>
</tr>
<tr>
<td>C36.</td>
<td>Urine color, odor, amount, clarity and continency.</td>
<td></td>
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<tr>
<td>C37.</td>
<td>Level of consciousness.</td>
<td></td>
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<tr>
<td>C38.</td>
<td>Level of responsiveness.</td>
<td></td>
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<tr>
<td>C39.</td>
<td>Pupillary reaction.</td>
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<tr>
<td>C40.</td>
<td>Strength and equality of movement in upper and lower extremities.</td>
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<tr>
<td>C41.</td>
<td>Range of motion.</td>
<td></td>
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<tr>
<td>C42.</td>
<td>Coordination.</td>
<td></td>
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<tr>
<td>C43.</td>
<td>Posture and position.</td>
<td></td>
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<tr>
<td>C44.</td>
<td>Condition and symmetry of eyes, and presence of discharge.</td>
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<tr>
<td>C45.</td>
<td>Patency of external ear, and presence of discharge.</td>
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<tr>
<td>C46.</td>
<td>Patency of nostrils, and presence of discharge.</td>
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<tr>
<td>C47.</td>
<td>Skin turgor, vascularity, texture, cleanliness, lesions and discharges.</td>
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<tr>
<td>C48.</td>
<td>Hair texture and cleanliness.</td>
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</tbody>
</table>
At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

D1. Intake since surgery.
D2. Voiding pattern since surgery.
D4. Order for oral fluids.
D5. Order for I.V. fluids.
D7. Pain pattern since surgery.
D8. Time of last analgesic.
D10. Ability to rest.
D11. Emotional status prior to surgery.
D12. Has the patient had any difficulty deep breathing and coughing?
D13. Ambulation order.
D14. Has the patient had any difficulty moving?
D15. Results of surgery.
D16. Has the patient been told the results of surgery?
D17. Post-operative blood electrolytes.
D18. Pre-operative urinalysis.
D19. Pre-operative Hemoglobin and Hematocrit.
D20. Medical diagnosis.
D22. History of dyspnea.
D23. Smoking habit.
D24. History of dizziness and weakness.
D25. History of cough.
D27. History of problems related to eating or drinking.
D29. Amount of usual fluid intake per day.
<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
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<tbody>
<tr>
<td>D30.</td>
<td>Routines before and after meals.</td>
</tr>
<tr>
<td>D31.</td>
<td>Food and fluid likes.</td>
</tr>
<tr>
<td>D32.</td>
<td>Food and fluid dislikes.</td>
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<tr>
<td>D33.</td>
<td>Weight and Height.</td>
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<tr>
<td>D34.</td>
<td>Change in weight within the last three months.</td>
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<tr>
<td>D35.</td>
<td>Usual alcohol intake.</td>
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<tr>
<td>D36.</td>
<td>Medication taken at home.</td>
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<tr>
<td>D37.</td>
<td>Usual bowel habits.</td>
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<tr>
<td>D38.</td>
<td>Bowel elimination aids.</td>
</tr>
<tr>
<td>D40.</td>
<td>Urinary discomforts.</td>
</tr>
<tr>
<td>D41.</td>
<td>Interests and hobbies.</td>
</tr>
<tr>
<td>D42.</td>
<td>Specific exercise program.</td>
</tr>
<tr>
<td>D43.</td>
<td>Adequate energy to accomplish daily activities.</td>
</tr>
<tr>
<td>D44.</td>
<td>Activity restrictions.</td>
</tr>
<tr>
<td>D45.</td>
<td>Hours of sleep.</td>
</tr>
<tr>
<td>D46.</td>
<td>Quality of sleep.</td>
</tr>
<tr>
<td>D47.</td>
<td>Requirements for sleep.</td>
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<tr>
<td>D49.</td>
<td>Hearing ability.</td>
</tr>
<tr>
<td>D50.</td>
<td>Hand dominance.</td>
</tr>
<tr>
<td>D51.</td>
<td>Usual bathing habits.</td>
</tr>
<tr>
<td>D52.</td>
<td>Assistance bathing.</td>
</tr>
<tr>
<td>D53.</td>
<td>Oral hygienic needs.</td>
</tr>
<tr>
<td>D54.</td>
<td>Special makeup, lotions.</td>
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<tr>
<td>D55.</td>
<td>Allergies.</td>
</tr>
<tr>
<td>D56.</td>
<td>Reason for hospitalization.</td>
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<tr>
<td>D57.</td>
<td>History of present illness.</td>
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<tr>
<td>D58.</td>
<td>Family history.</td>
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<td>D59.</td>
<td>Expected length of hospitalization.</td>
</tr>
<tr>
<td>D60.</td>
<td>Previous surgeries or hospitalization.</td>
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<tr>
<td>D61.</td>
<td>What could be done to improve hospital stay?</td>
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<tr>
<td>D62.</td>
<td>Occupation.</td>
</tr>
<tr>
<td>D63.</td>
<td>Effect of health/illness problem on way of life.</td>
</tr>
<tr>
<td>D64.</td>
<td>Effect of health/illness problem on future.</td>
</tr>
<tr>
<td>D65.</td>
<td>Home responsibilities for which assistance is needed.</td>
</tr>
<tr>
<td>D66.</td>
<td>Most significant person(s).</td>
</tr>
<tr>
<td>D67.</td>
<td>Visitors expected in hospital.</td>
</tr>
<tr>
<td>D68.</td>
<td>Religious beliefs and practices which influence care.</td>
</tr>
<tr>
<td>D69.</td>
<td>Feelings about strange environments.</td>
</tr>
</tbody>
</table>
D70. Feelings about accepting help from others.

D71. How does the patient cope with stressful events in her life?

D72. Has there been a recent stressful event that may affect this hospitalization?

D73. Ability to communicate.

D74. Language of choice.

D75. Date of last Pap test.

D76. Abnormal Pap test.

D77. Vaginal discharge.

D78. Frequency of self breast check.

D79. Number of pregnancies.
The time is now 0750.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section O.

E1. Adjust the I.V. rate and flow to 42 gtts per minute.
E2. Adjust the I.V. rate and flow to 25 gtts per minute.
E3. Position the patient in semi-Fowler's position.
E4. Position the patient in a lateral position.
E5. Position the patient in a high Fowler's position.
E6. Administer a complete bed bath.
E7. Assist the patient with a partial bath.
E8. Set the patient up for a self bath.
E9. With a sponge swab clean the patient's mouth with mouth wash.
<table>
<thead>
<tr>
<th>E10.</th>
<th>With a sponge clean the patient's tongue with Hydrogen Peroxide. Then ask her to rinse with mouth wash.</th>
</tr>
</thead>
<tbody>
<tr>
<td>E11.</td>
<td>Assist the patient to brush her teeth and rinse her mouth with mouth wash.</td>
</tr>
<tr>
<td>E12.</td>
<td>Apply glycerine to the patient's lips.</td>
</tr>
<tr>
<td>E13.</td>
<td>Apply a scultitus binder.</td>
</tr>
<tr>
<td>E14.</td>
<td>Encourage the patient to deep breathe and cough as instructed yesterday.</td>
</tr>
<tr>
<td>E15.</td>
<td>Assist the patient to deep breathe and cough by explaining the procedure first.</td>
</tr>
<tr>
<td>E16.</td>
<td>Assist the patient with deep breathing and coughing by supporting her incision with a pillow.</td>
</tr>
<tr>
<td>E17.</td>
<td>Assist the patient with deep breathing and coughing by supporting her incision with your hands.</td>
</tr>
<tr>
<td>E18.</td>
<td>Put the patient's limbs through passive range of motion.</td>
</tr>
<tr>
<td>E19.</td>
<td>Encourage the patient to exercise her limbs.</td>
</tr>
<tr>
<td>E20.</td>
<td>Assist the patient to dangle at the edge of the bed.</td>
</tr>
<tr>
<td>E21.</td>
<td>Assist the patient to walk in the hall.</td>
</tr>
<tr>
<td>E22.</td>
<td>Assist the patient to sit in a chair.</td>
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<tr>
<td>E23.</td>
<td>Offer the patient ice chips.</td>
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<tr>
<td>E24.</td>
<td>Offer the patient sips of water.</td>
</tr>
<tr>
<td>E25.</td>
<td>Encourage the patient to drink the juice and tea provided on her tray for breakfast.</td>
</tr>
<tr>
<td>E26.</td>
<td>Offer the patient sips of ginger ale.</td>
</tr>
<tr>
<td>E27.</td>
<td>Administer peri care.</td>
</tr>
<tr>
<td>E28.</td>
<td>Encourage the patient to do her own peri care.</td>
</tr>
<tr>
<td>E29.</td>
<td>Take the patient to the B.R. on the commode.</td>
</tr>
<tr>
<td>E30.</td>
<td>Position the patient onto a bed pan and turn on a tap.</td>
</tr>
<tr>
<td>E31.</td>
<td>Position the patient onto a bed pan, turn on a tap and place her hands in a basin of warm water.</td>
</tr>
<tr>
<td>E32.</td>
<td>Give the patient a lozenge.</td>
</tr>
<tr>
<td>E33.</td>
<td>Administer an antiemetic.</td>
</tr>
<tr>
<td>E34.</td>
<td>Administer an analgesic.</td>
</tr>
<tr>
<td>E35.</td>
<td>Change abdominal dressing.</td>
</tr>
</tbody>
</table>
Section F.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

F1. Report the patient's progress.

