

Dail and Hammar's Pulmonary Pathology

Third Edition

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Volume I: Nonneoplastic Lung Disease

Third Edition

Editor

Joseph F. Tomashefski, Jr., MD

Professor, Department of Pathology, Case Western Reserve University School of Medicine; Chairman, Department of Pathology, MetroHealth Medical Center, Cleveland, Ohio, USA

Associate Editors

Philip T. Cagle, MD

Professor, Department of Pathology, Weill Medical College of Cornell University, New York, New York; Director, Pulmonary Pathology, Department of Pathology, The Methodist Hospital, Houston, Texas, USA

Carol F. Farver, MD

Director, Pulmonary Pathology, Department of Anatomic Pathology, The Cleveland Clinic Foundation, Cleveland, Ohio, USA

Armando E. Fraire, MD

Professor, Department of Pathology, University of Massachusetts Medical School, Worcester, Massachusetts, USA

Editor:

Joseph F. Tomashefski, Jr., MD
Professor, Department of Pathology, Case Western Reserve University School of Medicine;
Chairman, Department of Pathology, MetroHealth Medical Center, Cleveland, OH, USA

Associate Editors:

Philip T. Cagle, MD
Professor, Department of Pathology, Weill Medical College of Cornell University, New York,
NY; Director, Pulmonary Pathology, Department of Pathology, The Methodist Hospital,
Houston, TX, USA

Carol F. Farver, MD
Director, Pulmonary Pathology, Department of Anatomic Pathology, The Cleveland Clinic
Foundation, Cleveland, OH, USA

Armando E. Fraire, MD
Professor, Department of Pathology, University of Massachusetts Medical School,
Worcester, MA, USA

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To
David H. Dail
Samuel P. Hammar

*For their many contributions to pulmonary pathology, and for their
conceptual and sustaining vision of this textbook*

Joseph F. Tomashefski, Jr.
Philip T. Cagle
Carol F. Farver
Armando E. Fraire

*To my dear wife, Cathy, and our children, Amy, Cary, David, Jessica, and
Sarah*

Joseph F. Tomashefski, Jr.

To my wife, Kirsten

Philip T. Cagle

To the memory of my parents, Albert and Gladys Farver

Carol F. Farver

*In memory of Dr. S. Donald Greenberg, dear friend, respected colleague,
and superb teacher*

Armando E. Fraire

Preface

It is with a great sense of good fortune, humility, and responsibility that we, the editors, have undertaken the task of updating Dail and Hammar's *Pulmonary Pathology*, one of the great modern textbooks not only in the field of lung pathology but also in the wider arena of general pathology as well. Following the publication of its first edition, "Dail and Hammar" rapidly became the standard against which subsequent textbooks of lung pathology were measured.

First published in 1987, *Pulmonary Pathology* provided an alternative to Herbert Spencer's time-honored text, *Pathology of the Lung* which, in its fourth edition at that time, was the reigning tome on the pathology of the respiratory system. The first edition of "Dail and Hammar" was in part dedicated to Dr. Spencer, who graciously penned the foreword for that text. The first edition was also dedicated to Averill Liebow, one of the giants of pulmonary pathology, under whom Dr. Dail had served and been mentored as a fellow. Dr. Liebow's influence was notable in the first two editions, and has continued in this edition in the revised classifications and current understanding of interstitial pneumonias and lung tumors, subjects in which Dr. Liebow played such a defining role. Several of Dr. Liebow's timeless original illustrations continue to grace the pages of the third edition.

In the 13 years since the second edition there have been astounding advances in medicine and pathology. The current edition has been revised and updated to reflect these advances. As much as possible, however, we have striven to remain true to Drs. Dail and Hammar's original goals, "to present the reader with an authoritative yet readable text which hopefully answers questions that might arise in facing problem cases and to offer the reader appropriate review of particular areas within the field of pulmonary pathology." In the face of wide-reaching revisions our intent has been to maintain the unique character of *Pulmonary Pathology*, and retain continuity with previous editions. Dr. Dail and Dr. Hammar have continued to play a major role in the present text, together contributing as author or coauthor to approximately one fourth of the chapters. Nine other chapters have been updated by contributors who were also featured in the second edition. Many, if not the majority, of the illustrations in the text represent the color counterparts of previous black-and-white figures. Electron microscopy, which was emphasized in the previous two editions, continues to have a presence in the third, mainly in the volume on neoplasia, and lays the foundation for a deep understanding of the histological appearances of tumors.

