
OPERATIVE SURGERY

PRINCIPLES AND TECHNIQUES

Third Edition

OPERATIVE SURGERY

PRINCIPLES AND TECHNIQUES

Edited by

Paul F. Nora, M.D., Ph.D.

Professor of Clinical Surgery, Northwestern University Medical School
Chicago, Illinois
Chairman, Department of Surgery, Columbus Hospital
Chicago, Illinois

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Contributors

J. WESLEY ALEXANDER, M.D., Sc.D.
Chief of Transplant Surgery, University of Cincinnati Hospital; Director of Research, Shriners Burns Institute, Cincinnati, Ohio.

ROBERT W. ANDERSON, M.D.
Professor of Surgery and Biomedical Engineering, Northwestern University Medical School, Chicago; Chairman, Department of Surgery, Evanston Hospital at McGaw Medical Center of Northwestern University, Evanston, Illinois.

J. BRADLEY AUST, M.D., Ph.D.
Professor and Chairman, Department of Surgery, University of Texas Health Science Center at San Antonio; Chief, Department of Surgery, Medical Center Hospital and Audie L. Murphy Memorial Veterans Hospital, San Antonio, Texas.

ROBERT W. BEART, JR., M.D.
Caywood Professor of Surgery, Mayo Medical School, Rochester, Minnesota; Mayo Clinic Scottsdale, Scottsdale, Arizona.

JOHN J. BERGAN, M.D.
Clinical Professor of Surgery, University of California, San Diego, School of Medicine; Scripps Memorial Hospital, La Jolla, California.

EUGENE F. BERNSTEIN, M.D., Ph.D.
Adjunct Professor of Surgery, University of California, San Diego, School of Medicine; Attending Vascular Surgeon, Green Hospital of the Scripps Clinic, La Jolla, California.

NORMAN BLOOM, M.D.
Associate Professor of Surgery, New York Medical College, Valhalla; Chief, Surgical Oncology and Head and Neck Surgery, Metropolitan Hospital Center, New York, New York.

C. THOMAS BOMBECK, M.D.
Professor of Surgery, University of Illinois College of Medicine at Chicago; Chief of Surgical Services, Veterans Administration West Side Medical Center, Chicago, Illinois.

JOHN W. BRAASCH, M.D.
Assistant Clinical Professor of Surgery, Harvard Medical School, Boston; Senior Consultant in Surgery, Lahey Clinic Hospital, Burlington, Massachusetts.

MICHAEL W. BROWN, M.D.
Formerly, Assistant Professor of Surgery, Division

of Urology, Duke University Medical Center, Durham, North Carolina; Attending Urologist, Huntsville Hospital, Huntsville, Alabama.

ERNEST M. BURGESS, M.D.

Clinical Professor, Department of Orthopedic Surgery, University of Washington, Seattle, Washington.

GEORGE W. BURKE, M.D.

Assistant Professor of Surgery, University of Miami School of Medicine; Jackson Memorial Hospital Medical, Miami, Florida.

ERNA B. BUSCH, M.D.

Postgraduate Trainee in Surgery, St. Vincent's Hospital and Medical Center of New York; New York, New York.

BLAKE CADY, M.D.

Associate Professor of Surgery, Harvard Medical School; Chief of Surgical Oncology, New England Deaconess Hospital, Boston, Massachusetts.

JOHN L. CAMERON, M.D.

The Warfield M. Firor Professor and Director, Section of Surgical Sciences, Department of Surgery, Johns Hopkins University School of Medicine; Surgeon-in-Chief, Johns Hopkins Hospital, Baltimore, Maryland.

PETER C. CANIZARO, M.D.

Professor and Chairman, Department of Surgery, Texas Tech University Health Sciences Center School of Medicine; Chief, Surgical Staff, Lubbock General Hospital, Lubbock, Texas.

C. JAMES CARRICO, M.D.

Professor and Chairman, Department of Surgery, University of Washington School of Medicine; University Hospital and Harborview Medical Center, Seattle, Washington.

GERALD W. CHODAK, M.D.

Associate Professor of Surgery, Section of Urology, University of Chicago, Chicago, Illinois.

