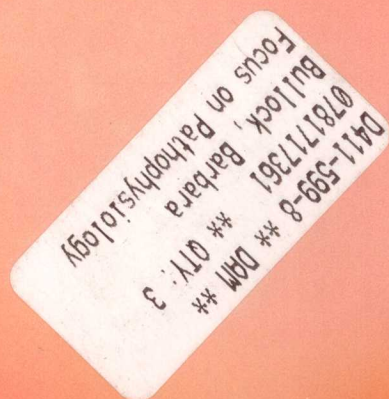


FOCUS ON

# Pathophysiology



**Barbara A. Bullock**

**Reet L. Henze**

*Lippincott*

# FOCUS ON *Pathophysiology*

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**Lippincott**

Philadelphia • New York • Baltimore

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*Compositor: Circle Graphics*  
*Prepress: Jay's*  
*Printer/Binder: Courier Kendallville*

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Library of Congress Cataloging in Publications Data

Focus on pathophysiology / [edited by] Barbara L. Bullock, Reet L.

Henze.

p. cm.

Includes bibliographical references and index.

ISBN 0-7817-1736-1 (paper)

1. Physiology, Pathological. I. Bullock, Barbara L. II. Henze,

Reet L.

RB113.F63 1999

616.07'—dc21

99-16400

CIP

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*I would like to dedicate the book to my husband, Pete. I could not have completed this project without his continuing support. He xeroxed and mailed thousands of pages. He also provided encouragement and humor when it was sorely needed.*

*Barbara L. Bullock*

*I would like to dedicate the book to the memory of my daughter, Karlin, who died while it was in progress, and to my family who patiently supported me in this endeavor.*

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# Preface

**P**athophysiology is the study of the physiologic and biologic manifestations of disease. It encompasses understanding of the adaptations that the body makes to the alterations produced by disease processes. *Focus on Pathophysiology* truly provides a concentrated study of human disease in a concise, easy-to-use, and logical manner. The intent is to clarify concepts in a user-friendly format. No attempt is made to include treatment regimens or patient care. The reader is referred to appropriate literature for information on treatment and patient care.

*Focus on Pathophysiology* is based on four previous editions of *Pathophysiology: Adaptations and Alterations in Function*. The basic organization and many of the features of the previous editions have been retained. Since all chapters have been extensively rewritten and refocused, the text has been retitled. The content of this edition reflects current concepts of disease processes, which are continually being updated and clarified by scientific study. Each section is based on the most current research available.

The text is written for undergraduate and graduate students in health-oriented disciplines. It can be used as a supplement to other courses, as a text for a pathophysiology course, or as a reference resource for the practicing clinician.

Built on a solid foundation, this concise, up-to-date pathophysiology text meets the needs of today's diverse readers.

## ORGANIZATION OF THE TEXT

The organization of the text is intended to enhance the reader's understanding of the effects of disease on the body and how the body is altered by or adapts to the changes. Normal structure and function provide the basis for understanding the disease effects. Both conceptual and systems approaches have been used.

The text is divided into 12 units:

*Unit I* provides a basis for understanding cellular alterations in the organs and systems. Normal cellular structure and function is followed by alterations in cel-

lular processes. Genetic disorders and concepts of neoplasia, since they may affect multiple organs and systems, are included. Developmental changes across the life span provide a basis for an understanding of pathophysiologic processes affecting different age levels. The effects of stress, sleep, and exercise on adaptation also are considered. Fluid and electrolyte, acid-base, and nutritional balances and imbalances complete this unit.

*Unit II* provides essential information for the understanding of bodily defense mechanisms. How infectious agents cause disease and the resulting inflammatory and immune system responses are detailed.

*Units III through XII* examine the physiology and pathophysiology of the major body systems. Beginning with the hematologic system, the text proceeds through circulation, pulmonary, urinary, endocrine, digestion, musculoskeletal and integumentary, nervous, special senses, and reproductive systems.

## LEARNING TOOLS

**Key Terms:** A list of terms, which may be unfamiliar to the student and are considered essential to chapter comprehension, appears at the beginning of each chapter. These terms first appear in **bold** and are defined in the glossary at the end of the text.

