Second Edition

CORE PROCEDURES IN

Plastic Surgery

Peter C. Neligan
Donald W. Buck II

ELSEVIER

Core Procedures in Plastic Surgery

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SECOND EDITION

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Preface

When putting together the first edition of *Core Procedures in Plastic Surgery*, our goal was to provide a quick reference resource for some of the most common plastic surgery procedures performed in day-to-day practice. Recognizing the challenge of having "enough" time – time to balance work and life activities, time to read encyclopedic textbooks – we felt that this text would be useful as an adjunct to its more exhaustive counterparts. When Elsevier contacted us about putting together a second edition for this book, it further solidified the notion that busy surgeons just want important facts, the key information, and technical detail that is easily accessible and will help them day to day. We are humbled and grateful for the opportunity to produce this second edition of *Core Procedures in Plastic Surgery*. Since our first edition, there have been some new developments within plastic surgery, including new techniques, which we have tried to capture in this edition. In keeping with our original goal, we have kept the focus of this edition on highlighting some of the most common plastic surgery procedures. Likewise, as the companion to the six-volume *Plastic Surgery 4th Edition* text, we have combed through the various topics and condensed the appropriate chapters into our bulleted, highly focused, high-yield chapters containing only the most pertinent information along with high-quality images and video.

In this new edition, we have compiled 27 chapters in both aesthetic and reconstructive plastic surgery. In addition to the updated original 24 chapters from the first edition, we have added new chapters focusing on forehead rejuvenation, body contouring, liposuction, and fat grafting. Again, reference is made to the chapters in *Plastic Surgery 4th Edition* from which the content is extracted. Each chapter follows a template, so the text is presented in a consistent and concise manner. Within each topic, the chapters are littered with bulleted pearls of wisdom highlighting key concepts of anatomy, operative technique, complications and outcomes, and preoperative and postoperative considerations. There is generous use of illustrations, schematic diagrams, photographs, as well as videos extracted from the fourth edition text. A short annotated bibliography is at the end of each chapter. An icon appears beside the text or illustration to indicate video content.

We are honored to produce this second edition of *Core Procedures* and hope you will find this edition as useful as the first and a great addition to your plastic surgery library. We have tried to design it to be intuitive and user-friendly, and we hope that you will appreciate the condensed format that makes for quick review in the OR or clinic.

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Donnie Buck came up with the idea for the first edition of this book and followed through with spearheading this second edition. The Elsevier editorial team who helped me put together the 4th edition of *Plastic Surgery* fleshed out the details and oversaw the production. The team, led by Belinda Kuhn consisted of Louise Cook, Alexandra Mortimer and Sam Crowe, worked to help make this a reality. Donnie extracted the content from chapters in the big book and re-formatted the information in a condensed form, often combining more than one chapter. The feedback from the first edition was very positive and I hope you will find this second edition equally useful. I am indebted to everyone who helped bring this about. As always, Gabrielle Kane, my wife has supported every part of this project and without her, none of this would happen.

PCN

I am incredibly honored for the opportunity to produce this second edition of *Core Procedures in Plastic Surgery*. When I first approached the folks at Elsevier with my original core procedure concept in 2011, I couldn't have imagined that 7 years later I'd be putting the finishing touches on another edition. I must again thank Peter Neligan for believing in my idea and collaborating with me to make it a reality all those years ago. Working on this title with Elsevier and Dr. Neligan has been a tremendous honor, and I cannot thank them enough for their support and guidance throughout the process. Specifically, I owe a debt of gratitude to the wonderful team at Elsevier, especially Belinda Kuhn and Nani Clansey, who have kept me on target and are responsible for making this book a reality. I would also like to thank the authors, all masters of their craft, for contributing the wonderful text, illustrations, photographs, and videos that comprise this book. Finally, none of this would be possible without the love and support of my incredible family. Thank you to Benjamin and Brooke for continuing to inspire me daily, and to my beautiful wife Jennifer for her unwavering love and encouragement.

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Blepharoplasty

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SYNOPSIS

- Blepharoplasty is a vital part of facial rejuvenation. The traditional removal of tissue may or may not be the preferred approach when assessed in relation to modern cosmetic goals.
- A thorough understanding of orbital and eyelid anatomy is necessary to understand aging in the periorbital region and to devise appropriate surgical strategies.
- Preoperative assessment includes a review of the patient's perceptions, assessment of the patient's anatomy, and an appropriate medical and ophthalmologic examination.
- Surgical techniques in blepharoplasty are numerous and should be tailored to the patient's own unique anatomy and aesthetic diagnosis.
- Interrelated anatomic structures, including the brow and the infraorbital rim, may need to be surgically addressed for an optimal outcome.

Brief introduction

- The eyelids are vital, irreplaceable structures that serve to protect the globes. Their shutter-like mechanism is essential to clean, lubricate, and protect the cornea. Any disruption or restriction of eyelid closure will have significant consequences for both the patient and the surgeon.
- Instead of the common practice of excising precious upper and, to a somewhat lesser degree, lower eyelid tissue, it is preferable to focus on restoration of attractive, youthful anatomy.
- One should first conceptualize the desired outcome, then select and execute procedures accurately designed to achieve those specific goals.
- Several important principles are advocated (*Box 1.1*).

Anatomical pearls

Osteology and periorbita

- The orbits are pyramids formed by the frontal, sphenoid, maxillary, zygomatic, lacrimal, palatine, and ethmoid bones (*Fig. 1.1*).
- The periosteal covering or periorbita is most firmly attached at the suture lines and the circumferential anterior orbital rim.
- The investing orbital septum in turn attaches to the periorbita of the orbital rim, forming a thickened perimeter known as the arcus marginalis.
- This structure reduces the perimeter and diameter of the orbital aperture and is thickest in the superior and lateral aspects of the orbital rim.
- Certain structures must be avoided during upper lid surgery.
  - The lacrimal gland, located in the superolateral orbit deep to its anterior rim, often descends beneath the orbital rim, prolapsing into the postseptal upper lid in many persons.
  - The trochlea is located 5 mm posterior to the superonasal orbital rim and is attached to the periorbita. Disruption of this structure can cause motility problems.

Lateral retinaculum

- Anchored to the lateral orbit is a labyrinth of connective tissues, known as the lateral retinaculum, that are crucial to maintenance of the integrity, position, and function of the globe and periorbital.

BOX 1.1 Principles for restoration of youthful eyes

- Control of periorbital aesthetics by proper brow positioning, corrugator muscle removal, and lid fold invagination when beneficial.
- Restoration of tone and position of the lateral canthus and, along with it, restoration of a youthful and attractive intercanthal axis tilt.
- Restoration of the tone and posture of the lower lids.
- Preservation of maximal lid skin and muscle (so essential to lid function and aesthetics) as well as orbital fat.
- Lifting of the midface through reinforced canthopexy, preferably enhanced by composite malar advancement.
- Correction of suborbital malar grooves with tear trough (or suborbital malar) implants, obliterating the deforming tear trough (bony) depressions that angle down diagonally across the cheek, which begin below the inner canthus.
- Control of orbital fat by septal restraint or quantity reduction.
- Removal of only that tissue (skin, muscle, fat) that is truly excessive on the upper and lower lids, sometimes resorting to unconventional excision patterns.
- Modification of skin to remove prominent wrinkling and excision of small growths and blemishes.

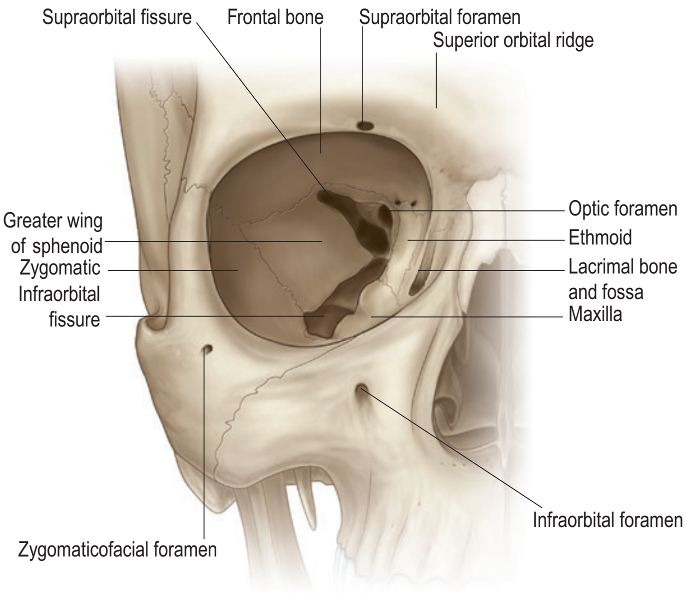

Figure 1.1 Orbital bones. Frontal view of the orbit with foramina.

- These structures coalesce at the lateral orbit and support the globe and eyelids like a hammock (*Fig. 1.2*).
- The lateral retinaculum consists of the lateral canthal tendon, tarsal strap, lateral horn of the levator aponeurosis, the Lockwood suspensory ligament, Whitnall ligament, and check ligaments of the lateral rectus muscle.
- They converge and insert securely into the thickened periosteum overlying the Whitnall tubercle.
- Controversy exists surrounding the naming of the components of the lateral canthal tendon.
- A superficial component is continuous with the orbicularis oculi fascia and attaches to the lateral orbital rim and deep temporal fascia by means of the lateral orbital thickening.
- A deep component connects directly to the Whitnall tubercle and is classically known as the lateral canthal tendon (*Fig. 1.3*).
- The tarsal strap is a distinct anatomic structure that inserts into the tarsus medial and inferior to the lateral canthal tendon.
- The tarsal strap attaches approximately 3 mm inferiorly and 1 mm posteriorly to the deep lateral canthal tendon, approximately 4–5 mm from the anterior orbital rim.
- It shortens in response to lid laxity, benefiting from release during surgery to help achieve a long-lasting restoration or elevation canthopexy (*Fig. 1.4*).

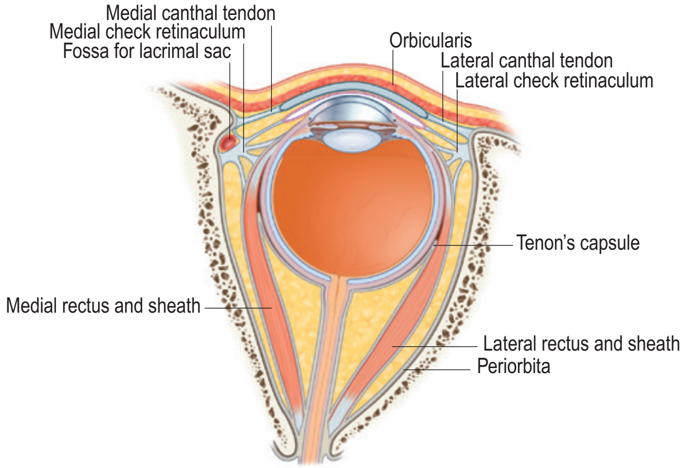

Figure 1.2 Horizontal section of the orbit showing the lateral retinaculum formed by the lateral horn of the levator, lateral canthal tendon, tarsal strap, the Lockwood suspensory ligament, and lateral rectus check ligaments.

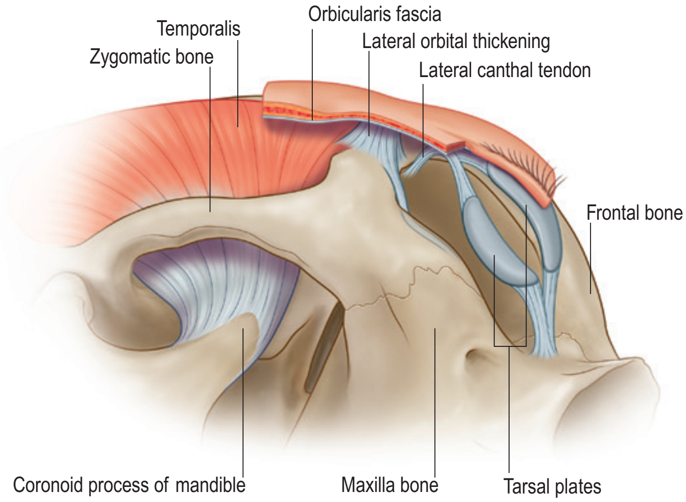

Figure 1.3 Lateral canthal tendon has separate superficial and deep components. The deep component attaches inside the orbital rim at Whitnall tubercle. The superficial component passes from the tarsal plates to the periosteum of the lateral orbital rim and lateral orbital thickening. Both components are continuous with both superior and inferior lid tarsal plates. (Adapted from Muzaffar AR, Mendelson BC, Adams Jr WP. Surgical anatomy of the ligamentous attachments of the lower lid and lateral canthus. *Plast Reconstr Surg*. 2002;110(3):873–884.)

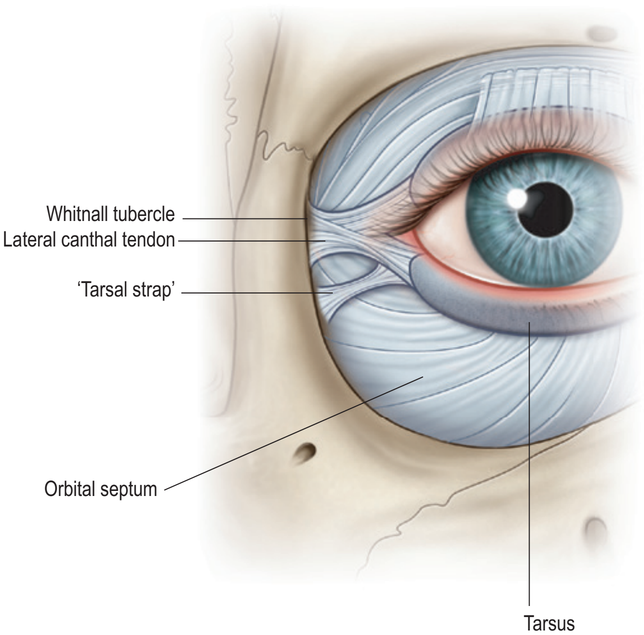

Figure 1.4 The lateral canthal tendon inserts securely into the thickened periosteum overlying Whitnall tubercle. The tarsal strap is a distinct anatomic structure that suspends the tarsus medial and inferior to the lateral canthal tendon to lateral orbital wall, approximately 4–5 mm from the orbital rim.

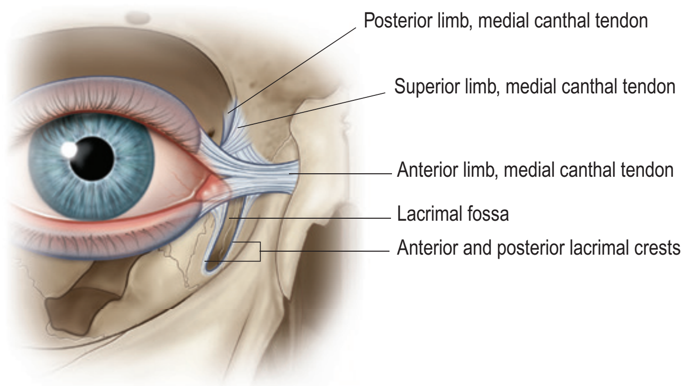

Figure 1.5 The medial canthal tendon envelops the lacrimal sac. It is tripartite, with anterior, posterior, and superior limbs. Like the lateral canthal tendon, its limbs are continuous with tarsal plates. The components of this tendon along with its lateral counterpart are enveloped by deep and superficial aspects of the orbicularis muscle. (Adapted from Spinelli HM. *Atlas of Aesthetic Eyelid and Periocular Surgery*. Philadelphia: Saunders; 2004:13.)

- Adequate release of the tarsal strap permits a tension-free canthopexy, minimizing the downward-tethering force of this fibrous condensation.
- This release, along with a superior reattachment of the lateral canthal tendon, is key to a successful canthopexy.

Medial orbital vault

- A hammock of fibrous condensations suspends the globe above the orbital floor. The medial components of the apparatus include medial canthal tendon, the Lockwood suspensory ligament, and check ligaments of the medial rectus.
- The medial canthal tendon, like the lateral canthal tendon, has separate limbs that attach the tarsal plates to the ethmoid and lacrimal bones.
- Each limb inserts onto the periorbital of the apex of the lacrimal fossa. The anterior limb provides the bulk of the medial globe support (*Fig. 1.5*).

Forehead and temporal region

- The forehead and brow consist of four layers: skin, subcutaneous tissue, muscle, and galea.
- There are four distinct brow muscles: frontalis, procerus, corrugator superciliaris, and orbicularis oculi (*Fig. 1.6*).
- The frontalis muscle inserts predominately into the medial half or two-thirds of the eyebrow (*Fig. 1.7*), allowing the lateral brow to drop hopelessly ptotic from aging, while the medial brow responds to frontalis activation and elevates, often excessively, in its drive to clear the lateral overhand. Constant contraction of the frontalis will give the appearance of deep horizontal creases in the forehead (*Fig. 1.8*).
- The vertically oriented procerus is a medial muscle, often continuous with the frontalis, arising from the nasal bones and inserting into the subcutaneous tissue of the glabellar region. It pulls the medial brow inferiorly and contributes to the horizontal wrinkles at the root of the nose. More commonly, these wrinkles result from brow ptosis and correct spontaneously with brow elevation.
- The obliquely oriented corrugators muscle arises from the frontal bone and inserts into the brow tissue laterally, with some extensions into orbicularis and frontalis musculature, forming vertical glabellar furrows during contraction.

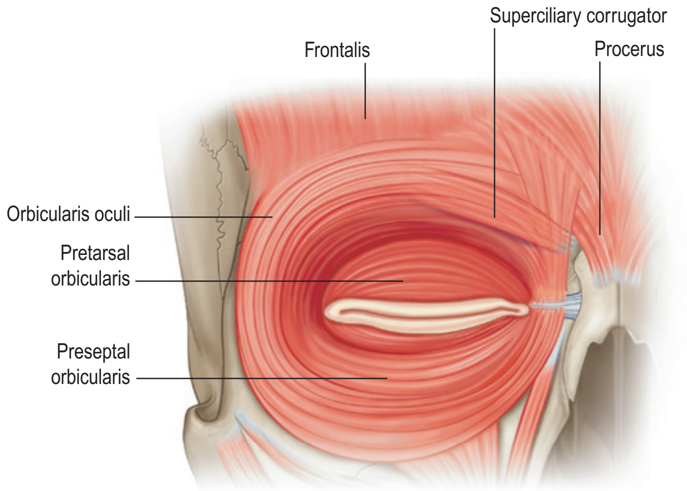

Figure 1.6 Facial muscles of the orbital region. Note that the preseptal and pretarsal orbicularis muscles fuse with the medial and lateral canthal tendons.

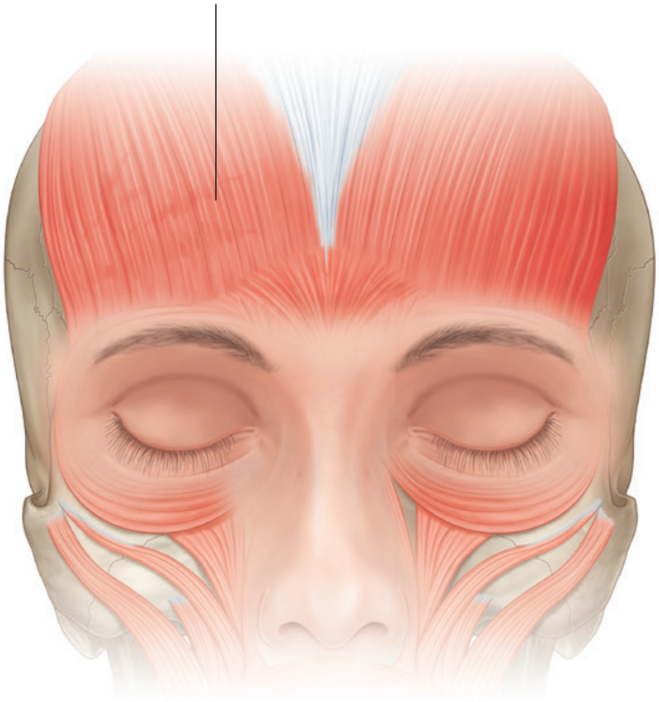

Figure 1.7 The frontalis muscle inserts predominantly into the medial half or two-thirds of the eyebrow. The medial brow responds to frontalis activation and elevates, often excessively, in its drive to clear lateral overhang.

