

# EMERGENCY SURGERY

### BERNARD J. FICARRA, A.B., Sc.B., M.D.

Supervising Editor

Research Professor of Experimental Physiology, Graduate School of St. John's University, Brooklyn, New York; Diplomate of the American Board of Surgery; Associate Visiting Surgeon on Head and Neck Service of John E. Jennings Memorial Hospital; Associate Visiting Surgeon, St. Peter's Hospital, The Hospital of the Holy Family, and Kings County Hospital, Brooklyn, New York; Consultant in Thyroid Surgery, Yonkers Professional Hospital, Yonkers, New York.

578 ILLUSTRATIONS

COPYRIGHT 1953

BY

F. A. DAVIS COMPANY

Library of Congress
Catalog Card No.
53-9759

### Acknowleagment

It is the pleasure of the Supervising Editor to acknowledge the kind cooperation, assistance, and encouragement of Frederick C. Smith, M.D., of the medical editorial staff of F. A. Davis Company, who was a great asset in the publication of this modern text-book on Emergency Surgery.

#### DEDICATION

In humble sincerity, this volume is dedicated to that army of American surgeons who have devoted their talents, not only to the saving of human life, but as a contribution to our democratic American Way of Life; that galaxy of unhonored servants of mankind, who despite the growing materialism of our age, have plied their labors in consonance with the law of God, knowing—

"That very law which moulds a tear, And bids it trickle from its source, That law preserves the earth a sphere, And guides the planets in their course."

### Foreword

THOUGH in certain respects surgical technic has become standardized, yet at any time, even during the performance of what may be regarded as a routine operation, an emergency may arise and a difficult problem demand immediate solution. The surgeon is judged, and rightly judged, by the way in which he deals with such calls upon his skill and judgment. If he becomes flustered, gives contradictory orders, has no definite plan to deal with the crisis, and generally seems at a loss how to proceed, it will be clear to everyone that there is a defect of training, of temperament, or of both. If, on the other hand, he remains calm, retains a steady hand, shows fertility of resource, and successfully overcomes the difficulty, we acknowledge the master-surgeon.

Some men have greater natural self-possession than others, and with increasing experience everyone becomes more resourceful, but no surgeon, however experienced, is likely to have met every possible emergency, and the young surgeon, with his limited opportunities, may have encountered but few. There is, therefore, something to be gained by all surgeons in having available for ready reference some guidebook which gives the relevant information concerning all the likely surgical emergencies. To be forewarned is to be forearmed. Knowledge of how the expert has solved a problem should always help in dealing with a similar difficulty. To provide this knowledge is the purpose of this book which covers a wide field, and in which every effort has been made to furnish the best and most up-to-date information. May its purpose be fulfilled.

V. ZACHARY COPE

London, England

### Preface

THE problems involved in the emergency case are always a challenge to the alertness, preparedness, and acumen of every doctor of medicine. There are among our profession many whose contact with accidental injury is a regular part of their daily routine. These men, who are especially trained by their predecessors, or by their own vast experience, or by the dint of constant mental effort, meet these emergencies with a knowledge that leads to good treatment and consequently, desired results.

On the other hand, countless physicians are held responsible in the case of an emergency, regardless of their specialty, or their lack of interest in this type of practice. None of us can be excused from duty when a disaster comes, and our services are needed. There have been directives of a broad nature already issued, and some efforts have been made to educate lay workers as well as physicians, to act with some clarity under these circumstances. World War II manuals are available and, although chiefly concerned with the military problems of encampment and battle, are still of value. Doubtless these will be expanded, and new subjects will be covered in due time.

There is not, however, a single, compact volume that covers the emergency situations that occur daily, and those that can be anticipated under our present uncertain and precarious state of international affairs. In this new book, edited by Dr. Ficarra, we have a most important directive to guide every physician, when the emergency arises. The first treatment, even to the position of the injured best suited for transportation, is the one that, when correctly carried out, saves a life.

This book should be the bible of every emergency ward surgeon, and the handy reference guide for every doctor's office. Here will be found tested and tried methods of procedure, made available to all from the vast experience of experts in this important field of surgery.

Boston, Mass.

ARTHUR W. ALLEN, M.D.

### Introduction

ONE of America's greatest contributions to the advancement of surgical knowledge is the voluminous literature written on the various aspects of surgery. The dignified surgical journals and the masterfully composed textbooks which have appeared during the past decades attest to the American genius for stimulating great efforts in surgery which aid humanity by eradicating disease.

