SCHEIE AND ALBERT

Textbook of Ophthalmology

Textbook of Ophthalmology

Ninth Edition

With 565 illustrations and 38 color plates

HAROLD G. SCHEIE, M.D., Sc.D., F.A.C.S., O.B.E.

William F. Norris and George E. de Schweinitz Professor of Ophthalmology,
University of Pennsylvania School of Medicine;
Director, Scheie Eye Institute, Presbyterian–University of Pennsylvania
Medical Center, Philadelphia, Pennsylvania

DANIEL M. ALBERT, M.D., F.A.C.S.

Professor of Ophthalmology, Harvard University School of Medicine;
Associate Surgeon, Massachusetts Eye and Ear Infirmary,
Boston, Massachusetts

W. B. SAUNDERS COMPANY
Philadelphia/London/Toronto

W. B. Saunders Company: West Washington Square
Philadelphia, PA 19105

1 St. Anne's Road
Eastbourne, East Sussex BN21 3UN, England

1 Goldthorne Avenue
Toronto, Ontario M8Z 5T9, Canada

Library of Congress Cataloging in Publication Data

Scheie, Harold G

Textbook of ophthalmology.

Seventh-8th editions entered under: Adler, Francis Heed.

Includes index.

1. Ophthalmology. I. Albert, Daniel M., joint author. II. Adler, Francis Heed, 1895– Textbook of ophthalmology. III. Title. [DNLM: 1. Eye diseases. WW100 S318a]

RE46.G5 1976 617.7 75-19856

ISBN 0-7216-7951-X

Listed here is the latest translated edition of this book
together with the language of the translation and the publisher.

Spanish (*8th Edition*)—NEISA, Mexico City, Mexico

Chinese (*8th Edition*)—National Institute for Compilation and Translation,
Taipei, Taiwan

Textbook of Ophthalmology ISBN 0-7216-7951-X

© 1977 by W. B. Saunders Company. Copyright 1938, 1941, 1945, 1947, 1953, 1957, 1962 and 1969 by W. B. Saunders Company. Copyright under the International Copyright Union. All rights reserved. This book is protected by copyright. No part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from the publisher. Made in the United States of America. Press of W. B. Saunders Company. Library of Congress catalog card number 75-19856.

Last digit is the print number: 9 8 7 6 5 4 3 2

Dr. Sanford R. Gifford, whose first edition of this *Textbook of Ophthalmology* was published in 1938, sought to provide a volume that would be useful to the medical student and the general physician. His success in doing so can be gauged to a degree by the fact that 39 years and many medical school curricula changes later the book is going into its ninth edition. The third edition (1945) was the last to be authored by Dr. Gifford prior to his untimely death in 1944.

Dr. Francis Heed Adler wisely saw the need for an ophthalmology textbook that continued Dr. Gifford's original purpose. Consequently, editions four, five, and six (1947, 1953, 1957) were published as Gifford's *Textbook of Ophthalmology,* although with each edition the contents were considerably expanded, rewritten, and revised. By the time of the seventh edition (1962), the revision and rewriting were sufficiently extensive to warrant publishing under the title of a *Textbook of Ophthalmology,* by Francis Heed Adler.

That edition was but a few years off the press before it was readily apparent that the tremendous explosion of knowledge and the revolution in curricula already in evidence mandated a radically new volume. Accordingly, Dr. Scheie, who had succeeded Dr. Adler as chairman of the Department of Ophthalmology, invited Dr. Daniel M. Albert to join him as co-author of the eighth edition (1969) under the title *Adler's Textbook of Ophthalmology*. In addition, several staff members of the Department of Ophthalmology were asked to collaborate in the preparation of chapters on subject matter of particular interest to them and to which they have devoted considerable study. And now the ninth edition reflects, as the Preface states, expansion and refinement over the eighth edition which the authors and contributing authors consider significant and relevant to the understanding and practice of ophthalmology today.

Dedicated to
our wives and children

此为试读,需要完整PDF请访问: www.ertongbook.com

Contributors

ARTHUR M. GOLDSTEIN, M.D., F.A.C.S. *Physiology*

Assistant Clinical Professor of Ophthalmology, University of Pennsylvania School of Medicine, Scheie Eye Institute; Attending Ophthalmologist and Lecturer in Physiology, Hospital of the University of Pennsylvania, Children's Hospital, Veterans Administration Hospital, Philadelphia General Hospital, Methodist Hospital, St. Agnes Hospital; Associate Ophthalmologist, Presbyterian–University of Pennsylvania Medical Center, Philadelphia, Pennsylvania

