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OF OPHTHALMOLOGY

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# Ophthalmic Pathology and Intraocular Tumors

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2017–2018  
**BCSC**  
Basic and Clinical  
Science Course™

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Louis B. Cantor, MD, Indianapolis, Indiana, *Senior Secretary for Clinical Education*

Christopher J. Rapuano, MD, Philadelphia, Pennsylvania, *Secretary for Lifelong Learning and Assessment*

George A. Cioffi, MD, New York, New York, *BCSC Course Chair*

## Section 4

---

### Faculty

Robert H. Rosa Jr, MD, *Chair*, Temple, Texas

Michele M. Bloomer, MD, San Francisco, California

Dan S. Gombos, MD, Houston, Texas

Tatyana Milman, MD, Philadelphia, Pennsylvania

Heather A.D. Potter, MD, Madison, Wisconsin

Nasreen A. Syed, MD, Iowa City, Iowa

Tero T. Kivelä, MD, *Consultant*, Helsinki, Finland

The Academy wishes to acknowledge the *American Association of Ophthalmic Oncologists and Pathologists* for recommending faculty members to the BCSC Section 4 committee.

The Academy also wishes to acknowledge the following committees for review of this edition:

*Committee on Aging*: Patricia Chévez-Barrios, MD, Houston, Texas

*Vision Rehabilitation Committee*: Joseph L. Fontenot, MD, Daphne, Alabama

*Practicing Ophthalmologists Advisory Committee for Education*: Robert G. Fante, MD, *Primary Reviewer*, Denver, CO; Edward K. Isbey III, *Chair*, Asheville, North Carolina; Alice Bashinsky, MD, Asheville, North Carolina; David Browning, MD, PhD, Charlotte, North Carolina; Bradley Fouraker, MD, Tampa, Florida; Dasa Gangadhar, MD, Wichita, Kansas; Steven J. Grosser, MD, Golden Valley, Minnesota; Stephen R. Klapper, MD, Carmel, Indiana; James A. Savage, MD, Memphis, Tennessee



*European Board of Ophthalmology*: Tero T. Kivelä, MD, *Chair*, Helsinki, Finland; Edoardo Midena, MD, PhD, *Liaison*, Padua, Italy; Nikolaos E. Bechrakis, MD, FEBO, Innsbruck, Austria; Sarah E. Coupland, MBBS, PhD, FRCPath, Liverpool, United Kingdom; Laurence Desjardins, MD, Paris, France; Steffen Heegaard, MD, DMSc, Copenhagen, Denmark; Elisabeth M. Messmer, MD, PhD, FEBO, Munich, Germany; Fiona Roberts, MBChB, MD, FRCPath, Glasgow, United Kingdom

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Dr Grosser: Ivantis (O)

Dr Heegaard: Santen (L), Théa (L)

Dr Isbey: Alcon Laboratories (S), Bausch + Lomb (S)

Dr Messmer: Alcon Pharmaceuticals (C, L), Allergan (C, L), CROMA-PHARMA (C, L), Dompé (C), Théa (C, L), URSAPHARM (L)

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## Recent Past Faculty

Ronald Buggage, MD

George J. Harocopos, MD

Theresa Retue Kramer, MD

Jacob Pe'er, MD

Ron W. Pelton, MD, PhD

Matthew W. Wilson, MD

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American Academy of Ophthalmology  
655 Beach Street  
Box 7424  
San Francisco, CA 94120-7424



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# General Introduction

The Basic and Clinical Science Course (BCSC) is designed to meet the needs of residents and practitioners for a comprehensive yet concise curriculum of the field of ophthalmology. The BCSC has developed from its original brief outline format, which relied heavily on outside readings, to a more convenient and educationally useful self-contained text. The Academy updates and revises the course annually, with the goals of integrating the basic science and clinical practice of ophthalmology and of keeping ophthalmologists current with new developments in the various subspecialties.