Every article published and every book written do not always contain new-found information or a great discovery. Nevertheless, they bring to the attention of men of medicine and surgery certain facts and gifts of knowledge which have been found useful in alleviating the pains of a suffering humanity as well as curtailing the scourge of disease.

This book on EMERGENCY SURGERY it is hoped will be accepted as a text of this type, namely, that it will contain information that will assist in serving humanity. To quote Sir William Osler, our purpose is "to track to their sources the causes of diseases, to correlate the vast stores of knowledge, that they may be quickly available for the prevention and cure of diseases—these are our ambitions."

The authors who have created this book should be complimented and congratulated. Each has performed his task well and their presentation of the various subjects is a written testimony and tribute to their talents. The material presented encompasses the management of emergencies encountered in the various regions of the human body, and the human body as a psychosomatic entity. Emphasis has been placed upon the treatment of emergencies and acute surgical problems so that they may be managed in the best possible manner for the patient's benefit.

Although there is no specific heading entitled "War Surgery," nevertheless within the pages of this book will be found discussions on those injuries sustained during warfare. In the same category of war injuries are those emergencies resulting from atomic bombing. This subject and allied topics are included in this volume as future reference material. May it never be necessary to use this knowledge; however, it is contained here if the need should arise.

All those associated with the creation of this book are worthy of our profound gratitude. I know they do not desire any expression of gratitude, for

xiv

the book itself is a printed manifestation of its own indebtedness to the authors. The contributors have written for future generations gems of surgical knowledge which will alleviate the sufferings of mankind. The publishers have given a physical structure to these gems which encase them for preservation through the years. Both authors and publishers have brought forth a book which is a credit to the printer's art. It is hoped that their labors have not been in vain and that this book will be listed among the literary efforts which have contributed to the advancement of American surgical knowledge and prestige.

Althoracy process are negative of the control of the control about the re-

BERNARD J. FICARRA

Brooklyn, New York

# Contributors Land dates and Land

#### JOHN E. ADAMS, M.D., F.A.C.S.

Diplomate of the American Board of Neurological Surgery; Assistant Professor of Neurological Surgery, University of California School of Medicine; Assistant Visiting Neurological Surgeon, San Francisco County Hospital; Attending Neurological Surgeon, Fort Miley Veterans Hospital; Consultant in Neurological Surgery, Oakland Naval Hospital, San Francisco, Caifornia.

#### RALPH ADAMS, M.D., F.A.C.S.

Diplomate of the American Board of Surgery; Diplomate of the American Board of Thoracic Surgery; Professor of Clinical Surgery, Boston University School of Medicine; Visiting Surgeon, Massachusetts Memorial Hospitals, Boston, Mass.

#### JOHN ADRIANI, M.D., F.A.S.A.

Diplomate of the American Board of Anesthesiology; Professor of Surgery, School of Medicine, Tulane University of Louisiana; Associate Clinical Professor of Surgery, School of Medicine, Louisiana State University; Director of the Department of Anesthesiology, Charity Hospital of Louisiana at New Orleans, New Orleans, La.

#### ARTHUR W. ALLEN, M.D., F.A.C.S.

Diplomate of the American Board of Surgery; Formerly Lecturer in Surgery, Harvard Medical School: Consultant in Surgery, Massachusetts General Hospital, Boston, Mass.

#### F. PAUL ANSBRO, M.D., F.A.C.A.

Diplomate of the American Board of Anesthesiology; Assistant Clinical Professor of Anesthesiology, State University of New York College of Medicine, New York; Attending Anesthesiologist, St. Catherine's, Adelphi, and Brooklyn Thoracic Hospitals; Consultant in Anesthesiology, Kings County, St. Peter's, St. Mary's, Swedish and Victory Memorial Hospitals, Brooklyn, New York.

LYON H. APPLEBY, M.D., F.A.C.S., F.R.C.S. (ENG.), F.R.C.S. (CAN.), F.I.C.S. Chief Surgeon, St. Paul's Hospital; Consulting Surgeon, Children's Hospital, Vancouver, B. C., Canada.

#### GARNET W. AULT, M.D.

Diplomate of the American Board of Proctology; Professor of Proctology, Georgetown University School of Medicine; Proctologist, University Hospital of the Georgetown University Medical Center, Children's and Columbia Hospitals, Washington, D. C.

GILBERT B. AYRES, PH.D. Director of Research, Davis and Geck, Inc., Danbury, Conn.

