

Eyelid Reconstruction

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Learning Objectives: After reading this article, the participant should be able to: 1. Demonstrate an anatomic approach to eyelid reconstruction. 2. Manage common and complex eyelid defects by utilizing a reconstructive strategy outlined in the article.

Summary: Reconstruction of the eyelids after excision of skin cancer can be challenging. Knowledge of surgical eyelid anatomy and appropriate preoperative planning are critical in order to perform eyelid reconstruction and minimize complications and the need for reoperation. The fundamental principle for full-thickness eyelid reconstruction is based on reconstructing the subunits of the eyelid, including the anterior and posterior lamellae as well as the tarsoligamentous sling. (*Plast. Reconstr. Surg.* 132: 288e, 2013.)

Reconstruction of the eyelids remains one of the most challenging areas in reconstructive plastic surgery. Perhaps no other area of the human body provides such a delicate interplay among anatomy, aesthetics, and function.¹ In order to protect the underlying globe and vision, the eyelids require restoration of both function and appearance following eyelid repair.

When presented with an eyelid defect, the surgeon should analyze the missing lamellar components and whether canthal support is compromised. Special attention should be paid to the integrity of the lacrimal apparatus when the resection involves the medial canthal region. The reconstructive plan will be determined mainly by the size of the defect and the status of the surrounding periorbital tissue, particularly the opposing lid if eyelid sharing is deemed necessary. Our reconstructive strategy favors a progression from direct closure, when possible, to using local flaps in combination with grafts for bilamellar reconstruction, to lid-sharing procedures. A single-stage reconstruction should be the goal without compromising the aesthetic and functional results. This article provides a comprehensive review of eyelid anatomy and various reconstructive techniques in order to provide the reader with a variety of options.

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Received for publication May 16, 2012; accepted May 23, 2012.

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DOI: 10.1097/PRS.0b013e3182958e6b

SURGICAL ANATOMY OF THE EYELID

Both the upper and lower eyelids are bilamellar structures, consisting of the anterior and posterior lamellae.² The anterior lamella consists of skin and the underlying orbicularis oculi muscle. The eyelid skin is the thinnest in the body and transitions into a thicker eyebrow and cheek skin in the upper and lower eyelids, respectively. The orbicularis oculi muscle is loosely adherent to the skin and is divided into pretarsal, preseptal, and orbital segments.³ Functionally, the medial inner canthal orbicularis, which is innervated by the buccal branch of the facial nerve, contributes to blinking, lower lid tone, and the pumping mechanism for the lacrimal apparatus. The extracanthal orbicularis, which is innervated by the zygomatic branches of the facial nerve, is responsible for eyelid closure, voluntary squinting, and animation.⁴ The pretarsal orbicularis

Disclosure: Drs. Alghoul and McClellan have no commercial associations, financial interests, or conflicts of interest. Dr. Pacella is on the speaker's bureau for Lifecell Corporation. Dr. Codner receives finances for research and consulting from Mentor and Syneron corporations and receives royalties for books published by Quality Medical Publishing and Elsevier. All conflicts have been reviewed and managed by accreditation volunteers.

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