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Patterson's
**ALLERGIC
DISEASES**

SEVENTH EDITION

LESLIE C. GRAMMER
PAUL A. GREENBERGER



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Patterson's Allergic Diseases

SEVENTH EDITION

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Patterson's Allergic Diseases

SEVENTH EDITION

To: Douglas, Jennifer, and Matthew
LCG

To: Rosalie, Daniel, Rachel, and Rob
PAG

In Memoriam, Roy Patterson, MD
April 26, 1926–January 6, 2002

It is with appreciation and admiration that we remember the life of Roy Patterson, the founding editor of this textbook. He spent his early years in the Upper Peninsula of Michigan, enlisted in the Navy, and served in the Pacific theater during World War II. At the University of Michigan Medical School, he became a member of Alpha Omega Alpha. After an internal medicine residency and fellowship at Michigan, he completed a research fellowship in Immunochemistry with Frank Dixon. He was appointed assistant professor of medicine at Northwestern University in 1960.

In the 40 years that followed, Roy developed the Allergy-Immunology Program at Northwestern into one of the leading centers in the world. In his role as educator, 118 allergist-immunologists trained in the Northwestern program during Roy's tenure; among those are the 2 editors and 19 authors of the current text. As an investigator, he contributed much to the specialty in terms of research that was both practical and innovative in diseases including allergic bronchopulmonary aspergillosis, drug allergies, asthma caused by low-molecular-weight chemicals, and idiopathic anaphylaxis. In addition, he was a superb clinician with

an exceptional understanding of the relationships between clinical disease and molecular/cell biology.

He served on multiple committees of the National Institutes of Health. He was a strong advocate for clinical, translational, and basic research funding for asthma and related allergic diseases in his role as a member of the Board of Scientific Councilors of the National Institute of Allergy and Infectious Diseases. He was elected to membership in both the American Society for Clinical Investigation and the Association of Professors of Medicine.

Dr. Patterson became Chairman of the Department of Medicine at Northwestern University in 1973. He was one of only a very few allergist-immunologists to attain a significant administrative position in an academic institution. As such, he played an important part in maintaining the subspecialty of allergy-immunology in the mainstream of scientific medicine.

In 1972, he published the first edition of this text, and participated in every subsequent edition except the present one. He was a man of great intelligence, skill, and integrity. We are proud to have been his mentees and then colleagues. As editors of this text, we hope to continue his legacy of excellence in the clinical practice of allergy-immunology.

LCG
PAG



Preface

As we reflect on finalizing the seventh edition of Patterson's Allergic Diseases, we are struck by the fact that the first edition of this book was published in 1972, when we were still in college. This seventh edition is only the second one not lead by our mentor, Dr Roy Patterson. He was an extremely gifted clinical allergist-immunologist, investigator, and educator, a true "triple threat." We are committed to extending Roy's tradition of allergy-immunology excellence with this newest edition that we believe is replete with knowledge that continues to exponentially expand in our fascinating field.

Like every edition before it, this book is written principally as a guide for physicians and other healthcare providers. While it is intended to be oriented toward patient evaluation and management, there are also discussions of the underlying immunologic mechanisms, pathophysiology, pharmacology and diagnostic techniques. Because atopic diseases are prevalent, and becoming more so, we hope that a variety of healthcare providers will find this edition useful as they care for patients with allergic and other immunologic diseases. We have added four new chapters dealing with cough;

pruritus; gastrointestinal disorders, namely, eosinophilic esophagitis and gastroesophageal reflux; and the results from the "alphabet soup" of asthma clinical trials such as CAMP, SMART, and IMPACT. This edition also includes a companion Web site with fully searchable text, as well as additional references, tables, and figures. Throughout the book, bold, italicized call-outs denote these extra web materials.

We believe that caring for patients with atopic diseases sometimes is best accomplished in collaboration with physicians from other specialties. Therefore, about one quarter of the chapters are actually written by other specialists with whom the allergist-immunologist is likely to collaborate. Those specialties include dermatology, gastroenterology, otolaryngology, psychiatry, pulmonology, and radiology. We are indebted to each of the contributing authors, and hereby express our heartfelt gratitude for their participation in this newest edition of Patterson's Allergic Diseases.

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Acknowledgments

A volume such as this one is not produced by two editors. Rather, it is the contributions of many others that allow us to edit this text which we hope will help physicians and other health care providers deliver the best possible care to their patients who suffer from allergic, immunologic, and related diseases.

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Our patients, from whom we learn every day;

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