EARL B. BARNES, M.D., F.A.C.S. Assistant Professor of Surgery, Georgetown University Medical Center, Washington, D. C.

#### FRANZ K. BAUER, M.D.

Diplomate of the American Board of Internal Medicine; Instructor in Medicine, College of Medical Evangelists; Attending Physician, Los Angeles County General Hospital; Chief of Radioisotope Research Unit, Veterans Administration Center, Los Angeles, California.

#### ROBERT E. L. BERRY, M.D.

Associate Professor of Surgery, University of Michigan Medical School, Ann Arbor, Michigan.

R. RUSSELL BEST, M.D., F.A.C.S. Diplomate of the American Board of Surgery; Professor of Surgery, University of Nebraska College of Medicine, Omaha, Nebraska.

### REEVE H. BETTS, M.D., F.A.C.S., F.I.C.S., F.C.C.P.

Diplomate, American Board of Surgery; Diplomate, American Board of Thoracic Surgery; Associate Professor of Surgery in charge of Thoracic Surgery, Christian Medical College and Hospital. Vellore, South India.

ISAAC A. BIGGER, M.D., F.A.C.S.
Diplomate of the American Board of Surgery;
Professor of Surgery and Surgeon-in-Chief, Medical College of Virginia; Surgeon to the Crippled Children's Hospital, Richmond, Virginia.

HOUCK E. BOLTON, M.D.

Instructor in Thoracic Surgery, Hahnemann Medical College and Hospital; Thoracic Surgeon, Bailey Thoracic Clinic; Consultant in Thoracic Surgery, Doctors Hospital, Philadelphia, Penna.

Lewis Hinton Bosher, Jr., M.D.,

F.A.C.S.

Diplomate of the American Board of Surgery; Assistant Professor of Surgery, Medical College of Virginia; Chief of Thoracic Surgery, Medical College of Virginia Hospital; Attending in Thoracic Surgery, McGuire Veterans Administration Hospital, Richmond, Virginia.

WILLIAM E. BRANCH, M.D., F.A.C.S. Chief Surgeon, Branch Clinic, Los Angeles, California.

ALEJANDRO F. CASTRO, M.S., M.D., F.A.C.S.

Diplomate of the American Board of Proctology; Assistant Professor of Proctology, Georgetown University, School of Medicine; Proctologist, University Hospital of the Georgetown University Medical Center, Washington, D. C.

SANTINO J. CATANZARO, M.D., F.A.C.S. Diplomate, American Board of Orthopedic Surgery; Director of Orthopedic Surgery and Fractures, Wyckoff Heights Hospital; Associate Visiting Orthopedic Surgeon, Kings County Hospital, Brooklyn, N. Y.; Attending Orthopedic Surgeon, Mt. Vernon Hospital, Mt. Vernon, N. Y.

ROBERT J. COFFEY, M.D., M.S., PH.D.

F.A.C.S.

Diplomate of the American Board of Surgery; Professor of Surgery and Director of the Department of Surgery, Georgetown University Medical Center; Chief of Surgery, Georgetown Division, Gallinger Municipal Hospital, Washington, D. C.

FREDERICK A. COLLER, M.D., F.A.C.S. Diplomate of the American Board of Surgery; Professor of Surgery and Chairman of the Department of Surgery, University of Michigan Medical School, Ann Arbor, Michigan.

V. ZACHARY COPE, M.D., M.S., F.R.C.S. Surgeon to St. Mary's Hospital, Paddington; Late Hunterian Professor, and Arris and Gale Lecturer, Royal College of Surgeons, London, England.

EVERETT W. CORRADINI, M.D., F.A.C.S. Diplomate of the American Board of Neurological Surgery; Instructor in Clinical Neurology and Clinical Surgery, State University Medical Center at New York; Chief of Neurological Surgery, Brooklyn Hospital; Attending Neurological Surgeon, Methodist Hospital, St. Giles, Kingston Avenue and St. Peter's Hospitals, Brooklyn, New York.

ANTHONY F. DE PALMA, M.D., F.A.C.S. Diplomate of the American Board of Orthopedic Surgery; Professor and Head of the Department of Orthopedic Surgery, Jefferson Medical College, Philadelphia; Attending Orthopedic Surgeon, Jefferson Medical College Hospital; Methodist Episcopal Hospital; and St. Agnes' Hospital, Philadelphia, Pa.