The changes in the current edition, however, are significant. The previous sizable single volume text has been divided into two volumes, covering neoplastic and non-neoplastic lung diseases, to afford the reader more ready access and less strenuous effort when referencing the sections of interest. Entirely new chapters have been added on the pathology of small airways disease (Chapter 25), forensic lung pathology (Chapter 31), molecular genetics of lung and pleural neoplasms (Chapter 33), and preinvasive (neoplastic) disease (Chapter 34). The topics formerly included in the second edition chapters on AIDS and tobacco-related injury have been

dispersed in the third edition, mainly throughout the sections on lung infections and lung cancer, respectively. Similarly the monumental chapters on common and uncommon lung tumors in the previous editions have been divided into seven smaller topical units housed in the second volume. Over 90 percent of the illustrations in the current edition are now presented in vivid color.

Pulmonary Pathology was one of the first pathology textbooks to emphasize the burgeoning field of immunohistochemistry and its application to diagnostic pathology, and the current edition continues to expound on the important diagnostic role of immunohistochemical stains. In this edition, however, we also embrace the molecular age with updated information on molecular pathology. In addition to extensive references to molecular aspects of lung disease, which are integrated within each of the individual chapters, the new edition includes two chapters (Chapters 33 and 34) devoted almost exclusively to molecular pathology. Chapter 33 (Molecular Genetics of Lung and Pleural Neoplasms) is essentially a text-within-a-text, serving as a compendium of information on the molecular pathology of lung tumors as well as a primer on basic molecular pathology for the uninitiated or molecularly challenged pathologist.

Within reason and to the best of our ability we have tried to maintain the reputation of *Pulmonary Pathology* as a comprehensive textbook that not only serves as a diagnostic guide to the “labyrinths of the lung,” but also enables the reader to explore the etiology and pathogenesis of lung diseases. The references, both classical and modern, have been greatly increased and, as of the time that the book went to press, are relatively current. The present edition also recognizes the growing importance of electronic information sources. Relevant Internet Web sites have been included among the chapter references, and Chapter 22 on pulmonary drug toxicity is essentially constructed around Web-based resources.

There are numerous individuals to whom we owe a debt of gratitude. Most importantly, we thank the many authors who gave of their time and talent, without



Figure 1. Members of the editorial board with Drs. Dail and Hammar. (From left to right: Carol F. Farver, Philip T. Cagle, David H. Dail, Samuel P. Hammar, Armando E. Fraire, and Joseph F. Tomashefski, Jr.)

financial compensation, to contribute to this book. Their expertise and dedication represent the soul of the work. We also appreciate their patience and understanding as both authors and editors faced the stressful implications of rapidly approaching (and receding) publication deadlines. We recognize and are especially thankful for the wonderful pulmonary pathologists under whom we have trained, who taught us the trade and served as our role models: Dr. S. Donald Greenberg (Drs. Cagle and Fraire); Dr. William Thurlbeck (Dr. Cagle); Drs. Jerome Kleinerman, John D. Reid, Merle Legg, and Lynne Reid (Dr. Tomashefski); and Drs. John Godleski and Les Kobzik (Dr. Farver). Finally, we are grateful to the Springer publishing firm, especially to our executive editor, Melissa Ramondetta and her editorial assistant, Dianne Wuori. A special thanks goes to our developmental editor, Stephanie Sakson, who kept us on track throughout the process, surmounting the hurdles of copyright permits, and the inexorable correlation of images, references, and text.

From the editors' perspective our labors now are ended (for a while at least). We leave it to you, the reader, to evaluate this text. We welcome your comments, positive or negative, which may help to direct future editions.

