

A

Figure 1-7 A, Anterior view of the right orbital apex showing the distribution of the nerves as they enter through the superior orbital fissure and optic canal. This view also shows the annulus of Zinn, the fibrous ring formed by the origin of the 4 rectus muscles.

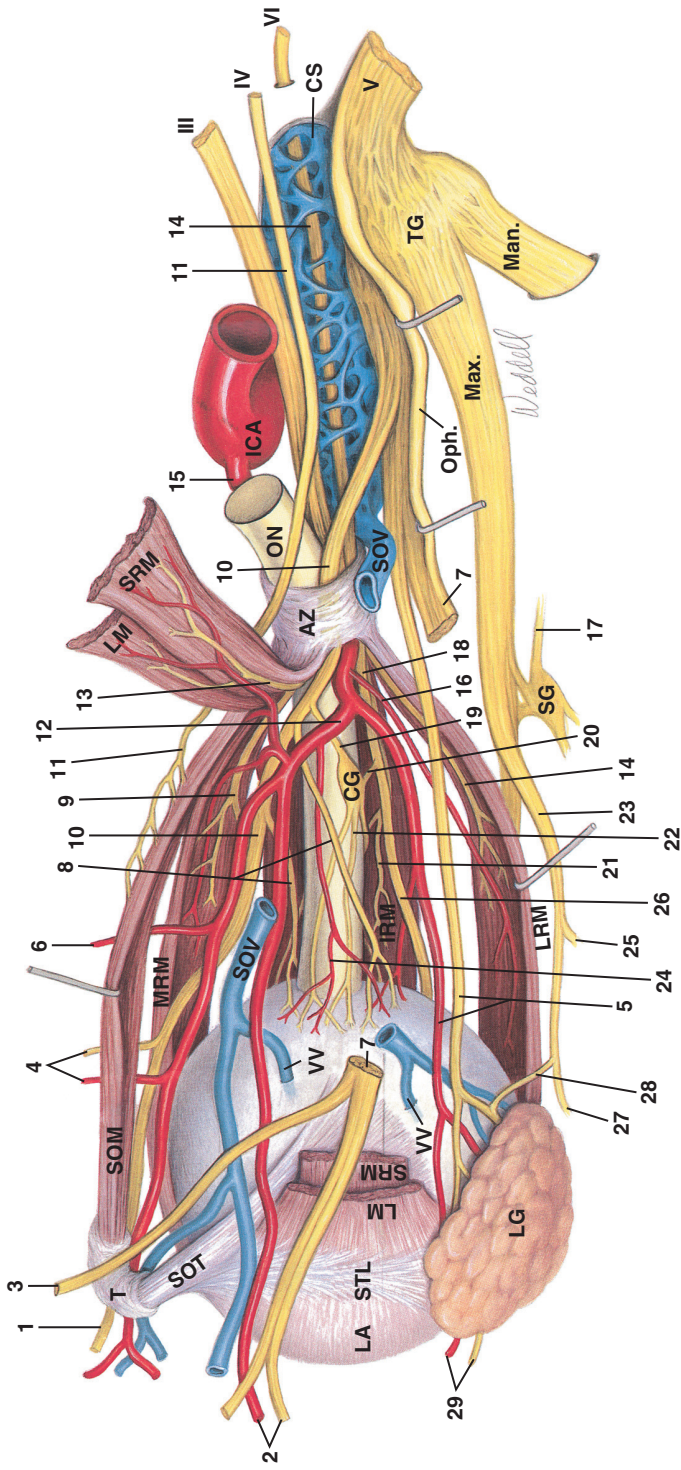
(Continued)

The course of the inferior ophthalmic vein is variable, and it can travel within or below the ring as it exits the orbit.

The *inferior orbital fissure* lies just below the superior fissure, between the lateral wall and the floor of the orbit, providing access to the pterygopalatine and inferotemporal fossae (see Fig 1-1). Therefore, it is close to the foramen rotundum and the pterygoid canal. The inferior orbital fissure transmits the infraorbital and zygomatic branches of CN V₂, an orbital nerve from the pterygopalatine ganglion, and the inferior ophthalmic vein. The inferior ophthalmic vein connects with the pterygoid plexus before draining into the cavernous sinus.

Periorbital Sinuses

The periorbital sinuses have a close anatomical relationship with the orbits (Fig 1-8). The medial walls of the orbits, which border the nasal cavity anteriorly and the ethmoid sinus and sphenoid sinus posteriorly, are almost parallel. In adults, the lateral wall of each orbit forms an angle of approximately 45° with the medial plane. The lateral walls border the middle cranial, temporal, and pterygopalatine fossae. Superior to the orbit are the anterior cranial fossa and the frontal sinus. The maxillary sinus and the palatine air cells are located inferiorly.



B

Figure 1-7 (continued) B, Top view of the left orbit. AZ, annulus of Zinn; CG, ciliary ganglion; CS, cavernous sinus; ICA, internal carotid artery; IRM, inferior rectus muscle; LA, levator aponeurosis; LG, lacrimal gland; LRM, levator rectus muscle; LM, lateral rectus muscle; Man., mandibular nerve; Max., maxillary nerve; MRM, medial rectus muscle; LGM, lacrimal gland muscle; ON, optic nerve; Oph., ophthalmic nerve; SG, sphenopalatine ganglion; SOM, superior oblique muscle; SOT, superior oblique tendon; SOV, superior ophthalmic vein; SRM, superior rectus muscle; STL, superior transverse ligament; T, trochlea; TG, trigeminal (gasserian) ganglion; VV, vortex veins; 1, infraorbital nerve and artery; 2, supraorbital nerve and artery; 3, supratrochlear nerve; 4, anterior ethmoid nerve and artery; 5, lacrimal nerve and artery; 6, posterior ethmoid artery; 7, frontal nerve; 8, long ciliary nerves; 9, branch of CN III to medial rectus muscle; 10, nasociliary nerve; 11, CN IV; 12, ophthalmic (orbital) artery; 13, superior ramus of CN III; 14, CN VI; 15, ophthalmic artery, origin; 16, anterior ciliary artery; 17, vidian nerve; 18, inferior ramus of CN III; 19, sensory branches from ciliary ganglion to nasociliary nerve; 20, motor (parasympathetic) nerve to ciliary ganglion from nerve to inferior oblique muscle; 21, branch of CN III to inferior rectus muscle; 22, short ciliary nerves; 23, zygomatic nerve; 24, posterior ciliary arteries; 25, zygomaticofacial nerve; 26, nerve to inferior oblique muscle; 27, zygomaticotemporal nerve; 28, lacrimal secretory nerve; 29, lacrimal artery and nerve terminal branches. (Part A illustration by Cyndie C.H. Wooley. Part B reproduced from Stewart WB, ed. *Ophthalmic Plastic and Reconstructive Surgery*. 4th ed. San Francisco: American Academy of Ophthalmology Manuals Program; 1984.)