
Preface

Louis Pasteur said, “There are no such things as applied sciences, only applications of science.” The application of scientific advancements over the last two decades has led to a plethora of new sight-saving therapies. It is both illuminating and encouraging to compare the last volume of the *Handbook of Experimental Pharmacology* devoted to the *Pharmacology of the Eye* published in 1984 to the current volume. The 1984 version, edited by Marvin Sears, provided a sound physiologic and pharmacologic foundation to guide ophthalmic therapy. The medications that were discussed focused on glaucoma, ocular infections, and ocular inflammatory disease. There was little discussion of therapies for retinal diseases or dry eye, and topics such as sustained-release drug delivery were not discussed.

The goal of the current volume is to present the science that can further catalyze the progress in ocular pharmacology as well as to review the resulting new therapies available today and in future trials. Chapters on ocular pharmacology and ocular pharmacokinetics are presented at the start of the book and provide the principles forming the basis of the subsequent disease-focused chapters spanning the tear film to the optic nerve and tissues in between.

Some of the new therapies discussed in this volume include new classes of drugs to treat ocular hypertension and glaucoma, anti-VEGF therapy for retinal disease, and the use of biologic agents to manage ocular inflammatory diseases. A chapter on drug delivery has been included since extended-release of medications will be required to improve patient care and allow the practical administration of certain compounds to the eye. Discussion of gene therapy for diseases such as retinitis pigmentosa and neuroprotection for diseases of the optic nerve are also recent additions.

Winston Churchill suggested that, “if you have knowledge, let others light their candles with it.” It is our hope that this book will serve not only to summarize the current state of the science of ocular pharmacology and therapeutics, but also to stimulate and support further advances that will benefit patients.

We would like to thank the authors for their excellent contributions and for their dedications. Our thanks also go to Sumathy Thanigaivelu, Suzanne Dathe, and Balamurugan Elumalai at Springer, and to Dr. Joelle Hallak for their tireless efforts

in making this project possible. Finally, we would like to dedicate this book to Dr. Robert Nussenblatt, who contributed to both this edition and the volume published in 1984. Bob was a teacher, mentor, and friend, and worked throughout his career to improve patient care.

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<http://www.springer.com/978-3-319-58288-7>

Pharmacologic Therapy of Ocular Disease

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2017, VIII, 394 p., Hardcover

ISBN: 978-3-319-58288-7