The Clinical Practice of Medical-Surgical Nursing

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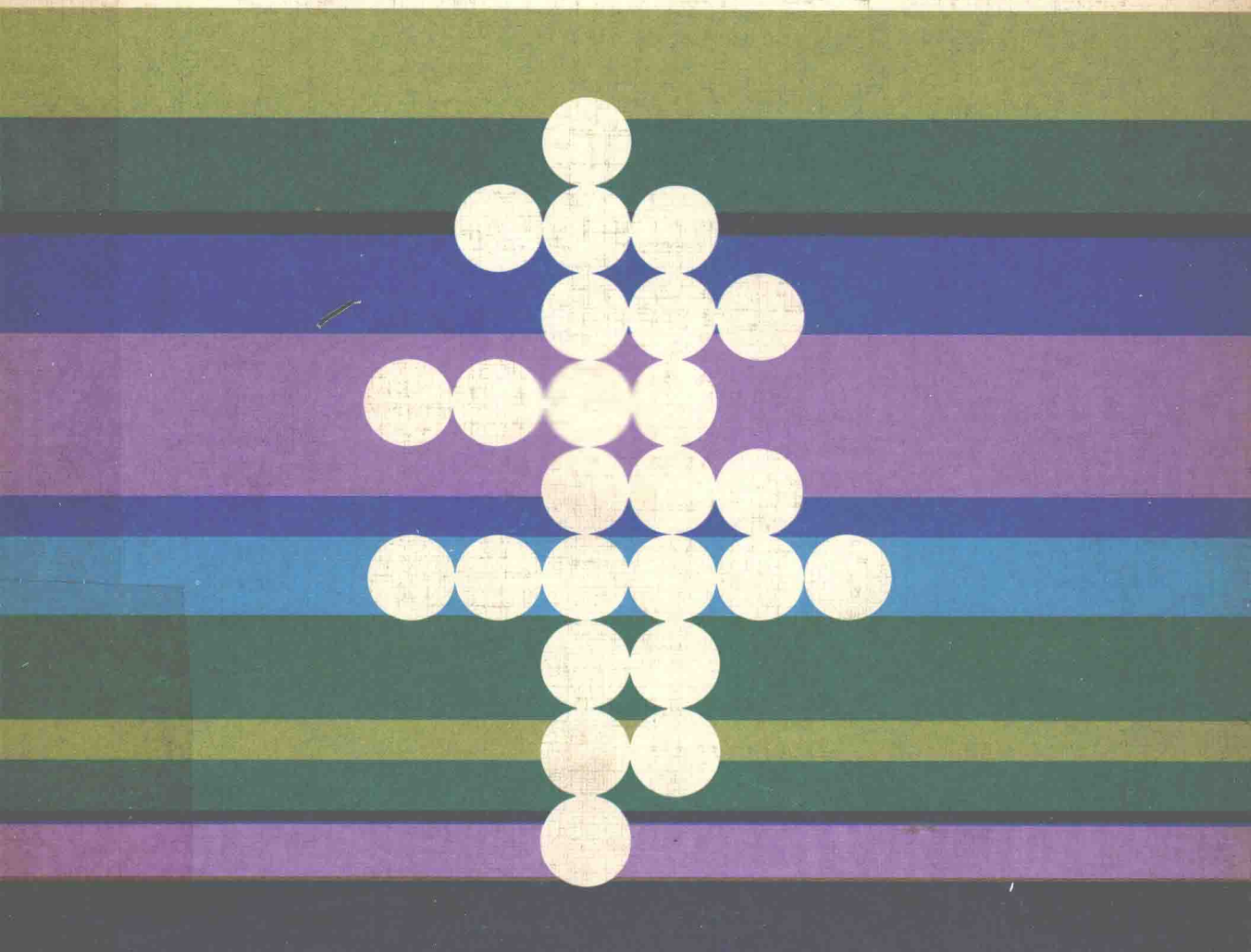

DECISION MAKING IN THE CORONARY CARE UNIT

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DECISION MAKING IN THE CORONARY CARE UNIT

This book is dedicated to

Judy and Fran

PREFACE

This book represents a teaching method that we have used successfully in conferences with coronary care unit personnel. It consists of a brief didactic outline of a specific point followed by cases that represent variations on the theme. These are actual coronary care unit cases in which important decisions had to be made.