**Flowcharts:** Attractive step-by-step charts throughout the text help the reader map out complex processes. These abundant flowcharts are essential to the study of pathophysiology.

**Tables, Boxes and Illustrations:** Numerous tables and boxes in every chapter summarize important information and provide ready references for the reader. Many new illustrations have been created to enhance conceptual learning. These important aspects of the text have been reviewed and, where appropriate, revised or replaced.

**Focus on Cellular Physiology/Pathophysiology Figure:** Special figures throughout the text highlight cellular content. This focus mirrors current research, which analyzes cellular processes as a basis for understanding disease processes.

**Chapter Case Studies:** To inspire critical thinking, clinical scenarios with related questions are included at the end of relevant chapters. These case studies require the student to incorporate knowledge gained from the chapter and apply it to real-life situations. Discussions of case studies are included at the end of the book.

**References:** Each chapter includes a listing of the current resources cited in the text, allowing the reader to follow up with more in-depth study.

**Changes Across the Life Span:** Each unit begins with a developmental summary of the changes occurring during the individual's life span. An individual's vulnerability to particular diseases often is related to his or her age.

**Unit Appendices:** Each unit concludes with easily accessible appendices. Each appendix includes a detailed unit case study, table(s) of laboratory values and diagnostic tests appropriate to the system, and a unit bibliography.

- The unit case study provides in-depth consideration of a pathophysiologic condition and a method for a clinical focus. These realistic patient scenarios integrate several concepts from the text and challenge readers to apply theory to practice.
- The diagnostic tables summarize current laboratory and diagnostic tests that relate to the unit content. The significance of the test results is included.

- The thorough unit bibliography provides resources that enable the reader to pursue topics in greater depth. Whenever possible, web site addresses have been included.

**Glossary:** At the end of the book, a descriptive glossary defines key terms presented throughout the text and serves as a quick reference for future readings.

## ■ ANCILLARY PACKAGE

*Focus on Pathophysiology* is accompanied by an Instructor's Manual designed to serve as a complement to the book, with learning materials for students and organizational suggestions for instructors. It has been completely rewritten and contains lecture outline, teaching strategies, and a bank of test questions. Transparency masters of selected illustrations from the text can be used to enhance classroom presentation of material.

# Acknowledgments

**T**his project has been greatly enhanced by the addition of many expert contributors from all across the United States. They have rewritten, reorganized, and expanded content with attention to detail. They have also helped us work through multiple revisions and changes. Their diligence is greatly appreciated. The task of including extensive information, yet keeping the text to a reasonable length, is daunting.

We also acknowledge the support and guidance provided by many talented persons at Lippincott Williams & Wilkins, specifically Lisa Stead, Nursing Acquisitions Editor; Danielle DiPalma, Developmental Editor; Renée Gagliardi, Developmental Editor; Maryann Foley, Developmental Editor; Claudia Vaughn, Editorial Assistant; Tom Gibbons, Senior Project Editor; and all of the production staff.

Contributing authors to previous editions were Gaylene Altman, Gloria Anderson, Roberta Anding, Joseph Andrews, Pamela Appleton, Sue Baldwin, Anne Bavier, Cheryl Bean, Carol Bowdoin, Joan Bufalino, Martha Butterfield, Concepcion Castro, Angela Collins, Jules Constant, Miguel da Cunha, Virginia Earles, Ann Edgil, Thomas Fender, Shirley Freeburn, Dorothy Gauthier, Janet Gelein, Darlene Green, Cherry Guinn, Doris Heaman, Reet Henze, Marcia Hill, Pamela

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We were saddened by the death of one of our contributors Dr. Susan Gauthier, who died after the completion of the initial draft of the reproductive unit. We were inspired by her enthusiasm and expertise in her contributions to this book.

Our thanks also go to the expert reviewers for their extensive reviews and excellent suggestions for improvement. In many cases, chapters were reorganized and sections rewritten on the basis of their reviews.

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