

How the mammalian eye is adapted to its functions

Sclera/sclerotic layer this is the white fibrous layer made up of thick connective tissue it functions to protect the eye and maintains shape of eyeball, the Cornea is a transparent disc-shaped layer that allows light to enter the eye refracts light towards the retina while the Conjunctiva is the delicate membrane lining the inside of the eyelid and protects the cornea/eye. The eye has Eyelids is a thin muscles with hair which protects the cornea/eye from mechanical/chemical damage, protects the eye from entry of foreign particles and also protects retina from bright light.

Choroid is this is a dark pigmented and membranous layer that prevents light reflection within the eye/absorbs light to prevent distortion of the image it has blood vessels that nourish the eye it supply oxygen and remove carbon (IV) oxide and wastes. It extends to form the ciliary body and iris.

The eye has the Ciliary muscles and ciliary body where the ciliary muscles have elastic muscles that contract and relax to alter shape/curvature of lens during accommodation while Ciliary body are thickened front edge of the choroids layer that produces aqueous humour.

The eye has Suspensory ligaments which are made up of elastic connective tissue whose contraction and relaxation helps to adjust the shape of lens during accommodation/holds lens in position.

The eye is made up of the Lenses which are transparent, biconvex balloon-like structures, they refracts light rays and focus light onto the retina. The eye is also made up of Vitreous humor and iris where vitreous humour nourishes cornea/lens helps in refraction of light and maintains eyeball shape while the Iris a thin circular ring with circular and radial muscles which gives the eye colour/absorbs light, controls the amount of light entering the eye by adjusting the size of the pupil.

The eye is composed of a pupil which is an aperture through which light enters the eye while Retina has photoreceptor cells/rods/cones for image formation, generates impulses to the brain for interpretation.

Fovea/Yellow spot it has only cones which allow high visual acuity. It is the most sensitive part of the retina while the Blind spot is the point where nerve fibres emerge from the optic nerve/where optic nerve leaves eye/point where nerve fibres and blood vessels enter the eye.

Optic nerve this transmits impulses to the brain, Muscles whereas the inferior and superior oblique muscles move eye from left to right, superior and inferior rectus muscles move the eye up and down while external and internal rectus muscles steady the eye in its up and down movement;

Tear/Lachrymal glands; secrete a watery and saline fluid containing lysozymes/lytic enzymes/is antiseptic (tears) that moisten the conjunctiva and cornea and washes away dust and other foreign objects.

The eye depend on each of the parts for efficient functioning and therefore the eye is a vital organ of the body.