DAVID M. KOZART, M.D., F.A.C.S. *Embryology of the Human Eye*

Assistant Professor of Ophthalmology, University of Pennsylvania School of Medicine, Scheie Eye Institute; Attending Ophthalmologist, Hospital of the University of Pennsylvania, Children's Hospital of Philadelphia, Graduate Hospital, Veterans Administration Hospital, Philadelphia General Hospital, Pennsylvania Hospital; Assistant Ophthalmologist, Presbyterian–University of Pennsylvania Medical Center, Philadelphia, Pennsylvania

ALAN M. LATIES, M.D. *Neuro-ophthalmology*

Irene Heinz Given and John LaPorte Given Professor of Ophthalmology, University of Pennsylvania School of Medicine, Scheie Eye Institute; Assistant Chief of Ophthalmology, Hospital of the University of Pennsylvania; Associate Ophthalmologist, Presbyterian–University of Pennsylvania Medical Center, Philadelphia, Pennsylvania

GLYN A. S. LLOYD, M.A., D.M., F.R.C.R. *Ophthalmic Radiology*

Teacher in Radiology, University of London; Consultant Radiologist, Moorfields Eye Hospital; Director, Department of Radiology, The Royal National Throat, Nose and Ear Hospital, London, England

PETER HODGES MORSE, M.D., F.A.C.S. *Fundus Fluorescein Angiography*

Associate Professor, Department of Ophthalmology, University of Chicago; Attending Physician, Billings Hospital, University of Chicago, Chicago, Illinois

CHARLES W. NICHOLS, M.D. *Pharmacology*

Assistant Professor of Ophthalmology and Pharmacology, University of Pennsylvania School of Medicine, Scheie Eye Institute; Assistant Ophthalmologist, Presbyterian–University of Pennsylvania Medical Center; Associate Ophthalmologist, Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania

DAVID B. SCHAFFER, M.D., F.A.C.S. *Genetics and Ophthalmology; Pediatric Ophthalmology*

Associate Clinical Professor of Ophthalmology, University of Pennsylvania School of Medicine, Scheie Eye Institute; Senior Surgeon and Ophthalmologist, Children's Hospital of Philadelphia; Consultant, Pediatric Service, Wills Eye Hospital and St. Christopher's Hospital for Children; Senior Attending Physician, Philadelphia General Hospital, Department of Pediatrics; Ophthalmologist, Presbyterian–University of Pennsylvania Medical Center; Consulting Ophthalmologist, Pediatrics Section, Pennsylvania Hospital; Attending Ophthalmologist, Veterans Administration Hospital, Philadelphia, Pennsylvania

MYRON YANOFF, M.D., F.A.C.S. *Anatomy of the Human Eye*

Clinical Professor of Ophthalmology and Pathology, University of Pennsylvania School of Medicine, Scheie Eye Institute; Chief of Ophthalmic Pathology, Hospital of the University of Pennsylvania; Assistant Ophthalmologist, Presbyterian–University of Pennsylvania Medical Center, Philadelphia, Pennsylvania

Medical Illustrator: JEAN E. WOLFE

Editorial Assistant: MARGARET J. PATTON

Photographers: WILLIAM C. NYBERG, RBP
HERBERT C. ULRICH

Preface to the Ninth Edition

The editors and contributors to this ninth edition of *Textbook of Ophthalmology* are strongly aware of the responsibilities and opportunities that this new volume presents. Accordingly, our goal has been to incorporate the pertinent advances in ophthalmology of the last six years into a readable, accurate, concise, and well-illustrated text. Refinement in organization over that of the eighth edition is reflected by the more strict arrangement of the contents into sections dealing with the basic science aspects of ophthalmology, techniques of examination, and clinical aspects of ophthalmology. With this arrangement the book should be more useful to the medical student and ophthalmology resident and will more conveniently meet the specific needs of the established ophthalmologist, general practitioner, internist, or neurologist. Among the new features are chapters on fundus fluorescein angiography, ophthalmic ultrasonography, and x-ray of the orbit. These techniques have become well established in the basic practice of ophthalmology, and a knowledge of them is necessary for those concerned with eye diseases.

This expansion of the present edition continues the pattern that has been followed since Gifford's relatively brief volume was first published in 1938. As new knowledge is gained and new techniques are widely adapted, their inclusion in a basic ophthalmology text is warranted. Also, a more detailed and better illustrated fundamental textbook, as well as a revised format, is essential to help compensate for the decreased time provided for didactic lectures and exposure to patients with eye diseases brought about by the comparatively recent revolution in medical school curriculum.

