*Figure 28.6* Move the ophthalmoscope to within about 5 cm of the eye being examined and again rotate the lenses to sharpen the focus.

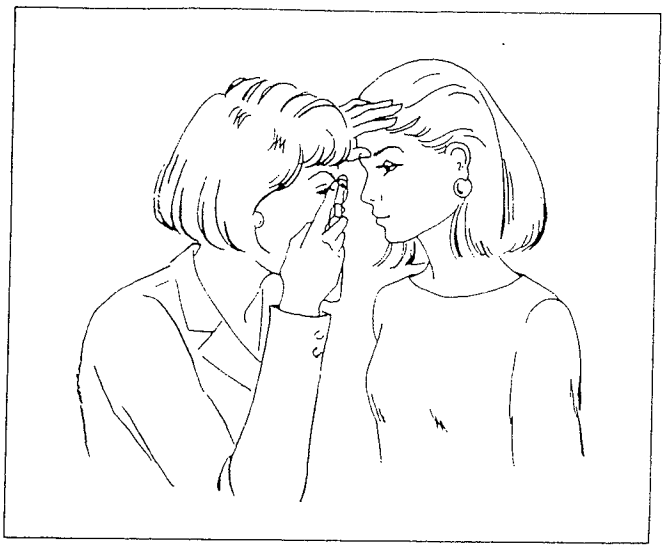
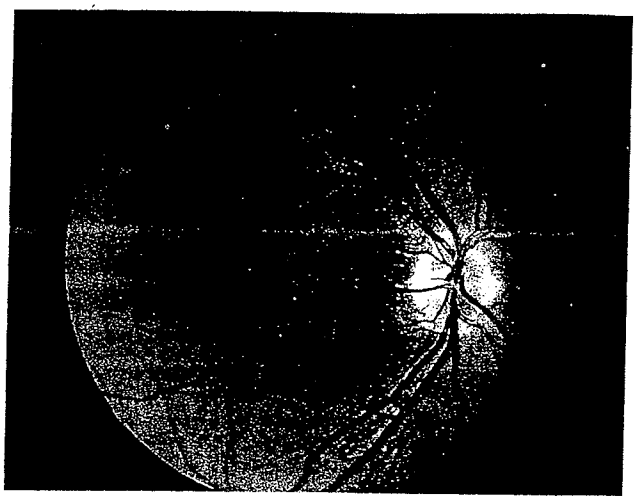
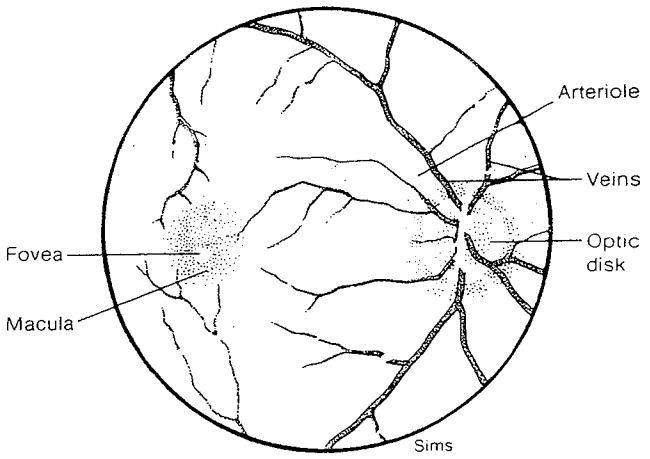


*Figure 28.7* The interior of the eye as seen through an ophthalmoscope, (*a*) photograph and (*b*) diagram.



(a)




(b)

## PROCEDURE B—EYE DISSECTION

1. Obtain a mammalian eye, place it in a dissecting tray, and dissect it as follows:
   a. Trim away the fat and other connective tissues, but leave the stubs of the *extrinsic muscles* and of the *optic nerve*. This nerve projects outward from the posterior region of the eyeball.
   b. Note the *conjunctiva*, which lines the eyelid and is reflected over the anterior surface of the eye. Lift some of this thin membrane away from the eye with forceps and examine it.
   c. Locate and observe the *cornea*, *sclera*, and *iris*. Also note the *pupil* and its shape.
   d. Use sharp scissors to make a coronal section of the eye. To do this, cut through the wall about 1 cm from the margin of the cornea and continue all the way around the eyeball. Try not to damage the internal structures of the eye (fig. 28.8).
   e. Gently separate the eyeball into anterior and posterior portions. Usually, the jellylike *vitreous humor* will remain in the posterior portion, and the lens may adhere to it. Place the parts in the dissecting tray with their contents facing upward.
   f. Examine the anterior portion of the eye and locate the *ciliary body*, which appears as a dark, circular structure. Also note the *iris* and the *lens*, if it remained in the anterior portion. The lens normally is attached to the ciliary body by many *suspensory ligaments*, which appear as delicate, transparent threads.
   g. Gently use a dissecting needle to remove the lens and examine it. If the lens is transparent, hold it up and look through it at something in the distance.
   h. Examine the posterior portion of the eye. Note the *vitreous humor*. This jellylike mass helps to hold the lens in place anteriorly and to hold the *retina* against the choroid coat.
   i. Carefully remove the vitreous humor, and examine the retina. This layer will appear as a thin, nearly colorless membrane that detaches easily from the choroid coat.
   j. Locate the *optic disk*—the point where the retina is attached to the posterior wall of the eyeball and where the optic nerve originates. Because there are no receptor cells in the optic disk, this region is also called the *blind spot*.

Eye Dissection

## PART B

Complete the following:

1. Which layer of the eye was the most difficult to cut? _____
2. What kind of tissue do you think is responsible for this quality? _____
3. How do you compare the shape of the pupil in the dissected eye with the shape of your pupil? _____
4. Where do you find aqueous humor in the dissected eye? _____
5. What is the function of the dark pigment in the choroid coat? _____
6. Describe the lens of the dissected eye. _____
7. Describe the vitreous humor of the dissected eye. _____

## PART C

Identify the numbered features in the sections of the eye in figure 28.9(a–b).

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____