ROBERT E. CONDON, M.D.

Ausman Foundation Professor and Chairman, Department of Surgery, Medical College of Wisconsin; Director of Surgery, Froedtert Memorial Lutheran Hospital and Milwaukee County Medical Complex, Milwaukee, Wisconsin.

MARK CONNOLLY, M.D.

Clinical Associate Professor of Surgery, University of Chicago; Attending Surgeon, Columbus Hospital and University of Chicago Hospitals, Chicago, Illinois.

E. DAVID CRAWFORD, M.D.

Professor and Chairman, Division of Urology, University of Colorado Health Sciences Center School of Medicine; University Hospital and Veterans Administration Medical Center, Denver, Colorado.

ANATOLIO B. CRUZ, JR., M.D.

Professor of Surgery, Chief, Surgical Oncology, University of Texas Health Science Center at San Antonio; Staff, Medical Center Hospital and Audie L. Murphy Memorial Veterans Hospital, San Antonio, Texas.

P. WILLIAM CURRERI, M.D.

President, Strategem of Alabama, Inc., Executive Vice President, Strategem, Inc., Mobile, Alabama.

ROBERT P. DAVIS, M.D.

Associate Professor of Clinical Surgery, Northwestern University Medical School; Associate Chairman, Department of Surgery, Columbus Hospital; Attending Surgeon, Veterans Administration Lakeside Medical Center, Chicago, Illinois.

RALPH B. DILLEY, M.D.

Adjunct Associate Professor of Surgery, University of California, San Diego, School of Medicine; Head, Vascular Surgery, Scripps Clinic and Research Foundation, La Jolla, California.

PHILIP E. DONAHUE, M.D.

Professor of Surgery, University of Illinois College of Medicine at Chicago; Chairman, Division of General Surgery, Cook County Hospital, Chicago, Illinois.

WILLIAM L. DONEGAN, M.D.

Professor of Surgery, Medical College of Wisconsin; Chief of Surgery, Sinai Samaritan Medical Center-Sinai Campus, Milwaukee, Wisconsin.

ARTHUR J. DONOVAN, M.D.

Professor and Chairman, Department of Surgery, University of Southern California School of Medicine; Staff, Los Angeles County-University of Southern California Medical Center, Los Angeles, California.

FREDERICK R. EILBER, M.D.

Professor of Surgery and Oncology, University of California, Los Angeles, UCLA School of Medicine, Los Angeles, California.

JENS ELDRUP-JORGENSEN, M.D.

Attending Vascular Surgeon, Maine Medical

Center and Mercy Hospital, Portland, Maine.

CALVIN B. ERNST, M.D.

Clinical Professor of Surgery, University of Michigan Medical School, Ann Arbor; Head, Division of Vascular Surgery, Henry Ford Hospital, Detroit, Michigan.

WILLIAM R. FLINN, M.D.

Associate Professor of Surgery, Northwestern University Medical School; Attending Vascular Surgeon, Northwestern Memorial Hospital; Attending Vascular Surgeon, Director, Blood Flow Laboratory, Columbus Hospital, Chicago, Illinois.

JAMES H. FOSTER, M.D.

Professor of Surgery, University of Connecticut School of Medicine; Attending Surgeon, University of Connecticut Medical Center, Farmington, Connecticut.

ROBERT J. FREEARK, M.D.

Professor and Chairman, Loyola University of Chicago Stritch School of Medicine; Surgeon-in-Chief, Foster G. McGaw Hospital, Maywood, Illinois.

WILLIAM J. FRY, M.D.

Professor and Chairman, Department of Surgery, University of Texas Health Science Center at Dallas, Southwestern Medical School and Parkland Memorial Hospital, Dallas, Texas.

FREDERICK C. GAU, M.D.

Clinical Instructor in Surgery, Loyola University Medical Center, Maywood, Illinois; Attending Surgeon, St. Francis Hospital, Evanston, Illinois.

ROBERT J. GINSBERG, M.D.

Professor and Head, Division of Thoracic Surgery, University of Toronto; Surgeon-in-Chief, Mount Sinai Hospital, Toronto, Canada.

WILLIAM P. GRAHAM, III, M.D.