How comprehensive a text of this sort should be, however, posed an extremely difficult problem. The publisher's queries to outside authorities drew responses reflecting diverse points of view. Some ophthalmologists concerned with the training of medical students suggested that a less detailed, smaller text would be better suited for students' needs; other teachers and clinicians desired a more inclusive work, even expanded to two volumes. The editors and the authors of the various chapters have each relied upon their own judgment as well as the advice of experienced educators and clinicians in selecting topics and the degree of detail that they considered significant and relevant. Admittedly, this reflects personal prejudices and will not please everyone, but we have done our best.

In this preface, one aspect of ophthalmology that we would like to touch

upon for the medical student and intern are the special challenges and rewards which ophthalmology offers. Students of the history of medicine in the United States are aware of the birth pangs and growing pains which the medical and surgical specialties have experienced—even into the present century. Only reluctantly did the general practitioner and the general surgeon relinquish facets of the practice of medicine to those who had spent additional years of training acquiring special skills and knowledge in such fields as the treatment of eye diseases. Even today the student intent on a career in ophthalmology is sometimes counseled that he is retreating to a rarefied and remote medical specialty, supposedly to lay aside his stethoscope forever and drastically limit his medical horizons.

In recent decades great progress in the world of medicine has led to an increasing need for a multiplicity of special skills to successfully diagnose and treat disease. The information crisis has also affected medicine and resulted in a need for heightened communication and learning through meetings and journals and other publications. No longer can the general practitioner or general surgeon claim expertise in all areas of medical practice. Even in the specialties there is a tendency toward subspecialization because of the growth of our knowledge. Ophthalmology, however, has emerged as one of the broadest and most exciting careers in medicine. For example, it is becoming apparent that an ever-increasing number of systemic diseases have ocular signs and symptoms. The endocrinologist, immunologist, infectious disease specialist, cardiovascular specialist, and other medical specialists look to the ophthalmologist for help and guidance in diagnosing diseases. Far from being isolated, the ophthalmologist has assumed a central role in the diagnosis and monitoring of a large portion of human disease.

In diseases affecting primarily the eye, a most attractive feature of ophthalmology is the opportunity for the ophthalmologist to treat patients at all ages and stages of life: the infant with congenital glaucoma or strabismus, the child with hyphema or a refractive problem, the juvenile diabetic, the presbyope, cataract patients (young and old), and the elderly with retinal degeneration. Nor does an artificial division exist, as it does in most other specialties, between the medical and surgical care of the patient. Indeed, the very nature of eye disease establishes a deep and gratifying doctor-patient relationship between the ophthalmologist and those under his care. The patient looks to the ophthalmologist for more than prescriptions and procedures. He expects the guidance, the concern, the understanding, and the direction that are the essence of the practice of medicine.

It must be borne in mind, however, that ophthalmology has extreme demands and responsibilities. Notably, there is little room for error. Surgery, as well as medical diagnosis and treatment, must be done right the first time, for second chances may not come. The practitioner of ophthalmology must be well read, up to date in surgical and diagnostic techniques, not given to "cutting corners" or procrastinating, and his work at all times must be meticulous and complete. The penalty for a mistake may well be a blind eye.

To those in the practice of medicine, we hope the facts contained in this book will serve them well. To those faced with the decision of what field of medicine to enter, we hope that this book will give some insight into the nature of this most fascinating and rewarding of medical specialties.

HAROLD G. SCHEIE
DANIEL M. ALBERT

Contents

I. INTRODUCTION TO OPHTHALMOLOGY

此为试读,需要完整PDF请访问: www.ertongbook.com

I
Introduction to Ophthalmology

1

Ophthalmic Overview: An Introduction to Ophthalmic Diseases and Their Terminology

PURPOSE

This textbook approaches the study of the eye and its diseases from the standpoint of basic sciences and broad medical disciplines as well as in terms of certain disorders and modes of treatment unique to ophthalmology. To provide orientation and perspective this first chapter presents a brief survey of the disease entities of the eye. In the organization and discussion of these abnormalities in later chapters it will be seen that the manner in which each structure of the eye can respond to inflammation, infection, or other forms of disease is limited. Many ocular changes which are similar are seen as resulting from causes which are different. Accordingly, certain patterns of response are discussed more than once within their respective contexts, which consequently necessitates repetition of ophthalmic terminology. Cross-referencing points out these common processes.

Another aim of this initial chapter is to provide an introduction to ophthalmic terminology which is largely derived from the anatomy of the eye. Figures 1–1 to 1–9 orient the reader to the anatomy of the eye and assist him in understanding ophthalmic terminology. Detailed discussion of the anatomy follows in Chapter 2.

此为试读,需要完整PDF请访问: www.ertongbook.com