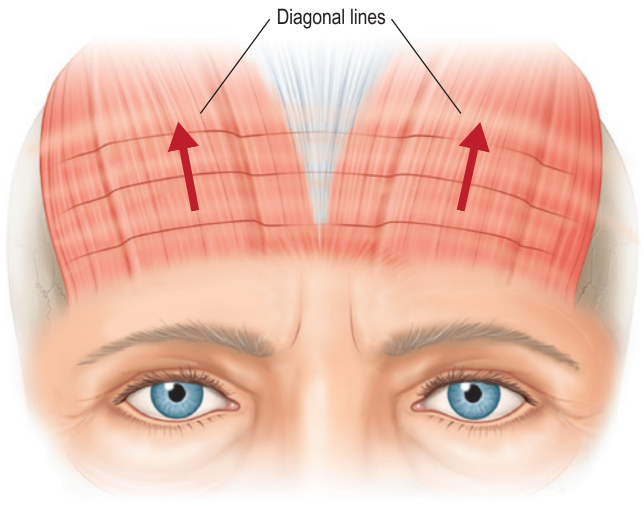

Figure 1.8 Frontalis action. The frontalis muscle inserts into the medial two-thirds of the brow. Exaggerated medial brow elevation is required to clear the lateral overhang and to eliminate visual obstruction. Constant contraction of the frontalis will give the appearance of deep horizontal creases in the forehead. This necessarily means that when the lateral skin is elevated or excised, the over-elevated and distorted medial brow drops profoundly.

Eyelids

- There is much similarity between upper and lower eyelid anatomy. Each consists of an anterior lamella of skin and orbicularis muscle and a posterior lamella of tarsus and conjunctiva (*Fig. 1.9*).

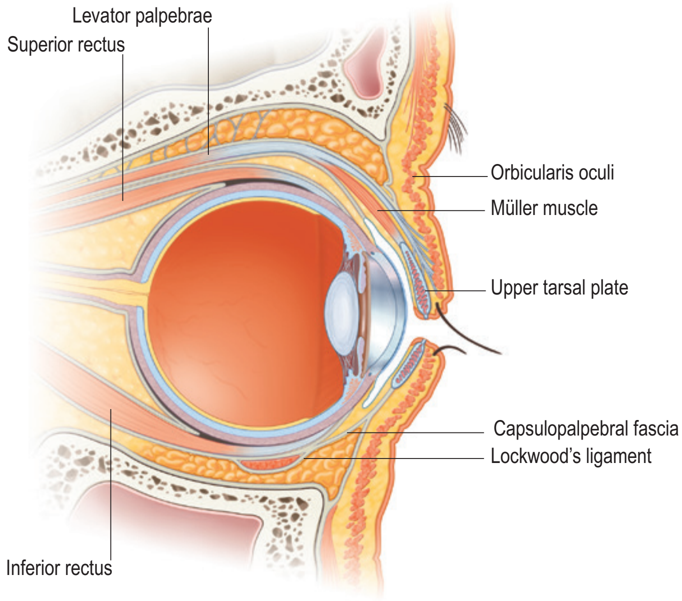

Figure 1.9 Eyelid anatomy. Each eyelid consists of an anterior lamella of skin and orbicularis muscle and a posterior lamella of tarsus and conjunctiva. The orbital septum forms the anterior border of the orbital fat.

- The orbicularis muscle, which acts as a sphincter for the eyelids, consists of orbital, preseptal, and pretarsal segments.
- The pretarsal muscle segment fuses with the lateral canthal tendon and attaches laterally to Whitnall tubercle. Medially it forms two heads, which insert into the anterior and posterior lacrimal crests (see Fig. 1.6).

Upper eyelid

- The orbital septum originates superiorly at the arcus and forms the anterior border of the orbit. It joins with the levator aponeurosis, just superior to the tarsus. The sling formed by the union of these two structures houses the orbital fat.
- The levator palpebrae superioris muscle originates above the annulus of Zinn. It extends anteriorly for 40 mm before becoming a tendinous aponeurosis below Whitnall ligament. The aponeurosis fans out medially and laterally to attach to the orbital retinacula. The aponeurosis fuses with the orbital septum above the superior border of the tarsus and at the caudal extent of the sling, sending fibrous strands to the dermis to form the lid crease. Extensions of the aponeurosis finally insert into the anterior and inferior tarsus. As the levator aponeurosis undergoes senile attenuation, the lid crease rises into the superior orbit from its remaining dermal attachments while the lid margin drops.
- Müller muscle, or the supratarsal muscle, originates on the deep surface of the levator near the point where the muscle becomes aponeurotic and inserts into the superior tarsus. Dehiscence of the attachment of the levator aponeurosis to the tarsus results in an acquired

ptosis only after the Müller muscle attenuates and loses its integrity.
- In the Asian eyelid, fusion of the levator and septum commonly occurs at a lower level, allowing the sling and fat to descend farther into the lid. This lower descent of fat creates the characteristic fullness of their upper eyelid. In addition, the aponeurotic fibers form a weaker attachment to the dermis, resulting in a less distinct lid fold (*Fig. 1.10*).

Septal extension

- The orbital septum has an adhesion to the levator aponeurosis above the tarsus. The septum continues beyond this adhesion and extends to the ciliary margin. It is superficial to the preaponeurotic fat found at the supratarsal crease. The septal extension is a dynamic component to the motor apparatus, as traction on this fibrous sheet reproducibly alters ciliary margin position (*Fig. 1.11*). The septal extension serves as an adjunct to, and does not operate independent of, levator function, as mistaking the septal extension for levator apparatus and plicating this layer solely results in failed ptosis correction.

Lower eyelid

- The anatomy of the lower eyelid is somewhat analogous to that of the upper eyelid.
- The retractors of the lower lid, the capsulopalpebral fascia, correspond to the levator above.
- The capsulopalpebral head splits to surround and fuse with the sheath of the inferior oblique muscle. The two heads fuse to form the Lockwood suspensory ligament, which is analogous to Whitnall ligament.
- It fuses with the orbital septum 5 mm below the tarsal border and then inserts into the anterior and inferior surface of the tarsus.
- The inferior tarsal muscle is analogous to Müller muscle of the upper eyelid and also arises from the sheath of the inferior rectus muscle. It runs anteriorly above the inferior oblique muscle and also attaches to the inferior tarsal border.
- The combination of the orbital septum, orbicularis, and skin of the lower lid acts as the anterior barrier of the orbital fat. As these connective tissue properties relax, the orbital fat is allowed to herniate forward, forming an unpleasing, full lower eyelid. This relative loss of orbital volume leads to a commensurate, progressive hollowing of the upper lid as upper eyelid fat recesses.
- The capsulopalpebral fascia and its overlying conjunctiva form the posterior border of the lower orbital fat. Transection of the capsulopalpebral fascia during lower lid procedures, particularly transconjunctival blepharoplasty, releases the retractors of the lower eyelid, which can reduce downward traction and allow the position of the lower lid margin to rise.

Retaining ligaments

- A network of ligaments serves as a scaffold for the skin and subcutaneous tissue surrounding the orbit. The orbital retaining ligament directly attaches the orbicularis at the junction of its orbital and preseptal components to the periosteum of the orbital rim and, consequently, separates the prezygomatic space from the preseptal space. This ligament is continuous with the lateral orbital thickening, which inserts onto the lateral orbital rim and deep temporal fascia. It also has attachments to the superficial lateral canthal tendon (see *Figs.* 1.3, *1.12, 1.13*). Attenuation of these ligaments permits descent of orbital fat onto the cheek. A midfacelift must release these ligaments to achieve a supported, lasting lift.

Blood supply

- The internal and external carotid arteries supply blood to the orbit and eyelids (*Fig. 1.14*).
- The ophthalmic artery is the first intracranial branch of the internal carotid; its branches supply the globe, extraocular muscles, lacrimal gland, ethmoid, upper eyelids, and forehead.
- The external carotid artery branches into the superficial temporal and maxillary arteries. The infraorbital artery is a continuation of the maxillary artery and exits 8 mm below the inferomedial orbital rim to supply the lower eyelid.
- The arcade of the superior and inferior palpebral arteries gives a rich blood supply to the eyelids. The superior palpebral artery consists of a peripheral arcade located at the superior tarsal border – the area where surgical dissection occurs to correct lid ptosis and to define lid folds. Damage to a vessel within this network commonly results in a hematoma of Müller muscle, causing lid ptosis for 2–8 weeks postoperatively. Likewise, on the lower lid, the inferior palpebral artery lies at the inferior border of the inferior tarsus.
- The supratrochlear, dorsal nasal, and medial palpebral arteries all traverse the orbit medially. Severing these arteries during fat removal, without adequately providing hemostasis, may lead to a retrobulbar hematoma, a vision-threatening complication of blepharoplasty.

Innervation: trigeminal nerve and facial nerve

- The trigeminal nerve, along with its branches, provides sensory innervations to the periorbital region (*Fig. 1.15*).
- A well-placed supraorbital block will anesthetize most of the upper lid and the central precoronal scalp.
- The maxillary division exits the orbit through one to three infraorbital foramina. It provides sensation to the skin of the nose, the lower eyelids, and the upper lid.
- The facial nerve supplies motor function to the lids (*Fig. 1.16*).
- Innervation of facial muscles occurs on their deep surfaces.
- Interruption of the branches to the orbicularis muscle from the periorbital surgery or facial surgery may result in atonicity due to partial denervation of the orbicularis with loss of lid tone or anomalous reinnervation and possibly undesirable eyelid twitching.
- The frontal branch of the facial nerve courses immediately above and is attached to the periosteum of

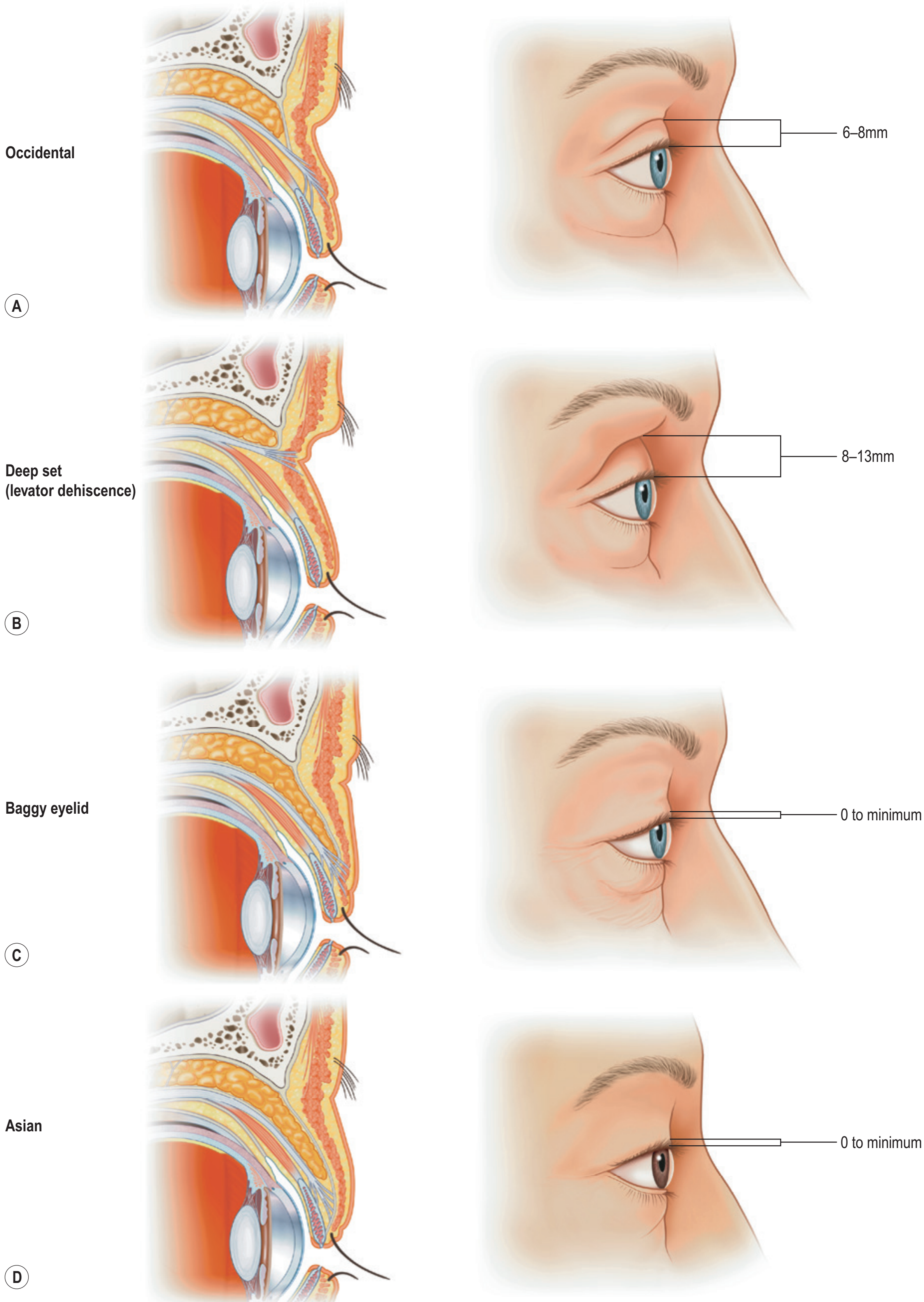

Figure 1.10 The anatomic variations in the upper eyelid displayed by different ethnic groups and the changes associated with senescence within each group allow for a convergence of anatomy. **(A)** The normal youthful Asian upper eyelid has levator extensions inserting onto the skin surface to define a lid fold that averages 6–8 mm above the lid margin. The position of the levator–skin linkage and the anteroposterior relationship of the preaponeurotic fat determine lid fold height and degree of sulcus concavity or convexity (as shown on the right half of each anatomic depiction). **(B)** In the case of levator dehiscence from the tarsal plate, the upper lid crease is displaced superiorly. The orbital septum and preaponeurotic fat linked to the levator are displaced superiorly and posteriorly. These anatomic changes create a high lid crease, a deep superior sulcus, and eyelid ptosis. **(C)** In the aging eyelid, the septum becomes attenuated and stretches. The septal extension loosens, and this allows orbital fat to prolapse forward and slide over the levator into an anterior and inferior position. Clinically, this results in an inferior displacement of the levator skin attachments and a low and anterior position of the preaponeurotic fat pad. **(D)** The youthful Asian eyelid anatomically resembles the senescent upper lid with a low levator skin zone of adhesion and inferior and anteriorly located preaponeurotic fat. The characteristic but variable low eyelid crease and convex upper eyelid and sulcus are classic. (Adapted from Spinelli HM. *Atlas of Aesthetic Eyelid and Periocular Surgery*. Philadelphia: Saunders; 2004:59.).

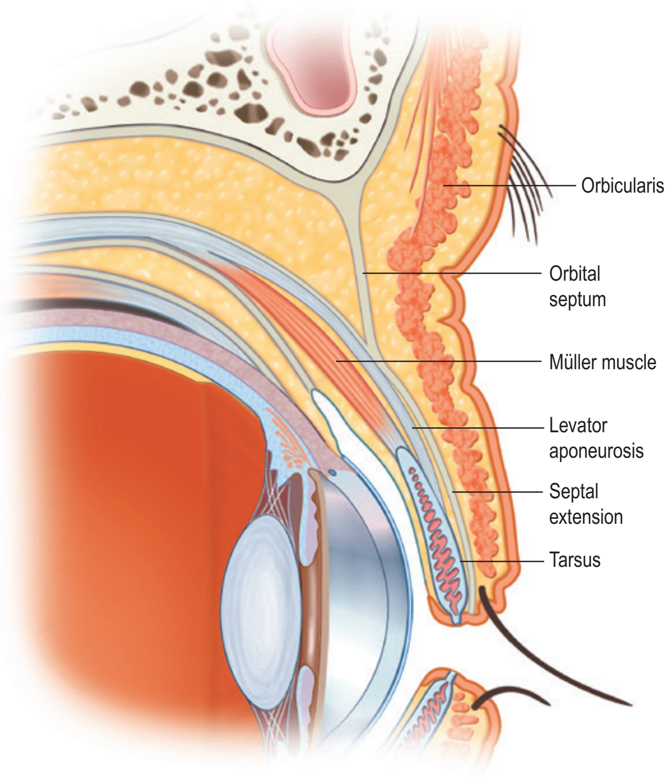

Figure 1.11 The orbital septum has an adhesion to the levator aponeurosis above the tarsus. The septal extension begins at the adhesion of the orbital septum to the levator and extends to the ciliary margin. It is superficial to the preaponeurotic fat found at the supratarsal crease. (Adapted from Reid RR, Said HK, Yu M, et al. Revisiting upper eyelid anatomy: introduction of the septal extension. *Plast Reconstr Surg*. 2006;117(1):65–70.)

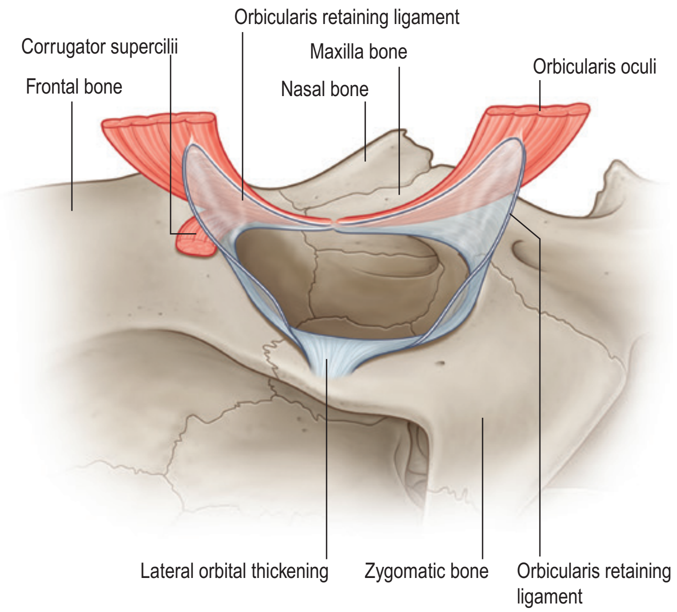

Figure 1.12 The orbicularis muscle fascia attaches to the skeleton along the orbital rim by the lateral orbital thickening (LOT) in continuity with the orbicularis retaining ligament (ORL). (Adapted from Ghavami A, Pessa JE, Janis J, et al. The orbicularis retaining ligament of the medial orbit: closing the circle. *Plast Reconstr Surg.* 2008;121(3):994–1001.).

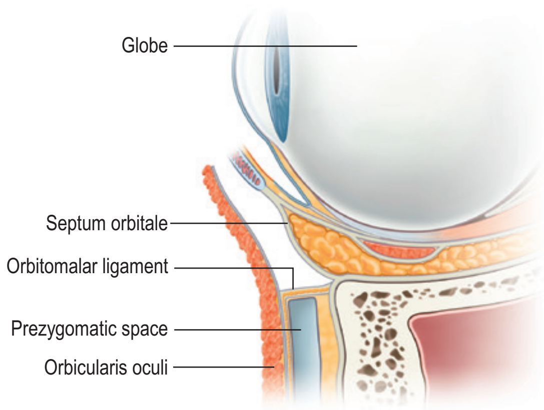

Figure 1.13 The orbital retaining ligament (ORL) directly attaches the orbicularis oris (OO) at the junction of its pars palpebrarum and pars orbitalis to the periosteum of the orbital rim and, consequently, separates the prezygomatic space from the preseptal space. (Adapted from Muzaffar AR, Mendelson BC, Adams Jr WP. Surgical anatomy of the ligamentous attachments of the lower lid and lateral canthus. *Plast Reconstr Surg*. 2002;110(3):873–884.)