Clinical Professor of Surgery, Pennsylvania State University School of Medicine, Hershey, Pennsylvania.

MARK S. GRANICK, M.D.

Clinical Assistant Professor of Surgery (Plastic), Hahnemann University, Director, The Graduate Hospital Head and Neck Center; Hahnemann University Hospital, The Graduate Hospital, and Germantown Hospital, Philadelphia, Pennsylvania.

LAZAR J. GREENFIELD, M.D.

Professor and Chairman, Department of Surgery, University of Michigan Medical School; Executive Director, University of Michigan Operating Rooms, University of Michigan Hospitals, Ann Arbor, Michigan

CONTRIBUTORS

WARD O. GRIFFEN, JR., M.D., Ph.D.

Executive Director, American Board of Surgery;
Professor of Surgery, Temple University School of
Medicine; Attending Surgeon, Temple University
Hospital, Philadelphia, Pennsylvania.

CARLO E. GROSSI, M.D.

Professor of Surgery, New York Medical College;
Director of Surgery, La Guardia Hospital, New
York, New York.

GRADY L. HALLMAN, M.D.

Clinical Professor of Surgery, University of Texas
Medical School at Houston; Attending Surgeon, St.
Luke's Episcopal Hospital, Texas Children's
Hospital, and Methodist Hospital, Houston; Texas.

LAWRENCE G. HAMPSON, M.D.

Professor of Surgery, McGill University Faculty of
Medicine; Senior Surgeon, Montreal General
Hospital, Montreal, Quebec, Canada.

DWIGHT C. HANNA, M.D.

Clinical Professor Emeritus of Surgery (Plastic),
University of Pittsburgh; Western Pennsylvania
Hospital, Pittsburgh, Pennsylvania.

NORMAN E. HUGO, M.D.

Professor of Surgery (Plastic), Columbia University
College of Physicians and Surgeons; Director,
Plastic and Reconstructive Surgery and Attending
Surgeon, Presbyterian Hospital in the City of New
York, Columbia-Presbyterian Medical Center, New
York, New York.

RAYMOND J. JOEHL, M.D.

Associate Professor of Surgery, Northwestern
University Medical School; Chief, Surgical Service,
Veterans Administration Lakeside Medical Center;
Attending Surgeon, Northwestern Memorial
Hospital, Chicago, Illinois.

R. SCOTT JONES, M.D.

Stephen H. Watts Professor and Chairman,
Department of Surgery, University of Virginia
Health Sciences Center; Surgeon-in-Chief,
University of Virginia Hospital, Charlottesville,
Virginia.

LOWELL R. KING, M.D.

Professor of Urology and Associate Professor of
Pediatrics, Head, Section of Pediatric Urology,
Division of Urology, Duke University Medical
Center; Attending Pediatric Urologist, Duke
University Medical Center, Durham, North Carolina.

C. FREDERICK KITTLE, M.D.

Professor of Surgery, Rush Medical College of
Rush University; Director, Section of Thoracic
Surgery and Senior Attending Surgeon, Rush-

Presbyterian-St. Luke's Medical Center, Chicago;
Attending Surgeon, MacNeal Hospital, Berwyn,
Illinois.

LORRIE A. LANGDALE, M.D.

Assistant Professor, Department of Surgery,
University of Washington School of Medicine;
Veterans Administration Medical Center and
Harborview Medical Center, Seattle, Washington.

WALTER LAWRENCE, JR., M.D.

Professor and Chairman, Division of Surgical
Oncology, Virginia Commonwealth University
Medical College of Virginia, Medical College of
Virginia Hospitals, Richmond, Virginia.

MICHAEL M. LEWIS, M.D.

Robert K. Lippmann Professor of Orthopaedics,
Mount Sinai School of Medicine of the City
University of New York; Chairman, Department of
Orthopaedics and Orthopaedic Surgeon-in-Chief,
The Mount Sinai Hospital, New York, New York.

KEITH D. LILLEMÖE, M.D.

Assistant Professor, Johns Hopkins University
School of Medicine; Staff Surgeon, Johns Hopkins
Hospital, Baltimore, Maryland.