We feel that the decision-making process must include an outline of a goal, a specific method of action, and an evaluation of this action. An important factor in decision making is previous experience in real situations. Coronary care unit decisions are frequently lifesaving. We hope that this book will provide you with clinical experience in simulated lifesaving situations before a life actually is at stake.

This book is intended to be highly practical. The answers given for the clinical problems represent our personal point of view. In the interest of space we have kept our responses as short as possible. More extensive treatment of the various problems presented in this book can be found in a variety of nursing and coronary care unit textbooks.

This edition includes a chapter on patient education. The purpose of the chapter emphasizes true educational concepts. We hope that the information given patients will serve to motivate them to change their life styles. In some instances these changes may promote longevity, and in all they should provide a better quality of life.

We wish to extend our sincere appreciation to the nursing and professional staff of the Coronary Care Unit at St. John's Mercy Medical Center, St. Louis, Missouri, and to the graduate students enrolled in the Cardiovascular Nursing Program at St. Louis University. In their constant quest for knowledge these individuals have been a continual source of inspiration to us. We also wish to express our indebtedness to the Sisters of Mercy at St. John's Mercy Medical Center and to the faculty and administration of the St. Louis University School of Nursing and Allied Health Services for their generous support during the preparation of this manuscript.

We are most grateful to Mrs. Margaret Westphale, who has typed and reread each chapter of this book, and to Miss Polly Cullinane for her invaluable assistance in preparing the many illustrations.

William P. Hamilton
Mary Ann Lavin

INSTRUCTIONS

The staff members of a coronary care unit are constantly making important and frequently lifesaving decisions. Each of the clinical situations in this manual necessitates that you make such a decision. The information that you have available and upon which your decision will be based is of two types.

The first type is entitled "background." This information provides various degrees of insight into the patient's history, the reason for the present admission, and his clinical symptoms. Often the background tells you about other diseases or such factors as age, sex, and occupation relevant to the present situation.

The second type of information is entitled "present situation," and it introduces you to the immediate problem. This section will reflect a rapidly changing clinical state, an unexpected response to therapy, or merely an artifact that demands proper identification. This section concludes with an ECG rhythm strip that must be interpreted and correlated with the other findings.

Finally, we ask the question, "What would you do?" Following this, write your response in the space provided.

Before writing this response we suggest that you analyze each situation with regard to goals, actions, and evaluations. By goals we mean the end toward which your actions are directed. The goals listed for these problems reflect our thinking and experience. They represent what we feel is the most important problem facing the particular patient at this particular time. By actions we mean the specific method that you would use to care for this patient. Evaluation means an objective review of your goals and actions as well as of the effectiveness of the response.

After you have completed your response, compare your solution with ours. You may not necessarily agree with us. Our differences should serve as starting points for discussion and study that will allow you to increase your knowledge of cardiovascular problems.

Medical therapy and special techniques alluded to in this book are not covered by many local ordinances and local practice acts. Before readers attempt to use these therapies in their own clinical practice, they are advised to obtain permission from their hospital administration and state attorney general. The publication of this book in no way implies that the authors approve any action that is experimental, illegal, or in opposition to any local practice standard.

Acknowledgments

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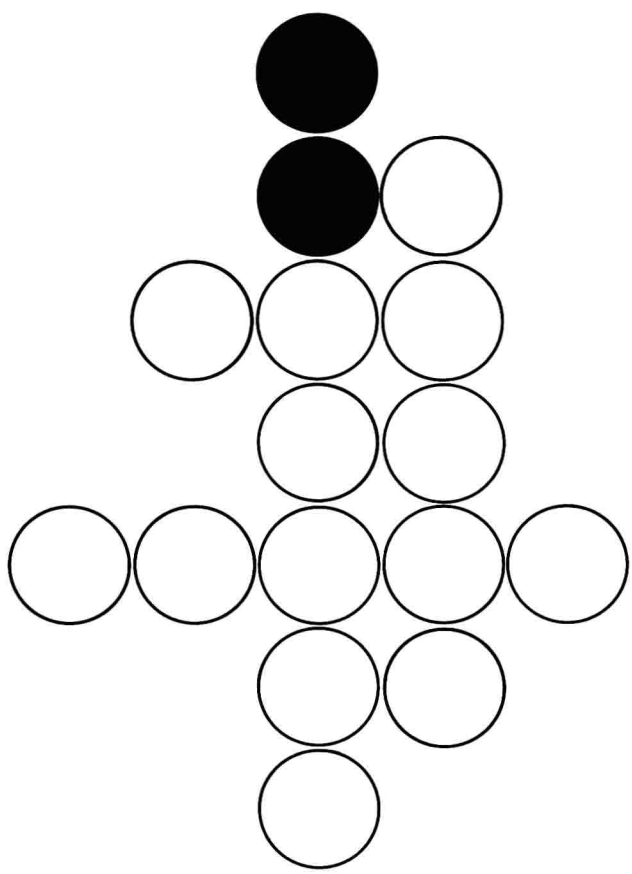
part I

