



## Special Senses

### Vision: Accessory Structures of the Eye

Name	Location	Function	General Characteristics
Eyelids (palpebrae)	Thin fold of skin and muscle that cover the eyes	Blinking keeps the surface of the eye lubricated, removes dust and debris.	Palpebrae fissure: separates the free margins of the eyelids. The two eyelids are connected at the medial canthus and the lateral canthus.
Eyelashes	Along the margin of the eyelids	Help prevent foreign matter from reaching the surface of the eye.	Very robust hairs. Associated with large sebaceous glands.
Tarsal glands	Along the inner margin of the lid	Their secretion helps keeping the eyes from sticking together.	Secrete a lipid-rich product.
Lacrimal caruncle	At the medial canthus (medial angle of the eye)	The secretion of the glands assists lubrication of the eyes.	Mass of soft tissue. Contains glands that produce a thick secretion.
Conjunctiva	Epithelium covering the inner surfaces of the eyelids (palpebral conjunctiva) and the anterior surface of the eye (ocular conjunctiva)	Protection	Mucous membrane covered by a specialized stratified squamous epithelium.



**Vision: The Lacrimal Apparatus** – Produces, distributes and removes tears. Keeps conjunctival surfaces moist and clean. Tears reduce friction, remove debris, prevent bacterial infection (because of lysozyme, an enzyme), and provide oxygen to portions of the conjunctival epithelium.

Name	Location	Function	General Characteristics
Lacrimal gland	Located within a depression in the frontal bone, just inside the orbit and superior and lateral to the eyeball. Its ducts open on the superior fornix.	Produces and distributes tears to the ocular surface.	Lacrimal gland is the size of an almond and produces about 1ml of tears each day. Fornix receives 10-12 ducts from this gland.
Paired lacrimal canaliculi	Superior and inferior canaliculi are situated superior or inferior to the medial canthus respectively.	Drain the lacrimal lake into the lacrimal sac.	Lacrimal puncta which are two small pores on the lacrimal carnuncle, drain the lacrimal lake into the lacrimal canaliculi.
Lacrimal sac	Located within the lacrimal sulcus of the orbit.	Drains the lacrimal lake into the nasolacrimal duct.	
Nasolacrimal duct	Passes through the nasolacrimal canal. Formed by the lacrimal bone and the maxillary bone.	Delivers tears to the nasal cavity.	



## Vision: Tunics of the Eye

Name	Location	Function	General Characteristics
			<p><u>Sclera</u> (white of the eyes): dense fibrous connective tissue rich in collagen and elastic fibres. Thinner over the anterior surface and thicker over the posterior surface of the eye. Contains small blood vessels. Protects and shapes the eyeball.</p>
			<p><u>Cornea</u>: Transparent structure continuous with the sclera. Consists of a dense matrix containing many layers of collagen fibre. Covered by the delicate corneal epithelium. No blood vessels. Many free nerve endings and a low ability of repairing itself.</p>
			<p><u>Iris</u>: Contains blood vessels, pigment cells, and papillary muscles (smooth muscle fibres that change the diameter of the pupil).</p>
			<p><u>Ciliary body</u>: thickened region that begins deep to the junction between the cornea and the sclera. Encircles the lens.</p>
			<p><u>Choroid</u>: vascular layer separating the fibrous and neural tunics to the ora serrata. Contains capillary network responsible for delivering oxygen and nutrients to the retina.</p>
		<p><u>Pigmented part</u>: absorbs light, preventing “visual echoes.”</p>	
		<p><u>Neural part</u>: contains the light receptors, supporting cells and neurons that perform preliminary processing and integration of visual information.</p>	



## Equilibrium and Hearing: Anatomy of the Ears (Fill in the Blanks)

Name	Structure	Function/Location	General Characteristics
	Auricle		
	External acoustic canal		
	Tympanic membrane		
	Ceruminous glands		
	Tympanic cavity		
	Auditory tube		
	Auditory ossicles	Malleus Incus Stapes	
	Bony labyrinth	Semicircular canals  Cochlea	
	Membranous labyrinth		
	Perilymph		