FRED N. LITTOOY, M.D.

Professor of Surgery, Loyola University of Chicago
Stritch School of Medicine, Chief, Division of
Peripheral Vascular Surgery, Veterans
Administration Hospital (Hines), Maywood, Illinois.

JAMES M. MALONE, M.D.

Clinical Professor of Surgery, University of Arizona
College of Medicine, Tucson; Chairman,
Department of Surgery, Maricopa Medical Center,
Phoenix, Arizona.

ROGER A. MANN, M.D.

Associate Clinical Professor, Department of
Orthopedic Surgery; Director, Fellowship Program:
Adult Reconstructive Foot and Ankle Surgery;
University of California, San Francisco, School of
Medicine, San Francisco, California.

W. SCOTT McDOUGAL, M.D.

Professor and Chairman, Department of Urology,
Vanderbilt University School of Medicine;
Vanderbilt University Medical Center, Nashville,
Tennessee.

JOHN T. McMAHAN, M.D.

Assistant Clinical Professor, Department of
Otolaryngology—Head and Neck Surgery,
Northwestern University Medical School;
Northwestern Memorial Hospital, Holy Family
Hospital, and McGaw Medical Center, Chicago,
Illinois.

WILLIAM F. McMANUS, M.D.

Clinical Professor of Surgery, University of Texas Health Science Center at San Antonio; Chief, Clinical Division, U.S. Army Institute of Surgical Research, Fort Sam Houston, San Antonio, Texas.

J. WAYNE MEREDITH, M.D.

Assistant Professor of Surgery, Bowman Gray School of Medicine of Wake Forest University, Medical Center; Trauma Director, North Carolina Baptist Hospitals, Winston-Salem, North Carolina.

STEPHEN H. MILLER, M.D.

Clinical Professor of Surgery, University of California, San Diego, School of Medicine; Green Hospital of The Scripps Clinic, La Jolla, California.

THOMAS A. MILLER, M.D.

Professor and Vice Chairman, Department of Surgery, University of Texas Medical School at Houston; Attending Surgeon, The Hermann Hospital, Houston, Texas.

FRANK G. MOODY, M.D.

Denton A. Cooley Professor and Chairman, Department of Surgery, University of Texas Medical School at Houston; Chief of Surgery, The Hermann Hospital, Houston, Texas.

A. R. MOOSSA, M.D.

Professor and Chairman, Department of Surgery, University of California, San Diego, School of Medicine; Surgeon-in-Chief, UCSD Medical Center, San Diego, California.

DONALD L. MORTON, M.D.

Professor of Surgery and Chief, Division of Oncology, University of California, Los Angeles, UCLA School of Medicine, Los Angeles, California.

DAVID L. NAHRWOLD, M.D.

Loyal and Edith Davis Professor and Chairman, Department of Surgery, Northwestern University Medical School; Surgeon-in-Chief, Northwestern Memorial Hospital, Chicago, Illinois.

JOHN S. NAJARIAN, M.D.

Professor and Chairman, Department of Surgery, University of Minnesota Medical School; Professor and Chairman of Surgery, University of Minnesota Hospital, Minneapolis, Minnesota.

THOMAS F. NEALON, JR., M.D.

Prefessor of Surgery, New York University School of Medicine, New York; Professor of Surgery, New York Medical College, Valhalla; Director of Surgery, St. Vincent's Hospital and Medical Center of New York; New York, New York.

WILFORD B. NEPTUNE, M.D.

Lecturer, Harvard Medical School; Associate,

Overholt Thoracic Clinic, Staff, New England Deaconess Hospital, Boston, Massachusetts.

JOHN A. NESBITT, M.D.

Assistant Professor of Surgery, Division of Urology, Ohio State University College of Medicine; Children's Hospital and Riverside Methodist Hospital, Columbus, Ohio.

WILLIAM L. NEWMAYER, M.D.

Associate Clinical Professor of Surgery, University of California, San Francisco, School of Medicine; Active Staff and Chief of Surgery, St. Francis Memorial Hospital; Active Staff, Children's Hospital; San Francisco, California.

RONALD LEE NICHOLS, M.D.

