

Preface

Whatever the origin of chemical burn lesions (i.e., whether resulting from a domestic accident, a chemical assault, or an industrial accident), such injuries can often result in serious functional visual injuries and significant physical and psychological consequences for the victims.

Nine authors of various disciplines and experiences have joined together to produce this book whose aim is to collectively present the most current and relevant data for each specific topic addressed.

As an introduction to the field of chemical ocular burn lesions, an historical and epidemiological perspective has been reviewed by an historian, an ophthalmologist, and a medical toxicologist. Next, a section is presented covering an expanded review of the mechanisms of action and reactivity of chemicals which can cause ocular injuries, prepared by a group of chemists and physicians.

A practicing ophthalmologist with additional experience in ocular physiology and histology then addresses fundamental and newly-developed methods for assessing ocular chemical burn injuries, particularly of the cornea, thus completing the discussion of the various mechanistic and pathophysiological aspects of ocular chemical burn lesions. Various methods for ocular chemical splash decontamination and the desirability of an efficacious active decontamination with the goal of preventing or minimizing ocular chemical burn injuries are discussed.

Following this are two sections prepared by practicing ophthalmologists which discuss clinical evaluation and current surgical treatment of ocular chemical burn injuries.

The book concludes with a section prepared by a chemist/physicist who conceived the innovative possibility of an active decontamination solution for ocular chemical splashes and an emergency physician who discuss specific decontamination measures and the emergent care of patients with ocular chemical burn injuries.

This work will prove useful for medical students, physicians-in-training, occupational medicine physicians and nurses, and private practice or hospital-based ophthalmologists, as well as for occupational health and safety personnel who deal with prevention and first aid measures for ocular chemical splashes, and who wish to supplement or update their understanding of ocular chemical burn injuries.

Gathering together all this technical knowledge introduces a new philosophy in the approach to chemical ocular burn lesions, in particular at the initial stage of victim management with increased practicality, specificity, and efficacy.

The multidisciplinary approach developed in this book also allows us, from the fundamental knowledge base, to envision other more diversified research on chemical burns in general.

The authors' goal is to promote the most beneficial care for patients with chemical ocular burn injuries by presenting the most precise and pertinent current information, and thus increasing communication and coordination between the various professionals involved in the prevention and treatment of such patients.

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