

Tenth Edition

Davis — Christopher

TEXTBOOK

OF

SURGERY

**THE BIOLOGICAL BASIS OF
MODERN SURGICAL PRACTICE**

Edited by

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DEDICATION

To medical students and residents,
who through their concern, inquisitiveness, and impressive abilities
continuously stimulate improvements in the diagnosis and management of the sick.

Dr. Araten and Laver, "Cardiac Catheterization," by Dr. Robin, Ganguly, and Bing, and "Surgical Pharmacology of the Cardiovascular System," by Dr. Powell and Daggert are all new additions of special significance. Finally, the objective of this text is to provide a text of sufficient scope to meet the needs of students, residents, practicing surgeons, and teachers of surgery.

PREFACE

*It is astonishing with how little reading
a doctor can practice medicine, but it is
not astonishing how badly he may do it.*

—SIR WILLIAM OSLER

In the tenth edition of this text, primary emphasis is placed upon those *biological* principles and derangements which form the basis of disease. This concept is appropriately stressed in the added subtitle, "The Biological Basis of Modern Surgical Practice." The fundamental roles of physiology, biochemistry, immunology, pharmacology, and pathology form the basis for discussions of the pathogenesis, clinical manifestations, diagnosis, and management of each disorder. While this approach has obvious merits, it is perhaps of even more importance that the modern student justifiably insists that these fundamental biological features form the foundation of an acceptable text.

In keeping with the recent and unprecedented strides in surgical science, contributors of recognized authority have been chosen for each section. Thus, the subject and author may be clearly identified, in recognition of the fact that most readers prefer the views of respected authorities.

In this edition an *annotated* bibliography is introduced for each section, with concise descriptions of the most important references in the literature. This is designed to provide the reader with a summary of the references in order to permit more selective reading. Additional references to substantiate the points of view expressed in the body of the text are listed at the end of each chapter.

Particular emphasis is placed upon *illustrations* in this edition, with selection of those which represent the best available in the literature. These are reproduced by permission of the original authors and were selectively chosen because they were the most graphic available. New drawings and photographs were used when suitable illustrations could not be found.

Several entirely new subjects are added, including a chapter on "homeostasis" in which Dr. Francis D. Moore has assembled a remarkable amount of basic physiologic data in a highly relevant and readable manner. A chapter called "Fever: Etiology, Physiologic, and Metabolic Effects, and Management in Surgical Patients" by Drs. John M. Kinney and Fred T. Caldwell, Jr., is also added. The emerging field of computer science is considered in a new chapter by Dr. John H. Siegel entitled "Computers and Mathematical Techniques in Surgery." The increasing application of nuclear medicine to surgical diagnosis is emphasized in Dr. Robert H. Jones' section, "Radioisotope Techniques for Diagnosis of Surgical Disorders." The chapter on transplantation is initiated with a basic section by a distinguished immunologist, Dr. D. Bernard Amos, with specific clinical contributions by Drs. Griep, Kountz, Najarian, Reemtsma, Seigler, Shumway, Simmons, Starzl, and Stickel, each of whom has been an original contributor in the field. The impressive advances in the field of cancer immunology are presented in a new chapter entitled "Immunobiology of Neoplastic Disease" by Drs. Morton and Wells. "Lung Function" by

Drs. Austen and Laver, "Cardiac Catheterization" by Drs. Robin, Ganguly, and Bing, and "Surgical Pharmacology of the Cardiovascular System" by Drs. Powell and Daggett are all new additions of special significance.

Finally, the objective of this edition has been the creation of a surgical text of sufficient scope to meet the needs of medical students, residents, practicing surgeons, and teachers of surgery.

DAVID C. SABISTON, JR.

In the fourth edition of this text, primary emphasis is placed upon those biological principles and determinants which form the basis of disease. This concept is appropriately stressed in the added article, "The Biological Basis of Modern Surgical Practice." The fundamental roles of physiology, biochemistry, immunology, pharmacology, and pathology form the basis for discussions of the pathogenesis, clinical manifestations, diagnosis, and management of each disorder. While this approach has obvious merits, it is perhaps of even more importance that the modern student justifiably must be that these fundamental biological factors form the foundation of an acceptable text.

In keeping with the recent and unprecedented strides in surgical science, contributors of recognized authority have been chosen for each section. Thus, the subject and author most definitely identified in recognition of the fact that most readers prefer the views of respected authorities.