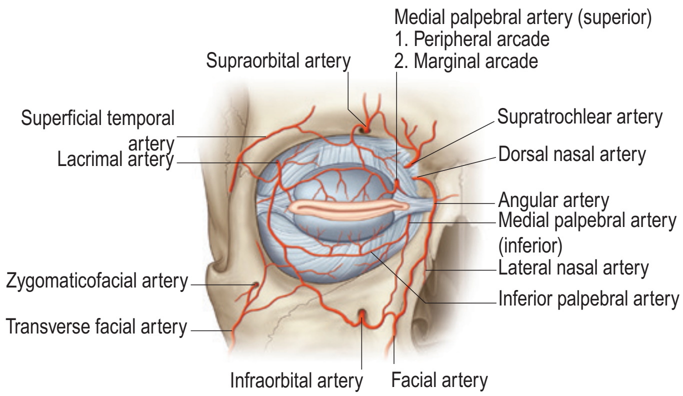

Figure 1.14 Arterial supply to the periorbital region.

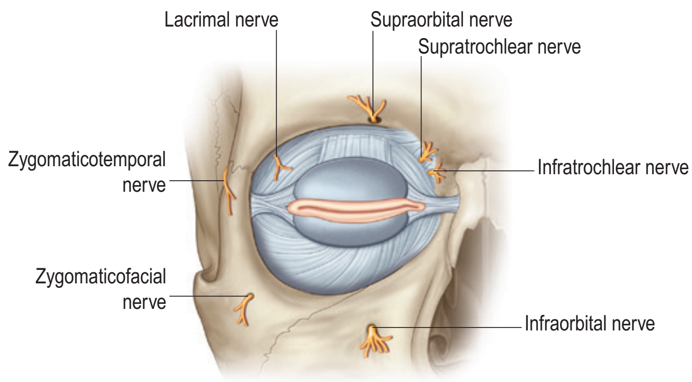

Figure 1.15 Sensory nerves of the eyelids.

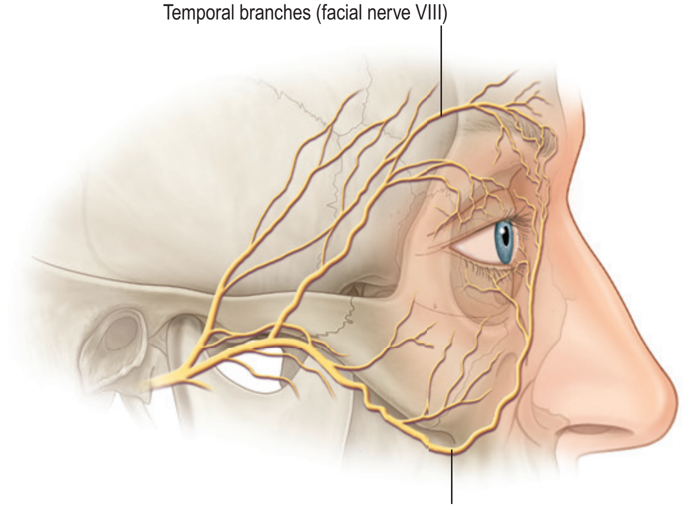

Figure 1.16 Anatomy of the brow and temporal region. The light-green opaque area denotes the deep temporal fascia and the periosteum where sutures may be used to suspend soft tissue. Wide undermining, soft tissue suspension, and canthopexy are safely performed here.

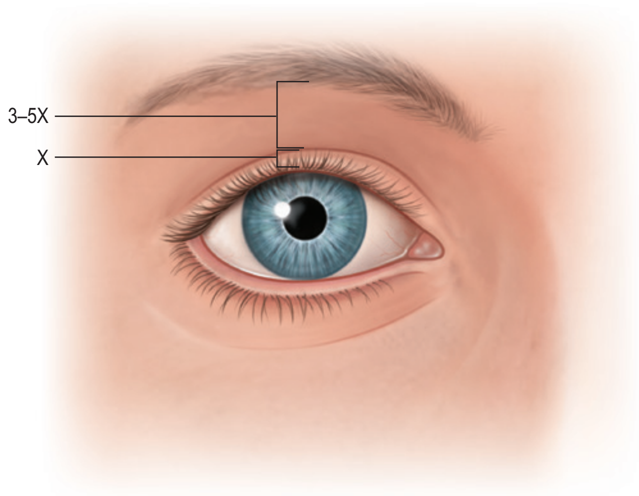

Figure 1.17 On relaxed forward gaze, the ideal upper lid should rest approximately 2 mm below the upper limbus. The lower lid ideally covers 0.5 mm of the lower limbus. The ratio of distance from the lower edge of the eyebrow to the open lid margin to the pretarsal skin ratio should be greater than 3.

the zygomatic bone. It then courses medially approximately 2 cm above the superior orbital rim to innervate the frontalis, corrugators, and procerus muscles from their deep surface.

- A separate branch travels along the inferior border of the zygoma to innervate the inferior component of orbicularis oculi.

Youthful, beautiful eyes

- The characteristics of youthful, beautiful eyes differ from one population to another, but generalizations are possible and provide a needed reference to judge the success of various surgical maneuvers.
- Attractive, youthful eyes have globes framed in generously sized horizontal apertures (from medial and lateral), often accentuated by a slight upward tilt of the intercanthal axis (*Fig. 1.17*).
- The aperture length should span most of the distance between the orbital rims.
- In a relaxed forward gaze, the vertical height of the aperture should expose at least three-quarters of the cornea, with the upper lid extending down at least 1.5 mm below the upper limbus (the upper margin of the cornea) but no more than 3 mm. The lower lid ideally covers 0.5 mm of the lower limbus but no more than 1.5 mm.
- In the upper lid, there should be a well-defined lid crease lying above the lid margin with lid skin under slight stretch, slightly wider laterally.
- Ideally, the actual pretarsal skin visualized on relaxed forward gaze ranges from 3 to 6 mm in European ethnicities.
- The Asian lid crease is generally 2–3 mm lower, with the distance from lid margin diminishing as the crease moves toward the inner canthus.
- Patients of Indo-European and African decent show 1 to 2 mm lower than European ethnicities.
- The ratio of distance from the lower edge of the eyebrow (at the center of the globe) to the open lid margin to the visualized pretarsal skin should never be less than 3:1 (see Fig. 1.1), preferably more.
- Scleral show is the appearance of white sclera below the lower border of the cornea and above the lower eyelid margin. In general, sclera show is contradictory to optimal aesthetics and may be perceived as a sign of aging, previous blepharoplasty, or orbital disease (e.g., thyroid disease).
- More than 0.5 mm of sclera show beneath the cornea on direct, forward gaze begins to confer a sad or melancholy aura to one's appearance.
- The intercanthal axis is normally tilted slightly upward (from medial to lateral) in most populations.
- Exaggerated tilts are encountered in some Asian, Indo-European, and African-American populations.

Preoperative considerations

- A thorough history and physical examination should be obtained – including an ophthalmic history (see *Box 1.2*).
- Physical exam should include evaluation for symmetry; globe shape, position, and appearance; signs of aging; lid appearance; lid function; and relative laxity.
- In the upper lid, excessive skin due to loss of elasticity and sun damage is one of the major causes of an aged appearance in the periorbital area.
- In addition to relaxed skin changes, excessive fat herniation can cause bulging, resulting in a heavy appearance to the upper lid area.
- Aging changes in the lower lid include relaxation of the tarsal margin with scleral show, rhytides of the lower lid, herniated fat pads resulting in bulging in one or all of

BOX 1.2 Important information to obtain during history and physical examination

- Medication use: particularly anticoagulants, anti-inflammatory and cardiovascular drugs, and vitamins (especially vitamin E).
- Herbal supplement use: herbs represent risks to anesthesia and surgery, particularly those affecting blood pressure, blood coagulation, the cardiovascular system, and healing.
- Allergies: medication and type.
- Past medical history: especially hypertension, diabetes, cardiovascular and cerebrovascular disease, hepatitis, liver disease, heart disease or arrhythmias, cancer, thyroid disease, and endocrine disease.
- Bleeding disorders or blood clots.
- Psychiatric disease.
- Alcohol and smoking history.
- Recreational drug use, which may interact with anesthesia.
- Exposure to human immunodeficiency virus and hepatitis virus.
- Any history of facial herpes zoster or simplex.

BOX 1.3 Recommended photographic views

- Full face, upright (at rest) frontal, oblique, and lateral views.
- Full face, upright, and smiling.
- Direct periorbital views in upward gaze and downward gaze and with eyes gently closed.
- A view with a finger slightly elevating the brows with the eyes open and another with the eyes closed.

the three fat pocket areas, and hollowing of the nasojugal groove and lateral orbital rim areas.
- Hollowing of the nasojugal groove area appears as dark circles under the eyes, mostly because of lighting and the shadowing that result from this defect.
- Contact lens wear poses particular risks when eyelid surgery is performed.
- Long-term contact lens wearing hastens the process of drying out the eyes.
- Traditional blepharoplasty techniques consistently produce vertical dystopia with increased scleral exposure, making the lens wear difficult if not dangerous.
- Ptosis and canthopexy surgery may alter the corneal curvature and require that contacts be refitted.
- The patient should discontinue contact lens wear in the perioperative period to allow healing without the need to manipulate the eyelids.
- Dry, irritated eyes before surgery will lead to irritated eyes after surgery, and the surgeon may be blamed.
- Treatment options include artificial tears, ointment, anti-inflammatory drops, and punctal plugs or punctal closure.
- Exophthalmos, unilaterally or bilaterally, associated with a thyroid disorder, should be completely stabilized for approximately 6 months before elective aesthetic surgery.
- Eyelid measurements are documented for use during ptosis surgery and, if necessary, for insurance purposes.
- In the typical person with the brow in an aesthetically pleasing position, 20 mm of upper lid skin must remain between the bottom of the central eyebrow and the upper lid margin to allow adequate lid closure during sleep, a well-defined lid crease, and an effective and complete blink.
- In the eyelid of the white individual, the aperture (distance between the upper and lower eyelids) average is 10–12 mm.
- The margin reflex distance (MRD), measured from the light reflex on the center of the cornea to the upper eyelid margin, ranges from 3 to 5 mm.
- True blepharoptosis is defined by the degree of upper lid infringement upon the iris and pupil.
- As the MRD decreases toward zero, the severity of blepharoptosis increases.
- Before method selection, the levator function must be determined by measuring the upper eyelid excursion from extreme downward gaze to extreme upward gaze; it generally ranges from 10 to 12 mm.
- If ptosis exists, the type of repair depends upon the severity of the ptosis and the reliability of the levator to recreate smooth upper lid elevation.
- Pseudoptosis occurs when excess upper lid skin covers the eyelid, depressing the eyelashes, forming hooding, and simulating ptosis.
- Photographic evidence of this is often necessary for insurance purposes when a levator aponeurosis repair or an excisional blepharoplasty is planned.
- Brow ptosis is a common aspect of facial aging. It adds weight and volume to the upper eyelid to develop, or exacerbate, eyelid ptosis.
- The ability to differentiate the causes of droopy eyelids – brow ptosis (brow weight resting on the eyelids), dermatochalasis (excess skin), and blepharoptosis (levator attenuation or dehiscence) – will enable the surgeon to select the proper correction.
- There is a normal 10–12 mm projection of the globe seen in a lateral, as measured from the lateral orbital rim at the level of the canthal tendon to the pupil.
- Proptosis and enophthalmos are relative anterior and posterior displacement of the globe, respectively. Hertel exophthalmometry can be used to quantitate the degree of relative projection for documentation purposes.
- Assessment of tear production is a necessary but unreliable task.
- The Schirmer test:
  - Placing filter paper strips in the lateral third of the lower eyelid.
  - After 5 min, normal tear production should be greater than 15 mm; 5–10 mm indicates borderline tear secretion, and below 5 mm is hyposecretion.
- No other area of cosmetic surgery is more dependent on accurate photography than the periorbital region (*Box 1.3*).
- Before surgical planning, one must have a meaningful conceptualization of the desired result. Only then can the surgical maneuvers required be organized in a meaningful way (*Box 1.4*).

BOX 1.4 Preoperative periorbital plan

The preoperative periorbital plan should include the following:
- The patient's specific concerns and desires for improvement.
- Brow position.
- Lower eyelid tonicity.
- Eyelid ptosis, retraction, or levator dehiscence.
- Exophthalmos or enophthalmos.
- Supraorbital rim prominence or hypoplasia.
- Suborbital malar and tear trough deformities.
- Excision of necessary skin, muscle, and fat – only if necessary.

Operative techniques (Video 1.1)

Simple skin blepharoplasty

- When skin-only excision is elected, it should occur above the supratarsal fold or crease, leaving that structure intact – this retains most of the definition of an existing lid fold.
- The supratarsal fold is located approximately 7–8 mm above the ciliary margin in women and 6–7 mm in men.
- The upper marking must be at least 10 mm from the lower edge of the brow and should not include any thick brow skin.
- The use of a pinch test for redraping the skin is helpful.
- The shape of the skin resection is lenticular in younger patients and more trapezoid shaped laterally in older patients.
- The incision may need to be extended laterally with a larger extension, but extension lateral to the orbital rim should be avoided if possible to prevent a prominent scar (*Fig. 1.18*).
- Similarly, the medial markings should not be extended medial to the medial canthus because extensions onto the nasal side wall result in webbing.
- At the conclusion of the case, the patient should have approximately 1–2 mm of lagophthalmos bilaterally. *Fig. 1.19* displays the predictable, restorative outcomes that can be achieved with skin excision alone.

Anchor (or invagination blepharoplasty)

- Anchor blepharoplasty involves the creation of an upper eyelid crease by attaching pretarsal skin to the underlying aponeurosis.
- Advantages of an anchor blepharoplasty are a crisp, precise, and well-defined eyelid crease that persists indefinitely.
- Disadvantages are that it is more time-consuming, requires greater surgical skills and expertise, and encourages greater frontalis relaxation as a result of more effective correction of the overhanging pseudoptotic skin.
- Key components of the anchor blepharoplasty include:
  - Minimal skin excision (2–3 mm) extending cephalad from the tarsus.
  - A 1–2 mm sliver of orbicularis must be removed in proportion to the amount of skin removed.
  - A small pretarsal skin and muscle flap are dissected from the aponeurosis and septum adhesion.
  - After sharply disinserting the aponeurosis from the tarsus, pretarsal fatty tissue can be removed to debulk the pretarsal skin.
  - Mattressed anchor sutures are placed connecting the tarsus to the aponeurosis and pretarsal skin (*Fig. 1.20*).
  - Finally, a running suture approximates the preseptal skin incision.

Orbital fat excision

- A relative excess of retroseptal fat may be safely excised through an upper eyelid blepharoplasty incision.
- A small septotomy is made at the superior aspect of the skin excision into each fat compartment in which conservative resection of redundant fat has been planned.
- The fat is teased out bluntly and resected using pinpoint cautery.
- This fat usually includes the medial or nasal compartment, which contains white fat.
- Yellow fat in the central compartment is usually more superficial and lateral.
- Gentle pressure on the patient's globe can reproduce the degree of excess while the patient lies recumbent on the operating room table (*Fig. 1.21*).
- Overall, undercorrection is preferred to prevent hollowing, which can be dramatic and recognized as an A-frame abnormality.
- The attenuated orbital septum may be addressed by using selective diathermy along the exposed caudal septum.
- Inflammation-mediated tightening can enhance septal integrity.
- Septal plication aid is unnecessary and may induce a brisk, restrictive inflammatory response.

Blepharoptosis

- During upper blepharoplasty, with the septum open and the aponeurosis and superior tarsus exposed, there is an ideal opportunity to adjust the level of the aperture.
- Inappropriate aperture opening can be due to upper lid ptosis or upper lid retraction.
- True ptosis repair involves reattachment of the levator aponeurosis to the tarsus, with or without shortening of applicable structures (e.g. aponeurosis, Müller muscle, and tarsus).
- There are a variety of techniques to address blepharoptosis, but they are outside the scope of this chapter. There is a significant learning curve to performing a ptosis repair, and even then, the ability to get perfect symmetry is elusive.
- In the setting of mild upper eyelid ptosis (~1 mm), where the decision has been made to avoid a formal lid ptosis procedure, selective myectomy of the upper eyelid orbicularis can be performed to widen the lid aperture.
- The amount of muscle to be resected depends on a host of factors, including the severity of relative lid ptosis,

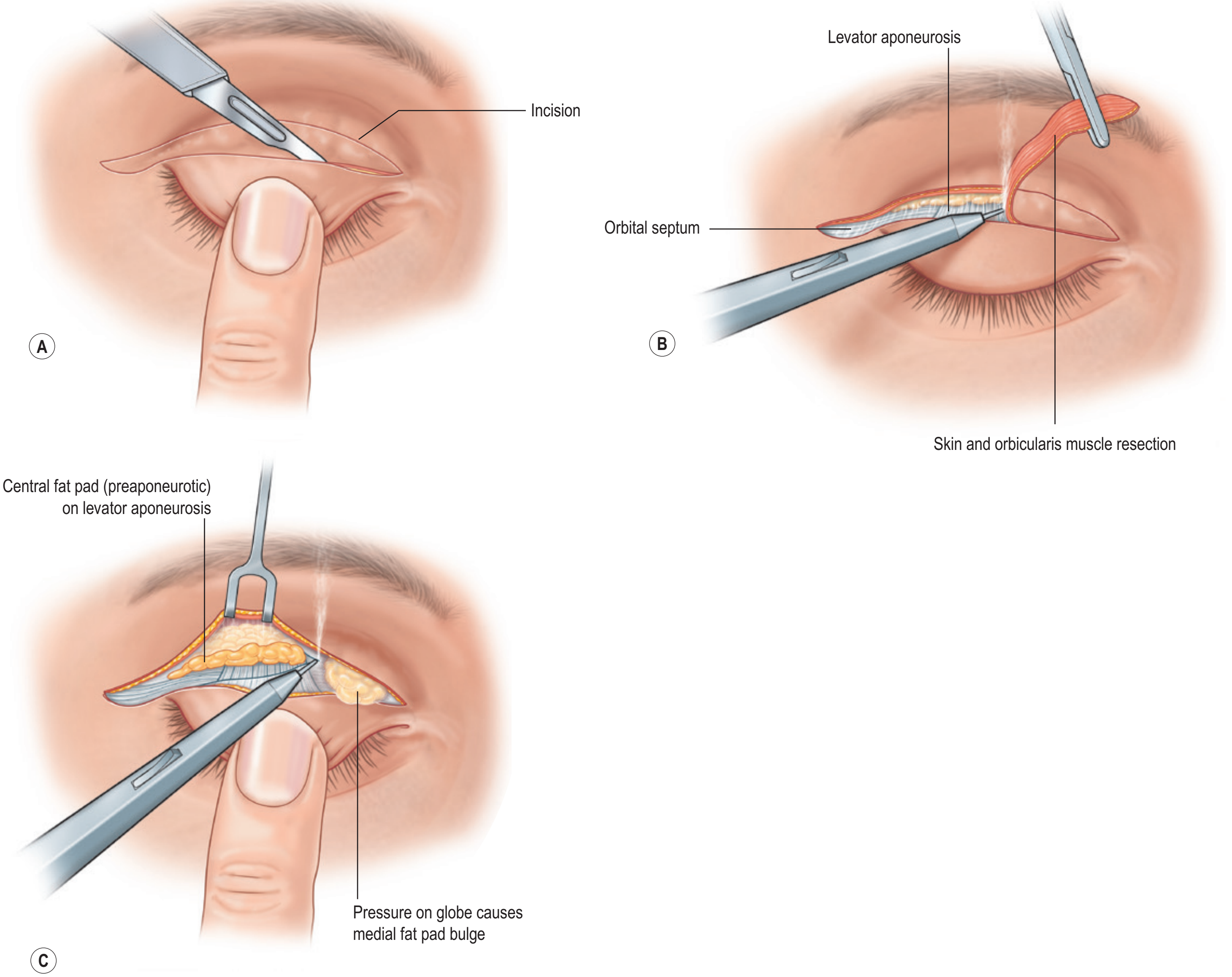

Figure 1.18 Simple skin excision blepharoplasty. **(A)** Digital traction and light pressure by the surgeon allow smooth, quick incisions. **(B)** The skin may be elevated with the orbicularis muscle in one maneuver, proceeding from lateral to medial. **(C)** The orbital septum is then opened, exposing the preaponeurotic space. The underlying levator aponeurosis is protected by opening the septum as cephalad as possible. (Adapted from Spinelli HM. *Atlas of Aesthetic Eyelid and Periocular Surgery.* Philadelphia: Saunders; 2004:64.)

brow position, and fold disparity *(Fig. 1.22)* and is titrated depending on the amount of effect desired.