R. S. DIAZ-RIVERA, M.D., F.A.C.P.
Professor and Head of the Department of Medicine, School of Medicine of the University of
Puerto Rico; Chief of the Medical Service of the
San Juan City Hospital, San Juan, Puerto Rico.

GORDON A. DONALDSON, M.D., F.A.C.S. Diplomate of the American Board of Surgery; Instructor in Surgery, Harvard Medical School; Assistant Visiting Surgeon, Massachusetts General Hospital, Boston, Mass.

GILBERT F. DOUGLAS, M.D., F.A.C.S.,

F.I.C.S.

Diplomate, American Board of Obstetrics and Gynecology; Associate Professor of Clinical Gynecology, School of Medicine, University of Alabama; Member of the Gynecological Staffs of South Highlands Infirmary, Baptist Hospital, Jefferson-Hillman Hospital, Carraway Methodist Hospital, and East End Memorial Hospital, Birmingham, Alabama.

CORTEZ F. ENLOE, JR., M.D.

Formerly Chief of the Medical Sciences Branch of The United States Strategic Bombing Survey; Civilian Consultant to The United States Air Force Medical Service; Special Consultant New York State Health Department Civil Defense Program, New York, New York.

HERBERT C. FETT, M.D., F.A.C.S.
Diplomate of the American Board of Orthopedic Surgery; Clinical Professor of Orthopedic Surgery, State University of New York College of Medicine, New York; Director of Orthopedic Surgery, Long Island College Hospital; Director of Orthopedic Surgery, Kings County Hospital (University Division); Attending Orthopedic Surgeon, St. Peter's, St. Charles, Holy Family and St. Catherine's Hospitals, Brooklyn, New York.

HERBERT C. FETT, JR., M.D. Diplomate of the American Board of Orthopedic Surgery; Instructor in Orthopedic Surgery, State University of New York College of Medicine, New York, N. Y.; Assistant Attending Orthopedic Surgeon, Long Island College Hospital, St. Peter's, St. Charles, St. Mary's and the Hospital of the Holy Family, Brooklyn, New York.

BERNARD J. FICARRA, A.B., SC.B., M.D. Diplomate, American Board of Surgery; Research Professor of Experimental Physiology, Graduate School, St. John's University, Brooklyn, N. Y.; Associate Visiting Surgeon, Head and Neck Service, John E Jennings Memorial Hospital; Associate Visiting Surgeon, St. Peter's Hospital, and the Hospital of the Holy Family, Brooklyn, N. Y.; Associate Visiting Surgeon, Kings County Hospital, Brooklyn, N. Y.

RUSSELL S. FOWLER, M.D., F.A.C.S. Diplomate of the American Board of Surgery; Consulting Surgeon, Methodist Hospital, Wyckoff Heights Hospital and The Maimonides Hospital. Brooklyn, New York.

LOUIS GERSHENFELD, P.D., PH.M., D.SC. Member of Sterile Advisory Board, U. S. Pharmacopoeia; Chairman, Clinical Laboratory Preparations, National Formulary; Member of Committee on Antisepticity, National Formulary IX; Professor of Bacteriology and Hygiene and Director of the Department of Bacteriology, Philadelphia College of Pharmacy, Philadelphia, Penna.

#### JOSEPH G. GILBERT, M.D., F.A.C.S.,

F.I.C.S.

Diplomate, American Board of Otolaryngology; Head of Department and Clinical Professor of Otolaryngology, State University College of Medicine at New York; Director of Otolaryngology, Kingston Avenue Hospital; Consultant Otolaryngologist, Sea View Hospital, Staten Island; Visiting Otolaryngologist, Beth El Hospital, and Kings County Hospital, Brooklyn, N. Y.

### WALLACE H. GRAHAM, A.B., B.S., M.D., F.A.C.S.

Major General, United States Air Force, Reserve; Chief of a Section in Surgery, Walter Reed Army Hospital, Army Medical Center, Washington, D. C.; Professorial Lecturer in Surgery, George Washington University School of Medicine, Washington, D. C.; Consultant and Special Assistant to The Surgeon General, United States Air Force; Physician to The President of the United States, 1945 to 1953.

WILLIAM P. HERBST, M.D., F.A.C.S. Diplomate of the American Board of Urology; Consultant in Urology, Gallinger Municipal Hospital; Civilian Consultant in Urology, U.S. Naval Medical Center, Bethesda, Maryland; Civilian Consultant in Urology, Walter Reed Hospital, Washington, D. C.

