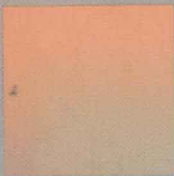


Carol Mattson Porth

Pathophysiology

Concepts of Altered Health States



FIFTH EDITION

Lippincott

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FIFTH EDITION

Pathophysiology

CONCEPTS OF
ALTERED
HEALTH STATES

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5th Edition

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The authors, editors and publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accordance with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new or infrequently employed drug.

Some drugs and medical devices presented in this publication have Food and Drug Administration (FDA) clearance for limited use in restricted research settings. It is the responsibility of the health care provider to ascertain the FDA status of each drug or device planned for use in their clinical practice.

Learning without thought is labor lost.

CONFUCIUS

*This book is dedicated to the students,
past and present,
for whom this book was written.*

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P R E F A C E



As the 20th century draws to a close, we are reminded of the phenomenal advances that have occurred in understanding and treating disease. Yet, despite these advances, we are also reminded that illness and disease continue to occur and impact the physiologic as well as social, psychological, and economic well-being of individuals, their families, the community, and the world at large.

As a nurse-physiologist, my major emphasis in the fifth edition of *Pathophysiology: Concepts of Altered Health States*, as in previous editions, is to relate normal body functioning to the physiologic changes that participate in disease production and occur as a result of disease, as well as the body's remarkable ability to compensate for these changes. The beauty of physiology is that it integrates all of the aspects of the individual cells and organs of the human body into a total functional whole that can be used to explain both the physical and psychological aspects of altered health. Indeed, it has been my philosophy to share the beauty of the human body and to emphasize that in disease as in health, there is more "going right" in the body than is "going wrong." This book is an extension of my career and, as such, of my philosophy. It is my hope that readers will learn to appreciate the marvelous potential of the body, incorporating it into their own philosophy and ultimately sharing it with their clients.

One of the strengths of the book is that it is a book to grow with. Although intended as a course textbook for students, it is also designed to serve as a reference book that students can take with them and use in their practice once the course is finished. Although the book was written with undergraduate students in mind, it is also appropriate for graduate students in nurse practitioner and clinical nurse specialist programs and for students in other health care disciplines.

Those who are familiar with the previous edition will find many changes. Probably the most readily apparent is the use of full color in the design and illustrations. This was done with the intent of adding visual appeal as well as enhancing conceptual learning. As the process of adding color to the many illustrations in the book progressed, it became apparent that in addition to motivating reader interest, the use of color provided a mechanism for

linking text content with illustration content. With this in mind, both the selection of illustrations and the addition of color have been done with the intent of providing a visually appealing book as well as one that would assist the reader in understanding and appreciating the sometimes complex content of the text.

Also new to this edition are lists of suffixes, prefixes, and normal laboratory values; a glossary; and historical vignettes. The suffixes and prefixes are readily accessible, appearing on the inside front cover and facing page of the book. The glossary at the end of the book provides a comprehensive support for the reader; it is followed by laboratory values. As a point of interest, brief historical vignettes introduce each unit, forming the bridge that links our history to the present.

The pedagogical tools for this edition have been arranged differently from the last editions. The objectives have been placed at the beginning of each major section in the chapter. The purpose behind this was twofold: to focus the reader's attention as he or she moves from section to section and to allow faculty to select sections of a chapter for student assignments. Summary statements remain as in the previous edition.

As in other editions, every attempt has been made to develop a text that is current, accurate, and presented in a logical manner. The content has been arranged so that concepts build on one another. Words are defined as content is presented. Concepts from physiology, biochemistry, physics, and other sciences are reviewed as deemed appropriate. A conceptual model that integrates the developmental and preventive aspects of health has been used. Selection of content was based on common health problems, including the special needs of children and elderly persons.

The writing of this book has been a meaningful endeavor for the authors. It was accomplished through an extensive review of the literature and through the use of critiques provided by students, faculty, and content specialists. As this vast amount of information was processed, inaccuracies or omissions may have occurred. Readers are encouraged to contact us about such errors. Such feedback is essential to the continual development of the book.

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As in previous editions, many persons contributed to the development of this edition.

The contributing authors deserve a special mention, for they worked long hours to supply essential content. To have put a book of this magnitude together without their help would have been impossible. Laura Burke, Mark LaRoccha, and Linda Hurwitz were not able to contribute to this edition. Their contributions to the previous edition greatly facilitated the preparation of this edition.

Several other persons deserve special recognition. Georgianne Heymann, RN, BSN, prepared the list of suffixes and prefixes, the short historical vignettes that appear at the beginning of each unit, and the glossary. She also assisted in editing the manuscript. As with previous editions, she provided not only excellent editorial assistance but also encouragement and support when the tasks associated with manuscript preparation became most frustrating. Kathryn Gaspard, PhD, Mary Pat Kunert, RN, PhD, Patricia Bowne, PhD, and Milena Sigatore, RN, MSN, read and provided valuable input for various parts of the book. In addition, a number of persons who reviewed the text for the publisher, but who were unknown to the author, made valuable comments and are to be commended.

In terms of illustrations, many of you will recognize the excellent illustrations that Carole Hilmer, medical illustrator, prepared for previous editions of the book. Although they are now in color, the detail and accuracy of these illustrations would not have been possible without her excellent work. I would also like to acknowledge the contributions of other authors who have shared their illustrations and photos. I particularly want to thank the other Lippincott authors whose citations appear in the back of the book.

I would also like to recognize the efforts of the editorial and production staff at Lippincott-Raven that were directed by Lisa Stead, Acquisitions Editor. I particularly want to thank Claudia Vaughn for her day-to-day performance of all the tasks and communication that go into producing a book of this size and complexity; Susan Hermansen for orchestrating the addition of color into the illustrations for the book; and Tom Gibbons for managing the editing and production of the book.

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