Concepts Basic to Clinical Practice in Nursing

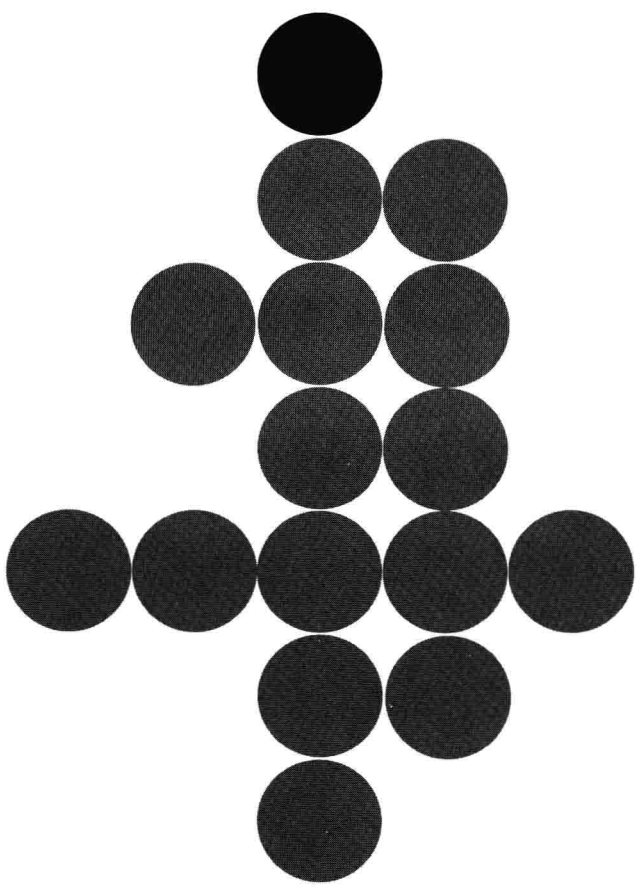


NOTICE

The indications and dosages of all drugs in this book have been recommended in the medical literature and conform to the practices of the general medical community. The medications described do not necessarily have specific approval by the Food and Drug Administration for use in the diseases and dosages for which they are recommended. The package insert for each drug should be consulted for use and dosage as approved by the FDA. Because standards for usage change, it is advisable to keep abreast of revised recommendations, particularly those concerning new drugs.

chapter 1

Health and Disease States



Basic Concepts

Nursing is a universal profession; nursing care is a legitimate and authorized function of the nurse. The Council of National Representatives of the International Council of Nurses adopted a new definition of *nurse* in August 1975. This definition is as follows:

> A nurse is a person who has completed a programme of basic nursing education and is qualified and authorized in her/his country to practice nursing. Basic nursing education is a formally recognized programme of study which provides a broad and sound foundation for the practice of nursing and for post-basic education which develops specific competency. At the first level, the educational programme prepares the nurse, through study of behavioural, life and nursing sciences and clinical experience, for effective practice and direction of nursing care, and for the leadership role. The first level nurse is responsible for planning, providing and evaluating nursing care in all settings for the promotion of health, prevention of illness, care of the sick and rehabilitation; and functions as a member of the health team. In countries with more than one level of nursing personnel, the second level programme prepares a nurse, through study of nursing theory and clinical practice, to give nursing care in cooperation with and under the supervision of a first level nurse [36].

