

Ocular Surface Disease

Cornea, Conjunctiva,
and Tear Film

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Ocular Surface Disease: Cornea, Conjunctiva and Tear Film

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Video Contents

- Clip 36.01** *PTK in granular dystrophy and PTK in keratitis scar*
- Clip 36.02** *Combining superficial keratectomy with PTK*
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- Clip 37.03** *The application of cryopreserved amniotic membrane in the treatment of acute Stevens–Johnson syndrome: Part 3*

- Clip 41.01** *Living-related conjunctival-limbal allograft (Lr-Clal) transplantation*
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Preface

"The great tragedy of science – the slaying of a beautiful hypothesis by an ugly fact."

Thomas Henry Huxley (1825–1895)

The slaying of a beautiful hypothesis is both the tragedy as well as the great joy of scientific discovery. Since our last book on the subject of the ocular surface, many beautiful hypotheses have gone by the wayside, and there have likewise been a succession of brilliant revelations (aka 'ugly facts'). Indeed, what we have learned about the structure and function of the ocular surface has both broadened the range of therapeutic options we now employ and has raised numerous new questions that need to be asked about this very complex surface on which ocular function is so dependent.

Three decades ago, we barely understood the concept of the "stem cell"; two decades ago we began to understand where these stem cells reside on the ocular surface; and only in the past decade have we learned how to nurture or replace these vital pluripotential units that differentiate into surfaces as radically different as the corneal and conjunctival epithelia.

A decade ago, dry eye was understood primarily as aqueous tear deficiency. We now know that there are major differences in the categories of tear dysfunction, and we are aware of crucially important neural feedback mechanisms

that link inflammatory activity on the ocular surface to lacrimal gland function. We have begun to understand the array of inflammatory mechanisms at the ocular surface and how to modulate these mechanisms for the good of the patient. And we now understand, with much greater clarity, the important role of the lid and its multiple functions for the health of the ocular surface.

From these revelations and the parsing of disease entities into their component effects on the cornea and conjunctiva, we view the ocular surface as both an expanding mystery as well as a gradually unraveling story of how the eye interacts with adjacent tissues and with the environment to which it is exposed.

In this volume, we have attempted to gather the current state of our understanding of surface physiology in health and disease. In collaboration with a group of world-renowned experts, we have sought to organize the therapeutic state-of-the-art in order to assist the practitioner in effective decision-making in the management of external eye disease. But in a field changing this rapidly, there will be new discoveries even as this book goes to press. And, therein, lies the excitement.

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