- For 1 mm or less of relative upper lid ptosis, resection of at least 3–4 mm of orbicularis is required.
- No attempt is made to close orbicularis muscle in this resection, which could increase the risk of lagophthalmos.

The key components of formal lid ptosis correction include:

- Correct identification of the distal extensions of the aponeurosis and the orbital septal extension.
- The superior edge of the tarsus is freed from any dermal or tendinous extensions.
- Leaving a small cuff of filmy connective tissue (~1 mm) on the tarsus will minimize bleeding from the richly vascularized area.
- Ensure that there is complete hemostasis by use of a fine forceps cautery, lifting all lid tissues away from the cornea and globe before cauterizing.
- Anchor the upper third of the tarsus to the remaining levator with 5–0 silk suture, placed as a horizontal mattress.
- The lid should be flipped to ensure that the suture is not exposed posteriorly on the tarsus, which could cause a troublesome corneal abrasion.
- If performed under sedation or local anesthetic, the level should be checked by having the patient open the eye.

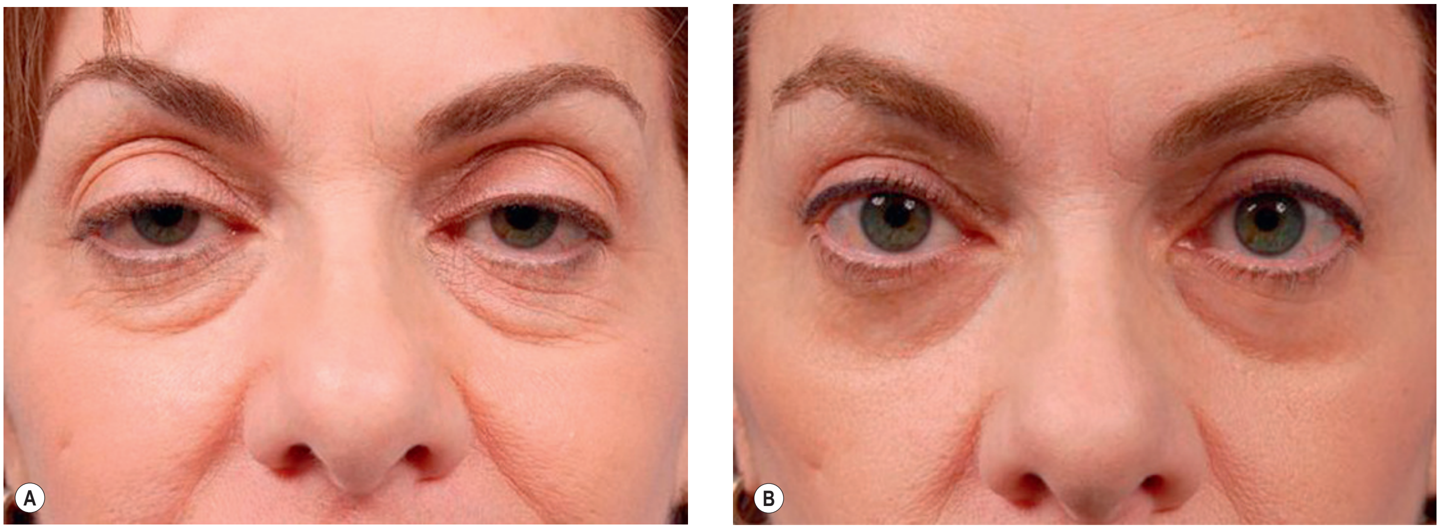

Figure 1.19 **(A)** Preoperative and **(B)** postoperative photograph depicting predictable results with simple skin excision blepharoplasty.

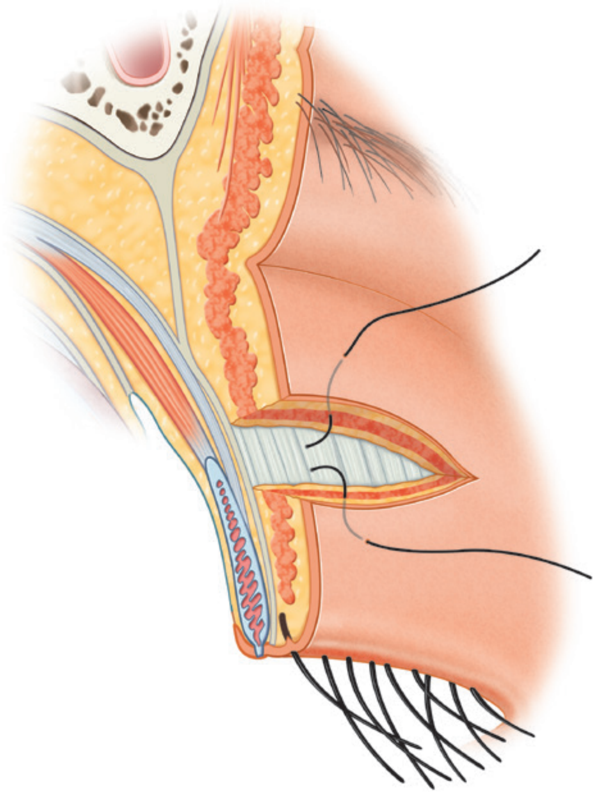

Figure 1.20 Anchor blepharoplasty technique. Attaching the dermis of the pretarsal skin flap to the superior aspect of the tarsus and to the free edge of the aponeurosis. (Adapted from Spinelli HM. *Atlas of Aesthetic Eyelid and Periocular Surgery.* Philadelphia: Saunders; 2004:69.)

- For cases under general anesthetic, one should attempt to create one to two times the amount of lagophthalmos relative to the preoperative ptosis.
- If there is any medial or lateral retraction or ptosis, the central suture should be repositioned medially or laterally as many times as needed, with adjustment to a pleasing lid height and contour.
- Both sides should be completed before the suture is permanently tied.

Lower lid blepharoplasty

- Lower blepharoplasty has evolved substantially. Although excellent aesthetic results can be achieved with transcutaneous lower blepharoplasty, lid retraction and ectropion are concerning complications. Conservative excisional techniques center on the concept of fat preservation. Transconjunctival lower blepharoplasty, although more conservative, does not eliminate the risk of lid malposition. An effective, lasting procedure should address the extrinsic and intrinsic support of the eye, which is weakened during the aging process.

Transconjunctival blepharoplasty

- Transconjunctival blepharoplasty is the preferred procedure for fat reduction in patients without excess skin and with good canthal position.
- It is less likely to lead to lower lid malposition than a transcutaneous approach.
- It minimizes but does not eliminate postoperative lower lid retraction.
- Transection of the lower lid retractors can cause a temporary rise in the lid margin, especially if they are suspended during the healing period.
- Previously suspected septal scarring through transconjunctival fat excision has not been shown to significantly alter lid posture or tonicity.
- The lower lid retractors (capsulopalpebral fascia and inferior tarsal muscle) and overlying conjunctiva lie directly posterior to the three fat pads of the lower lid.
- A broad and deep transconjunctival incision severs both conjunctiva and retractors but typically should not incise the orbital septum, orbicularis, or skin.
- The conjunctival incision is made with a monopolar cautery needle tip at least 4 mm below the inferior border of the tarsus – never through the tarsus (*Fig. 1.23*).

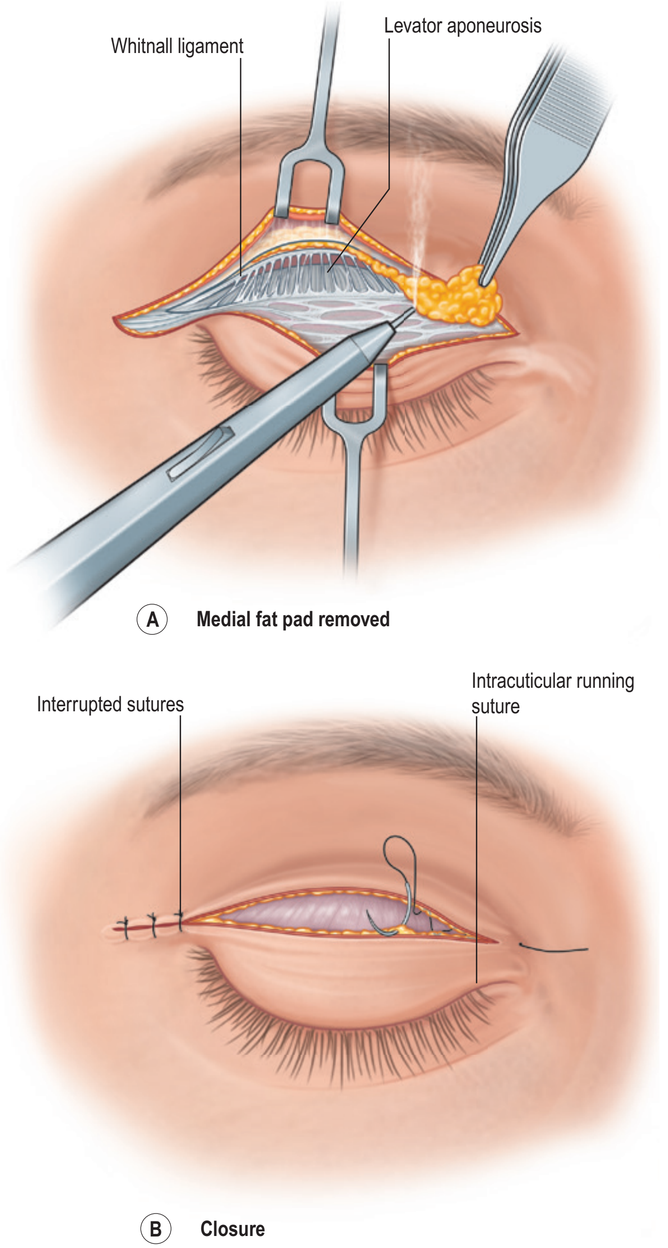

Figure 1.21 Simple skin excision blepharoplasty. **(A)** The medial fat pad may require digital pressure to expose and grasp; however, care should be taken not to overly resect fat when using digital pressure techniques. **(B)** Closure may then be performed with a combination of interrupted and running intracuticular sutures. (Adapted from Spinelli HM. *Atlas of Aesthetic Eyelid and Periocular Surgery.* Philadelphia: Saunders; 2004:65.)

- A preseptal approach is obtained by entering the conjunctiva above the level of septal attachment to the capsulopalpebral fascia.
- A retroseptal approach involves a 1.5- to 2-cm incision lower down in the fornix, and is typically used to excise fat.
- It is preferable to leave the transconjunctival incision open.
- Suturing the wound may trap bacteria or cause corneal irritation.
- Conjunctival closure, when it is elected, is simplified by a monofilament pull-out suture that enters the eye externally, closes the conjunctiva, and exits through the skin and is taped.
- The incision through the conjunctiva and retractors gives excellent access to the orbital fat.
- A 6–0 silk traction suture passed through the inferior conjunctival wound and retracted over the globe gives wide access to the orbital fat, even helping to prolapse the fat into the wound. The thin film of synovium-appearing capsule encasing the orbital fat is opened, releasing the fat to bulge into the operative field *(Fig. 1.24)*.
- Once fat is removed through a transconjunctival incision, excess skin can be removed through a subciliary position.
- Fat reduction may leave skin excess, leading to wrinkling.
- A conservative "skin pinch" can be done to estimate skin removal, or alternatively, skin can be tightened by skin resurfacing with chemical or laser peels *(Fig. 1.25)*.
- One should be careful not to incise the orbital septum, which leads to increased postoperative retraction.
- This procedure works particularly well when there is an isolated fat pad, especially medially, accessed through a single stab incision through the conjunctiva.

Transcutaneous blepharoplasty

- A subciliary incision can be used to develop a skin flap or a skin–muscle flap.
- With either method, pretarsal orbicularis fibers should remain intact.
- For the skin–muscle flap, skin and preseptal orbicularis are elevated as one flap, while with a skin flap, the muscle and its innervation can be preserved.
- Periorbital fat, muscle, and skin can be addressed with either approach.
- Once the plane deep to the orbicularis is entered, dissection continues between the muscle and the orbital septum down to the level of the orbital rim.
- Periorbital fat can be excised through small incisions in the septum.
- The fat can also be retropositioned using capsulopalpebral fascia placation, or it can be transferred into the nasojugular fold.

Orbicularis muscle fibers and skin can be excised at closure.

- Care must be taken with muscle excision, which can lead to orbicularis denervation and lid malposition.

Orbital fat transposition

- An alternative to excising prominent orbital fat is to redrape the pedicled fat onto the arcus marginalis.
- Patients with tear trough deformities who have prominent medial fat pads are excellent candidates.
- Access to the medial and central fat pads is by the subciliary or transconjunctival incision.
- The minor degree of lateral fat pad prominence is generally insufficient to affect any change with repositioning.

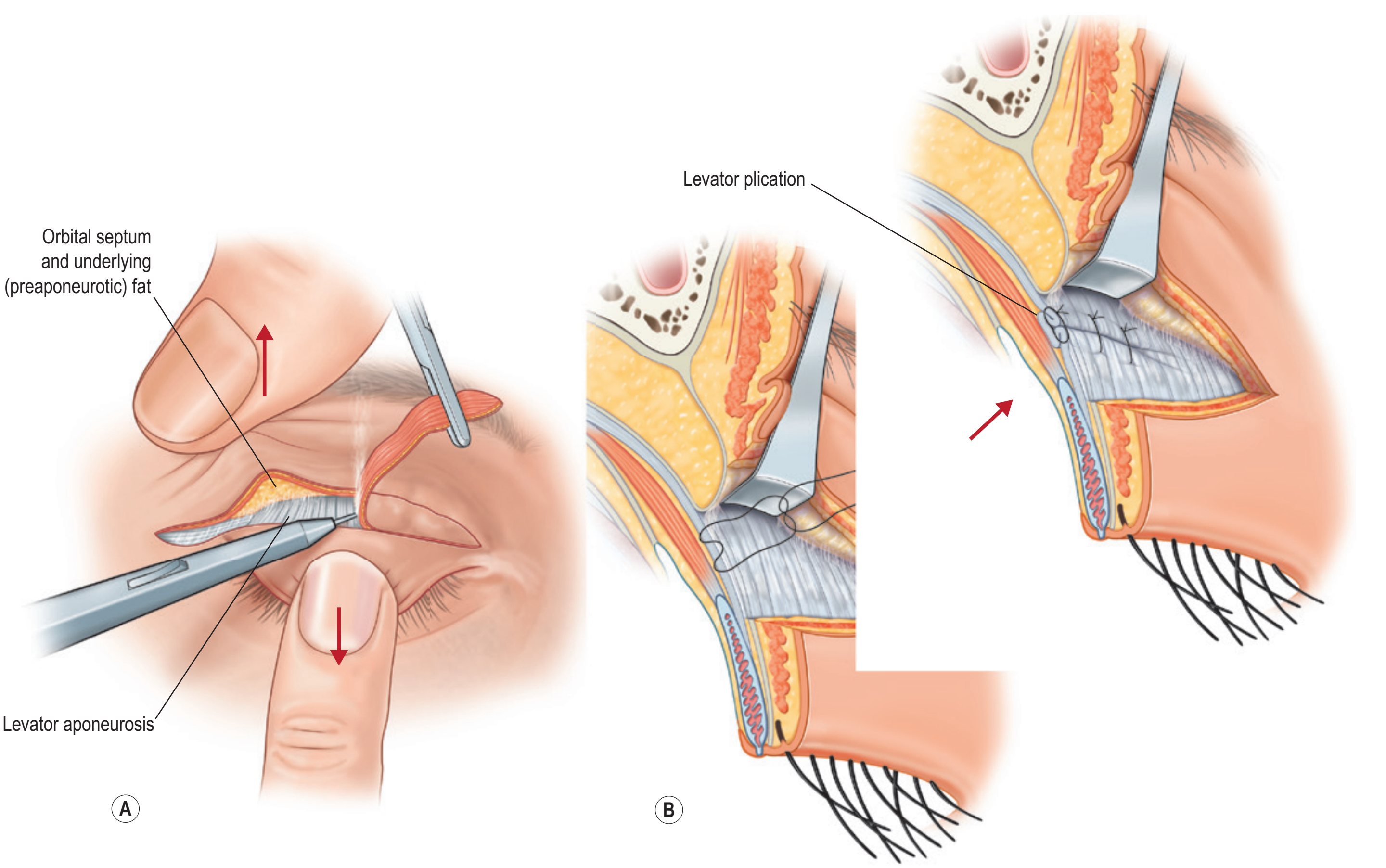

Figure 1.22 **(A,B)** Once the upper lid is incised, the levator may be modified (shortened/lengthened) in a number of ways, including simple plication. A suborbicularis skin flap can also be developed, allowing access to preaponeurotic fat. (Adapted from Spinelli HM. *Atlas of Aesthetic Eyelid and Periocular Surgery.* Philadelphia: Saunders; 2004:69).

- A supraperiosteal or a subperiosteal dissection of 8–10 mm caudal to the inferior orbital rim permits tension-free placement.
- The fat can be secured in place with interrupted absorbable sutures.
- Patients must be warned that various degrees of fat loss and hardening are possible. There is also a rare but described possibility of restrictive strabismus related to aggressive fat mobilization and fixation.

Orbital septum plication

- In this procedure, the herniated septum is plicated and repositioned to its normal anatomic site within the orbit.
- The fat is replaced in the retroseptal position to regain its original anatomic integrity (*Fig. 1.26*).
- Three to four 5–0 polyglycolic acid sutures are placed in a vertical fashion from medial to lateral.
- The protruding fat pads are invaginated, and the integrity of the thin, flaccid septum is restored.
- Additional support may be gained with septo-orbitoperiostoplasty variation, which plicates the flaccid septum and secures it to the periosteum of the inferior orbital rim.
- Because no disruption of the eyelid anatomy occurs, complications related to lid malposition, such as lid retraction, scleral show, and ectropion, are reduced.

Capsulopalpebral fascia plication

- The capsulopalpebral fascia can be plicated to the orbital rim either through a transcutaneous or a transconjunctival approach.
- In the transcutaneous method, dissection is carried out between the orbicularis and the septum down to the orbital rim; the capsulopalpebral fascia is then sutured to the orbital rim.
- In the transconjunctival method, the capsulopalpebral fascia is divided from the tarsus, and orbital fat is retroplaced, its position maintained by suturing the capsulopalpebral fascia to the periosteum of the orbital rim using a continuous running 6–0 nonabsorbable suture.
- The conjunctival gap of a few millimeters is allowed to reepithelialize (*Fig. 1.27*).
- One advantage of the transconjunctival approach is the division of lower eyelid depressors, which helps maintain the lower eyelid at an elevated level due to the unopposed action of the pretarsal orbicularis.

Orbicularis suspension

- Orbicularis repositioning can be used to eliminate hypotonic and herniated orbicularis muscle, soften palpebral depressions, and shorten the lower lid to cheek distance.