F2. Recommend an order for Urecholine.

F3. Recommend an order for catheterization.

F4. Ask the team leader if the patient is aware of the biopsy results.
Section G.

It is now 0815.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

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When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed proceed to Section M.

G1. Adjust the I.V. rate and flow to 42 gtts per minute.

G2. Adjust the I.V. rate and flow to 25 gtts per minute.

G3. Position the patient for catheterization.

G4. Position the patient in semi-Fowler's position.

G5. Position the patient in a lateral position with the head of the bed slightly raised.

G6. Position the patient in a high Fowler's position.

G7. Administer a complete bed bath.

G8. Assist the patient with a partial bath.

G9. Set the patient up for a self bath.

G10. With a sponge swab clean the patient's mouth with mouth wash.

G11. With a sponge swab clean the patient's tongue with Hydrogen Peroxide. Then ask her to rinse with mouth wash.

G12. Assist the patient to brush her teeth and rinse her mouth with mouth wash.

G13. Apply glycerine to the patient's lips.

G15. Encourage the patient to deep breathe and cough as instructed yesterday.

G16. Assist the patient to deep breathe and cough by explaining the procedure first.

G17. Assist the patient to deep breathe and cough by supporting her incision with a pillow.

G18. Assist the patient to deep breathe and cough by supporting her incision with your hands.

G19. Put the patient's limbs through passive range of motion.

G20. Encourage the patient to exercise her limbs.

G21. Assist the patient to dangle at the edge of the bed.

G22. Assist the patient to walk in the hall.

G23. Assist the patient to sit in a chair.

G24. Offer the patient ice chips.

G25. Offer the patient sips of water.

G26. Encourage the patient to drink the juice and tea provided on her tray.

G27. Offer the patient some ginger ale.


G29. Encourage the patient to do her own peri care.

G30. Offer the patient a lozenge.

G31. Change the abdominal dressing.

G32. Catheterize the patient using a #14 straight catheter.
Section H.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section. If another appropriate item is NOT AVAILABLE proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed, proceed to Section P.

H1. Position the patient in semi-Fowler's position.

H2. Position the patient on her side with a pillow at her back.

H3. Regulate her I.V. rate at 42 gfts per minute.

H4. Regulate her I.V. rate at 25 gfts per minute.

H5. Allow patient to rest.

H6. Administer an antiemetic.

H7. Administer an analgesic.
At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given the patient problems you have identified, select AS MANY items as necessary in the order that you would provide care for the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD, and enter the nursing action into the space corresponding to the "Item" line and the "Patient Problem" column of the ANSWER RECORD. Then, with your special marker gently rub the corresponding box in the FACT BOOKLET and enter the result of your nursing action into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When the result of your nursing action indicates that a patient problem has been resolved, draw a bold line in the space in the appropriate "Patient Problem" column.

When the result of your nursing action indicates that a patient problem has NOT been resolved, make another appropriate selection in this section.

If another appropriate item is NOT AVAILABLE, proceed as directed below, unless otherwise stated in the FACT BOOKLET.

When you have finished selecting AS MANY items as needed you will have reached the END OF THE EXERCISE.

11. Administer Demerol 100 mg.
12. Position the patient in supine position with extremities elevated 45° and head slightly higher than chest.
13. Administer O₂ by mask at 6 L per minute.
14. Administer O₂ by mask at 2 L per minute.
15. Administer O₂ by nasal cannula at 2 L per minute.
16. Report to team leader and recommend that the doctor be consulted.
17. Keep patient covered with a blanket.
18. Stay with the patient and provide reassurance.
19. Reinforce abdominal dressing.
20. Change abdominal dressing.
21. Monitor B.P., pulse and respirations q5 minutes.
Section J.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

J2. Read the Kardex.
J3. Read the chart.
J4. Interview the patient.
J5. Initiate care.
J6. Consult the team leader.
Section K.

At this point select AS MANY items as needed in your interview with the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed to Section L.

K1. How is she generally feeling?
K2. How frequently has she been deep breathing and coughing?
K3. Does she have any discomfort when deep breathing and coughing?
K4. Has she brought up any sputum?
K5. Has she had any shortness of breath?
K6. Does she have an appetite?
K7. Would she like to drink some fluid?
K8. What would she like to drink?
K9. Does she have a sore throat?
K10. Does she have any difficulty swallowing?
K11. Does she have any abdominal pain?
K12. Does she have any other discomforts?
K13. Is there anything that aggravates her pain and discomforts?
K14. How well did she sleep?
K15. Does she have a special soap or lotion she would like used during her bath?
K16. What are her major concerns at present?
Section L.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

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Then proceed as directed in the FACT BOOKLET.

L2. Read the Kardex.
L3. Read the chart.
L4. Continue with morning care.
L5. Consult the team leader.
Section M.

It is now 0850.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

M1. Complete a physical assessment.
M2. Read the Kardex.
M3. Read the chart.
M4. Interview the patient.
M5. Continue with care.
M6. Consult the team leader.
Section N.

At this time select AS MANY items as needed to provide necessary information about the patient.

As you select each item, record it into the "Item" column of the ANSWER RECORD and, using your special marker, gently rub the corresponding box in the FACT BOOKLET. Then, enter the cue(s) into the "Cue" column adjacent to the item number in the ANSWER RECORD.

When you have finished selecting AS MANY items as needed proceed as directed in the FACT BOOKLET.

N1. Medications and times of administration.

N2. Treatments and times.

N3. Identified patient problems and nursing approaches.

N4. Activity level.

N5. Side Rails.

N6. Hygienic needs.

N7. Diet and Fluids.


N9. Intake and Output.

N10. Mental Status.


N12. Frequency of vital signs.

N13. Physical traits.


N15. Prosthesis.


N17. Allergies.
Section O.

At this time indicate any actual or potential patient problems and record them, in the order of priority, into the spaces at the top of the "Patient Problem" columns of the ANSWER RECORD. (Problems that you have identified in another section and still exist do NOT have to be recorded again.)

Then, in the spaces corresponding to the "Cue" lines and the "Patient Problem" columns, indicate your cue interpretation weightings.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

O1. Complete a physical assessment.

O2. Read the Kardex.

O3. Read the chart.

O4. Interview the patient.

O5. Consult the team leader.
Section P.

Given what you now know, select ONLY ONE approach.

Record the item selected into the "Item" column of the ANSWER RECORD. Using your special marker, gently rub the corresponding box in the FACT BOOKLET. Enter the result of your approach and/or directive given into the "Cue" column adjacent to the item in the ANSWER RECORD.

Then proceed as directed in the FACT BOOKLET.

P1. Complete a physical assessment.

P2. Read the Kardex.

P3. Read the chart.

P4. Interview the patient.

P5. Consult the team leader.
SIMULATION #8
FACT BOOKLET
A1. Proceed to Section C.
A2. Proceed to Section N. When you have finished reading the Kardex RETURN to Section A and make another selection.
A3. Proceed to Section D. When you have finished reading the chart RETURN to Section A and make another selection.
A4. Proceed to Section K.
A5. Proceed to Section E.
A6. The team leader is not available. Make another selection in Section A.

B1. Dressing and draw sheet soaked with sanguineous drainage.
B2. Incision closed but oozing.
B3. Abdomen rigid over right upper quadrant.
B4. B.P. 70/50
   P - 116
   R - 32
   Pulse faint.
B5. Respiration rapid and shallow. No respiratory obstruction.
B6. Pale.
B7. Fixed and pupils dilated.

