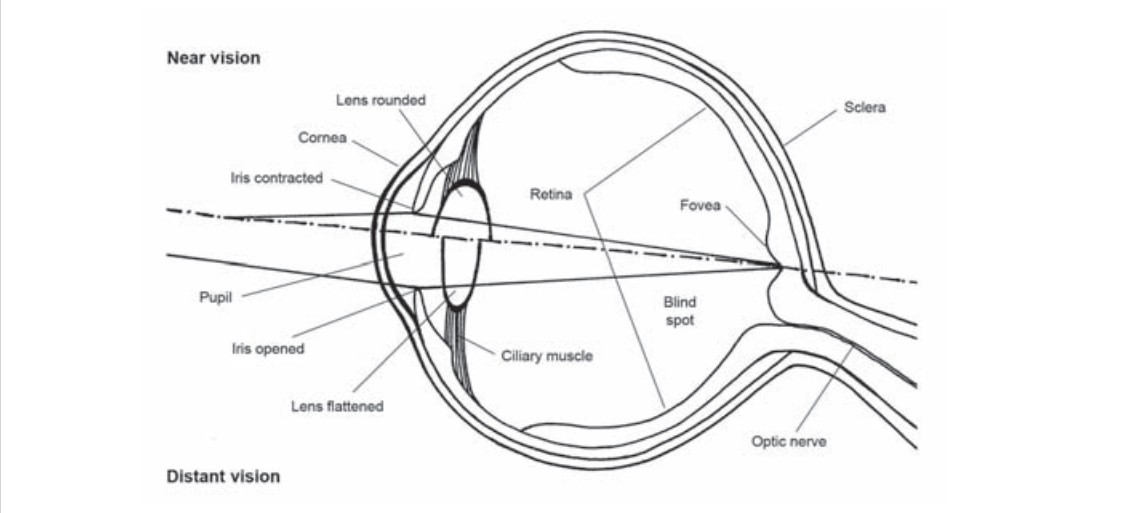

Figure 12
A section through the eye adjusted for near and distant vision.

After passing through the pupil, light reaches the lens. The lens is fixed in position, but varies its focal length by changing its shape. The change in shape is achieved by contracting or relaxing the ciliary muscles. For objects close to the eye, the lens is fattened. For objects far away, the lens is flattened.

1.3 The Structure of the Retina

The retina is an extension of the brain. The visual system has four photoreceptor types in the retina, each containing a different photopigment. These four types are conventionally grouped into two classes, rods and cones. All the rod photoreceptors are the same, containing the same photopigment and hence having the same spectral sensitivity. The other three photoreceptor types are all cones, each with a different photopigment. Figure 14 shows the relative spectral sensitivity functions of the three cone photoreceptor types, called short (S), medium (M) and long (L) wavelength cones.

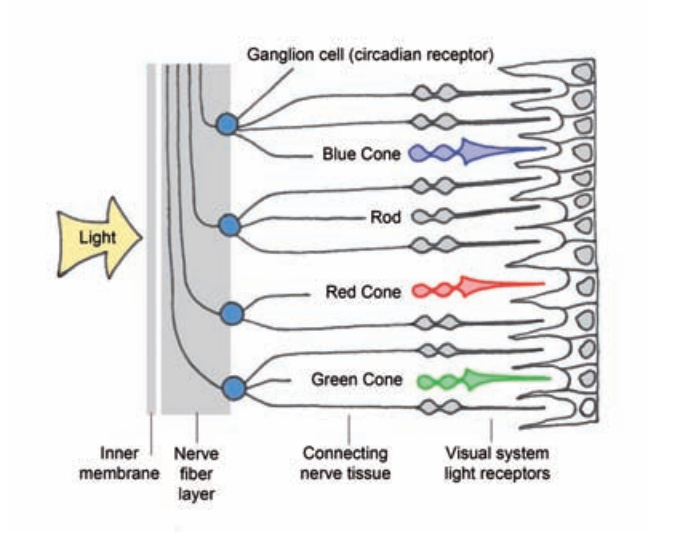

Figure 13
System sketch of retina section.