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Several entirely new subjects are added, including a chapter on "Immunology," in which Dr. Frank D. Moore has assembled a remarkable amount of basic physiologic data in a highly relevant and readable manner. A chapter called "Liver: Biology, Physiology, and Metabolic Effects and Management in Surgical Patients" by Drs. John M. Kinney and Fred T. Caldwell, Jr., is also added. The emerging field of computer science is considered in a new chapter by Dr. John H. Siegel entitled "Computers and Mathematical Techniques in Surgery." The increasing application of nuclear medicine to surgical diagnosis is emphasized in Dr. Robert H. Jones' section "Radioisotope Techniques for Diagnosis of Surgical Disorders." The chapter on transplantation is initiated with a new section by a distinguished team, including Dr. D. Bernard Ames, with specific clinical contributions by Drs. Gregory Konoski, Nigam, Reemsman, Seigler, Sponaway, Starnes, Stavel, and others, each of whom has been an original contributor in the field. The impressive advances in the field of cancer immunology are presented in a new chapter entitled "Immunology of Neoplastic Disease" by Drs. Morton and Wells. "Lung Function" by

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CONTENTS

1	THE DEVELOPMENT OF SURGERY: Historical Aspects Important in the Origin and Development of Modern Surgical Science.....	1
	<i>Gert H. Brieger, M.D.</i>	
2	HOMEOSTASIS: BODILY CHANGES IN TRAUMA AND SURGERY: The Responses to Injury in Man as the Basis for Clinical Management	26
	<i>Francis D. Moore, M.D.</i>	
3	SHOCK: CAUSES AND MANAGEMENT OF CIRCULATORY COLLAPSE.....	65
	<i>Lloyd D. MacLean, M.D.</i>	
4	FLUID AND ELECTROLYTE BALANCE IN SURGICAL PATIENTS.....	94
	<i>Bernard Zimmermann, M.D.</i>	
5	PRINCIPLES OF PREOPERATIVE PREPARATION OF THE SURGICAL PATIENT	112
	<i>Fiorindo A. Simeone, M.D.</i>	
6	BLOOD TRANSFUSIONS AND DISORDERS OF SURGICAL BLEEDING	131
	<i>Donald Silver, M.D.</i>	
7	METABOLISM IN SURGICAL PATIENTS: PROTEIN, CARBOHYDRATE, AND FAT UTILIZATION BY ORAL AND PARENTERAL ROUTES.....	147
	<i>Stanley J. Dudrick, M.D., and Jonathan E. Rhoads, M.D.</i>	

8	
FEVER: ETIOLOGY, PHYSIOLOGIC AND METABOLIC EFFECTS, AND MANAGEMENT IN SURGICAL PATIENTS	175
<i>John M. Kinney, M.D., and Fred T. Caldwell, Jr., M.D.</i>	
9	
ANESTHESIA.....	189
<i>Edward A. Brunner, M.D., and James E. Eckenhoff, M.D.</i>	
10	
COMPUTERS AND MATHEMATICAL TECHNIQUES IN SURGERY.....	213
<i>John H. Siegel, M.D.</i>	
11	
RADIOISOTOPE TECHNIQUES FOR DIAGNOSIS OF SURGICAL DISORDERS	234
<i>Robert H. Jones, M.D.</i>	
12	
WOUND HEALING: BIOLOGIC AND CLINICAL FEATURES	249
<i>John W. Madden, M.D.</i>	
13	
BURNS: Including Cold, Chemical, and Electrical Injuries	272
<i>Curtis P. Artz, M.D., and Dabney R. Yarbrough, III, M.D.</i>	
14	
PRINCIPLES OF OPERATIVE SURGERY: ANTISEPSIS, TECHNIQUE, SUTURES AND DRAINS.....	300
<i>Raymond W. Postlethwait, M.D.</i>	
15	
SURGICAL INFECTIONS AND CHOICE OF ANTIBIOTICS	319
<i>W. A. Altemeier, M.D., and J. Wesley Alexander, M.D.</i>	
16	
BITES AND STINGS	342
<i>Kenneth P. Ramming, M.D.</i>	
17	
TRAUMA: MANAGEMENT OF THE ACUTELY INJURED PATIENT.....	351
<i>Theodore Drapanas, M.D., and Martin S. Litwin, M.D.</i>	
18	
SURGICAL COMPLICATIONS.....	398
<i>James D. Hardy, M.D.</i>	