C1. 24, regular, moderately deep.
C2. Costal, equal.
C3. Equal.
C4. Equal.
C5. Coughing up small amounts of phlegm.
C6. 37.
C7. Cool.
C8. Pink.
C13. 88, regular and moderate.
C14. Moderate.
C15. 86, regular and moderate.
C16. 106/74.
C17. 162 cm.
C18. 52 kg.
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<table>
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<tbody>
<tr>
<td>C22.</td>
<td>Pink.</td>
<td>C42.</td>
</tr>
<tr>
<td>C23.</td>
<td>All present.</td>
<td>C43.</td>
</tr>
<tr>
<td>C27.</td>
<td>Reddened.</td>
<td>C47.</td>
</tr>
<tr>
<td>C29.</td>
<td>925 ml Ringer's Lactate remaining at 0800.</td>
<td>C49.</td>
</tr>
<tr>
<td>C30.</td>
<td>Infusing at 30 gtt's per minute (20 ml drop factor).</td>
<td>C50.</td>
</tr>
<tr>
<td>C34.</td>
<td>Area above symphysis pubis bulging.</td>
<td>D1.</td>
</tr>
<tr>
<td>C38.</td>
<td>Normal.</td>
<td></td>
</tr>
</tbody>
</table>
D5. Ringer's Lactate 3000 ml in 24 hrs.

D6. Demerol 50-100 mg i.m. q4h p.r.n. for pain.
Valium 10 mg i.m. at h.s.
Dimenhydrinate 50 mg i.m. q4h p.r.n. for nausea.
Bradasol lozenge p.r.n. for sore throat.

D7. Required analgesic q4h.

D8. 0700.

D9. Has not required antiemetic.

D10. Not able to sleep well. Slept only short periods during the night.

D11. Quiet, cooperative lady. Anxious about the results of the biopsy.

D12. Deep breathing and coughing well.

D13. May be up in chair first post-operative day.


D16. No record that patient was informed.

D17. Taken at 1430 yesterday:
$\text{Na}^+ - 138$, $\text{K}^+ - 3.4$, $\text{Cl}^- - 96$, $\text{HCO}_3^- - 31$.

D18. SP. GR. - 1.011, color - golden amber, sugar - negative, acetone - negative.

D19. Hemoglobin - 10,
Hematocrit - 30.1 mm.

D20. Carcinoma of the liver.


D22. None.

D23. Has never smoked.

D24. None.

D25. None.

D26. Likes small amounts. Eats three regular meals a day - breakfast, lunch, dinner.

D27. None really.

D28. None.

D29. Eight cups.

D30. Likes to lie down following lunch. Likes a sherry before dinner.

D31. Likes green vegetables, chicken and veal.

D32. Does not like meats like steak.

D33. Ht. - 162 cm; Wt. - 52 kg.

D34. Has lost 7 kg.

D35. Likes a sherry before dinner.

D36. None.
D37. B.M. every one - two days.
D38. Takes Magnolax occasionally.
D39. Voids about every 2-3 hours.
D40. None.
D41. Likes reading.
D42. Walks daily.
D43. Yes, till about two months ago.
D44. None, except for fatigue of late.
D45. 1130 - 0800.
D46. Wakes up at least once.
D47. Usually drinks a cup of hot milk before going to bed.
D48. Good.
D49. Good.
D50. Right handed.
D51. Tub every two days.
D52. None.
D53. Brushes teeth twice daily.
D54. Uses a special moisturizing lotion which she brought with her.
D55. Allergic to Penicillin.
D56. To investigate nodes in her liver.

D57. Has been progressively more tired for the last three months. She has had nausea, abdominal pain and a fever. The doctor told her she has a mass in her liver.
D58. Has one sister who died of cancer of the colon. Parents both died of old age. Husband dead. Two daughters alive and well.
D59. She doesn't know.
D60. None. States that she has been very healthy till now.
D61. Nothing really.
D62. Retired housewife.
D63. The fatigue and pain limit what she can do.
D64. States, "I don't know, but I am afraid that the nodes in my liver are cancerous."
D65. None.
D66. Two daughters.
D67. Daughters and friends.
D68. States she does pray when in stressful circumstances.
D69. States that she feels lonely.
D70. States, "Okay."
D71. Turns to prayer.
D72. None.
D73. Very bright and articulate lady.  
D74. English.  
D75. Last July.  
D76. No.  
D77. Only normal discharge.  
D78. 2 months approximately.  
D79. Two.  

E1. I.V. infusing at 125 ml per hr.  
E2. I.V. infusing at 75 ml per hr.  
E3. The patient thanks you.  
E4. The patient states; "I have been on my side. Could you please raise the head of my bed."  
E5. The patient states that this position makes her pain worse.  
E6. The patient is reluctant to have her bath. She states that she must try to pass her water.  
E7. The patient is reluctant to cooperate. She states that she must try to pass her water.  
E8. The patient is reluctant to cooperate. She states that she must try to pass her water.  
E9. The patient refuses this procedure. She states that she would like to brush her teeth, but first she must try to pass her water.  

E10. The patient refuses this procedure. She states that she would like to brush her teeth, but first she must try to pass her water.  
E11. The patient states, "First could I try to pass my water?"  
E12. The patient refuses this procedure, stating, "First could I please try to pass my water?"  
E13. Done.  
E14. The patient states, "Could I please try to pass my water first?"  
E15. The patient states, "Could I please try to pass my water first?"  
E16. The patient states, "Could I please try to pass my water first?"  
E17. The patient states, "Could I please try to pass my water first?"  
E18. The patient states, "Can't I do that myself?"  
E19. The patient states, "I can do that. I would like to try to pass my water."  
E20. The patient moves very slowly. She states the pain in her abdomen increases when she moves.  
E21. The patient refuses and states, "I must try to pass my water first."  
E22. The patient states, "Can you take me to the bathroom please?"
| E23. | The patient sucks the ice chips and states, "I feel very nauseated and I must try to pass my water." |
| E24. | The patient refuses due to nausea. |
| E25. | The patient refuses due to nausea. |
| E26. | The patient's nausea continues. |
| E27. | The patient is reluctant to cooperate and asks you to take her to the bathroom first. |
| E28. | The patient states, "I must try to pass my water first." |
| E29. | The patient states, "The pain and nausea are so bad. Could I try the bedpan instead." |
| E30. | After five minutes on the bedpan the patient is unable to void. Her abdominal pain and nausea persist. She is becoming restless and agitated. |
| E31. | After five minutes on the bedpan the patient is unable to void. Her abdominal pain and nausea persist. She is becoming restless and agitated. |
| E32. | The patient refuses a lozenge. |
| E33. | During the procedure the patient weeps and begs that you help her to pass her water. |
| E34. | One hour later your patient suffers a cardiac arrest and dies. END OF EXERCISE. |
| E35. | Moderate amount of sanguineous drainage on dressing. |
| F1. | Reported. Make another selection in Section F. |
| F2. | The team leader states that the patient's need is too urgent for this. Make another selection in Section F. |
| F3. | Order obtained for straight catheterization using a #14 catheter. Proceed to Section G. |
| F4. | The team leader states she does not know. Make another selection in Section F. |
| G1. | The I.V. is infusing at 125 ml per hour. |
| G2. | The I.V. is infusing at 75 ml per hour. |
| G3. | The patient tolerates this condition. |
| G4. | The patient tolerates this condition. |
| G5. | The patient appears comfortable. |
| G6. | The patient states her pain is worse in this position. |
| G7. | Throughout the bath the patient complains of worsening abdominal pain. You notice her shivering and her skin cool and moist to touch. |
| G8. | Ten minutes later you find your patient has not bathed. |
G9. Ten minutes later you find the patient has not bathed.

G10. The patient reluctantly cooperates.

G11. The patient refuses this procedure.

G12. The patient reluctantly cooperates but states that it feels better to have her teeth brushed.

G13. The patient states that her lips feel better.

G14. There is a moderate amount of sanguineous drainage on the dressing.

G15. The patient is reluctant to deep breathe and cough due to abdominal pain and nausea. Respirations appear shallow.

G16. The patient appears not to listen; she has a grimaced expression.

G17. The patient is reluctant to cooperate. She has a grimaced expression.

G18. The patient is reluctant to cooperate. She has a grimaced expression.

G19. The patient states, "I've been doing that myself."

G20. The patient states, "I have been moving around as much as possible."