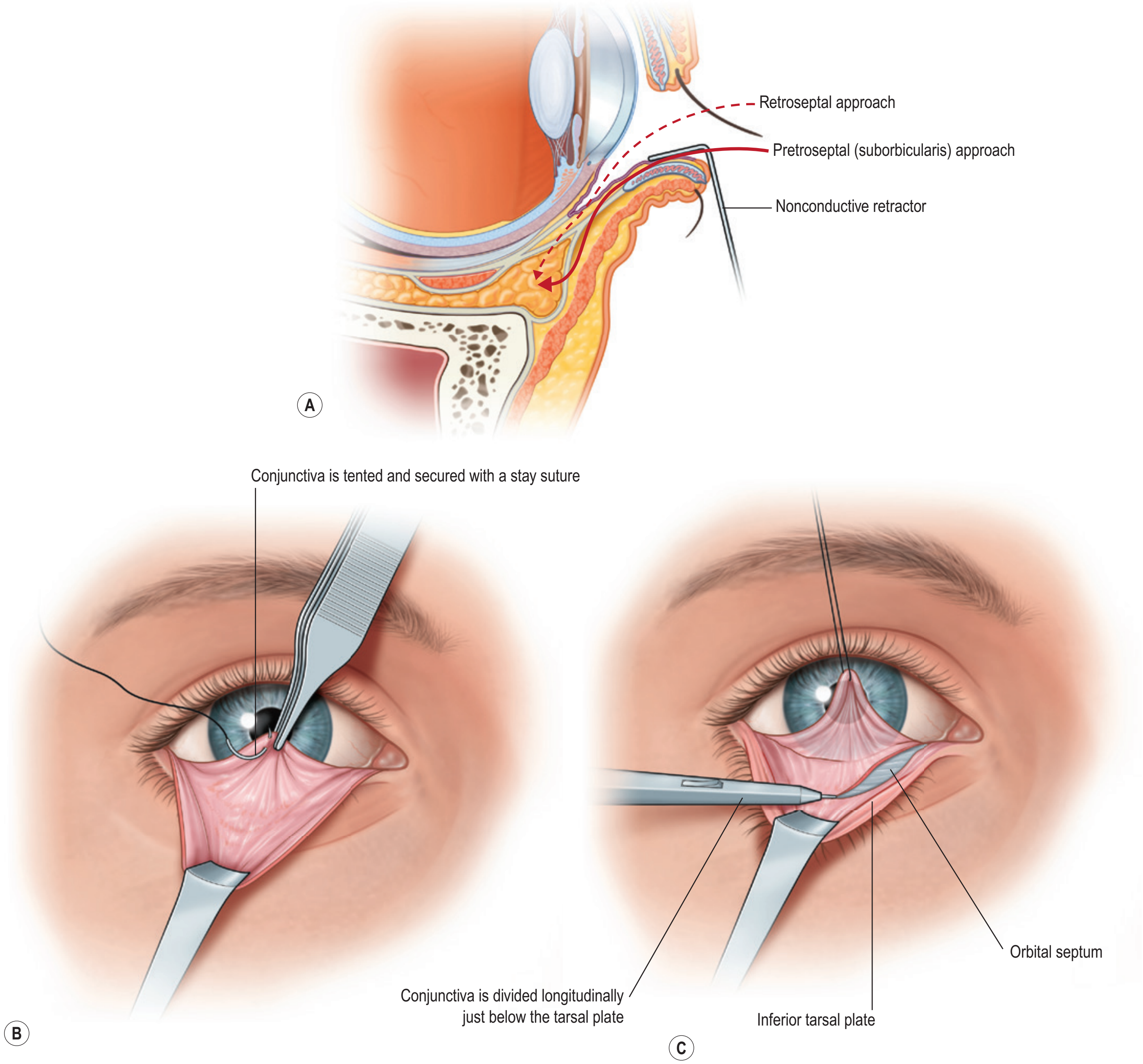

Figure 1.23 The transconjunctival approach to the retroseptal space may be in one of two ways: preseptal or retroseptal. The preseptal route requires entry into the suborbicularis preseptal space above the fusion of the lower lid retractors and the orbital septum. This will allow direct visualization of the septum, and each fat pad can be addressed separately in a controlled fashion. **(A)** A conjunctival stay suture is placed deep in the fornix, and traction is applied superiorly while the lid margin is everted. This causes the inferior edge of the tarsal plate to rise toward the surgeon. **(B)** The conjunctiva and lower lid retractors are incised just below the tarsal plate entering the suborbicularis preseptal space. This plane is developed to the orbital rim with the assistance of the traction suture and a nonconductive instrument. **(C)** The conjunctiva and lower lid retractors are incised just below the tarsal plate entering the suborbicularis preseptal space. This plane is developed to the orbital rim with the assistance of the traction suture and a nonconductive instrument. (Adapted from Spinelli HM. *Atlas of Aesthetic Eyelid and Periocular Surgery.* Philadelphia: Saunders; 2004:86.)

- The main steps include:
  - Elevation of a skin muscle flap.
  - Release of the orbicularis retaining ligament and resuspension of the orbicularis – frequently after lateral canthopexy.
  - Along the entire infraorbital rim, the orbicularis retaining ligament is divided.
  - Additional medial dissection is performed to release the levator labii when a tear trough deformity is present.
  - The skin muscle flap is draped in a superior lateral vector rather than a pure vertical vector.
  - Excision of skin and muscle are performed by removing a triangle of tissue lateral to the canthus,

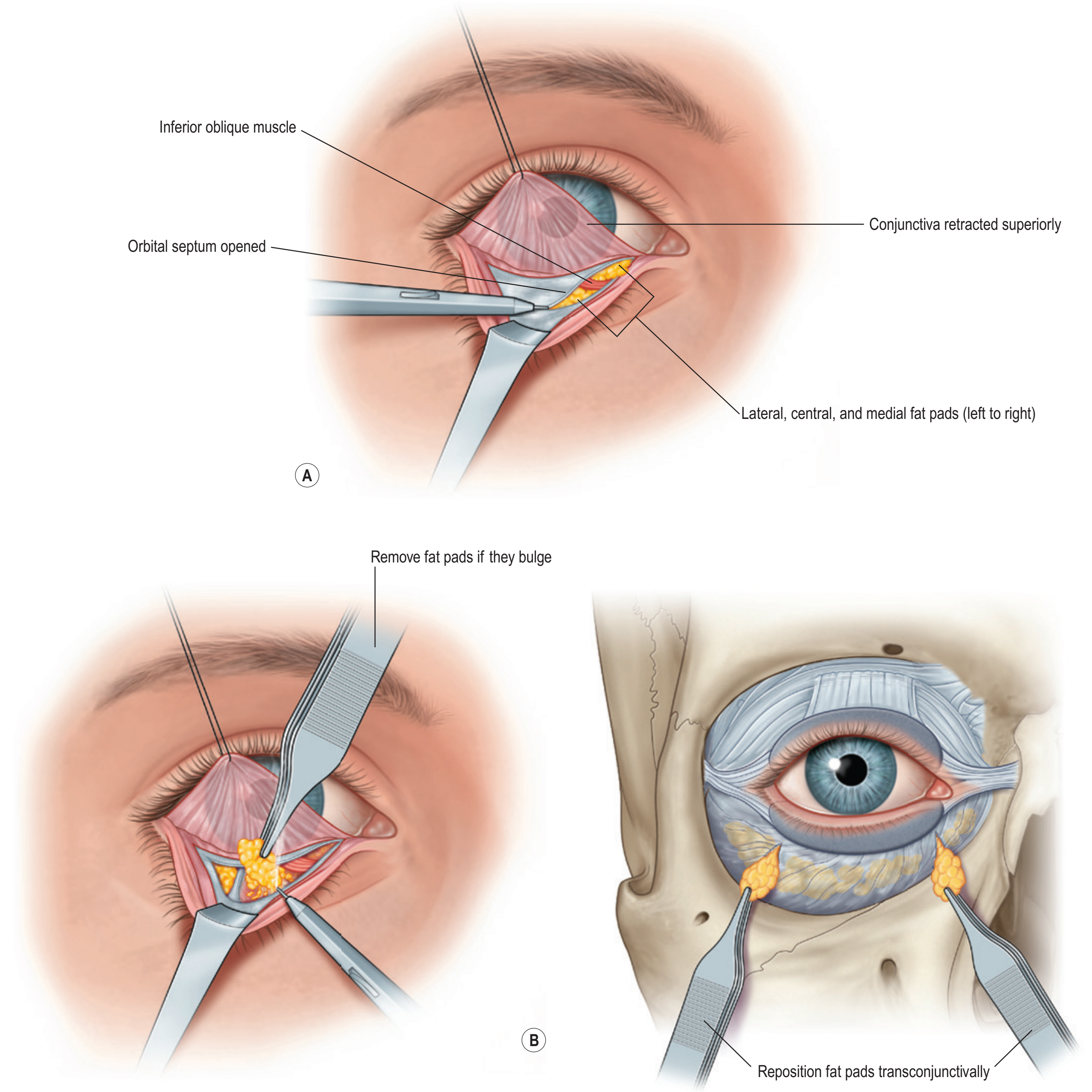

Figure 1.24 **(A)** The orbital septum may then be punctured and the inferior oblique muscle identified and preserved. **(B)** The fat pad may be addressed individually in keeping with preoperative plans with either resection, repositioning, conservation, or any combination of these techniques. (Adapted from Spinelli HM. *Atlas of Aesthetic Eyelid and Periocular Surgery.* Philadelphia: Saunders; 2004:87.)

thereby minimizing the amount of tissue removed along the actual lid margin.

- The lateral suspension of the orbicularis is to the orbital periosteum.
- Lower lid support is gained by resuspension of the anterior (skin and muscle) and posterior lamellae (tarsus by canthopexy).

■ This technique is best suited for patients with scleral show, lid laxity, and a negative vector, which put them at risk for lid malposition in the postoperative period.

■ Disadvantages are it inherently disrupts the orbicularis, which may lead to denervation, and mobilization of the levator labii muscles may put the buccal branch of the facial nerve at risk.

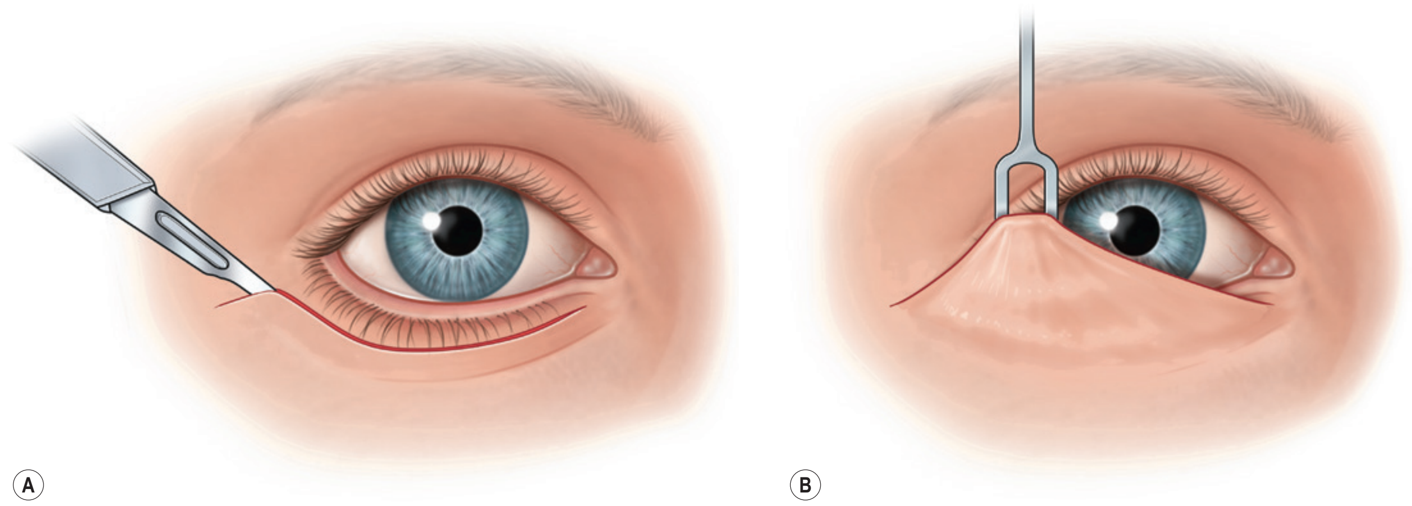

Figure 1.25 **(A)** Simple skin excision: lower eyelid blepharoplasty. **(B)** Typical removal of redraped skin or skin–muscle from the lower lid, which can be the shape of an obtuse triangle, with the largest amount sacrificed laterally.

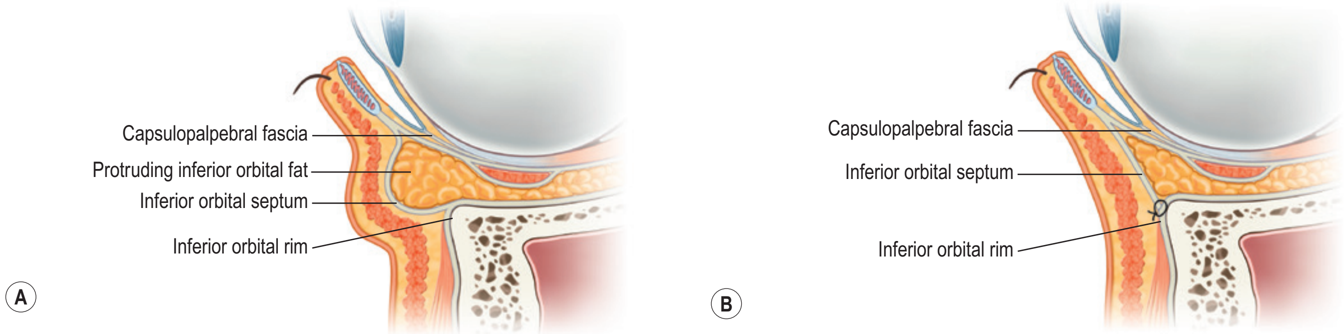

Figure 1.26 **(A,B)** Schematic representation of procedure for lower eyelid. Note that only the inferior orbital septum is plicated and sutured to the inferior orbital rim. (Adapted from Sensöz O, Unlu RE, Percin A, et al. Septoorbitoperiostoplasty for the treatment of palpebral bags: a 10-year experience. *Plast Reconstr Surg.* 1998; 101(6):1657–1663.)

Canthopexy

- A lateral canthopexy can establish an aesthetically and functionally youthful eyelid *and* reduce the incidence of lower lid malposition and scleral show (*Fig. 1.28*).
- It has become an integral part of a lower lid blepharoplasty and midface lifting.
- A lateral canthopexy is recommended for moderate lid laxity, which is considered <6 mm of lid distraction away from the globe.
- This technique takes advantage of a bluntly dissected tunnel extending from the lateral upper lid blepharoplasty incision into the lateral aspect of a lower lid incision.
- Next, the lateral retinaculum and tarsal strap are bluntly dissected off the periosteum 5 mm in both directions (*Figs.* 1.4, *1.29*).
- A double-armed 4–0 Prolene or Mersilene is used to suture the tarsal plate and lateral retinaculum to the inner aspect of the lateral orbital rim periosteum above the Whitnall tubercle.
- Periosteum is thickest at the superior and lateral orbital rim, making it a secure suture site.
- The mattress suture is placed through the periosteum within the lateral orbital rim to maintain the posterior position of the lid margin against the globe.
- Bone canthopexy is technically possible through upper and lower lid incisions but is technically demanding.
- Wide exposure through a coronal brow lift provides the ideal environment and access.
- Bone fixation gives a profoundly longer-lasting result than does periosteal fixation.
- Drill holes (1.5 mm drill bit) are placed 2–3 mm posterior to the lateral orbital rim.

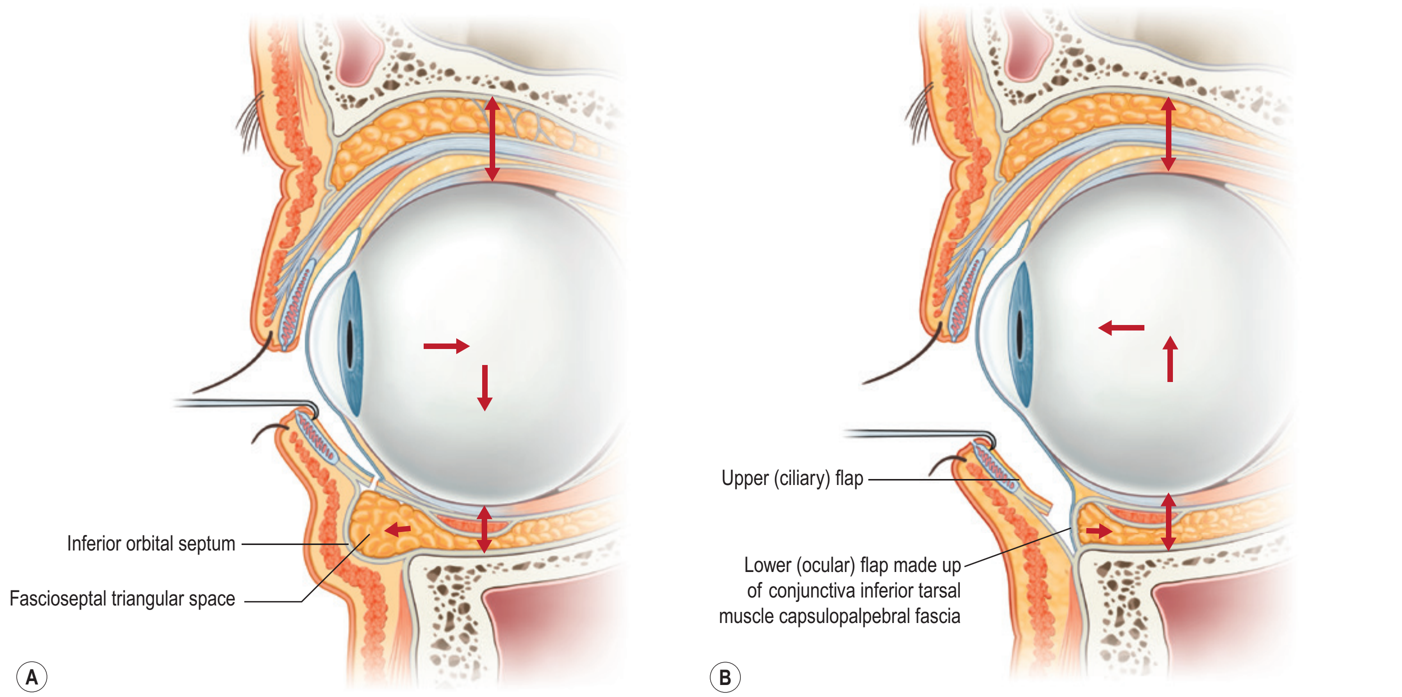

Figure 1.27 **(A,B)** Suturing the lower capsulopalpebral flap to the arcus marginalis to reduce and contain the herniated fat. (Adapted from Camirand A, Doucet J, Harris J. Anatomy, pathophysiology, and prevention of senile enophthalmia and associated herniated lower eyelid pads. *Plast Reconstr Surg.* 1997;100(3):1535–1538.)

- The inferior and superior holes are separated by 5–10 mm to allow suture separation and ligation (*Fig. 1.30*).
- The vertical position of the lateral canthal suture is dependent on eye prominence and pre-existing canthal tilt. Patients with prominent eyes and negative vector morphology are at higher risk for lid malposition and require additional vertical support of the lateral canthus.
- While the standard position of the lateral canthopexy suture is most commonly at the lower level of the pupil, patients with prominent eyes or negative vectors require additional vertical positioning of the lateral canthal support suture at the superior aspect of the pupil.
- Lateral canthoplasty, which includes surgical division of the lateral canthus, is recommended for more significant lower lid laxity, defined by lid distraction >6 mm away from the globe.
- Lateral canthotomy, cantholysis of the inferior limb of the lateral canthal tendon, and release of the tarsal strap are performed.
- This dissection is followed by a 2- to 3-mm full-thickness lid margin resection, depending on the degree of tarsoligamentous laxity.
- The lateral commissure is carefully reconstructed by aligning the anatomical gray line with 6–0 plain gut.
- Final fixation to the lateral orbital periosteum can be as described above.