### LEW A. HOCHBERG, M.D., F.A.C.S., F.C.C.P.

Visiting Thoracic Surgeon, Sea View Hospital; Kingston Avenue Hospital, Adelphi and Bushwick Hospitals; Adjunct Thoracic Surgeon And Surgeon of the Chest Clinic of the Jewish Hospital; Brooklyn, New York.

### JOE W. HOWLAND, M.SC., PH.D., M.D.,

Professor of Radiation Biology, University of Rochester School of Medicine; Chief, Division of Medical Services, University of Rochester Atomic Energy Project, Rochester, New York.

CHARLES A. HUFNAGEL, M.D. Assistant Professor of Surgery, Georgetown University School of Medicine, Washington, D. C.

#### ARNOLD S. JACKSON, M.D., F.A.C.S., F.I.C.S.

Diplomate of the American Board of Surgery; Director of Surgery, Jackson Clinic; Attending Surgeon, Methodist Hospital, Madison, Wisconsin. JULIAN JOHNSON, M.D., D.SC., (MED.), F.A.C.S.

Diplomate of the American Board of Surgery; Professor of Surgery, School of Medicine and Graduate School of Medicine, University of Pennsylvania, Philadelphia, Penna.

#### CHARLES K. KIRBY, M.D.

Assistant Professor of Surgery, School of Medicine, University of Pennsylvania, Philadelphia, Penna.

#### JAMES H. LADE, M.D.

Director of the Office of Medical Defense, New York State Department of Health, Albany, New York.

CONRAD R. LAM, M.D., F.A.C.S. Diplomate of the American Board of Surgery; Division of General Surgery, Henry Ford Hospital, Detroit, Michigan.

SAMUEL LEVINE, M.D., F.A.C.S. Instructor in Surgery, Temple Medical School; Associate in Radiology and Surgery at the Albert Einstein Medical Center, Philadelphia, Penna.

PHILIP LEWIN, M.D., F.A.C.S., F.I.C.S. Diplomate of the American Board of Orthopedic Surgery, Professor and Chairman of the Department of Bone and Joint Surgery, Northwestern University Medical School; Professor of Orthopedic Surgery, Cook County School of Medicine, Chicago; Attending Orthopedic Surgeon, Cook County Hospital; and Michael Reese Hospital, Chicago, Illinois.

### Joseph L. Lionello, M.D., F.A.C.S., F.I.C.S.

Visiting Surgeon, Hospital of the Holy Family; Associate Visiting Surgeon, Kings County Hospital, Brooklyn, New York.

#### MILTON SILLS LLOYD, M.D., F.C.C.P.

Associate Attending Thoracic Surgeon and Bronchoscopist, French Hospital, N. Y.; Director of Services in Chest Diseases, Staten Island Hospital, Staten Island, N. Y.; Attending Bronchoscopist, Municipal Sanatorium, Otisville, N. Y.; Consultant in Diseases of the Chest, U. S. Marine Hospital, Staten Island, N. Y.; Cornwall Hospital, Cornwall, N. Y., St. Francis Hespital, Port Jervis, N. Y., Ulster County Tuberculosis Sanitorium, Kingston, N. Y.; Consultant Bronchoscopist, Sea View Hospital, Staten Island, New York.

### S. ARTHUR LOCALIO, M.D., D.MED., SC., F.A.C.S.

Diplomate of the American Board of Surgery; Associate Professor of Clinical Surgery, Post-Graduate Medical School of New York University; Visiting Surgeon, Bellevue Hospital and Attending Surgeon, University Hospital of the New York University, Bellevue Medical Center, New York, N. Y.

ALFRED B. LONGACRE, M.D., F.A.C.S. Diplomate of the American Board of Surgery; Assistant Clinical Professor of Surgery, Louisiana State University, School of Medicine; Visiting Surgeon, Charity Hospital; Attending Surgeon, La Garde Veterans Hospital; Visiting Surgeon, Baptist Hospital; Chief of the Surgical Service, Lakeshore Hospital, New Orleans, Louisiana.

JOSEPH J. LO-PRESTI, M.D.

Diplomate American Board of Ophthalmology; Instructor in Ophthalmology, Tufts Medical School; Assistant in Ophthalmology, Massachusetts Eye and Ear Infirmary; Junior Visiting Surgeon (Ophthalmology), Boston City Hospital, Boston, Mass.

JOHN S. LUNDY, M.D., F.A.S.A.