G21. The patient is reluctant to move due to worsening pain and nausea.

G22. The patient weeps when you suggest this. She states, "Can't you do something for this severe pain."

G23. The patient is weepy and agitated. She is shivering, and her skin feels cool and moist.

G24. The patient states, "I feel so thirsty."

G25. The patient refuses due to nausea, but states, "I wish I could drink, I'm so thirsty."

G26. The patient refuses due to nausea, but states, "I wish I could drink, I'm so thirsty."

G27. The patient vomited following ingestion of ginger ale.

G28. Done.

G29. The patient refuses due to worsening abdominal pain and nausea.

G30. The patient refuses.

G31. Bright red oozing is seeping out of the incision.

G32. The patient had an output of 975 ml.

H1. The patient states she is feeling very tired and would like to try to sleep.
H2. The patient appears well positioned. She appears to be sighing; her respirations are rapid and shallow.

H3. I.V. is infusing at 125 ml per hour.

H4. At 0855 150 ml have been absorbed.

H5. Half an hour later the team leader tells you the doctor is transferring your patient to I.C.U. She is bleeding internally and is in severe shock.
END OF EXERCISE.

H6. During the procedure the patient is weepy and agitated. She is shivering and her skin feels moist to touch.

H7. Half an hour later the patient suffers a cardiac arrest and dies.
END OF EXERCISE.

11. Fifteen minutes later the patient dies of severe shock.
END OF EXERCISE.

12. Patient has difficulty tolerating position due to severe pain.


15. Patient refuses nasal cannula.

16. Doctor contacted immediately.

17. Patient continues to shiver and states she is cold.

18. Patient confused and drowsy.

19. Bright red bleeding continues to seep out of incision.

10. Bright red blood continues to seep out of incision.

11. As you are taking the B.P. the doctor arrives and begins medical treatment.

J1. As you continue to assess the problem, the patient tells you she must try to pass her water. Make another selection in Section J.

J2. Proceed to Section N. When you have finished reading the Kardex RETURN to Section J and make another selection.

J3. Proceed to Section D. When you have finished reading the chart RETURN to Section J and make another selection.

J4. Proceed to Section K.

J5. Proceed to Section E.

J6. The team leader is not available. Make another selection in Section J.

K1. States that she feels tired and nauseated, and the pain in her abdomen is increasing.

K2. States, "Every hour or so."
K3. States, "No."

K4. States, "A little bit."

K5. States, "No."

K6. States, "No, I'm so nauseated."

K7. States, "No, I'm so nauseated."

K8. States, "Nothing now, I'm so nauseated."

K9. States, "No."

K10. States, "No."

K11. States, "The pain in my stomach is getting worse."

K12. States, "I really want to pass my water; my bladder feels so full it hurts."

K13. States, "Moving."

K14. States, "Very poorly. I was awake most of the night."

K15. States, "I don't care what you use for my bath."

K16. States, "I wish you could help me pass my water. Maybe that will help the pain in my stomach.

L1. As you continue, the patient tells you she must try to pass her water. Make another selection in Section L.

L2. Proceed to Section N. When you have finished reading the Kardex RETURN to Section L and make another selection.

L3. Proceed to Section D. When you have finished reading the chart RETURN to Section L and make another selection.

L4. The team leader finds you in the hall and tells you that the doctor has ordered a straight catheterization for your patient. You are to use a #14 catheter. Proceed to Section G.

L5. Proceed to Section F.

M1. Proceed to Section B.

M2. Proceed to Section N. When you have finished reading the Kardex RETURN to Section M and make another selection.

M3. Proceed to Section N. When you have finished reading the chart RETURN to Section M and make another selection.

M4. You find the patient weepy and agitated. She is shivering and complaining of thirst. Her skin feels cool and moist. Make another selection in Section M.

M5. Proceed to Section H.

M6. The team leader is not available. Make another selection in Section M.
N1. Demerol 50-100 mg I.M. q4h p.r.n. for pain. Valium 10 mg I.M. at h.s. Dimenhydrinate 50 mg I.M. q4h p.r.n. for nausea. Bradosol lozenge p.r.n. for sore throat.

N2. Change dressing only if soiled. Sculptitus binder.

N3. None on Kardex.

N4. May be up in chair first post-operative day.

N5. Constant.


N7. Begin oral fluids first post-operative day. Ringer's Lactate 3000 ml in 24 hours.

N8. Self.

N9. Record.

N10. Alert.


N12. Q4h.

N13. Right handed.

N14. None.

N15. None.


N17. Allergic to Penicillin.

O1. As you begin your assessment the patient begins crying and begs you to help her void. Make another selection in Section O.

O2. Proceed to Section N. When you have finished reading the Kardex RETURN to Section O and make another selection.

O3. Proceed to Section D. When you have finished reading the chart RETURN to Section O and make another selection.

O4. As you begin, the patient begs you to help her void. Make another selection in Section O.

O5. Proceed to Section F.

P1. Proceed to Section B.

P2. Proceed to Section N. When you have finished reading the Kardex RETURN to Section P and make another selection.

P3. Proceed to Section D. When you have finished reading the chart RETURN to Section P and make another selection.

P4. You find your patient weepy and agitated. She is shivering and her skin feels cool and moist. She is complaining of thirst. Make another selection in Section P.

P5. When you find the team leader she tells you the doctor is on his way to see the patient. She is bleeding and in shock. END OF EXERCISE.
APPENDIX IV

MODAL ANSWER RECORDS
AND
ALTERNATE ROUTES
PATIENT PROBLEMS

Anxiety due to heart attack

Coughing

Heatburn after meals

Hypertension, other meds

Heartburn, other medicall
<table>
<thead>
<tr>
<th>1.2 ECG: Normal</th>
<th>1.3 Obtain platelet</th>
<th>1.4 Informed consent to proceed</th>
<th>1.5 Consent to proceed</th>
<th>1.6 Informed consent to proceed</th>
<th>1.7 Consent to proceed</th>
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<tbody>
<tr>
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<td>2.2 Obtain platelet</td>
<td>2.3 Informed consent to proceed</td>
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<tr>
<td>3.1 ECG: Normal</td>
<td>3.2 Obtain platelet</td>
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<td>4.19 Consent to proceed</td>
</tr>
</tbody>
</table>
ALTERNATE ROUTES

SIMULATION #1

Begin with Chart (C), then:

1. Interview (H) → Care (E) → Team Leader (J) *

* = END OF EXERCISE
0.0.

ANSWER RECORD

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PATIENT PROBLEMS
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nausea


<table>
<thead>
<tr>
<th>Item</th>
<th>H1</th>
<th>H2</th>
<th>H3</th>
<th>H4</th>
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Notes:
- D2: costal
- H11: no reflexes in legs when lifting
- H10: would like to have a drink
- H9: would like to sit down
- H7: no 50G
- H5: no obvious
- H3: increased od, pain and fever
- H2: cough and DB when breathing
- H1: icd and nasogastric
- C3: no section H - interview
- D3: clear, cleft
- D2: clear, intact
- D1: clear, intact
- D0: clear, intact
- D9: clear, intact
- D8: clear, intact
- D7: clear, intact
- D6: clear, intact
- D5: clear, intact
- D4: clear, intact
- D3: clear, intact
- D2: clear, intact
- D1: clear, intact
- D0: clear, intact
- D9: clear, intact
- D8: clear, intact
- D7: clear, intact
- D6: clear, intact
- D5: clear, intact
- D4: clear, intact
- D3: clear, intact
- D2: clear, intact
- D1: clear, intact
- D0: clear, intact
- D9: clear, intact
- D8: clear, intact
- D7: clear, intact
- D6: clear, intact
- D5: clear, intact
- D4: clear, intact
- D3: clear, intact
- D2: clear, intact
- D1: clear, intact
- D0: clear, intact
- D9: clear, intact
- D8: clear, intact
- D7: clear, intact
- D6: clear, intact
- D5: clear, intact
- D4: clear, intact
- D3: clear, intact
- D2: clear, intact
- D1: clear, intact
- D0: clear, intact

Additional information:
- D9: infusion at 35 gtt/min.
ALTERNATE ROUTES

SIMULATION #2

Begin with Chart (E) and/or Kardex (B), then:

1. Physical Assessment (D) → Interview (H) → Care (J) → Care (K) → Team Leader (I) *

2. Physical Assessment (D) → Interview (H) → Care (J) → Team Leader (I) *

3. Interview (H) → Physical Assessment (D) → Care (J) → Care (K) → Team Leader (I) *

4. Interview (H) → Physical Assessment (D) → Care (J) → Team Leader (I) *
Begin with Care (O) → Chart (J), then:

1. Physical Assessment (B) → Interview (D) → Chart (J) and/or Kardex (F) and/or Team Leader (P) → Care (H) → Physical Assessment (K) → Care (T)
   → Physical Assessment (K) → Interview (S) → Care (N) *

2. Physical Assessment (B) → Chart (J) and/or Kardex (F) and/or Team Leader (P)
   → Care (H) → Physical Assessment (K) → Care (T) → Physical Assessment (K)
   → Interview (S) → Care (N) *

3. Interview (D) → Physical Assessment (B) → Chart (J) and/or Kardex (F) and/or Team Leader (P) → Care (H) → Physical Assessment (K) → Care (T)
   → Physical Assessment (K) → Interview (S) → Care (N) *
<table>
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<tr>
<th>Section</th>
<th>Interviewer's Notes</th>
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<tbody>
<tr>
<td>D</td>
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<td>E</td>
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</table>
ALTERNATE ROUTES

SIMULATION #4

Begin with Chart (G) and/or Kardex (E) and/or Team Leader (F), then:

1. Physical Assessment (C) → Interview (D) → Team Leader (F) → Care (H) *

2. Physical Assessment (C) → Interview (D) → Care (H) *

3. Interview (D) → Physical Assessment (J) → Team Leader (F) → Care (H) *

4. Interview (D) → Physical Assessment (J) → Care (H) *

5. Care (B) → Physical Assessment (C) → Interview (D) → Team Leader (F) → Care (H) *

6. Care (B) → Physical Assessment (C) → Interview (D) → Care (H) *

7. Care (B) → Interview (D) → Physical Assessment (J) → Team Leader (F) → Care (H) *

8. Care (B) → Interview (D) → Physical Assessment (J) → Care (H) *
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<tr>
<th>Item</th>
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<tr>
<td>1</td>
<td>blood pressure</td>
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<tr>
<td>2</td>
<td>pulse rate</td>
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<tr>
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<td>respiration</td>
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<td>4</td>
<td>temperature</td>
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<td>5</td>
<td>color</td>
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<tr>
<td>6</td>
<td>consciousness</td>
</tr>
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<td>7</td>
<td>pain location</td>
</tr>
<tr>
<td>8</td>
<td>pain intensity</td>
</tr>
<tr>
<td>9</td>
<td>other symptoms</td>
</tr>
</tbody>
</table>

**Patient Problems:**
- actual problems as of __________
- potential problems as of __________

**Scale:**
- __________
- __________
- __________

**Course of Treatment:**
- __________
- __________
- __________

**Simulation & Answer Record:**
- __________

**Follow-up note:**
- __________
<table>
<thead>
<tr>
<th>F3</th>
<th>F10</th>
<th>F17</th>
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*Note: The table contains medical observations and descriptions, but the specific content is not clearly legible due to the image quality.*
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<tr>
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<td>P1</td>
<td>Monitor V.5</td>
</tr>
<tr>
<td>P2</td>
<td>Remove both both</td>
</tr>
<tr>
<td>P3</td>
<td>Coordinated with bed</td>
</tr>
<tr>
<td>P4</td>
<td>Monitor V.5</td>
</tr>
<tr>
<td>P5</td>
<td>Position on side</td>
</tr>
<tr>
<td>P6</td>
<td>Allow to rest</td>
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<td>P7</td>
<td>Monitor V.5</td>
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<td>P8</td>
<td>Check diag. 1-T-100</td>
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<td>P9</td>
<td>Ensure fluid intake</td>
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<td>P10</td>
<td>Sit up to 90</td>
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<td>P11</td>
<td>Monitor V.5</td>
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<tr>
<td>P12</td>
<td>V.S. intake well</td>
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<tr>
<td>P13</td>
<td>V.S. intake well</td>
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<td>I.P.P. and chest physio Q1h</td>
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<td>Bilat. work done</td>
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<td>1 L. L. sterile, Hope not pulmonary</td>
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<td>P41</td>
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<td>P44</td>
<td>No insertion</td>
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<td>P45</td>
<td>1-100 bag and tubing clean</td>
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</table>
Begin with Chart (N) and/or Kardex (E) and/or Team Leader (B), then:

1. Physical Assessment (L) → Interview (G) → Care (K) → Team Leader (H)
   → Care (P) *

2. Interview (G) → Physical Assessment (F) → Care (K) → Team Leader (H)
   → Care (P) *

3. Care (C) → Physical Assessment (F) → Care (K) → Team Leader (H)
   → Care (P) *
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<tr>
<td>A1</td>
<td>Check done with doctor's order</td>
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<td>Forget to mix insulin</td>
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<td>Ask patient to explain</td>
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<td>Assemble equipment</td>
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<td>A6</td>
<td>to Section K - come</td>
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</tbody>
</table>
| A7   | Hi
| A8   | Sites - upper and lower arm, 1.5 |
| A9   | 31. 7 g needle |
| A10  | to Section H - 1/2 |
| A11  | HI upper thigh |
| A12  | Insertion into 1 cm - Rk arm |
| A13  | to Section B - chair |
| A14  | Section 18 X old desktop |
| A15  | Simulation 96 |

**Answer:** Record

**Pattern problems:**

Label: Actual problems as a P

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**Note:** The above table and text are incompletely transcribed and may not reflect the full context of the original document.
ALTERNATE ROUTES

SIMULATION #6

Begin with Chart (B) and/or Kardex (L), then:

1. Team Leader (H) → Care (K) → Chart (B) and/or Kardex (L) → Physical Assessment (E) → Interview (F) → Team Leader (N) → Care (G) →
   Care (D) *

2. Team Leader (H) → Care (K) → Chart (B) and/or Kardex (L) → Physical Assessment (E) → Interview (F) → Care (G) →
   Care (D) *

3. Team Leader (H) → Care (K) → Chart (B) and/or Kardex (L) → Interview (F) →
   Team Leader (N) → Care (G) →
   Care (D) *

4. Team Leader (H) → Care (K) → Chart (B) and/or Kardex (L) → Interview (F) →
   Care (G) →
   Care (D) *

5. Care (K) → Chart (B) and/or Kardex (L) → Physical Assessment (E) →
   Interview (F) → Team Leader (N) → Care (G) →
   Care (D) *

6. Care (K) → Chart (B) and/or Kardex (L) → Physical Assessment (E) →
   Interview (F) → Care (G) →
   Care (D) *

7. Care (K) → Chart (B) and/or Kardex (L) → Interview (F) → Team Leader (N) →
   Care (G) →
   Care (D) *

8. Care (K) → Chart (B) and/or Kardex (L) → Interview (F) → Care (G) →
   Care (D) *
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**Potential Problems Labels**
- Lack of knowledge
- Stress and anxiety
- Hospitalization
- Fatigue and illness
- Lack of sleep
- Difficulty in decision-making
- Dizziness
- Injury
- Allergy
- Pain

**Suggested Solutions**
- Executive page X

**Simulation 4**

**Answer Record**
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Begin with Chart (F) and/or Kardex (B), then:

1. Physical Assessment (G) → Interview (L) → Care (J) → Team Leader (K) → Care (Q) → Team Leader (D) → Physical Assessment (M) → Care (C) *

2. Physical Assessment (G) → Interview (L) → Care (J) → Team Leader (K) → Care (Q) → Physical Assessment (M) → Care (C) *

3. Physical Assessment (G) → Care (J) → Team Leader (K) → Physical Assessment (R) → Interview (U) → Care (Q) → Team Leader (D) → Physical Assessment (M) → Care (C) *

4. Physical Assessment (G) → Care (J) → Team Leader (K) → Physical Assessment (R) → Interview (U) → Care (Q) → Physical Assessment (M) → Care (C) *

5. Interview (L) → Care (J) → Team Leader (K) → Physical Assessment (R) → Interview (U) → Care (Q) → Team Leader (D) → Physical Assessment (M) → Care (C) *

6. Interview (L) → Care (J) → Team Leader (K) → Physical Assessment (R) → Interview (U) → Care (Q) → Physical Assessment (M) → Care (C) *
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Begin with Chart (D) and/or Kardex (N), then:

1. Physical Assessment (C) → Care (E) → Team Leader (F) → Care (G) → Interview (M) → Physical Assessment (B) → Care (I) *

2. Physical Assessment (C) → Care (E) → Team Leader (F) → Care (G) → Physical Assessment (B) → Care (I) *

3. Interview (K) → Team Leader (F) → Care (G) → Interview (M) → Physical Assessment (B) → Care (I) *

4. Interview (K) → Team Leader (F) → Care (G) → Physical Assessment (B) → Care (I) *

5. Care (E) → Team Leader (F) → Care (G) → Interview (M) → Physical Assessment (B) → Care (I) *

6. Care (E) → Team Leader (F) → Care (G) → Physical Assessment (B) → Care (I) *
APPENDIX V

NURSING PROCESS TEST
INSTRUCTIONS TO STUDENTS

This test is composed of 40 patient care situations. Each situation contains a number of cues pertaining to a particular patient problem. A cue is defined as any information such as a sign, symptom, medical diagnosis, medical treatment regimen, or laboratory result that the nurse uses when applying the nursing process. A patient problem is a statement which summarizes the behavioral response of an individual to a health or an illness problem including the contributing or causal factors. An example is: pain due to abdominal distention.