Joseph F. Tomashefski, Jr., MD

Philip T. Cagle, MD

Carol F. Farver, MD

Armando E. Fraire, MD

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Contributors

Patrick A. Adegboyega, MD

Department of Pathology, University of Texas Medical Branch, Galveston, TX 77555, USA

Timothy C. Allen, MD, JD

Chairman, Department of Pathology, University of Texas Health Center at Tyler, Tyler, TX 75708, USA

Roberto Barrios, MD

Attending Pathologist, Department of Pathology, The Methodist Hospital, Houston, TX 77030, USA

Mary Beth Beasley, MD

Department of Pathology, Providence Portland Medical Center, Portland, OR 97210, USA

Kelly J. Butnor, MD

Assistant Professor, Department of Pathology, University of Vermont/Fletcher Allen Health Care, Burlington, VT 05401, USA

Philip T. Cagle, MD

Professor, Department of Pathology, Weill Medical College of Cornell University, New York; and Director, Pulmonary Pathology, Department of Pathology, The Methodist Hospital, Houston, TX 77030, USA

Thomas V. Colby, MD

Consultant in Pathology, Mayo Clinic Scottsdale, Scottsdale, AZ 85259, USA

Carlyne D. Cool, MD

Department of Pathology, University of Colorado Health Sciences Center, Denver, CO 80262, USA

David H. Dail, MD

Staff Pathologist, Department of Pathology, Virginia Mason Medical Center, Seattle, WA 98101, USA

Louis P. Dehner, MD

Professor and Director, Division of Anatomic Pathology, Washington University School of Medicine, St. Louis, MO 63122, USA

Ronald F. Dodson

ERI Consulting, Inc., 2026 Republic Drive, Ste A, Tyler, TX 75701, USA

Carol F. Farver, MD

Director, Pulmonary Pathology, Department of Anatomic Pathology, The Cleveland Clinic Foundation, Cleveland, OH 44195, USA

Douglas B. Flieder, MD

Chief of Surgical Pathology, Fox Chase Cancer Center, Philadelphia, PA 19111, USA

Armando E. Fraire, MD

Professor, Department of Pathology, University of Massachusetts Medical School, Worcester, MA 01655, USA

Anthony A. Gal, MD

Professor, Department of Pathology and Laboratory Medicine, Emory University Hospital, Atlanta, GA 30322, USA

Michael A. Graham, MD

Professor, St. Louis University School of Medicine; *and* Chief Medical Examiner, City of St. Louis, Division of Forensic and Environmental Pathology, St. Louis, MO 63104, USA

Steve D. Groshong, MD, PhD

Instructor, Department of Pathology, University of Colorado Health Sciences Center, Denver, CO 80262, USA

Donald G. Guinee, Jr., MD

Pathologist, Department of Pathology, Virginia Mason Medical Center, Seattle, WA 98111, USA

Samuel P. Hammar, MD

Harrison Medical Center, Pathology Associates of Kitsap County, Bremerton, WA 98310, USA

Abida K. Haque, MD

Medical Director, Department of Pathology, San Jacinto Methodist Hospital, Baytown, TX 77521, USA

Philip Hasleton, MD, FRCPath

Professor, Department of Histopathology, Clinical Sciences Block, Manchester Royal Infirmary, Manchester M13 9WL, UK

Douglas W. Henderson, MB, BS, FRCPA, FRCPath, FHKCPath (Hon)

Professor and Senior Consultant, Departments of Pathology and Anatomical Pathology, Flinders Medical Centre, Bedford Park 5042, Adelaide, South Australia

Elise R. Hoff, MD

Department of Pathology, University of Pittsburgh Medical Center—Presbyterian, Pittsburgh, PA 15213, USA

Aliya N. Husain, MB, BS

Professor, Department of Pathology, University of Chicago, Chicago, IL 60637, USA

Jaishree Jagirdar, MD

Department of Pathology, University of Texas Health Science Center at San Antonio, San Antonio, TX 78284, USA