Midface lifting

- The middle third of the face, or midface, lies between the lateral canthal angle and the top of the nasolabial fold. It includes the lateral canthal tendon; the medial canthal tendon; the skin, fat, and orbicularis oculi muscle of the lower eyelids; the suborbicularis oculi fat pad; the malar fat pad; the orbitomalar ligament (orbicularis ligament); the orbital septum; and origins of the zygomaticus major and minor muscles and levator labii superioris.
- When evaluating the midface for aesthetic surgery, all the structures listed above must be considered.
- The author’s preferred technique includes approaching the midface through a transconjunctival incision.
- After repositioning or resection of orbital fat, the midface is elevated in a supraperiosteal plane.
- The attachment of the orbicularis oculi muscle to the orbital septum is preserved.
- Adequate release of the remaining, lax orbitomalar ligament then permits malar fat pad suspension in a superolateral vector to the lateral orbital rim and temporoparietal fascia (*Fig. 1.31*).
- Canthopexy is then performed to redrape lower eyelid skin and recreate a youthful intercanthal angle. Finally, a skin-only resection of the lower lid may be necessary to address any redundancy.

Figure 1.28 **(A)** Preoperative and **(B)** 5-year postoperative photograph of a patient with a lower lid blepharoplasty and canthopexy.

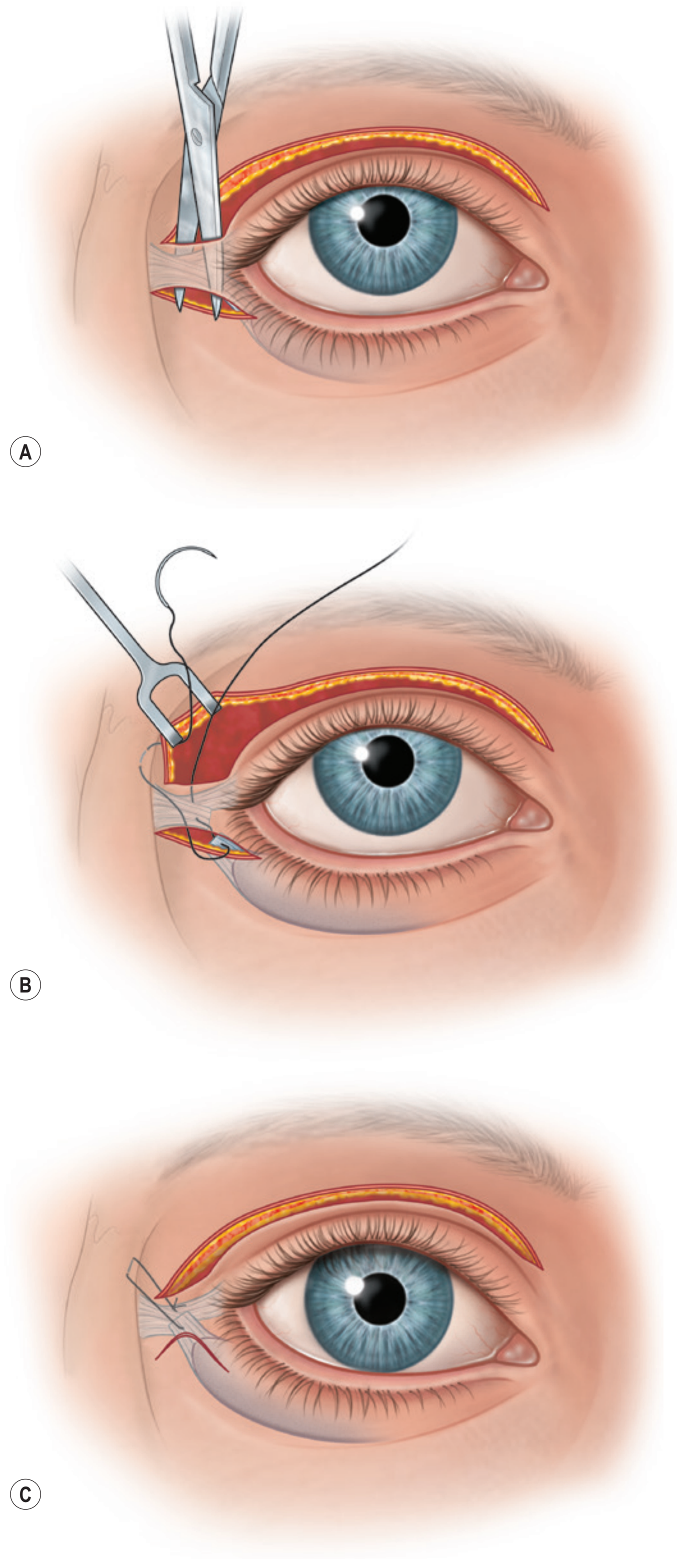

Figure 1.29 **(A–C)** Periosteal canthopexy. The inferior ramus of the lateral canthal tendon is secured and elevated to a raised position inside the orbital rim. Tension-free suspension occurs with release of the tarsal strap and lateral orbital thickening.

Postoperative considerations

- All patients are advised to expect swelling, bruising, some degree of ptosis, and tugging sensation on gazing upward. Although complete recovery takes months, patients generally look presentable approximately 2–3 weeks after surgery.
- Surgical literature has not advocated compression bandaging of the eyes after surgery. If one chooses not to use gently compressive bandages, postoperative edema can be reduced with cool compresses for up to 20 min intermittently during the initial 36 h postoperatively.
- Patients are advised against using frozen compresses directly over their face in the setting of previous anesthetic use and pain medication.
- Additional recommendations include having the patient lie in a semi-recumbent position while resting and to avoid bedrest.
- Prescriptions for rewetting drops, Lacri-Lube, and antibiotic ophthalmic ointment can be given to reduce the incidence of exposure keratoconjunctivitis and dry eye symptoms in the immediate postoperative period.

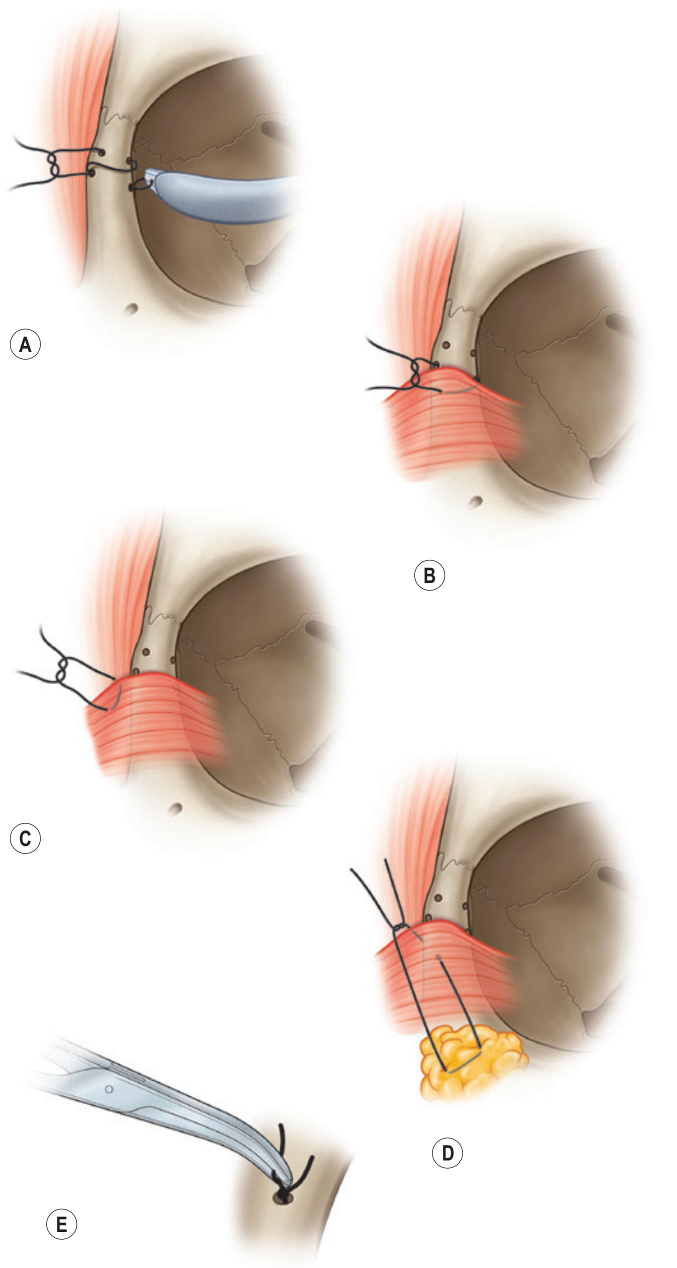

Figure 1.30 The canthopexy suture series for a two-layered canthopexy. **(A)** The canthopexy suture fixating the tarsal tail into the drilled hole. **(B)** The second-layer orbicularis suture. **(C)** Lateral sutures fix the lateral orbicularis to the deep temporal fascia. **(D)** If a midface lift is elected, an inferior drill hole can be made to fixate the midface tissues. **(E)** Bury the knot into the drill hole.

- Patients are permitted to shower the next day and use antibiotic ointments as needed for routine incisional care.
- It is also suggested that patients refrain from using contacts and to minimize the use of prescription eyeglasses.
- When no canthopexy is performed, half-inch Steri-Strips, retracted superiorly, are applied as a "cast" (with benzoin or Mastisol for security). This treatment tends to reduce lid retraction. Alternatively, a Frost suture placed in the lower lid margin and fixed to the brow suspends the lid during early healing.

Complications and outcomes

- Asymmetry is common postoperatively and can be caused by edema, bruising, and asymmetric sleep posture, but it also predictably follows undiagnosed preoperative asymmetry, including mild ptosis, made worse by the weight of postoperative edema.
- Patients should be advised that no reoperations are indicated before 8 weeks, and then only if the lids have stabilized and no edema or bruising is seen.
- The need for reoperations is infrequent, but when ptosis or exophthalmos is involved, incidence increases significantly to 10–30%.
- Retrobulbar hemorrhage is the most feared complication of eyelid surgery. Any complaint of severe orbital pain needs to be examined immediately, especially that of sudden onset.
- Acute management involves immediate evaluation, urgent ophthalmologic consultation, and a return to the operation for evacuation of the hematoma.
- Medical treatments, in addition to operative exploration, include administration of high-flow oxygen, topical and systemic corticosteroids, and mannitol.
- Acute loss of vision mandates bedside suture removal and decompressive lateral canthotomy.
- Peribulbar hematoma, in contrast, does not threaten vision. It usually results from bleeding of an orbicularis muscle vessel. Small hematomas may resolve spontaneously, though larger hematomas can be evacuated in the office.
- Visual changes, including diplopia, are generally temporary and can be attributed to wound reaction, edema, and hematoma. Any damage to the superficial lying oblique muscles can be permanent and lead to postoperative strabismus. Conservative management is recommended; refractory cases should be referred to an ophthalmologist.
- The most common complication after blepharoplasty is chemosis. Disruption of ocular and eyelid lymphatic drainage leads to development of milky, conjunctival, and corneal edema.
- Chemosis can be limited by atraumatic dissection, cold compresses, elevation, and massage.
- It is usually self-limited and resolves spontaneously, though prolonged chemosis can be treated with topical steroids.
- Dry eye symptoms are also frequently cited in the postoperative phase. Patients may complain of foreign body sensation, burning, secretions, and frequent blinking.
- Ocular protection can be achieved medically with liberal use of corneal lubricants.
- Additional complications such as lower lid malposition, lagophthalmos, undercorrection, asymmetry, and iatrogenic ptosis all require careful observation and photographic documentation.
- Reoperation should be performed no earlier than 3 months later.

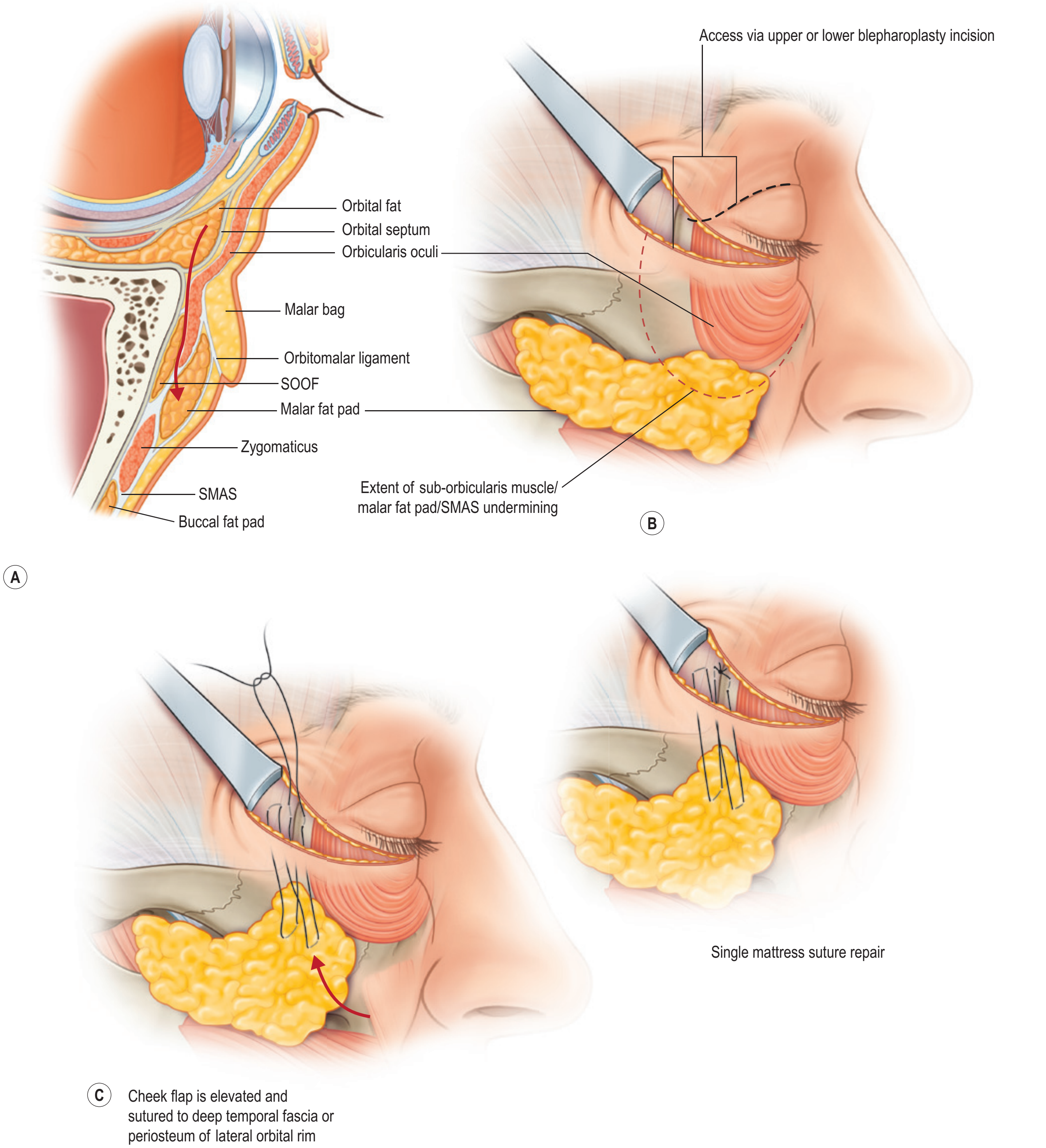

Figure 1.31 Midface lift. **(A)** The arrow in red depicts the plane of dissection to the midfacial structures in the cheek in a supraperiosteal approach. **(B)** Wide undermining of the periorbital ligamentous structures and lateral retinaculum may be transconjunctival or through the upper blepharoplasty incision. **(C)** Canthopexy and cheek suspension then proceed sequentially. (Adapted from Spinelli HM. *Atlas of Aesthetic Eyelid and Periocular Surgery.* Philadelphia: Saunders; 2004:129.)

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2

Facelift

This chapter was created using content from Neligan & Rubin, Plastic Surgery 4th edition, Volume 2, Aesthetic, Chapter 6.2, Facelift: Principles of and Surgical Approaches to Facelift, Richard J. Warren, Chapter 6.3, Facelift: Platysma-SMAS plication, Miles G. Berry, James D. Frame, and Dai M. Davies, Chapter 6.4, Facelift: Facial rejuvenation with loop sutures – the MACS lift and its derivatives, Mark Laurence Jewell, Chapter 6.5, Facelift: Lateral SMASectomy facelift, Daniel C. Baker and Steven M. Levine, Chapter 6.7, Facelift: SMAS with skin attached – the "high SMAS" technique, Fritz E. Barton Jr., Chapter 6.8, Facelift: Subperiosteal midface lift, Alan Yan and Michael J. Yaremchuk

SYNOPSIS

- Age-related changes occur in all layers of the face, including skin, superficial fat, SMAS, deep fat, and bone.
- Patients presenting for facial rejuvenation surgery are usually middle-aged or older, thus increasing the chance of co-morbidities. Risk factors such as hypertension and smoking should be dealt with prior to facelift surgery.
- Careful preoperative assessment will provide the surgeon with an aesthetic diagnosis regarding the underlying facial shape, the age-related issues that predominate, and the appropriate surgical procedures for every individual patient.
- Almost all facelift techniques begin with a subcutaneous facelift flap. Careful incision placement, tissue handling, and flap repositioning are important in order to avoid the obvious stigmata of facelift surgery.
- In its pure form, the subcutaneous, skin-only facelift has a limited effect on the position of heavier deep tissue.
- In SMAS plication, a skin flap is created with suture manipulation of the superficial fat and the underlying SMAS/platysma.
- In loop suture techniques (MACS-lift), a skin flap is created with long suture loops taking multiple bites of superficial fat and platysma – fixed to a single point on the deep temporal fascia.
- The supraplatysma plane creates a single flap of skin and superficial fat mobilized and advanced along the same vector.
- SMASectomy involves a skin flap plus excision of superficial fat and SMAS from the angle of the mandible to the malar prominence, with direct suture closure of the resulting defect.
- A SMAS flap raised with skin attached (deep plane) creates a flap of SMAS/platysma, superficial fat, and skin, all mobilized and advanced along the same vector.
- A separate SMAS flap (dual plane) creates two flaps, the skin flap and the superficial fat/SMAS/platysma, which are advanced along two different vectors.
- The subperiosteal lift involves dissection against bone, with mobilization and advancement of all soft tissue elements.
- Additional volume augmentation and, in some locations, volume reduction, should be considered in all cases of facelift surgery.
- Facial aging is usually a panfacial phenomenon. Therefore, in order to obtain a harmonious result, patients will often benefit from surgery to other components of their face.
- The most common complication of facelift surgery is hematoma. This problem should be dealt with promptly.

Brief introduction

- The classic stigmata of the aging face include:
  - Visible changes in skin, including folds, wrinkles, dyschromias, dryness, and thinning.
  - Folds in the skin and subcutaneous tissue created by chronic muscle contraction: glabellar frown lines, transverse forehead lines, and crow's feet over the lateral orbital rim.
  - Deepening folds between adjoining anatomic units: the nasojugular fold (tear trough), nasolabial folds, marionette lines, and submental crease.
  - Ptosis of soft tissue, particularly in the lower cheek, jowls, and neck.
  - Loss of volume in the upper two-thirds of the face, which creates hollowing of the temple, the lateral cheek, and the central cheek.
  - Expansion of volume in the neck and lateral jaw line, which leads to the formation of jowls and fullness of the neck (*Fig. 2.1*).
- Aging of the face occurs in all its layers, from skin down to bone; no tissue is spared. The surgical significance of this concentric layer arrangement is:
  - Dissection can be done in the planes between the layers.
  - Anatomical changes in each of the layers can be addressed independently, as required to treat the presenting problem.