Please work through each situation completely before proceeding to the next.

1. Read the situation carefully.

2. In Part A state what you think the patient problem is.

3. Proceed to Part B. In the spaces on the left side of the page, list the cues that you used to identify the patient problem. Then, indicate how the cues relate to the identified patient problem. A cue that indicates the identified patient problem is marked '+1'. A cue that does not indicate the patient problem, or that is the opposite to what you know it should be for a particular patient problem, is marked '-1'. A cue that has no relationship to the patient problem is marked '0'. State your answer by circling the appropriate number in the scale placed to the right of the list of cues.

4. Then, in Part C, state the order in which you would proceed with the nursing process. Mark your answer by placing numbers in the spaces adjacent to the activities listed, beginning with the number 1 for the activity you would implement first. Mark only those activities that you think are appropriate for the particular patient problem.

5. Rate your self-confidence in applying the nursing process. Given the information in the situation indicate how certain you are about your choice of patient problem, your use of cues, and the order in which you would proceed. Using the Key below, circle the number that corresponds to your feeling of certainty about your answer.

Key to Self-confidence Rating:
1. Completely uncertain
2. Slightly uncertain
3. Moderately certain
4. Very certain
5. Completely certain.
SITUATION: You are caring for Mr. Jones who returned from the O.R. three hours ago. He had a subtotal gastrectomy. He complains of excruciating abdominal pain. You observe a moderate amount of bright sanguineous drainage from the N/G tube. His temperature is 37.8 and his B.P. is 90/70.

Part A: Patient Problem

__Pain due to hemorrhage__

Part B: Cue Use

- **Excruciating pain**: -1 0 +1
- **Elevated temperature**: -1 0 +1
- **Hypotension**: -1 0 +1
- **Subtotal gastrectomy**: -1 0 +1
- **Bright red drainage**: -1 0 +1

Part C: Order of Process

1. Complete a physical assessment
2. Read Kardex
3. Read chart
4. Obtain information by questioning the patient
5. Initiate care
6. Consult the team leader

Part D: Self-confidence Rating

- Choice of problem: 1 2 3 4 5
- Use of cues: 1 2 3 4 5
- Order of process: 1 2 3 4 5
1. SITUATION: Mr. Brown, age 62, is being investigated for epigastric pain and indigestion. He is scheduled for a gastric analysis this a.m. You notice that he has been pacing up and down the hall. When you greet him you find a tense facial expression, and upon touching him you note his hands are damp and cold.

Part A: Patient Problem

Part B: Cue Use

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Part C: Order of Process

_____ Complete a physical assessment
_____ Read Kardex
_____ Read chart
_____ Obtain information by questioning the patient
_____ Initiate care
_____ Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
2. SITUATION: This is Mr. Bird's third post-operative day following a cholecystectomy. He complains of frequent cramp-like pains in his abdomen. Upon auscultation you hear faint bowel sounds. His abdomen feels hard to touch.

Part A: Patient Problem

Part B: Cue Use

Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem  1  2  3  4  5

Use of cues  1  2  3  4  5

Order of process  1  2  3  4  5
3. SITUATION: Jim Sail, age 15, was admitted two weeks ago with Juvenile Diabetes. You have just tested an 1130 urine and find it 3% for sugar and negative for acetone. The chart contains the following order: give extra Toronto insulin T.I.D. a.c. if urine 3-5% - 8 units, 1-2% - 4 units.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1
-1 0 +1
-1 0 +1
-1 0 +1
-1 0 +1
-1 0 +1

Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5
Use of cues 1 2 3 4 5
Order of process 1 2 3 4 5
4. SITUATION: Mr. George, age 70, is on Celbenin 1 gm q6h I.V. for a staphylococcal infection in his incision. Shortly after you instill 1 gm Celbenin into his I.V. you notice that he becomes flushed and his eyes become puffy.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1

Part C: Order of Process

___ Complete a physical assessment

___ Read Kardex

___ Read chart

___ Obtain information by questioning the patient

___ Initiate care

___ Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
5. **SITUATION:** This is Ms. Bond's second post-operative day following cholecystectomy. You are assisting her to the B.R. when she falls to the floor. She clutchés her chest and gasps for air. She appears cyanotic and apprehensive. Her skin feels cool and moist.

**Part A: Patient Problem**

**Part B: Cue Use**

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

**Part C: Order of Process**

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

**Part D: Self-confidence Rating**

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
6. SITUATION: Mrs. Carls is being treated for hepatitis which she acquired on a recent holiday in Mexico. She looks worried. Upon questioning you find that she is concerned about her prognosis. She had a friend who developed cirrhosis following hepatitis and is worried that the same will happen to her.

Part A: Patient Problem

Part B: Cue Use

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Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5
Use of cues 1 2 3 4 5
Order of process 1 2 3 4 5
7. SITUATION: It is Mrs. Bell's 6th post-operative day following a pyloroplasty. She developed pneumonitis. During a coughing spell she suddenly bends to splint her incision and you notice pink serous drainage coming through her dressing.

Part A: Patient Problem

Part B: Cue Use

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Part C: Order of Process

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
8. SITUATION: Mrs. Flower, age 30, is in hospital with Pancreatitis. You find her restless and complaining of severe pain in her Rt. arm. Her I.V., inserted into the Rt. forearm, is not dripping. You notice an area of redness and swelling along the affected vein. The area feels warm to touch.

Part A: Patient Problem

Part B: Cue Use

Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

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9. **SITUATION:** Mrs. Nichol, a 43 year old diabetic, is in hospital following an attack of acute cholecystitis. You have just tested her 1630 urine to find it 5% for sugar and moderate for acetone.

### Part A: Patient Problem

### Part B: Cue Use

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### Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

### Part D: Self-confidence Rating

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10. SITUATION: Ms. James, a 28 year old teacher, is in hospital with acute cholecystitis. She is receiving Ampicillin 500 mg q6h i. v. Shortly after you add 500 mg to her volutrol you notice that she develops a rash over her body. She complains of itching and feeling warm.

Part A: Patient Problem

Part B: Cue Use

Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5
Use of cues 1 2 3 4 5
Order of process 1 2 3 4 5
Mrs. Billings, age 37, is scheduled for a vagotomy and pyloroplasty tomorrow. You find her crying. Upon questioning you find that she is afraid of many things: a change in life style, pain and discomfort following surgery and an altered body image.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1

-1 0 +1

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Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5
Use of cues 1 2 3 4 5
Order of process 1 2 3 4 5
12. **SITUATION:** This is Mrs. Williams' first post-operative day following a small bowel resection. You gave her Demerol 100 mg for pain a half hour ago. She complains of thirst. Her T.P.R. is 36.4 - 96 - 24. Her B.P. is 86/60.

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13. SITUATION: Mr. Johns, age 39, had a vagotomy and pyloroplasty this a.m. He is complaining of increasing abdominal pain and nausea. It's been an hour since you gave analgesic. You notice that the fluid in his N/G tube is not moving.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1

-1 0 +1

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-1 0 +1

Part C: Order of Process

Complete a physical assessment

Read Kardex

Read chart

Obtain information by questioning the patient

Initiate care

Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
14. **SITUATION:** Mr. Jarvis, age 72, hemorrhaged following a liver biopsy. He is receiving blood at the rate of 100 gtt per minute (20 ml gtt factor). You enter his room to find him dyspneic and coughing up frothy pink-tinged sputum.