Diplomate of the American Board of Anesthesiology; Professor of Anesthesiology, The Mayo Foundation For Medical Education and Research, Graduate School, University of Minnesota; Head of Section of Anesthesiology and Intravenous Therapy, Mayo Clinic, Rochester, Minn.

#### JOSEPH P. LYNCH, M.D.

Diplomate, American Board of Surgery; Founder Member, Board of Thoracic Surgery; Instructor in Surgery, Boston University, School of Medicine; Visiting Surgeon for Thoracic Surgery; Ste. Elizabeth's Hospital, Carney Hospital, Boston City Hospital, Sanitorium Division, Massachusetts Memorial Hospital; Consultant in Thoracic Surgery to Murphy General Hospital (U.S. Army); Attending Surgeon for Thoracic Surgery to Veterans' Administration Hospital, Boston, Mass.

WILLIAM F. MACFEE, M.D., F.A.C.S.

Diplomate of the American Board of Surgery; Diplomate of the American Board of Plastic Surgery; Professor of Clinical Surgery; Cornell Medical School; Clinical Professor of Surgery, College of Physicians and Surgeons, Columbia University, New York, N. Y.; Director of Surgery, St. Luke's Hospital; Attending Surgeon, New York Hospital, New York.

JOHN L. MADDEN, M.D., F.A.C.S.

Diplomate of the American Board of Surgery; Attending in Surgery and Director of the Department of Surgery, St. Clare's Hospital, New York, New York.

HOWARD S. MADIGAN, M.D.

Instructor in Surgery, Georgetown University Medical Center; Junior Attending Surgeon, Georgetown University Hospital, Washington, D. C.

#### DONALD J. MAGILLIGAN, A.B., M.D.,

Diplomate of the American Board of Orthopedic Surgery, Clinical Assistant Professor of Orthopedic Surgery, State University of New York College of Medicine at New York; Attending Orthopedic Surgeon St. Charles Hospital, Long Island College Hospital, St. Mary's Hospital, Hospital of the Holy Family and St. Anthony's Tuberculosis Hospital; Attending Orthopedic Surgeon, Brooklyn Veterans Administration Hospital, Brooklyn, New York.

JOHN D. MARTIN, JR., M.D., F.A.C.S. Diplomate of the American Board of Surgery; Associate Professor of Surgery, Whitehead Department of Surgery, Emory University School of Medicine; Visiting Surgeon, Emory University Hospital; Visiting Surgeon, Grady Hospital, Emory University Division, Atlanta, Georgia.

HANS MAY, M.D., F.A.C.S.

Diplomate, American Board of Plastic Surgery; Associate Professor of Surgery, Graduate School of Medicine, University of Pennsylvania; Associate Surgeon, Lankenau Hospital, Children's Hospital of the Mary J. Drexel Home, and Chestnut Hill Hospital; Chief of Division of Plastic and Reconstructive Surgery, Germantown Hospital; Consulting Plastic Surgeon, Abington Memorial Hospital, Memorial Hospital of Roxborough, Misericordia Hospital, Nazareth Hospital, and St. Christopher's Hospital for Children, Philadelphia, Pa.

#### LAWRENCE A. MAZZARELLA, M.D.,

F.A.C.S., F.I.C.S.

Diplomate, American Board of Otolaryngology: Associate Clinical Professor of Otolaryngology State University College of Medicine at New York; Visiting Otolaryngologist, Wyckoff Heights Hospital, St. Peter's Hospital, Kingston Avenuc Hospital; Associate Visiting Otolaryngologist, Kings County Hospital, Brooklyn Thoracic Hospital, St. Mary's Hospital, and Holy Family Hospital; Assistant Surgeon, Brooklyn Eye and Ear Hospital, Brooklyn, N. Y.

THOMAS F. MCDERMOTT, M.D. Professor of Anesthesiology, Georgetown University School of Medicine, Washington, D. C.

JOHN G. McNamara, M.D., F.A.C.S. Diplomate of the American Board of Orthopedic Surgery; Assistant Clinical Professor of Orthopedic Surgery, New York State University College of Medicine at New York; Visiting Orthopedic Surgeon, Long Island College Hospital, Norwegian and St. Charles Hospital, Brooklyn, New York.

GEORGE E. MOORE, M.D., PH.D Formerly Associate Professor of Surgery, Department of Surgery, University of Minnesota Medical School, Minneapolis, Minnesota; Director, Roswell Park (Cancer) Memorial Institute, Buffalo, New York.

MERVIN C. MYERSON, M.D.