Henderson Professor and Vice-Chairman, Department of Surgery; Professor of Microbiology and Immunology, Tulane University School of Medicine; Attending Surgeon, Tulane Medical Center Hospital and Clinic; Visiting Surgeon, Charity Hospital at New Orleans; New Orleans, Louisiana.

SANTHAT NIVATVONGS, M.D.

Associate Professor of Surgery, Mayo Medical School; Rochester Methodist Hospital and Saint Mary's Hospital; Rochester, Minnesota.

PAUL F. NORA, M.D.

Professor of Clinical Surgery, Northwestern University Medical School; Chairman, Department of Surgery, Columbus Hospital, Chicago, Illinois.

LLOYD M. NYHUS, M.D.

Warren H. Cole Professor and Head, Department of Surgery, University of Illinois College of Medicine; Surgeon and Chief, University of Illinois Hospital, Chicago, Illinois.

HARRY A. OBERHELMAN, JR., M.D.

Professor of Surgery, Stanford University School of Medicine; Chief of Division of General Surgery, Stanford University Hospital, Stanford, California.

PAUL O'BRIEN, M.D.

Professor of Surgery, Medical University of South Carolina College of Medicine; Chief, Gold Surgery Service, MUSC; Consultant, Charleston Memorial Hospital; Consultant, Veterans Administration Medical Center, Charleston, South Carolina.

JOHN L. OCHSNER, M.D.

Chairman Emeritus, Department of Surgery, Ochsner Foundation Hospital, New Orleans; Director, Thoracic and Cardiovascular Surgery Service, Ochsner Foundation Hospital, New Orleans, Louisiana.

THOMAS F. O'DONNELL, M.D.

Professor of Surgery, Tufts University School of Medicine; Chief of Vascular Surgery, New England Medical Center Hospital, Boston, Massachusetts.

JAMES A. O'NEILL, JR., M.D.

The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania.

MARK B. ORRINGER, M.D.

Professor and Head, Section of Thoracic Surgery, University of Michigan Medical School, Ann Arbor, Michigan.

DAVID F. PAULSON, M.D.

Professor of Surgery, Chief, Division of Urology, Duke University Medical Center, Durham, North Carolina.

RONALD R. PFISTER, M.D.

Professor of Surgery, Division of Urology, University of Colorado Health Sciences Center School of Medicine; University Hospital and Children's Hospital, Denver, Colorado.

JACK PICKLEMAN, M.D.

Professor of Surgery, Chief, Division of General Surgery, Loyola University of Chicago Stritch School of Medicine; Attending Surgeon, Loyola University Hospital, and Hines Veterans Administration Hospital, Maywood, Illinois.

HIRAM C. POLK, JR., M.D.

Professor and Chairman, Department of Surgery, University of Louisville School of Medicine, Louisville, Kentucky.

STEVEN POWELL, M.D.

Assistant Professor of Surgery, Chief, Division of Vascular Surgery, East Carolina University School of Medicine; Greenville, North Carolina.

KENNETH J. PRINTEN, M.D.

Professor of Surgery, Loyola University of Chicago Stritch School of Medicine; Chief, Department of Surgery, Saint Francis Hospital of Evanston; Attending Surgeon, Loyola University Medical Center, Maywood, Illinois.

BASIL A. PRUITT, JR., M.D.

Commander and Director, U.S. Army Institute of Surgical Research, Ft. Sam Houston, San Antonio, Texas.

STEPHEN REMINE, M.D.

Associate Professor of Surgery, Vice-Chairman, Department of Surgery, Chief, General Surgery, University of Connecticut School of Medicine; Surgeon-in-Chief, John Dempsey Hospital; Farmington, Connecticut.

ARTHUR J. ROSS, III, M.D.

The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania.

BENJAMIN F. RUSH, JR., M.D.

Professor and Chairman, Department of Surgery, University of Medicine and Dentistry of New Jersey, Piscataway; Chief of Surgery, University Hospital, Newark, New Jersey.

ROBERT RUTLEDGE, M.D.

Assistant Professor, Department of Surgery, University of North Carolina at Chapel Hill School of Medicine; Surgeon, North Carolina Memorial Hospital, Chapel Hill, North Carolina.