Keith M. Kerr, BSc(Hons) MB ChB FRCPath

Consultant, Pathologist and Clinical Senior Lecturer, Department of Pathology, Aberdeen Royal Infirmary and Aberdeen University School of Medicine, Foresterhill, Aberdeen, AB25 2ZD, UK

Andras Khor, MD

Department of Pathology, Mayo Clinic Jacksonville, Jacksonville, FL 32224, USA

Sonja Klebe, MD, PhD, FRCPA

Senior Lecturer in Anatomical Pathology, Flinders University and Consultant in Anatomical Pathology, Flinders Medical Centre, Bedford Park 5042, Adelaide, South Australia

Les Kobzik, MD

Associate Professor, Department of Environmental Health, Harvard School of Public Health, Boston, MA 02115, USA

P. Rocco LaSala, MD

Fellow, Medical Microbiology, Department of Pathology, University of Texas Medical Branch, Galveston, TX 77555, USA

Kevin O. Leslie, MD

Consultant and Professor, Mayo Clinic College of Medicine, Rochester, MN; and Department of Laboratory Medicine and Pathology, Mayo Clinic Scottsdale, Scottsdale, AZ 85259, USA

Aileen M. Marty, MD, FACP

Senior Scientific Advisor to the Undersecretary for Science and Technology Directorate, DHS, Department of Homeland Security, National Defense University, North Bethesda, MD 20852, USA

Michael R. McGinnis, PhD

Professor, Department of Pathology, University of Texas Medical Branch, Galveston, TX 77555, USA

William George Morice, MD, PhD

Consultant, Associate Professor of Medicine, Departments of Hematopathology and Anatomic Pathology, Mayo Clinic, Mayo Medical School, Rochester, MN 55905, USA

Andrew G. Nicholson, FRCPath DM

Professor of Respiratory Pathology, National Heart and Lung Institute Division of Imperial College School of Medicine and Consultant Histopathologist, Royal Brompton Hospital, Department of Histopathology, Sydney Street, London SW3 6NP, UK

N. Paul Otori, MD

Medical Director of Cytopathology, Department of Pathology, University of Pittsburgh Medical Center—Presbyterian, Pittsburgh, PA 15213, USA

Christopher D. Paddock, MD, MS, MPHTM

Staff Pathologist, Department of Infectious Disease Pathology Activity, Centers for Disease Control and Prevention, Atlanta, GA 30333, USA

Helmut H. Popper, MD, Prof. Pathol.

Department of Pathology, University of Graz, Auenbruggerplatz 25, Graz A-8036, Austria

Gary W. Procop, MD, MS

Section Head, Clinical Microbiology, Division of Pathology and Laboratory Medicine, The Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, OH 44195

Victor L. Roggli, MD

Department of Pathology, Duke University and Durham VA Medical Centers, Durham, NC 27705, USA

Thomas A. Sporn, MD

Department of Pathology, Duke University and Durham VA Medical Centers, Durham, NC 27710, USA

J. Thomas Stocker, MD

Professor of Pathology, Uniformed Services University of the Health Sciences, 4301
Jones Bridge Road, Bethesda, MD 20814

Joseph F. Tomashefski, Jr., MD

Professor, Department of Pathology Case Western Reserve University School of
Medicine; Chairman, Department of Pathology MetroHealth Medical Center
Cleveland, OH 44109, USA

William D. Travis, MD

Attending Thoracic Pathologist, Department of Pathology, Memorial Sloan
Kettering Cancer Center, New York, NY 10021, USA

David H. Walker, MD

Department of Pathology, University of Texas Medical Branch, Galveston, TX
77555, USA

Washington C. Winn, Jr., MD

Fletcher Allen Health Care, University of Vermont College of Medicine,
Burlington, VT 05482, USA

Sherif R. Zaki, MD, PhD

Chief, Infectious Disease Pathology Activity, Department of Infectious Disease
Pathology Activity, Centers for Disease Control and Prevention, Atlanta, GA
30333, USA

Dani S. Zander, MD

Professor and Chair, Department of Pathology, Penn State Milton S. Hershey
Medical Center, Hershey, PA 17033, USA