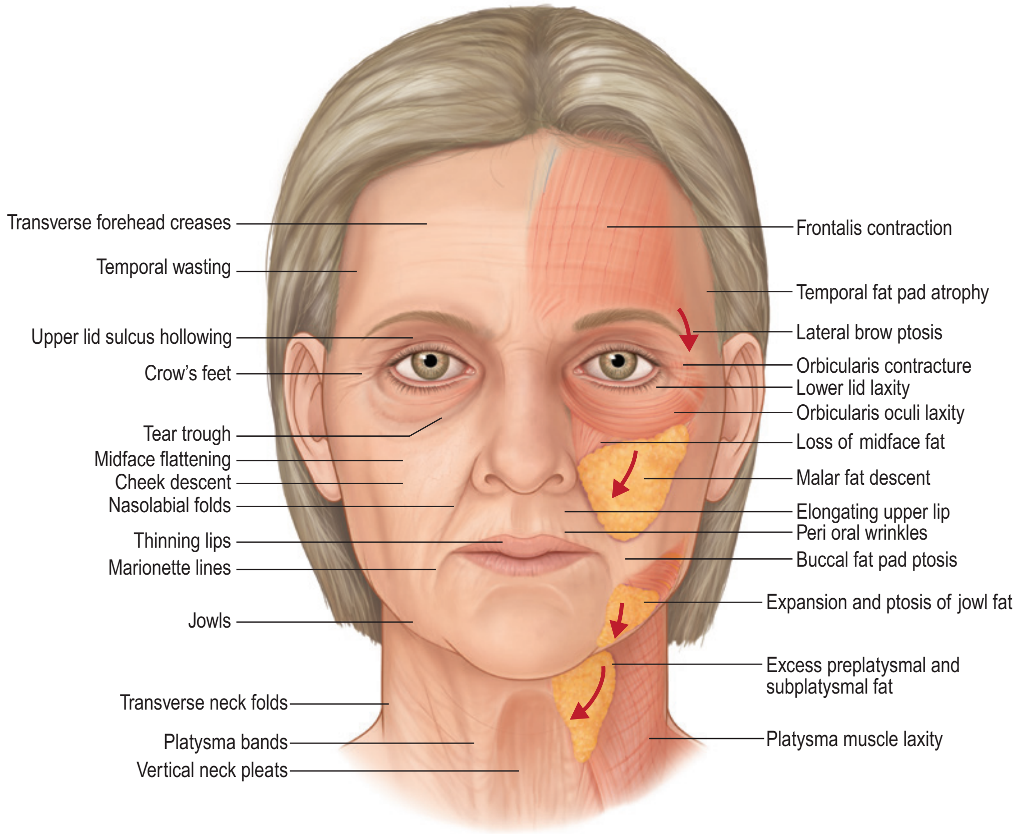

Figure 2.1 The aging face exhibits changes in the skin, superficial wrinkles, deeper folds, soft tissue ptosis, loss of volume in the upper third and middle third, and increased volume in the lower third.

- Skin aging over time is both intrinsic and extrinsic. The net result is that facial skin loses its ability to recoil, a condition called elastosis.
- Intrinsic aging is the result of genetically determined apoptosis. The skin becomes thinner; there is a decrease in melanocytes, a reduced number of fibroblasts, and a loss of skin appendages. In the dermal matrix, there is fragmentation of the dermal collagen and impairment of fibroblast function.
- Extrinsic forces include sun exposure, cigarette smoke, extreme temperatures, and weight fluctuations.
- Important anatomic figures have been included (*Figs. 2.2–2.8*).

Preoperative considerations

- The quality of surgical result will be affected by many patient-related factors, including the facial skeleton, the weight of facial soft tissue, the depth and location of folds, and the quality of the skin.
- Some issues can be reversed, others attenuated, and some may not be correctable at all.
- Incipient hypertension is common in the general population and can promote postoperative hematomas if it is not identified prior to surgery.
- Uncontrolled hypertension is a contraindication for surgery, while controlled hypertension is not a contraindication.
- Smokers have been shown to exhibit delayed wound healing due to microvasoconstriction and abnormal cell function.
- Nevertheless, there are significant short-term effects, which can be reversed by abstaining from tobacco use for 2–3 weeks prior to surgery.
- Prior to surgery, the entire face should be properly assessed.
- The face should be assessed as a whole – looking for the equality of facial thirds, the degree of symmetry, and the overall shape (round, thin, wide).
- Surgeons should develop an organized way to examine all the zones of the face: forehead, eyelids, cheeks, the perioral area, and the neck.
- With the diversity of surgical techniques available, a surgeon should think like a sculptor – considering the face in three dimensions with a view to adding tissue in some areas, removing tissue in other areas, and repositioning tissue where indicated.
- The ear should be examined with a thought to the potential placement of incisions.
- Important factors: the size and orientation of the earlobe, the angle of attachment of the tragus, the difference in character of the cheek skin and tragal skin, the size of the tragus, the density of the hair surrounding the ear, and the location of the hairline in the temple, the sideburn, and posterior to the ear.
- A careful assessment of the overlying skin is also important to determine if anything of a non-surgical

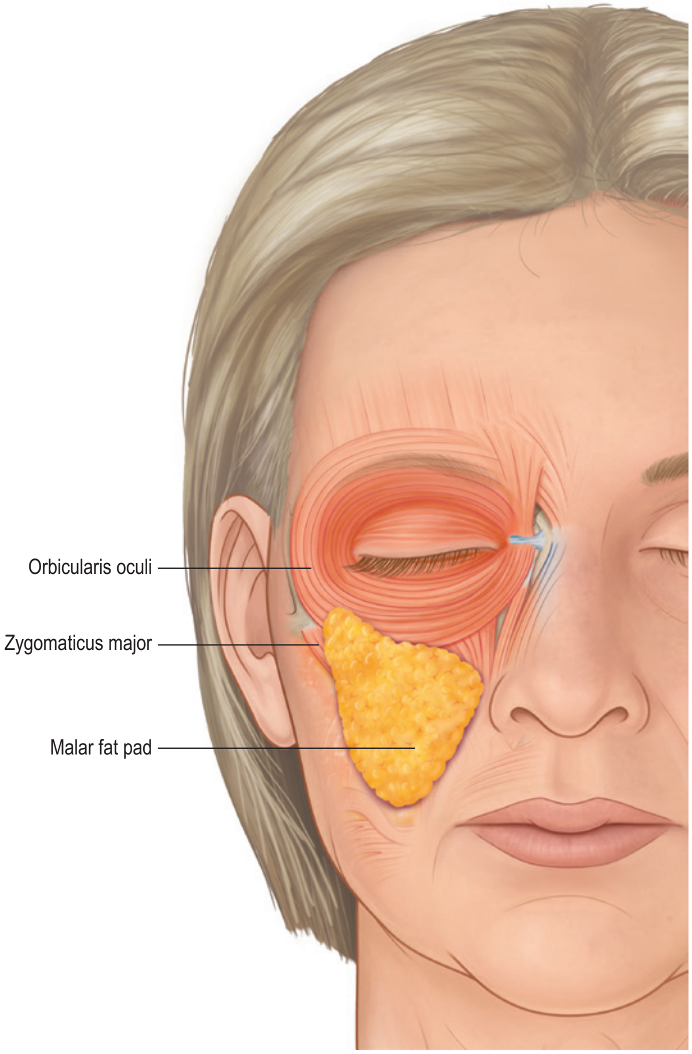

Figure 2.2 The malar fat pad is a triangular area of thickened superficial fat with its base along the nasolabial fold and its apex over the superolateral malar prominence.

nature is indicated before, during, or after facelift surgery.

- Excellent photographic documentation of the preoperative face is very important and should include frontal, oblique, and profile views. Other optional views include the smile and close-up views of the neck in repose and with platysma contracture.

Operative techniques

Subcutaneous facelift

- Classic procedure that tightens excess skin and relies completely on skin tension to shift underlying facial soft tissue against the force of gravity.
- Advantages: relatively safe, relatively easy to do, and patient recovery is rapid.
- Effective for the thin patient with excess skin and minimal ptosis of deep soft tissue.
- Disadvantage: skin placed under tension to support heavy underlying soft tissue will stretch, leading to a loss of surgical effect.
- Attempts to overcome this problem with excess skin tension may lead to distortion of facial shape, abnormal reorientation of wrinkles, and local problems at the incision line, including stretched scars and distorted earlobes.

Facelift incisions (Video 2.1; Video 2.2)

- In the temple area, the incision can be placed in the hair, at the anterior hairline, or a hybrid of the two, with an incision in the hair plus a transverse extension at the base of the sideburn *(Figs. 2.9A–B)*.
- The advantage of the incision in the hair is that it is hidden, but when the flap is drawn up, the anterior hairline and sideburn will shift; the degree of this depends on skin laxity.
- If the incision is placed at the anterior hairline, the scar is potentially more visible, but there will be no shift of the hairline.
- A transverse incision at the base of the sideburn is a compromise solution, which ameliorates much of the hairline shift while preserving a largely hidden scar.
- Several factors should be assessed before committing to an incision within the temple hair.
- A preoperative estimate of skin redundancy will give the surgeon some sense of how far the skin flap will move.
- The distance between the lateral orbital rim and the temporal hairline should be assessed.
- In youth, this distance is generally <4–5 cm, while in older patients, the distance increases.
- If the distance is already excessive, or if the expected movement of the temporal hairline will create a distance over 5 cm, then an incision in the hair should be avoided (Fig. 2.9C).
- Anterior to the ear, the incision can be pretragal or along the tragal edge (Fig. 2.9D,E).
- The advantage of the tragal edge incision is that it is hidden, but care must be taken to thin the flap covering the tragus in order to simulate a normal tragal appearance.
- Before committing to a tragal edge incision, the quality of tragal skin and that of facial skin must be compared; if the difference between the tragal skin and facial skin is too great, a tragal edge incision should be avoided.
- A pretragal incision is preferred in men, as the hair-bearing portion of the cheek skin will not be drawn up onto the tragus.
- Around the earlobe, the incision can be placed either in the cleft of earlobe attachment or 1–2 mm distal to the cleft, leaving a cuff of skin along the earlobe. This cuff will ease the process of insetting the earlobe on skin closure.
- In the retroauricular sulcus, the incision can be placed directly in the conchal groove as it courses superiorly.
- The incision is often carried as high as the level of the external auditory canal, or slightly higher, at the level of the antihelix.

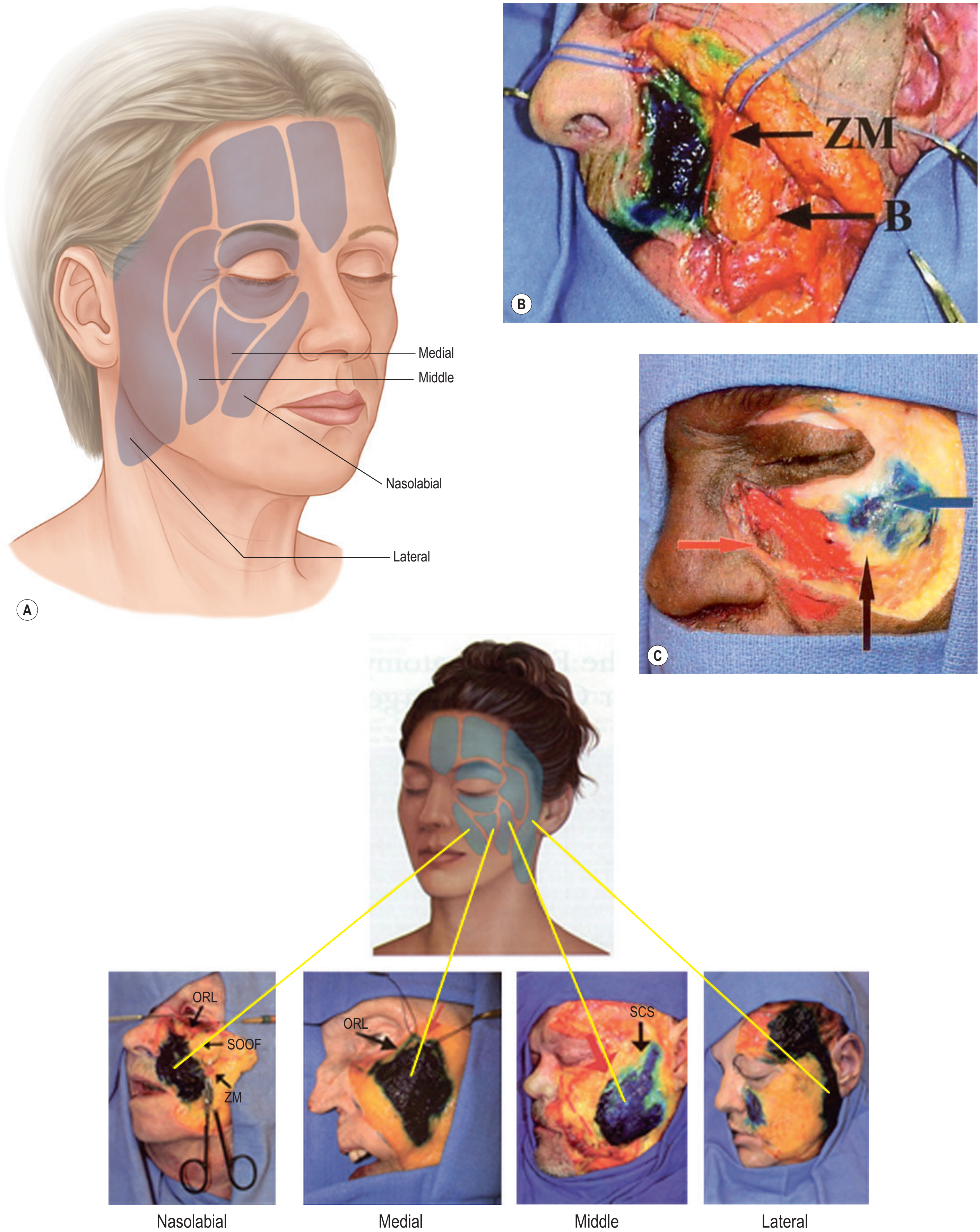

Figure 2.3 **(A)** Superficial facial fat is compartmentalized by vertically running septae. In the midcheek, from medial to lateral, these compartments are the nasolabial, medial, middle, and lateral compartments. The nasolabial and medial compartments make up the malar fat pad. **(B)** The deep facial fat is also compartmentalized by septae. The deep medial fat pad (here stained blue) is bounded above by the orbicularis retaining ligament, medially by the pyriform aperture, and laterally by the zygomaticus major (ZM) muscle and the buccal (labeled B) fat pad. **(C)** Over the body of the zygoma, the suborbicularis oculi fat (SOOF) is deep fat. It is seen here with a medial portion (yellow) and a lateral portion (stained blue). It is bounded medially by deep medial fat pad (stained red). (A: Courtesy of Rohrich RJ, Pessa JE. The fat compartments of the face: anatomy and clinical implications for cosmetic surgery. *Plast Reconstr Surg.* 2007;119:2219–2227; B,C: Courtesy of Rohrich RJ, Pessa JE, Ristow B. The youthful cheek and the deep medial fat compartment. *Plast Reconstr Surg.* 2008;121(6):2107–2112).

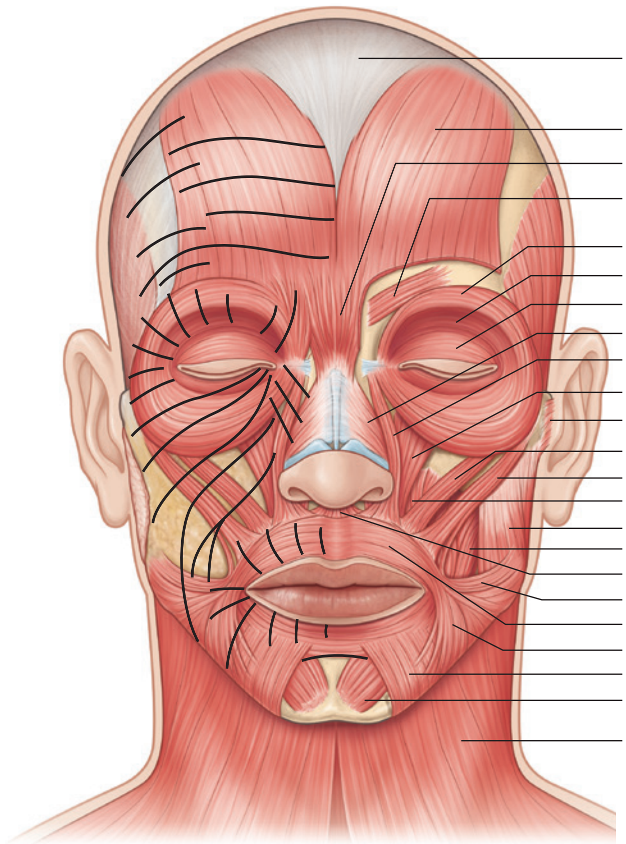

Figure 2.4 Muscles of facial expression. The solid lines demonstrate overlying skin creases caused by repeated contraction of the underlying muscles.

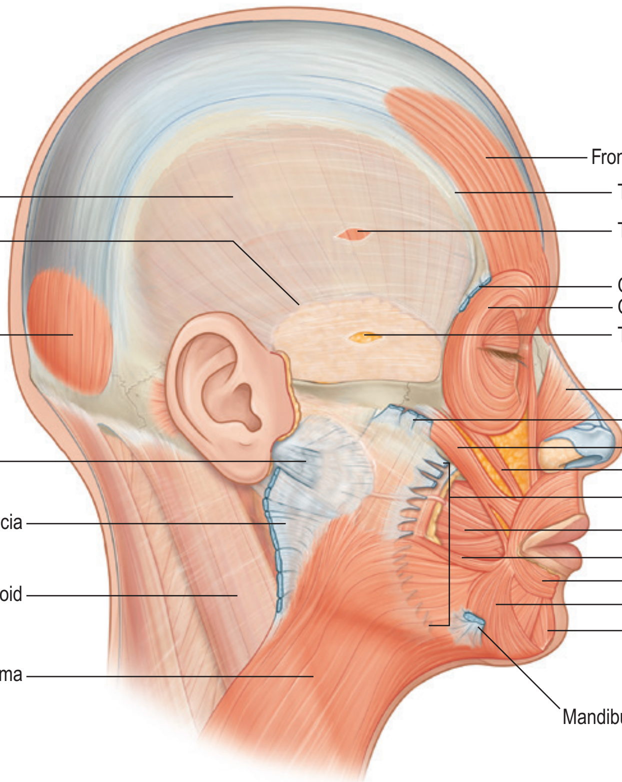

Figure 2.5 Facial soft tissue is tethered to underlying bone by the orbital, zygomatic, and mandibular ligaments. Soft tissue is tethered to underlying deep fascia by the masseteric cutaneous ligaments and by an area of attachment anterior and inferior to the earlobe, known by a number of different terms: platysma auricular ligament (Furnas), platysma auricular ligament (Mendelson), parotid cutaneous ligament (Stuzin), and a distinct area anterior to the earlobe known as Lore's fascia.

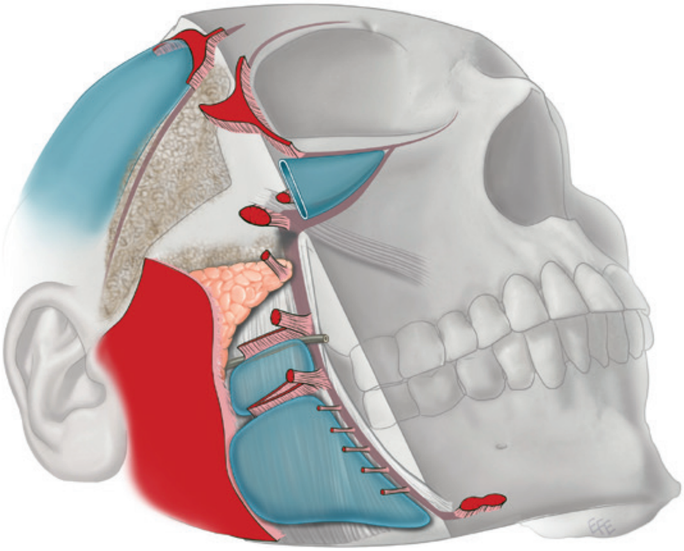

Figure 2.6 Mendelson's interpretation of soft tissue attachments. The fixed posterior soft tissue is held in place by the platysma auricular fascia (large red area). The anterior face is fixed by a vertical column of attachments: orbital ligament, lateral orbital thickening (superficial canthal tendon), zygomatic ligaments, masseteric ligaments, and mandibular ligament. The so-called "fixed SMAS" is that portion attached to the parotid and the posterior border of the platysma. Anterior to this is the "mobile SMAS."