BRUCE SCHIRMER, M.D.

Assistant Professor of Surgery, University of Virginia School of Medicine; Attending Surgeon, University of Virginia Health Sciences Center, Charlottesville, Virginia.

LOUISE SCHNAUFER, M.D.

The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania.

HARRY W. SCHOENBERG, M.D.

Professor of Surgery, Chairman, Section of Urology, University of Chicago, Chicago, Illinois.

GEORGE F. SHELDON, M.D.

Professor and Chairman, Department of Surgery, University of North Carolina at Chapel Hill School of Medicine; North Carolina Memorial Hospital, Chapel Hill, North Carolina.

ALEXANDER D. SHEPARD, M.D.

Clinical Assistant Professor, Department of Surgery, Division of Vascular Surgery, University of Michigan Medical School, Ann Arbor; Senior Staff Surgeon, Division of Vascular Surgery, Medical Director, Noninvasive Vascular Laboratory, Henry Ford Hospital, Detroit, Michigan.

THOMAS W. SHIELDS, M.D.

Professor of Surgery, Northwestern University Medical School; Attending Surgeon, Northwestern Memorial Hospital; Chief of Thoracic Surgery, Veterans Administration Lakeside Medical Center, Chicago, Illinois.

G. THOMAS SHIRES, M.D.

Professor and Chairman, Department of Surgery, Cornell University Medical College; Surgeon-in-Chief, New York Hospital; New York, New York.

NICHOLAS A. SHORTER, M.D.

The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania.

WILLIAM SILEN, M.D.

Johnson and Johnson Professor of Surgery,
Harvard Medical School; Surgeon-in-Chief, Beth
Israel Hospital, Boston, Massachusetts.

GEORGE A. SISSON, Sr., M.D.

Professor and Chairman, Department of
Otolaryngology — Head and Neck Surgery,
Northwestern University Medical School;
Northwestern Memorial Hospital and McGaw
Medical Center, Chicago, Illinois.

DAVID B. SKINNER, M.D.

Professor of Surgery, New York Hospital - Cornell
Medical Center; President and Chief Executive
Officer, New York Hospital; New York, New York.

CHARLES J. STALEY, M.D.

Associate Professor of Surgery,
Northwestern University Medical School,
Chicago; Attending Staff, Lutheran General
Hospital, Park Ridge, Illinois.

CARL M. SUTHERLAND, M.D.

Professor, Tulane University School of Medicine,
New Orleans, Louisiana.

DAVID E. R. SUTHERLAND, M.D.

Professor of Surgery, University of Minnesota
Medical School; University of Minnesota Hospital,
Minneapolis, Minnesota.

GORDON TELFORD, M.D.

Associate Professor of Surgery, Medical College of
Wisconsin, Milwaukee, Wisconsin; Attending
Surgeon, Froedtert Memorial Lutheran Hospital
and Milwaukee County Medical Complex; Staff
Surgeon, Veterans Administration Medical Center,
Milwaukee, Wisconsin.

DONALD D. TRUNKEY, M.D.

Professor and Chairman, Department of Surgery,
Oregon Health Sciences University School of
Medicine, Portland, Oregon.

HAROLD C. URSCHEL, Jr., M.D.

Professor, Thoracic and Cardiovascular Surgery,
University of Texas Health Science Center at
Dallas, Baylor University Medical Center; Parkland
Memorial Hospital, and Presbyterian Hospital,
Dallas, Texas.

ROBERT M. VANECKO, M.D.

Professor of Clinical Surgery, Northwestern
University Medical School; Attending Surgeon,
Northwestern Memorial Hospital, Columbus
Hospital, and Veterans Administration Lakeside
Medical Center, Chicago, Illinois.

H. E. WAHLSTROM, M.D.

Assistant Clinical Professor, Department of
Surgery, University of California, San Diego,

School of Medicine; Attending Surgeon, University
of California, San Diego, Medical Center, San
Diego, California.

ALEXANDER J. WALT, M.D.