The focus of nursing, as defined in this statement, is ". . . the promotion of health, prevention of illness, care of the sick and rehabilitation" and has broad and complex implications for the nurse. Because health and illness are very personal and private matters for any person, the recipient of nursing care must be a participant in the operational aspects of nursing care. In medical care one does not deal with absolutes of cause and effect, but rather with processes. These include processes of physiologic, psychological, and societal natures. There is no one best way to deal with a person's health problems; even outcomes of good quality care cannot be determined in advance or be assured because of factors no one can explain. We do not know why, given the correct and appropriate care and treatment, some people recover and others do not. Nurses therefore can achieve their goals only through working within these processes. While certain facts and principles are generally accepted in the scientific arena, these facts and principles must be applied to the processes that are operational in the care situation and must be viewed as guidelines or signposts in the selection of specific activities to meet the requisites of any given situation.

Facts, principles, and concepts change in importance and in perspective within a situation. Knowledge of contingencies, individual differences, situational variances, and environmental influences must be learned along with the facts, principles, and concepts of illness and disease if the nursing student is to be successful.

No one textbook can include all the aspects of nursing care that must be learned by a nursing student. The scope of this book is defined as the care of adults who have medical-surgical illnesses or the potential for developing health problems. It is expected that the student who is to study the content in this book will have a basic knowledge of anatomy, physiology, chemistry, nutrition, microbiology, social sciences, and introductory nursing care. It is also expected that the student will correlate the content herein with that found in medical and other nursing texts, current journals, and other sources of behavioral and physiologic science information.

The content for this book was selected and developed with the following in mind:

1. There are no absolutes or definite answers or solutions to all health care problems.
2. Because each person presents a unique set of needs, individualized nursing care must be determined from a generalized background of knowledge and experience.
3. Even though each person has a unique health status or set of illness problems, certain criteria can be evaluated to define a person's unique needs within a broad scope of knowledge.
4. The human body functions as an integrated unit with multiple interacting systems and subsystems.
5. In order to understand the functioning of the integrated human being, it is helpful to dissect the broader entity to learn about and to understand the systems and subsystems that contribute to the whole.
6. Integration of content related to nursing care depends on internalizing knowledge and experience from many different sources. A sense of wholeness is achieved by the nursing student through synthesis of the knowledge and experience.

7. A person who becomes a nurse continues to be a student throughout life, since the nurse and the recipient of health care continually evolve in attaining maturity in a continually changing environment.
8. In the process of evolution, each nurse and patient develops concepts of role, function, and purpose based on a continually developing philosophy and framework of supporting concepts, principles, and facts.

Stated in another way, this text has been developed from the viewpoint that there are emerging sets of knowledge about health and illness and alternative avenues for care. The information presented herein focuses on processes that can be applied to many different but somewhat similar situations.

The content has been organized so as to facilitate the student's understanding of the processes of illness, treatment modalities, identifiable expected outcomes of care, and preventive measures. The chapters provide a body systems approach to these processes. By studying the body systems as divisions of human function related to physiologic systems, it is possible to study each system for its own properties, characteristics, and dysfunction. This does not negate the importance of viewing an illness in the broader sense of a person's total body functioning. Any system can be divided into component parts. For adults with medical-surgical illnesses, the functioning of the cell systems and subsystems provides a reasonable and practical basis for the study of expected outcomes of defined illnesses.

Nursing knowledge as currently studied provides a baseline for the student's entry to the profession. Within this context, the professional nurse must continue to develop health care knowledge and skills as information is revealed or discovered so that there is a continual building of an operational and ever-current repertoire of competencies.

As the environment, society, and culture evolve, so do the role and function perceptions of the individual who participates in this broader environment. Each nursing student must initially define a personal concept of nursing that is true to his or her self-concept and must relate positively to the concept of the professional nurse within the profession and in keeping with the broader concept of the system of health care provided by all health professionals.

Nursing care is based on knowledge of man as an integrated being who lives in and is dependent on an environment. The concept of environment may be applied also to the singular unit of a cell, as every cell exists in a unique environment within the body. Environment is also important to the integrity of internal body processes and to behavior within the organism. A person functions in relation to his immediate environment: room temperature, humidity, stressors, and stimuli. Even the space a person occupies is surrounded by the broader environment of family and community, and communities relate to broader determinations of space, which may include the world in its orbital environment. The total functioning of the individual therefore is complexly integrated within the body, as man relates to his environment and participates in situations and events in his own personal orbit.

