• The upper 5 mm has 4 layers: skin, orbicularis, tarsus, and conjunctiva.
• The lower 5 mm has 7 layers: skin, orbicularis, septum, pre-CPF (capsulopalpebral fascia) fat, inferior sympathetic muscle (equivalent to Müller’s in the upper lid), CPF (equivalent to levator aponeurosis in upper lid), and conjunctiva.

○ Upper eyelid (Fig. 2–6) (mnemonic: 4-5-7 rule):
  • The lower 5 mm has 4 layers: skin, orbicularis, tarsus, and conjunctiva.
  • The middle 5 mm has 5 layers: skin, orbicularis, levator aponeurosis, tarsus, and conjunctiva.
  • Above 10 mm, the upper eyelid has 7 layers: skin, orbicularis, septum, preaponeurotic fat, levator aponeurosis, Müller’s muscle, and conjunctiva.

![Diagram of the upper eyelid and anterior orbit seen in cross-sectional anatomy.](figure.png)
• Vasculature: upper lid supplied by the marginal and peripheral vascular arcades. The lower lid usually has only a peripheral arcade. The peripheral vascular arcade lies along the peripheral border of the tarsus between the lid retractors and Müller’s (inferior tarsal) muscle. The marginal arcade lies anterior to the tarsus 2 mm above the eyelid margin. In eyelid surgery, visualizing these horizontally running vessels indicates that you are below the level of the aponeurosis.

ORBITAL CONNECTIVE AND SUPPORTING TISSUES  Most of the orbit is filled with fat.

• Fat pads: removal of too much fat during surgery may result in sunken orbits, EOM restriction, and cicatricial eyelid changes.
  o Upper lid: two fat pads. The large, central, more yellow (higher lutein concentration) preaponeurotic fat pad protects the levator aponeurosis directly beneath it; it is contiguous with deep fat and is less vascular. The smaller, paler medial fat is more vascular and often migrates anteriorly with aging. There is no lateral fat pad in the upper lid because of the presence of the lacrimal gland in that position.
  o Lower lid: three fat pads. The medial and central pads are separated by the IO (essential to avoid the muscle in blepharoplasty) and communicate with deeper orbital fat; thus, excessive traction may lead to orbital hemorrhage. The smaller lateral fat pad is contiguous with the central pad and separated by the arcuate expansion of the IO.

• Orbital septum: an extension of orbital bone periosteum (originates at the arcus marginalis); attaches to the levator aponeurosis 2–5 mm above the superior tarsus in upper lid (attaches lower in the Asian eyelid and thus creates a lower to absent lid crease). Fuses with the lower lid retractors in the lower eyelid within 1–2 mm from the inferior border of tarsus. Is immediately deep to orbicularis muscle and superficial to preaponeurotic orbital fat.

• Suspensory “ligamentous” system
  o Whitnall’s ligament (superior transverse ligament): condensation of levator aponeurosis suspended high in orbit, attached medially to the trochlea and laterally to the orbital lobe of the lacrimal gland and also attaches laterally to the orbital wall near the frontozygomatic suture (above but not at Whitnall’s tubercle). Acts to change the direction of pull of the levator muscle from horizontal to vertical and limits the extent of lid elevation.
  o Lockwood’s ligament: present in the lower lid and is analogous to Whitnall’s in the upper lid. Arises from inferior side of IR and continues anteriorly as the CPF (lower lid retractors) with contributions from intramuscular septae and Tenon’s capsule. It has medial and lateral horns that attach to the retinaculum, which