Professor of Surgery, Wayne State University
School of Medicine; Attending in Surgery, Harper-
Grace Hospital; Senior Attending in Surgery,
Detroit Receiving Hospital; Consultant in Surgery,
Veterans Administration Medical Center (Allen
Park), Hutzel Hospital, Sinai Hospital of Detroit,
Detroit, Michigan.

WILLIAM H. WARREN, M.D.

Assistant Professor of Cardiothoracic Surgery,
Assistant Professor of Pathology, Rush Medical
College of Rush University; Assistant Attending
Surgeon, Cardiothoracic Surgery, Presbyterian-St.
Luke's Hospital; Attending Surgeon, Department
of Surgery, West Suburban Hospital, Chicago,
Illinois.

J. PAUL WAYMACK, M.D.

Chief, Surgical Study Branch, U.S. Army Institute
of Surgical Research, Ft. Sam Houston; Assistant
Professor of Transplant Surgery, University of
Texas Health Science Center; San Antonio, Texas.

RUDOLPH F. WEICHERT, III, M.D.

Clinical Professor of Surgery, Chief of Cardiac
Surgery, Louisiana State University of Medicine;
Chief of Cardiac Surgery, Veterans Administration
Hospital; Chief of Staff, Hotel Dieu Hospital; Chief
of Thoracic and Cardiovascular Surgery, Touro
Infirmary, New Orleans, Louisiana.

CLIFFORD R. WHEELLESS, Jr., M.D.

Assoc Professor, Johns Hopkins University School
of Medicine; Chief, Gynecology and Obstetrics,
Union Memorial Hospital, Baltimore, Maryland.

PAT W. WHITWORTH, M.D.

Fellow in Surgical Oncology, M.D. Anderson
Hospital and Tumor Institute, Houston, Texas.

BRUCE WOLFF, M.D.

Associate Professor of Surgery, Mayo Medical
School; Rochester Methodist Hospital and
Saint Marys Hospital, Rochester, Minnesota.

JAMES S.T. YAO, M.D., Ph.D.

Magerstadt Professor of Surgery, Northwestern
University Medical School; Attending Vascular
Surgeon, Director, Blood Flow Laboratory,
Northwestern Memorial Hospital, Chicago, Illinois.

GEORGE D. ZUIDEMA, M.D.

Vice Provost for Medical Affairs, Professor of
Surgery, University of Michigan Medical School,
Ann Arbor, Michigan.

Preface

The major purpose of the third edition is to update the principles and techniques of operative surgery in the light of current surgical practices. The book is intended to be a guide for the surgeon in training faced with the selection of an operative procedure, including review of all operative steps, cautions, pitfalls, and the like. It should also be of value as a review for senior surgeons who are contemplating a procedure less frequently performed.

A major emphasis has been placed on the use of stapling techniques and other modern surgical techniques. The ever changing approach to neoplasia of the breast is well described. Trauma as it relates to various organ systems is extensively documented. The use of microvascular surgery for various types of random flaps is described and accompanied by many new illustrations.

The importance of imaging techniques in a variety of diseases is extensively discussed. In clinical situations, the use of computed tomography and ultrasound, as aids in diagnosis and treatment of diseases, is evident throughout the text.

With the evolution of certain surgical techniques several areas have been expanded. The chapter on transplantation has nearly doubled in size commensurate with the increasing role of this mode of therapy for disease in various organs, e.g., the liver, kidney, and pancreas.

The increasing application of vascular access for hyperalimentation and chemotherapy has resulted in technologic advances, which are well described. Radical surgical therapy for genitourinary

malignancy has resulted in an increased cure rate, and this section of the text has been extensively revised. The importance of complementary modes of therapy, such as renal extracorporeal lithotripsy, is described. The utilization of laser therapy is mentioned in several sections of the book.

Several new authors have contributed to the Vascular Surgery section. The role of the blood flow laboratory in peripheral vascular disease is well documented. The current classification of pulmonary embolism syndrome is described, with indications and methods for the percutaneous placement of the vena cava filter.

The illustrations of operative techniques have been for the most part redrawn in a contemporary style. All figures have been relabeled to further enhance the visual appeal and functional value of the text.

The most contemporary approaches to reflect fresh and current philosophies have been presented.