Each aspect of human functioning, from the singular cell to the broad concept of the world in space, is complex. The amount of knowledge man has about the cell and about the events that happen between the singular unit of the cell and the multiple components of space is overwhelming. The amount of knowledge that is unknown must be equally overwhelming. In order to develop a perspective for the scope of nursing care, the nurse must first examine the functioning of the human body in relation to the space it occupies.

Human beings and the space they occupy are interdependent. Their perceived relationships with others and with the environment often determine their concepts and attitudes toward functioning. **Illness** may be defined as acute or chronic maladaptation, and **health** may be considered a relative state in which a person functions in an interdependent way to perform work. (Work refers to any activity.) Throughout life a person seeks to define health and illness in terms of their impact on his functioning.

The concept of what is a state of health may change as the person matures. For example, a person who has developed chronic constipation may, at the time of the onset, consider himself "sick" or ill. As the condition persists and no pathologic cause is found, the condition becomes part of that person's usual daily

situation. If the person adjusts to the condition and deals with the constipation as a characteristic of his daily functioning he is said to have adapted. On the other hand, if he continues to perceive constipation as an illness he is never really healthy or well as long as the particular condition persists.

Certain changes in human functioning are accepted as components of the normal aging process. Examples are the physiologic changes of arteriosclerosis and osteoporosis. Consequently, for many people the concept of a state of health is directly related to age; arterial dysfunction in a young adult is abnormal and constitutes a state of disease. The same condition in a 60-year-old person is expected and therefore normal and congruent with a concept of health for this person. Gradually declining perceptual abilities in vision and hearing are also expected, as are many of the psychological changes associated with aging. It should be pointed out, however, that chronologic age and physiologic age are not necessarily directly related.

What is considered to be maximal functioning for a given person may also vary with the degree or amount of stresses that person experiences. These stresses may arise from internal physiologic processes, from interaction with others, and from environmental stressors such as an influenza epidemic. In most instances, the stresses one experiences are a product of the total set of life events in a given time and are difficult to categorize with specificity.

Much has been written about human adaptation. It is known that a person has certain innate capabilities for adaptation and the ability or potential to learn new patterns and skills. It is also known that a person has some degree of control over his life events but is also subject to unknowns—events that occur without forewarning and often with no explainable cause—events which, despite their uncertainty and uncontrollability, can be adapted to or which may be so stressful that adaptive resources may become immobilized.

Humanity works continually to achieve order and a sense of control over the events that influence human life. For example, research on major health problems such as diabetes, heart disease, blood dyscrasias, and nervous system diseases is ongoing. Breakthroughs in research enable us to better understand and treat disease. Identification of a new vaccine may be important in controlling a communicable disease; the ability to provide for exogenous hormones is necessary in the treatment of endocrine imbalances. Knowledge about the risk factors that cause heart disease can help a person learn to avert the disease. As humanity strives to discover more about diseases and their causation, the very diseases being studied are evolving, changing in nature and effect. Even as scientists discover how to prevent or treat existing diseases, new pathologic processes become evident, further challenging human creativity and ingenuity.

All these considerations lead one to understand that nursing care, focused on prevention of disease and care of the sick, is of necessity based on an inexact science that contains threads of specific knowledge, general application, and generalized sets of premises throughout. How does a nurse cope with this complex and elusive description of nursing care and content? In order to be effective, each nurse must define a role, support that role with knowledge, and practice the skills necessary to achieve the objectives of the role.

Just as the cell is the singular autonomous unit of the human body, a person is a singular autonomous unit of a broader system. The person, whether a nurse or a recipient of care, interacts in the broader system just as the cell interacts in tissue. Physiologically, tissues form organs that may be considered equivalent to families in a community. Further, systems comprise an integrated functioning unit of the body, which can be equated to the society in which communities of people exist. The role of the nurse in this society is an interactive role in which the nurse relates to singular units, individual patients whose behavior is integrated in the broader systems of family, community, and society.

In the following pages, these ideas will be discussed in detail. The cell and its relation to body processes, functions of the body, and disease processes along with modes of intervention will be discussed in a general way.

The Cell

Cellular activity is regulated and controlled by numerous processes, such as water and electrolyte balance and hormonal and ner-