

Chapter 10

Intraocular Fluid Flow

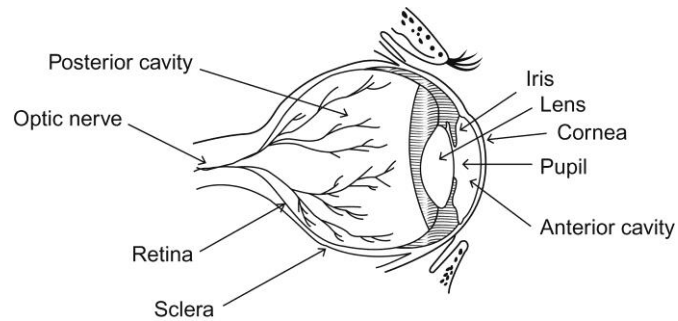


Figure 10.1 Anatomical structures of the eye, showing the major optical and sensory components. The anterior cavity and the posterior cavity experience fluid movement. The anterior cavity is continuously forming and circulating aqueous humor, while the posterior cavity experiences a slow flow of aqueous humor.

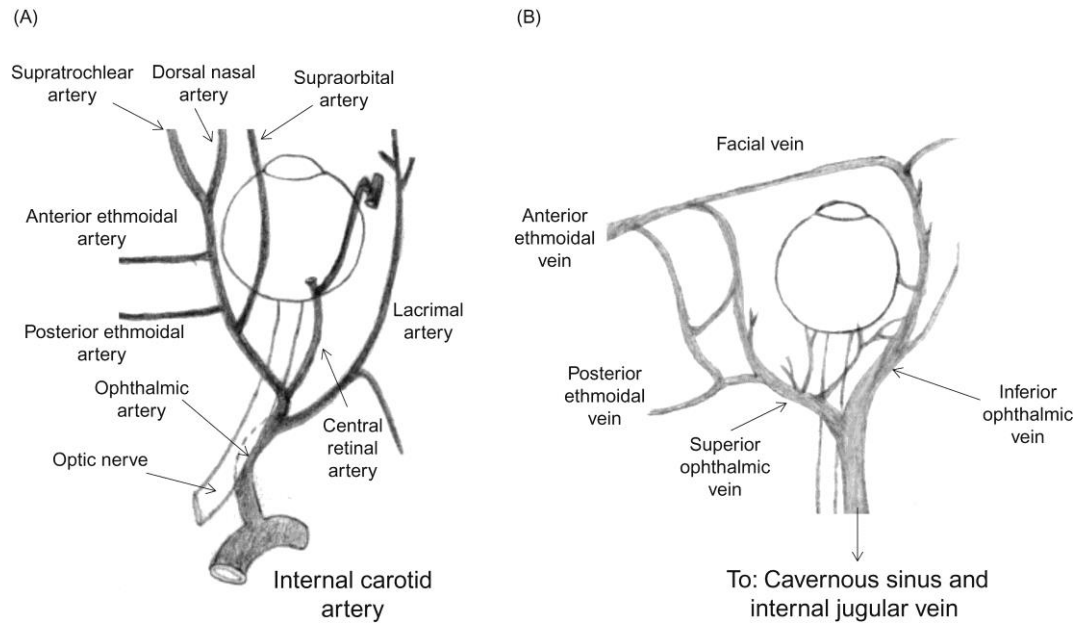


Figure 10.2 Blood distribution within the ophthalmic artery system (A) and ophthalmic venous system (B). Some of the major tributaries of the vessels are highlighted on this schematic.

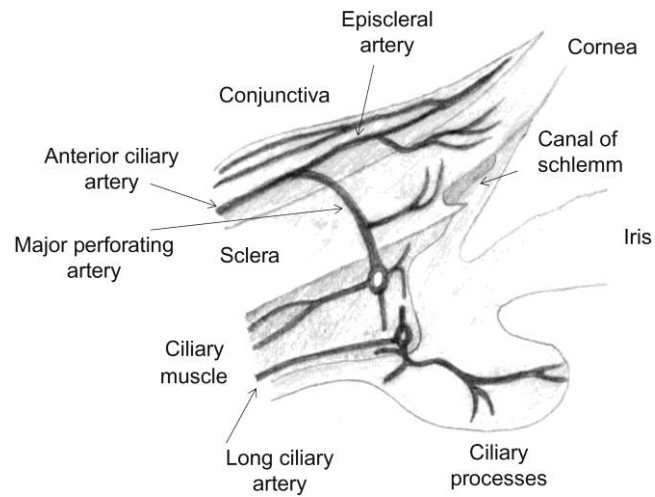


Figure 10.3 Branches of the anterior ciliary artery that provide blood to the conjunctiva (episcleral artery) and the ciliary bodies (major perforating artery). This illustrates the redundancy within the optic circulation.

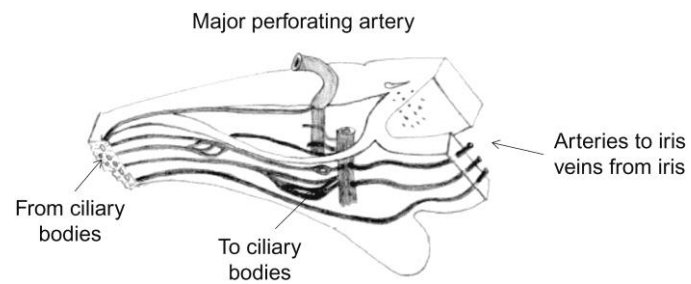


Figure 10.4 Detailed view of the blood supply to the ciliary processes, via the major perforating artery and the major arterial circle. The venous circulation from the ciliary processes and the iris converge and drain into the vortex veins.

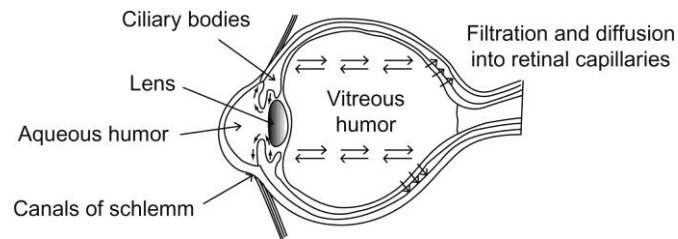


Figure 10.5 Anatomical structures salient for the formation of aqueous humor. Aqueous humor is formed at a rate of approximately $2 \mu\text{L}/\text{min}$ within the ciliary bodies. Aqueous humor then flows between the lens and the iris to fill the anterior chamber. Aqueous humor can leave the anterior chamber via the canals of Schlemm or diffuse into the posterior chamber. There is a much slower flow through the posterior chamber, and fluid within this chamber can leave by diffusion into the retinal capillaries. Arrows depict the movement of aqueous humor through the eye. *Source: Adapted from Guyton and Hall (2000).*