As in the previous two editions, Edward H. Wickland, Jr., has been invaluable, both in the initial planning phase of the book and in its final production. Kathleen McCullough has been extremely helpful in the development and coordination of the text. Patricia Morrison and her illustration staff have helped to make my task easier. My very special thanks to Ruth Shea for her assistance in bringing the book to fruition.

Finally, I want to thank my wife, Valerie, who was extremely supportive during the preparation of this text, particularly in view of my temporary role reversal from surgeon to patient.

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S E C T I O N I

INTRODUCTION

Principles of Operative Surgery

PART ONE

General Considerations

THOMAS F. NEALON, JR.
CARLO E. GROSSI
ERNA B. BUSCH

The aim of the surgeon should be to correct the patient's problem with a minimum of patient trauma and disruption of normal physiology. To properly care for the patient, the surgeon must be concerned with the emotional make up, physiology, and diseases of the patient. The surgeon must be able to evaluate these factors and correct any aberration. To do this effectively, the surgeon must have an adequate knowledge of surgical tools and their influence on tissues, both healthy and impaired.

Individual chapters will be devoted to problems peculiar to specific anatomic areas. This segment will be devoted to general considerations that apply to the patient as an individual and to his or her tissues as a specific entity. The discussion will concern (1) the patient, (2) the wound, and (3) the materials and techniques used in the treatment of wounds or diseases.

PREOPERATIVE EVALUATION AND PREPARATION

Care of the surgical patient begins at the first meeting between surgeon and patient. The rapport established at that time may well influence the results of any treatment. The surgeon who makes an effort to put the patient at ease and is courteous, polite, straightforward, and yet decisive will gain the patient's confidence at once. It is sometimes worthwhile to discuss generalities until the patient is sufficiently relaxed to discuss his or her medical problems.

A thorough preoperative evaluation consists of a good history, a complete physical examination, and pertinent laboratory and roentgenographic studies. A good history should include all factors pertaining to the current problem, past illnesses and surgical procedures, medications, allergies, social history, family history, and a complete review of systems. The value of a history often is not recognized, but careful questioning of the patient may often bring to light conditions that otherwise might be overlooked.

The physical examination should be conducted systematically, covering all anatomic areas. Breast, rectal, pelvic, neurologic, and vascular examinations should be included. All data, normal and abnormal, must be recorded. It is surprising how frequently conditions that may delay or alter the intended surgery and that require further preoperative assessment are discovered during the initial physical examination.

Preoperative laboratory studies range from the routine complete blood count, urinalysis, electrolytes, and coagulation studies to more elaborate batteries of tests including nutritional profiles, hormonal assays, and drug levels. The aim is to detect abnormalities preoperatively so that the patient's condition can be fully optimized. A depleted blood volume is particularly significant in elderly patients with marginal reserves, and this type of abnormality can be corrected prior to operation.

Appropriate roentgenographic studies generally include a routine chest x-ray and any other studies pertinent to the patient's condition. Arteriograms, barium enemas, upper gastrointestinal (GI) series, tomograms, computerized tomograms (CTs), and nuclear magnetic resonance scans may be useful diagnostically as well as in delineating individual anatomy and determining the operative approach.

Additional studies may also be necessary to determine the baseline cardiopulmonary functional status of some patients to assess pre-existing dysfunction. An electrocardiogram (EKG) should be included for all patients over the age of 40. Stress tests and other determinations of cardiac function may be required in patients with a history of cardiac disease. Abnormalities may indicate a need for invasive operative and perioperative monitoring by Swan-Ganz catheterization.

Many patients smoke and should be advised to stop preoperatively. Pulmonary function tests may be helpful in determining the degree of compromise in patients with pulmonary emphysema or chronic lung disease. Intermittent positive pressure may be indicated for such patients. Postural drainage and specific antibiotics, in addition to intermittent positive pressure, are indicated for patients with bronchiectasis.

Bowel preparation is necessary to decrease bacterial counts when operations of the GI tract are planned. This usually consists of mechanical cleansing with cathartics, enemas, a low residue diet, and antibiotics.

Before any pelvic procedure is begun, an indwelling catheter should be inserted to decompress the