David B. Fankhauser, PhD

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http://biology.clc.uc.edu/fankhauser/Labs/Anatomy_&_Physiology/A&P202/Special_Senses/Eye/CAT_EYE.htm

The brain should have previously been removed from your cat (see *Removal and Study of the Cat Brain*). You should identify the **upper and lower eyelids**, and the **nictitating membrane** which comes up from below the eye. Note the **conjunctival surfaces**, and the **inferior fornix**.

Locate the **optic nerve** where it enters the cranium through the optic foramen. Draw imaginary lines from the medial and lateral limits of the orbit to the optic foramen and cut with the end of a hack saw towards either side of the optic nerve. Lift off the triangular section of the roof of the orbit, cutting loose any underlying tissue which adheres to it, preserving features attached to the eye. Mark the superior-most muscle with an indelible "X" to keep track of it later in the dissection.

Cut the anterior portion of the eye loose from the socket by cutting closely along the bones of the rim to free up the eye itself. Lift up the entire structure, cutting (close to the bone) any peripheral tissues which hold it down. After you have lifted it in the front, slide the scalpel under the rear-most portion to free it from the skull. Note that the nictitating membrane marks the inferior portion of the dissected portion.

Note the membrane which surrounds the entire orbit (**periorbita**). The lacrimal gland is under the periorbita on the lateral superior side. Work the periorbita open with a blunt probe, removing the adipose tissue. The most obvious superior muscle will be the **levator palpebrae superioris**, which raises the eyelid. It does not insert into the bulb.

Find the four **rectus muscles**: **lateral, superior, medial and inferior**. The **inferior oblique** inserts just lateral to the inferior rectus. The **superior oblique** will be present, but this dissection may not retain the **trochlear loop**. Its tendon of insertion is near (or on?) the superior oblique. Deep to the four rectus muscles are four portions of the **retractor bulbi.** Note the **optic nerve** which exits the eye at the center of these four parts.

With the fine scissors, make a small vertical snip through the rear wall of the bulb just medial to the optic nerve (do not squeeze the bulb during this cut...). Over a petri dish, extend the cut sagittally through the center of the **cornea**. Note that **aqueous humor** drains out as the cornea is being cut. As you lift the cut piece, note that the lens is attached to it by **suspensory ligaments**. Cut through the **iris**, and lift off the cut portion, cutting its ligaments.

Note that the **lens** is opaque-white, an artifact of preservation. The **posterior cavity** is filled with clear jelly-like **vitreous humor**. Note the three tunics of the wall of the eye: **fibrous, vascular and nervous**. The **retina** will appear pearly yellow and peels away easily (detached retina). Note the **optic disk** (vessels may be seen through the retina. emerge from it), and the yellowish **fovea centralis**. In the anterior portion of the eye, note that the lens is supported by suspensory ligaments. Posterior to it is the ruffled surface of the **ciliary processes**. These are pigmented black. The **ora serrata** is the anterior boundary of the retina.

The iris is golden on the exterior surface, black on the posterior. The cornea is tough and relatively thick.

Make three illustrations:

1) Cuts made to remove eye
2) muscles teased out
3) cross section of the eye