**Part A: Patient Problem**

**Part B: Cue Use**

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**Part C: Order of Process**

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

**Part D: Self-confidence Rating**

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15. SITUATION: Mr. Smith, age 54, has been diagnosed as having cirrhosis of the liver. The doctor explained the conditions and medical regimen to Mr. Smith. Following, you find Mr. Smith cheerful and joking about his condition.

Part A: Patient Problem

Part B: Cue Use

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Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem: 1 2 3 4 5

Use of cues: 1 2 3 4 5

Order of process: 1 2 3 4 5
16. SITUATION: Mr. Sloan, age 62, had an inguinal hernia repaired yesterday. This a.m. you notice a moderate amount of bright red oozing through his dressing. His B.P. is 128/90, P is 120 and thready, and R is 22 and shallow.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1

Part C: Order of Process

1. Complete a physical assessment
2. Read Kardex
3. Read chart
4. Obtain information by questioning the patient
5. Initiate care
6. Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5
Use of cues 1 2 3 4 5
Order of process 1 2 3 4 5
Mrs. Anton had a cholecystectomy three days ago. She complains of stabbing pain around her incision. She appears flushed and her skin feels warm to touch.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

Part C: Order of Process

____ Complete a physical assessment

____ Read Kardex

____ Read chart

____ Obtain information by questioning the patient

____ Initiate care

____ Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
18. SITUATION: Mrs. Gin, age 82, was admitted last evening with gastro-enteritis. She has an I.V. of Ringer's solution infusing at 150 ml per hour. Her urinary output has been 425 ml since admission; her intake 1500 ml. You notice that she has a frequent dry cough. Her T.P.R. is 36.8 - 92 - 24.

Part A: Patient Problem __________________________________________

Part B: Cue Use

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

Part C: Order of Process

_____ Complete a physical assessment

_____ Read Kardex

_____ Read chart

_____ Obtain information by questioning the patient

_____ Initiate care

_____ Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
19. SITUATION: Ms. Klein, age 40, is being treated for a bleeding duodenal ulcer. She is now receiving a unit of blood. You answer her call bell to find that she vomited some bright red blood. She is flushed and complains of chills and headache.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

Part C: Order of Process

_____ Complete a physical assessment

_____ Read Kardex

_____ Read chart

_____ Obtain information by questioning the patient

_____ Initiate care

_____ Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
20. **Situation:** Mr. Jones, age 43, is being treated for a duodenal ulcer. He is up pacing the hall, stating he cannot rest. He is smoking excessively and requesting to see the doctor.

**Part A: Patient Problem**

**Part B: Cue Use**

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**Part C: Order of Process**

- Completed physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

**Part D: Self-confidence Rating**

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21. SITUATION: Ms. Lane, age 39, had a subtotal gastrectomy yesterday. A half hour ago you changed her dressing for a moderate amount of oozing. Now you notice more oozing seeping through her dressing.

Part A: Patient Problem

Part B: Cue Use

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part C: Order of Process

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
22. SITUATION: This is Mr. Arnold's seventh day following a gastrectomy for cancer. He complains of dysuria and you notice that he is using the urinal frequently. His T.P.R. is 37.8 - 88 - 24.

Part A: Patient Problem

Part B: Cue Use

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Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem: 1 2 3 4 5

Use of cues: 1 2 3 4 5

Order of process: 1 2 3 4 5
23. SITUATION: Mrs. Kell, age 62, underwent surgery yesterday for release of small bowel adhesions. She is on NPO. She has an I.V. of Ringer's Lactate to infuse at 125 ml per hour. You notice that her feet are puffy and that she has shortness of breath.

Part A: Patient Problem

Part B: Cue Use

-1  0  +1

-1  0  +1

-1  0  +1

-1  0  +1

-1  0  +1

-1  0  +1

Part C: Order of Process

_____ Complete a physical assessment

_____ Read Kardex

_____ Read chart

_____ Obtain information by questioning the patient

_____ Initiate care

_____ Consult the team leader

Part D: Self-confidence Rating

Choice of problem  1  2  3  4  5

Use of cues  1  2  3  4  5

Order of process  1  2  3  4  5
24. SITUATION: Mrs. Mall, age 41, received a stat dose of Morphine for severe chest pain and dyspnea. About twenty minutes later you find her wheezing and apprehensive.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1

-1 0 +1

-1 0 +1

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-1 0 +1

-1 0 +1

Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
25. SITUATION: Mr. Engle, age 26, has been diagnosed a week and a half ago as having diabetes mellitus. He appeared to understand and accept his condition well. This morning, upon greeting him, you find Mr. Engle looking sullen. He disregards your greeting and asks, abruptly, "Haven't you brought my Insulin? Don't you know I must take it at 0730?"

Part A: Patient Problem

Part B: Cue Use

- -1 0 +1
- -1 0 +1
- -1 0 +1
- -1 0 +1
- -1 0 +1
- -1 0 +1

Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5
Use of cues 1 2 3 4 5
Order of process 1 2 3 4 5
26. **SITUATION:** Mrs. Gale, age 57, had a hiatus hernia repair two days ago. She has been reluctant to move, and deep breathe and cough. Today, she complains of dyspnea and fatigue. She appears pale and tense.

**Part A: Patient Problem**

**Part B: Cue Use**

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**Part C: Order of Process**

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

**Part D: Self-confidence Rating**

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27. SITUATION: Mr. Crane, age 52, has just returned from the O.R. following a hernia repair. He is drowsy but restless. He is reluctant to move, have his position changed, or to deep breathe and cough.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1

Part C: Order of Process

____ Complete a physical assessment
____ Read Kardex
____ Read chart
____ Obtain information by questioning the patient
____ Initiate care
____ Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
28. SITUATION: Mrs. Drummond, age 79, is in hospital with an undiagnosed gastric problem. She vomits partially undigested food and tolerates small amounts of fluids. Her urine output is scanty and dark. Her mouth is dry and her tissues are loose and flabby.

Part A: Patient Problem

Part B: Cue Use

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Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem: 1 2 3 4 5
Use of cues: 1 2 3 4 5
Order of process: 1 2 3 4 5
29. SITUATION: Ms. Stone, age 28, is a newly diagnosed diabetic. At 1145 you answer her call bell to find her looking apprehensive. Her skin is pale and moist. You notice a fine tremor of the hands. She states that she feels weak, hungry and very nervous.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1
-1 0 +1
-1 0 +1
-1 0 +1
-1 0 +1
-1 0 +1
-1 0 +1

Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5
Use of cues 1 2 3 4 5
Order of process 1 2 3 4 5
30. **SITUATION:** Mrs. Green, age 57, is in for investigation of an abdominal mass. She sleeps poorly, and picks at her food stating that it makes her feel nauseous. She appears to treat her condition lightly, stating, "I'm not worried; I'm in good hands."

**Part A: Patient Problem**

**Part B: Cue Use**

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**Part C: Order of Process**

- [ ] Complete a physical assessment
- [ ] Read Kardex
- [ ] Read chart
- [ ] Obtain information by questioning the patient
- [ ] Initiate care
- [ ] Consult the team leader

**Part D: Self-confidence Rating**

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31. SITUATION: Mrs. Summer, age 78, is in hospital with gastroenteritis. She has been on bedrest for four days. Her color is pale and T.P.R. is 37 - 88 - 24. Her respirations are shallow and her breathing appears labored.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
32. SITUATION: Ms. Zuk, age 32, is in hospital with a bleeding peptic ulcer. You answer the call bell to find her prostrate with her knees drawn up. She is crying and her skin feels cool and clammy. She complains of nausea and severe epigastric pain spreading through her abdomen.

Part A: Patient Problem

Part B: Cue Use

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Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
33. **SITUATION:** Mr. Meyer, age 40, developed an infection in his incision following a hiatus hernia repair. He eats and drinks small amounts. His T.P.R. is 37.2 - 88 - 18. He has been perspiring excessively and his urine is dark amber.

Part A: Patient Problem

Part B: Cue Use

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Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

| Choice of problem | 1 | 2 | 3 | 4 | 5 |
| Use of cues | 1 | 2 | 3 | 4 | 5 |
| Order of process | 1 | 2 | 3 | 4 | 5 |
34. **SITUATION:** Mrs. Donald, age 31, is in for control of diabetes following severe gastritis. It is late afternoon when you find her unconscious. Her skin is flushed and moist and her respirations are shallow.

