# RELEVANT ANATOMY

The anatomy of the eye can be divided into the structures of the eyeball (globe) and the adnexa. In the procedure described here, the adnexal structures are emphasized as the eyeball itself is removed. Structures of the adnexa include ocular muscles, orbital fasciae, the eyelids, conjunctiva, and the lacrimal apparatus. The eyelids have three basic layers; the outer skin, a fibromuscular layer, and the palpebral conjunctiva. The palpebral conjunctiva, together with the bulbar conjunctiva, comprises the conjunctival sac. The dorsal and ventral distal extremities of the sac are called fornices. The third eyelid attaches to a T-shaped plate of cartilage on the medial aspect of the eyeball. Between the dorsolateral wall of the orbit and the eyeball is the lacrimal apparatus.

The muscles responsible for moving the eye are all located near the optic foramen behind the eyeball, except for the ventral oblique muscle. The ventral oblique muscle originates on the ventromedial wall of the orbit and passes laterally below the eyeball. The four rectus muscles all insert anterior to the equator of the eye at a dorsal, ventral, medial, and lateral site. The retractor bulbi muscle inserts posteriorly on the eyeball and envelopes the optic nerve.

The locations of the ophthalmic and maxillary nerves are also relevant to this procedure for local anesthesia of the eye. These nerves enter the orbit with the extraocular muscles through the foramen orbitorotundum, which is a combined round and orbital foramen that is unique to bovine species. This is the site of injection for anesthesia during eye extirpation.