Diplomate of the American Board of Otolaryngology; Clinical Professor of Otolaryngology, College of Medical Evangelists; Senior Attending Laryngologist and Bronchoscopist, Los Angeles General Hospital; Teaching Consultant To Veteran's Hospital, Long Beach, California.

RUDOLPH NISSEN, M.D., F.I.C.S.
Professor of Surgery and Head of the Department
of Surgery, School of Medicine, University of
Basel; Surgeon in Chief of the Bürgerspital, Basle,
Switzerland.

ROBERT T. PATRICK, M.D.
Section Of Anestnesiology and Intravenous Therapy, Mayo Clinic, Rochester, Minn.

RAYMOND J. PIERI, M.D., F.A.C.S. Diplomate of the American Board of Obstetrics and Gynecology; Professor of Clinical Obstetries, State University of New York, Medieal College, Syracuse, N. Y.; Lecturer in Gynecology, Syracuse General Hospital; Chief of Obstetrics and Gynecology, General Hospital of Syracuse; Attending Obstetrician, Syractise Memorial Hospital; Consultant in Obstetrics, The University Hospital, Syracuse, New York.

CHARLES B. RIPSTEIN, M.D., F.A.C.S.,

F.R.C.S. (C)
Professor of Surgery, State University of New
York College of Medicine at New York; Director
of Surgical Services, Maimonides Hospital,
Brooklyn, New York.

LEONARD R. RUBIN, M.D., F.A.C.S. Diplomate, American Board of Plastic Surgery; Instructor in Plastic Surgery, New York Medical College; Attending Plastic and Maxillo-Facial Surgeon, Nassau Hospital, New York Hospital for Joint Diseases, Mercy Hospital, and St. Charles Hospital of Port Jefferson, N. Y.; Associate Plastic and Maxillo-Facial Surgeon, Kings County Hospital, Brooklyn, N. Y.; Assistant Plastic and Maxillo-Facial Surgeon, Meadowbrook Hospital, East Meadow, N. Y.

SAUL S. SAMUELS, A.M., M.D. Formerly Clinical Assistant Surgeon, Mt. Sinai Hospital; Director and Attending Angiologist, Brooklyn Hebrew Hospital For the Aged; Chief of the Department of Arterial Diseases, Stuyvesant Polyclinic Hospital; Associate Angiologist, Manhattan General Hospital, New York, N. Y.

KENNETH C. SAWYER, M.D., F.A.C.S., F.I.C.S.

Diplomate of the American Board of Surgery; Assistant Clinical Professor of Surgery, University Of Colorado Medical Center; Chief of the Surgical Service, Presbyterian Hospital; Consultant in Surgery, Fitzsimmons Army Hospital, Denver, Colorado.

JOHN SCUDDER, M.D., SC.D., F.A.C.S. Diplomate of the American Board of Surgery; Assistant Professor of Surgery, College of Physicians And Surgeons, Columbia University; Director of the Blood Bank, Presbyterian Hospital And The Francis Delafield Hospital, New York. N. Y.

#### HAL E. SNEDDEN, M.D.

Fellow in Orthopedic Surgery, Jefferson Medical College, Philadelphia, Pa.

### BARBARA BARTLETT STIMSON, M.D., F.A.C.S.

Diplomate of the American Board of Surgery; Director of Orthopedic Service, St. Francis Hospital; Director of Fracture Service, Vassar Brothers Hospital, Poughkeepsie, New York.

#### LESTER J. UNGER, M.D.

Director of the Blood and Plasma Bank, University Hospital, New York University-Bellevue Medical Center of New York University, New York.

### HANS V. VON LEDEN, M.D., F.A.C.S., F.I.C.S.

Diplomate of the American Board of Otolaryngology; Assistant Professor of Otolaryngology, Northwestern University Medical School; Associate Professor of Otolaryngology, Cook County Graduate School of Medicine; Member of the Otolaryngology Staffs of Wesley Memorial Hospital, and Cook County Hospital, Chicago; Consultant in Otolaryngology and Plastic Surgery, United States Naval Hospital, Great Lakes, Illinois.

### ALLISON J. VOSSELER, M.D., F.A.C.S., F.I.C.S.

Visiting Surgeon, John E. Jennings Hospital; Attending Surgeon, Peck Memorial Hospital; Associate Visiting Surgeon, Kings County Hospital; Associate Attending Surgeon, Methodist Hospital; Associate Visiting Thoracic Surgeon, Kings County Hospital, Brooklyn, New York.