Part A: Patient Problem

Part B: Cue Use

Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
35. SITUATION: Ms. Paul, age 27, has hypothyroidism. Her doctor is treating her with Thyroglobulin 40 mg q.d. You notice that she is restless and shivering. Her T.P.R. is 37 - 120 - 22.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1
-1 0 +1
-1 0 +1
-1 0 +1
-1 0 +1
-1 0 +1
-1 0 +1

Part C: Order of Process

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5
Use of cues 1 2 3 4 5
Order of process 1 2 3 4 5
36. SITUATION: Mr. Day, age 49, is in hospital for repair of a hiatus hernia tomorrow. An hour ago you completed his shave prep and explained pre-operative procedure. You return to find him sitting rigidly with clenched hands. He states that he has a headache. His voice quavers as he speaks. He states that he is afraid because he doesn't know what will happen to him.

Part A: Patient Problem

Part B: Cue Use

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Part C: Order of Process

_____ Complete a physical assessment
_____ Read Kardex
_____ Read chart
_____ Obtain information by questioning the patient
_____ Initiate care
_____ Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5
Use of cues 1 2 3 4 5
Order of process 1 2 3 4 5
37. SITUATION: Mr. Hill, age 70, has hemorrhaged following a hernia repair and received 2 units of whole blood this a.m. You are on the evening shift. You notice that he has not voided since this a.m. He complains of a headache and backache.

Part A: Patient Problem

Part B: Cue Use

Part C: Order of Process

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
38. **SITUATION:** Mrs. Powell returned from the O.R. an hour ago following thyroidectomy. As you near her bedside you hear crowing respirations. She is very drowsy and her color is cyanosed.

**Part A: Patient Problem**

**Part B: Cue Use**

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

**Part C: Order of Process**

- Complete a physical assessment
- Read Kardex
- Read chart
- Obtain information by questioning the patient
- Initiate care
- Consult the team leader

**Part D: Self-confidence Rating**

Choice of problem 1 2 3 4 5

Use of cues 1 2 3 4 5

Order of process 1 2 3 4 5
Mr. Martin, age 57, had a thyroidectomy three days ago for adenocarcinoma. He complains of pain in his calf and is reluctant to move the affected extremity. You note that the affected area feels warmer than his other extremity.

Part A: Patient Problem

Part B: Cue Use

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

-1 0 +1

Part C: Order of Process

1. Complete a physical assessment
2. Read Kardex
3. Read chart
4. Obtain information by questioning the patient
5. Initiate care
6. Consult the team leader

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5
Use of cues 1 2 3 4 5
Order of process 1 2 3 4 5
40. SITUATION: Mrs. Knight, age 42, developed severe nausea and vomiting when in hospital for investigation of abdominal pain. Her T, P, R. is 37.2 - 88 - 20, and her B. P. is 110/70. She complains of thirst and feeling faint when up. Her skin is dry and lacking turgor.

Part A: Patient Problem

Part B: Cue Use

Part C: Order of Process

Part D: Self-confidence Rating

Choice of problem 1 2 3 4 5
Use of cues 1 2 3 4 5
Order of process 1 2 3 4 5
APPENDIX VI

SCORING KEY FOR TEST INSTRUMENT
Patient Problem Identification

1. Anxiety due to diagnostic test and/or fear of unknown.
2. Pain due to abdominal distention or gas accumulation.
3. Spilling of sugar into urine due to unregulated diabetes or insufficient insulin supply.
4. Allergic reaction due to intravenous medication.
5. Dyspnea due to pain, shock, or embolus.
6. Anxiety due to fear of possible complications.
7. Dehiscence or incisional drainage due to coughing.
8. Pain in right forearm due to interstitial intravenous and phlebitis.
9. Spilling of sugar into urine due to increased insulin need as a result of infection.
10. Allergic reaction due to intravenous medication.
11. Anxiety due to lack of knowledge regarding surgical outcomes.
12. Shock due to low circulating blood volume or hemorrhage.
13. Pain and nausea due to a nonpatent nasogastric tube.
14. Dyspnea due to rapid rate of blood transfusion.
15. Denial or anxiety due to fear of diagnosis.
16. Early shock due to hemorrhage.
17. Pain due to wound infection.
18. Dehydration due to fluid loss.
19. Reaction to blood due to unknown cause.
20. Anxiety due to unknown cause.
21. Possible hemorrhage due to suture release.
22. Dysuria due to infection.
23. Shortness of breath due to fluid overload.
25. Anger or anxiety due to reaction to diagnosis or necessary life changes.
26. Dyspnea due to decreased mobility and/or pneumonia.
27. Pain due to surgery.
28. Dehydration due to vomiting and decreased fluid tolerance.
29. Insulin reaction due to imbalance between insulin supply, food intake and exercise.
30. Anxiety due to outcome of investigation.
31. Dyspnea due to immobility, pneumonia or pulmonary embolus.
32. Pain due to possible hemorrhage or perforation of ulcer.
33. Dehydration due to perspiration and decreased intake.
34. Insulin reaction due to imbalance between insulin supply and food intake as a result of stress of illness.
35. Restlessness due to excess supply of thyroglobulin.
36. Anxiety due to fear of unknown.
37. Delayed reaction to blood due to unknown cause.
38. Dyspnea due to obstructed airway.
39. Pain due to thrombophlebitis.
40. Dehydration due to nausea and vomiting.
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<thead>
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<th>Item Number</th>
<th>Cues</th>
<th>Validities</th>
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<tbody>
<tr>
<td>1.</td>
<td>gastric analysis in a.m.</td>
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<td></td>
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<td>+</td>
</tr>
<tr>
<td></td>
<td>tense facial expression</td>
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<td>2.</td>
<td>3rd day post-op chole</td>
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</tr>
<tr>
<td></td>
<td>freq. cramp-like pains</td>
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</tr>
<tr>
<td></td>
<td>abdomen hard</td>
<td>+</td>
</tr>
<tr>
<td>3.</td>
<td>Juvenile Diabetes</td>
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<td>1130 urine sugar 3%</td>
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<td>1130 urine - acetone neg.</td>
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<td>Celbenin I.V.</td>
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<td></td>
<td>eyes puffy</td>
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<td>5.</td>
<td>Clutches chest</td>
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<tr>
<td></td>
<td>gasps for air</td>
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<td>I.V. not dripping</td>
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<td>affected arm warm</td>
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<tr>
<td></td>
<td>affected arm reddened</td>
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<td>P - 96</td>
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<td>B.P. - 86/20</td>
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<td>fluid in N/G tube not moving</td>
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<td>Stabbing pain around incision</td>
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<td>I.V. infusing 150 ml/hr</td>
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<td>chills</td>
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<td>1st day post-op gast.</td>
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<td>drsg changed ½ hr ago - mod. ooz.</td>
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<td>now more oozing</td>
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<td>I.V. at 125 ml per hr</td>
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<td>Morphine for chest pain and dysp.</td>
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<td>diagnosed diabetic x 1 ½ wks</td>
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<td>2nd day post-op hiatus hernia</td>
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<td>Returned from O.R.</td>
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<td>Vomits undigested food</td>
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<td>tol. sm. amts fids</td>
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<td>urine dark</td>
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<td>decreased tissue turgor</td>
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<td>fine tremor of hands</td>
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<tr>
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<td>Invest. abd. mass</td>
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<td>sleeps poorly</td>
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<td>treats condition lightly</td>
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<td>31.</td>
<td>Bedrest x 4 days</td>
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<td>R shallow</td>
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<td>breathing labored</td>
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<td>Bleeding peptic ulcer</td>
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<td>prostrate</td>
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<td>knees drawn up</td>
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<td>skin cool</td>
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<tr>
<td></td>
<td>skin clammy</td>
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<tr>
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<td>spreading epigastric pain</td>
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<td>33.</td>
<td>Eats and drinks sm. amts</td>
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<td>urine dark</td>
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<td>respirations shallow</td>
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<td>Thyroglobulin 40 mg qd</td>
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<td>36.</td>
<td>Sitting rigidly</td>
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<td>voice quavers</td>
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<td>states afraid of unknown</td>
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<td>Received 2 units blood</td>
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<td>has not voided since a.m.</td>
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<td>1 hr post-op</td>
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<td>crowing resps</td>
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<td>C/o calf pain</td>
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<td>area warmer than other</td>
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<td>nausea and vomiting</td>
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<td>Optimal First Action</td>
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Cohen, A. S., & Hyman, J. S. How come so many hypotheses in educational research are supported? Educational Researcher, 1979, 8(11), 12-16.


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