The BCSC incorporates the effort and expertise of more than 90 ophthalmologists, organized into 13 Section faculties, working with Academy editorial staff. In addition, the course continues to benefit from many lasting contributions made by the faculties of previous editions. Members of the Academy Practicing Ophthalmologists Advisory Committee for Education, Committee on Aging, and Vision Rehabilitation Committee review every volume before major revisions. Members of the European Board of Ophthalmology, organized into Section faculties, also review each volume before major revisions, focusing primarily on differences between American and European ophthalmology practice.

## Organization of the Course

The Basic and Clinical Science Course comprises 13 volumes, incorporating fundamental ophthalmic knowledge, subspecialty areas, and special topics:

- 1 Update on General Medicine
- 2 Fundamentals and Principles of Ophthalmology
- 3 Clinical Optics
- 4 Ophthalmic Pathology and Intraocular Tumors
- 5 Neuro-Ophthalmology
- 6 Pediatric Ophthalmology and Strabismus
- 7 Orbit, Eyelids, and Lacrimal System
- 8 External Disease and Cornea
- 9 Intraocular Inflammation and Uveitis
- 10 Glaucoma
- 11 Lens and Cataract
- 12 Retina and Vitreous
- 13 Refractive Surgery

In addition, a comprehensive Master Index allows the reader to easily locate subjects throughout the entire series.

## References

Readers who wish to explore specific topics in greater detail may consult the references cited within each chapter and listed in the Basic Texts section at the back of the book.

These references are intended to be selective rather than exhaustive, chosen by the BCSC faculty as being important, current, and readily available to residents and practitioners.

### **Videos**

This edition of Section 4, *Ophthalmic Pathology and Intraocular Tumors*, includes videos related to topics covered in the book. The videos were selected by members of the BCSC faculty and are available to readers of the print and electronic versions of Section 4. Mobile-device users can scan the QR code below (a QR-code reader must already be installed on the device) to access the video content.

### **Study Questions and CME Credit**

Each volume of the BCSC is designed as an independent study activity for ophthalmology residents and practitioners. The learning objectives for this volume are given on page 1. The text, illustrations, and references provide the information necessary to achieve the objectives; the study questions allow readers to test their understanding of the material and their mastery of the objectives. Physicians who wish to claim CME credit for this educational activity may do so by following the instructions given at the end of the book.

### **Conclusion**

The Basic and Clinical Science Course has expanded greatly over the years, with the addition of much new text, numerous illustrations, and video content. Recent editions have sought to place greater emphasis on clinical applicability while maintaining a solid foundation in basic science. As with any educational program, it reflects the experience of its authors. As its faculties change and medicine progresses, new viewpoints emerge on controversial subjects and techniques. Not all alternate approaches can be included in this series; as with any educational endeavor, the learner should seek additional sources, including Academy Preferred Practice Pattern Guidelines.

The BCSC faculty and staff continually strive to improve the educational usefulness of the course; you, the reader, can contribute to this ongoing process. If you have any suggestions or questions about the series, please do not hesitate to contact the faculty or the editors.

The authors, editors, and reviewers hope that your study of the BCSC will be of lasting value and that each Section will serve as a practical resource for quality patient care.



# Objectives

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Upon completion of BCSC Section 4, *Ophthalmic Pathology and Intraocular Tumors*, the reader should be able to

- describe a structured approach to understanding major ocular conditions based on a hierarchical framework of topography, disease process, general diagnosis, and differential diagnosis
  - list the steps for handling ocular specimens for pathologic study, including obtaining, dissecting, processing, and staining tissues
  - explain the basic principles of special procedures used in ophthalmic pathology, including immunohistochemistry, flow cytometry, molecular pathology, and diagnostic electron microscopy
  - discuss the types of specimens, processing, and techniques appropriate to the clinical situation
  - describe the histopathology of common ocular conditions
  - discuss the relationship between clinical and pathologic findings in various ocular conditions
  - list the steps in wound healing in ocular tissues
  - state current information about the most common primary tumors of the eye
  - identify those ophthalmic lesions that indicate systemic disease and are potentially life threatening
  - discuss genetic information that would be useful to provide to families affected by retinoblastoma
  - describe current treatment modalities for ocular tumors in terms of patient prognosis and ocular function
-