### CLAUDE E. WELCH, M.D., F.A.C.S.

Diplomate of the American Board of Surgery; Clinical Associate in Surgery, Harvard Medical School; Associate Visiting Surgeon, Massachusetts General Hospital, Boston, Mass.

#### NORMAN J. WILSON, M.D.

Diplomate of the American Board of Surgery; Diplomate of the American Board of Thoracic Surgery; Assistant Clinical Professor of Surgery, Tufts College Medical School; Thoracic Surgeon, Overholt Thoracic Clinic; Thoracic Surgeon, New England Deaconess Hospital, New England Medical Center, Boston, Mass.

## Table of Contents

#### SECTION I.

EMERGENCIES ENCOUNTERED IN THE REGION OF THE HEAD AND NECK

Chapter 1.	Management and Treatment of Acute Injuries to Skull and Brain John E. Adams, M.D.	3
Chapter 2.	States of Consciousness after Craniocerebral Trauma	15
Chapter 3.	Treatment of Wounds and Lacerations of the Face	21
Chapter 4.	Emergency Treatment of Facial Bone Fractures	27
Chapter 5.	The Control of Hemorrhage from the Nose and Throat	51
Chapter 6.	ALLISON I VOSSELER M.D.	57
Chapter 7.	The Treatment of the Immediate Complications of Thyroidectomy ARNOLD S. JACKSON, M.D.	61
Chapter 8.	Tracheotomy	68
Chapter 9.	The Management of Acute Soft Tissue Injuries of the Neck Gordon A. Donaldson, M.D.	81
Chapter 10	O. Immediate Treatment of Ocular Injuries	90
Chapter 11	Acute Postoperative Parotitis	04

SEC	A.A.	ONT	II.
SEC	11	UN	11.

	EMERCENCIES ENCOUNTERED IN THE THORACIC REGION
Chapter 12.	Acute Breast Abscess
Chapter 13.	Foreign Bodies in the Air and Food Passages
Chapter 14.	Nonpenetrating Thoracic Injuries
Chapter 15.	Traumatic Lesions of the Thorax (Exclusive of the Heart) . 135  REEVE H. BETTS, M.D.
	Spontaneous Pneumothorax
Chapter 17.	Cardiac Wounds and the Left Pulmonary Artery Approach for Pulmonary Embolectomy
Chapter 18.	Perforation of the Esophagus
Chapter 19.	Emergency Surgery of the Esophagus with Special Reference to Stricture
Chapter 20.	Etiology and Treatment of Acute Hiccough
	Neonatal Emergencies
	Management of Cardiac Arrhythmias During Anesthesia 207 JOHN ADRIANI, M.D.
	SECTION III.
THE D	IAGNOSIS AND TREATMENT OF ACUTE ABDOMINAL EMERGENCIES
Chapter 23.	Roentgen Films of the Abdomen as an Aid in the Management of Acute Surgical Conditions
Chapter 24.	Pathologic Conditions Causing Acute Abdominal Symptoms and Physical Signs

	SECTION III Continued
Chapter 25.	Traumatic Rupture of the Spleen and Liver
Chapter 26.	Management of Penetrating Abdominal Injuries
Chapter 27.	Management of Generalized Peritonitis of Exact Unknown Etiology
Chapter 28.	The Management of Acute Gastrointestinal Hemorrhage 285 CHARLES B. RIPSTEIN, M.D.
Chapter 29.	Gastric Dilatation
Chapter 30.	Emergency Surgery for Acute Intestinal Obstruction 300 George E. Moore, M.D.
Chapter 31.	The Bleeding Colostomy
Chapter 32.	Acute Emergencies Arising in the Colon, Rectum, and Anus . 319 GARNET W. AULT, M.D., AND ALEJANDRO F. CASTRO, M.D.
	SECTION IV.
	EMERGENCIES OF GYNECOLOGICAL ORIGIN
Chapter 33.	Foreign Bodies in the Vagina and the Uterus
Chapter 34.	Management of Genital Tract Hemorrhage in the Female 340  RAYMOND J. PIERI, M.D.
Chapter 35.	Acute Gastrointestinal Complications Following Gynecologic Procedures
	SECTION V.
er i N	MANAGEMENT OF ACUTE CONDITIONS OF THE OSSEOUS AND NEUROMUSCULAR SYSTEMS
	Emergency Treatment of Fractures of the Arm and Leg 373 BARBARA BARTLETT STIMSON, M.D.
Chapter 37.	Acute Nonfracture Injuries of the Shoulder