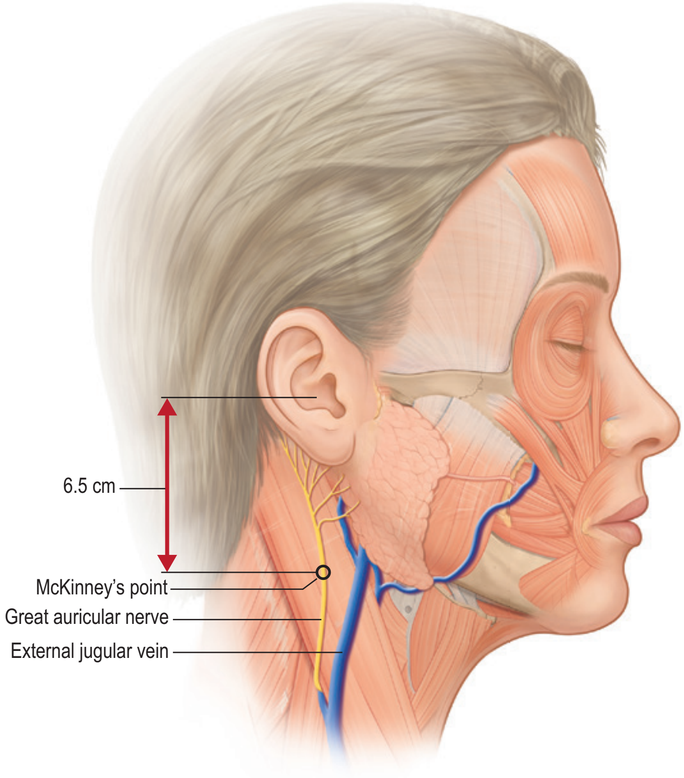

Figure 2.7 The great auricular nerve crosses the midportion of the sternocleidomastoid at McKinney's point, which is 6.5 cm inferior to the external auditory canal. It usually travels about 1 cm posterior to the external jugular vein. Anterior to McKinney's point, the nerve is covered by the superficial cervical fascia (SMAS), but at the posterior border of the sternocleidomastoid, the nerve is subcutaneous. The most common point of injury is at the posterior border of the sternocleidomastoid muscle.

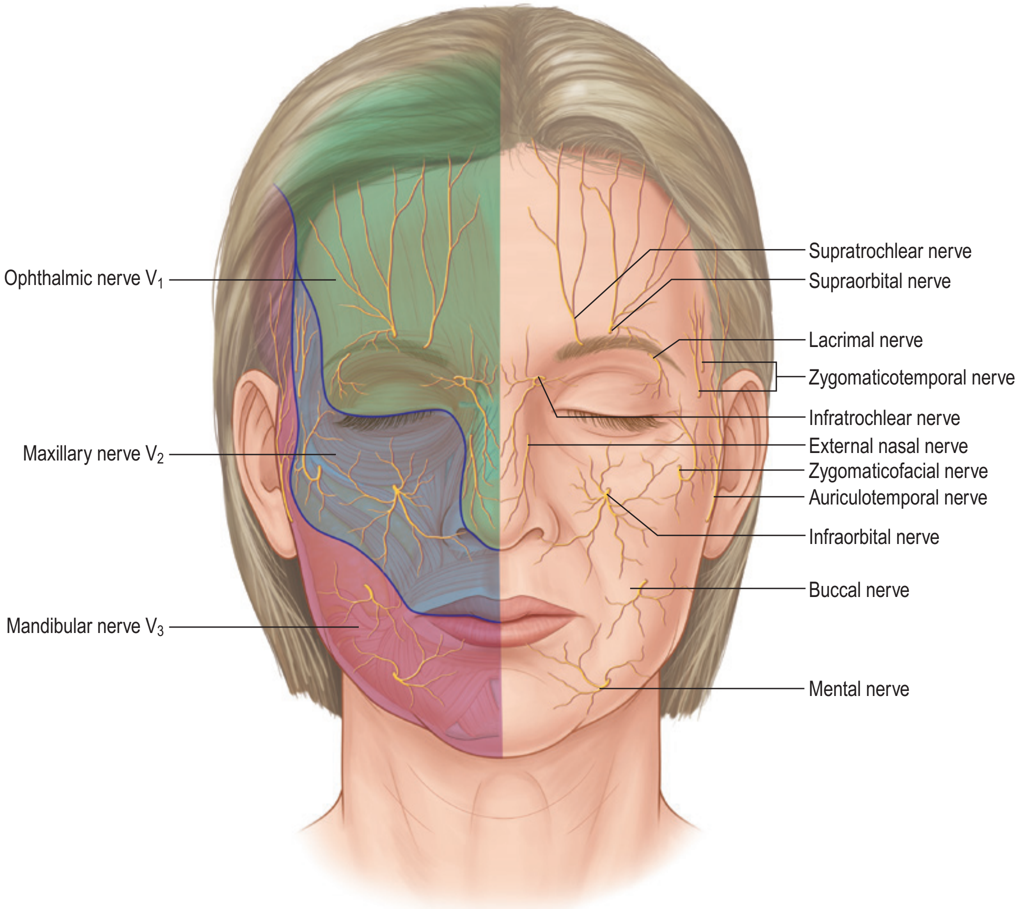

Figure 2.8 Major sensory nerves of the face.

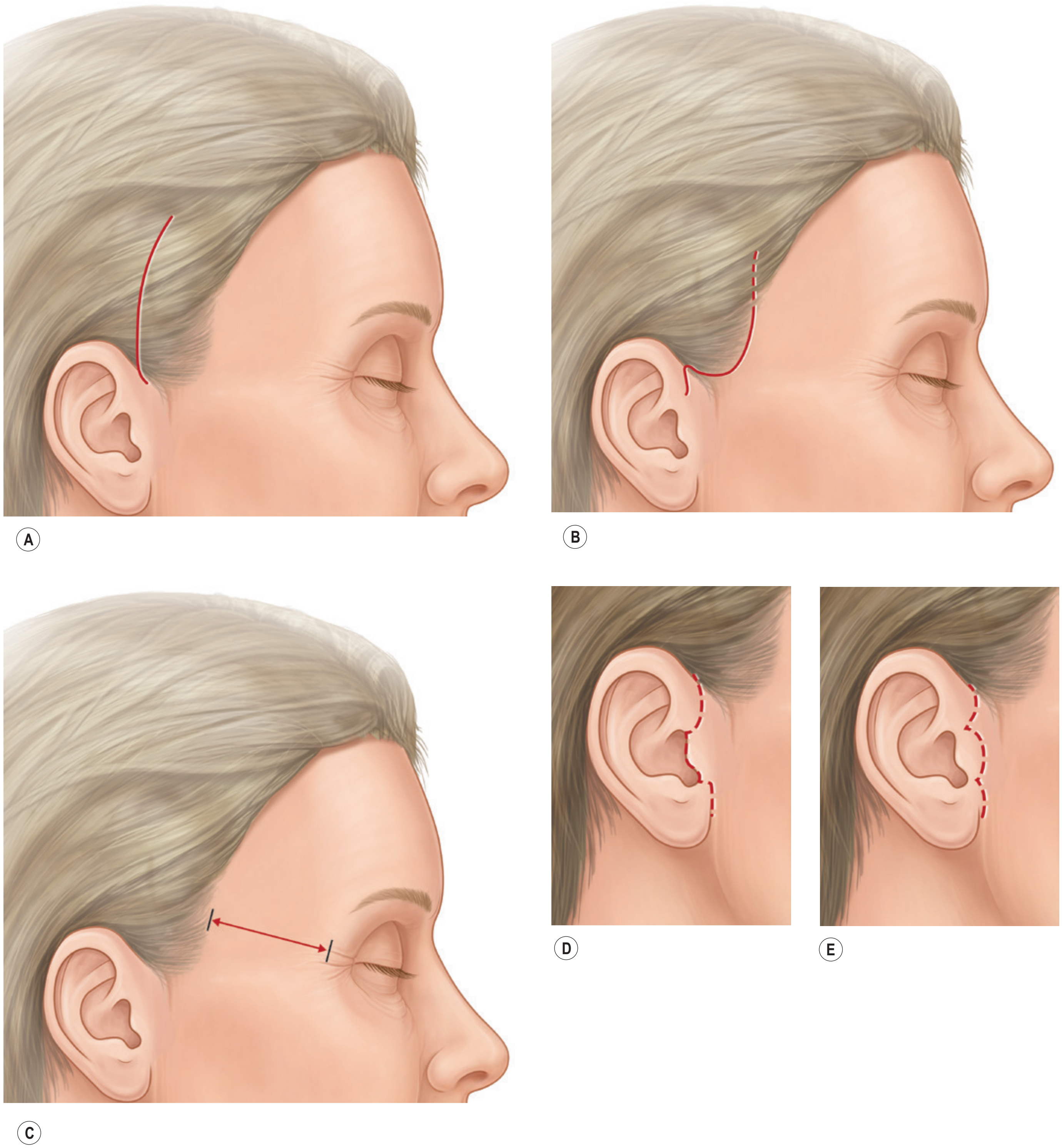

Figure 2.9 **(A)** The traditional hidden incision in the temple hair is appropriate when the temporal hairline will not be shifted adversely. **(B)** A temple incision along the hairline is used if a hidden incision will adversely shift the hairline. **(C)** The distance from the lateral orbital rim to the temporal hairline should not exceed 5 cm. **(D)** The retrotragal incision follows the edge of the tragus. **(E)** The pretragal incision is placed in the pretragal sulcus.

- An extension of the retroauricular sulcus incision toward the occipital hair-bearing region should be made when there is a need to remove excess redundant neck skin.
- A "short scar" facelift is one that avoids the occipital incision, and will suffice for many patients.
- The principle objectives for the occipital incision are to gain access to the neck in order to take up redundant neck skin while making the incision as invisible as possible with little or no distortion of the occipital hairline (*Figs. 2.10* and *2.11*).

Figure 2.10 **(A)** When there is minimal to moderate skin shift expected, an appropriate incision will curve from the retroauricular incision directly into the occipital hair. **(B)** When a greater amount of skin is to be excised, a "Lazy S" incision, which partly follows the occipital hairline, is an appropriate choice.

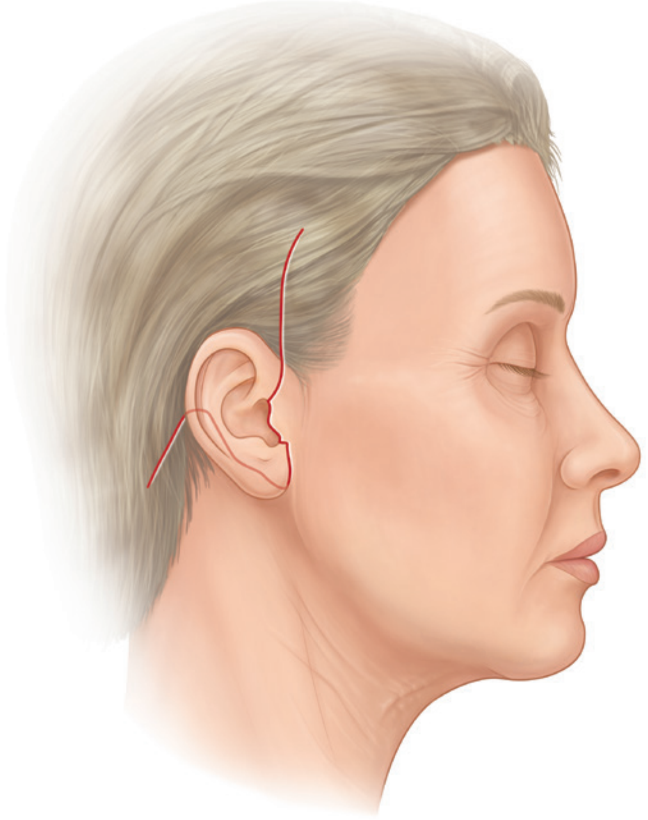

Figure 2.11 The traditional incision for a facelift flap curves vertically or slightly anteriorly in the temple, follows the contours of the ear, both anteriorly and posteriorly, and then angles into the posterior scalp.

- Either the temple dissection or the postauricular dissection can be done first, depending on surgeon preference.
- In the postauricular area, the flap is firmly attached to the deep cervical fascia of the sternocleidomastoid and the mastoid.
- This is the most common location to see skin flap necrosis, so the flap should be raised sharply under direct vision, keeping the dissection against the underlying deep fascia in order to maintain flap thickness.
- As the dissection continues inferior to the earlobe level, the surgeon must be cognizant of the great auricular nerve, where it is most at risk over the posterior border of the sternocleidomastoid.
- By keeping the dissection in the subcutaneous plane, the great auricular nerve will be protected.
- In the temple, if the incision has been made along the anterior hairline, dissection is begun directly in the subcutaneous plane. If the incision has been made in the hair-bearing scalp of the temple, dissection can be carried out in one of two planes: superficial to the superficial temporal (temporoparietal fascia), which will continue directly into the subcutaneous facelift plane, or between the superficial temporal fascia and the deep temporal fascia.
- If the deeper approach is used, the dissection proceeds quickly against deep fascia, but at the anterior hairline, the dissection plane must transition into the subcutaneous facelift plane.
- This change of plane results in a narrow ribbon of superficial temporal fascia, which will contain the superficial temporal artery and vein and branches of the auriculotemporal nerve, which must be divided (*Fig. 2.12A*).
- The superficial plane preserves the superficial temporal fascia and vessels, but can injure the hair follicles during the dissection unless care is taken (Fig. 2.12B).
- Anterior to the anterior hairline, the subcutaneous plane is then developed.
  - The level of dissection normally leaves 1–2 mm of fat on the dermis.
  - This results in a large random-pattern skin flap, the survival of which will entirely depend on the subdermal plexus.
- In the upper face, this dissection continues anteriorly until the orbicularis oculi is encountered, where it encircles the lateral orbital rim. Depending on the type of deep plane surgery planned, the midcheek dissection may stop short of the malar fat pad or, alternatively, carry on over the fat pad, freeing it from the overlying skin in the temple and cheek.
- Lower in the cheek, immediately anterior to the ear and the earlobe, the skin is tethered to underlying structures by secure fascial attachments, but beyond this area, the subcutaneous dissection proceeds relatively easily.
- Once the skin flaps anterior and posterior to the ear have been raised, the two dissections are joined.

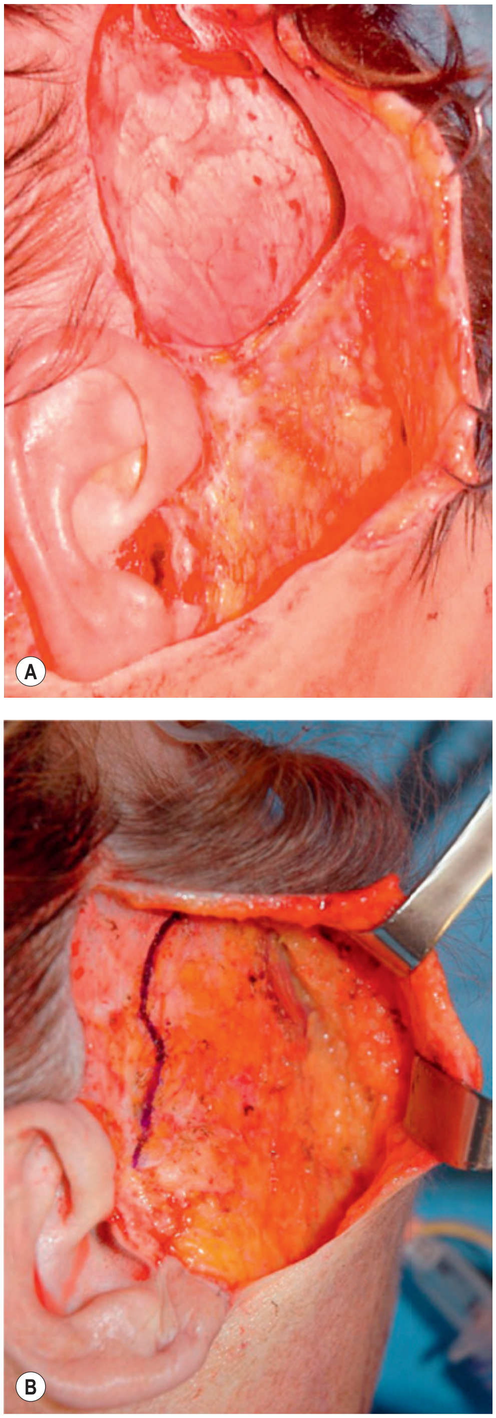

Figure 2.12 **(A)** Facelift flap has been raised in two different planes, initially deep to the superficial temporal fascia, against the deep temporal fascia (seen as an oval window), with a change of planes near the anterior temporal hairline into the subcutaneous plane. The "mesotemporalis" is a bridge of tissue that develops between these two planes. In order to unify the planes, it has been divided with ligation of the superficial temporal artery. **(B)** Facelift flap has been raised in a single subcutaneous plane, with dissection directly on the superficial temporal fascia and deep to the hair follicles of the scalp. The purple line outlines the course of the anterior branch of the superficial temporal artery.

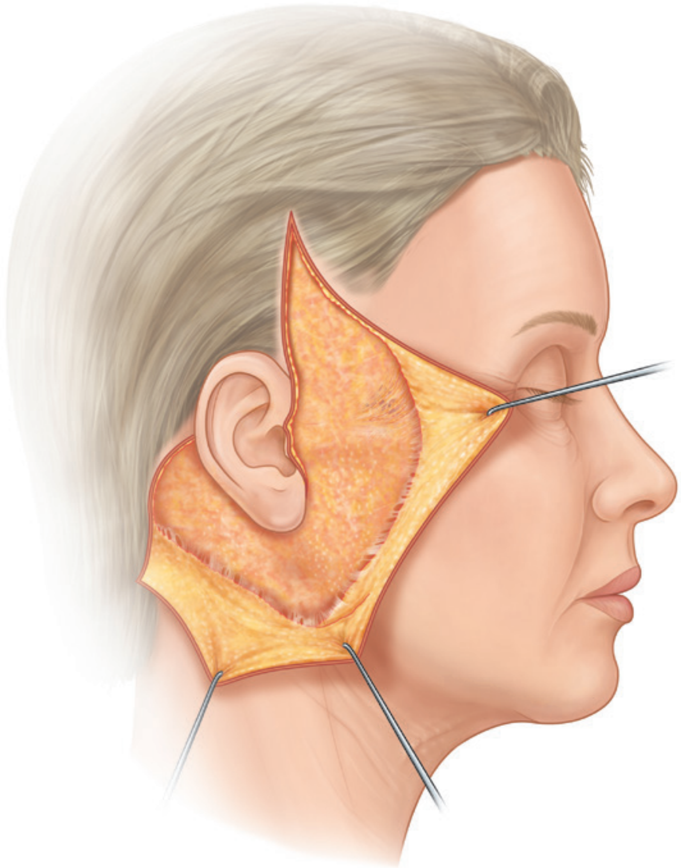

Figure 2.13 Subcutaneous facelift flap has been raised.

- The dissection can then be extended into the neck as far as the technique requires (*Figs. 2.13*, *2.14*). (Video 2.3)
- After elevation of the subcutaneous tissues, management of the deep tissues can proceed if needed.
- Once the deep tissues have been managed, skin flap mobilization and closure is performed:
  - Most techniques advance the skin flap along an oblique vector, which is slightly more posterior than the vector for repositioning deep tissues.
  - In certain techniques, surgeons employ a nearly vertical vector to the skin flap.
  - One concept is to place the skin flap "where it lies," using the vector that facial skin naturally assumes when the patient is lying in the supine position.
  - Another guide is to advance the skin flap toward the temple along a vector that is perpendicular to the nasolabial fold.
- The anterior anchor point is immediately adjacent to the helix of the ear at the junction of the hair-bearing scalp.
- This will be the first of two anchor points; it can be held in place with a half-buried mattress suture in order to minimize the chance of a visible suture mark (*Fig. 2.15*).
- Posteriorly, the skin flap should be drawn along a vector that roughly parallels the body of the mandible.
- The second anchor point will be at the superior-most extent of the postauricular sulcus at the point where the

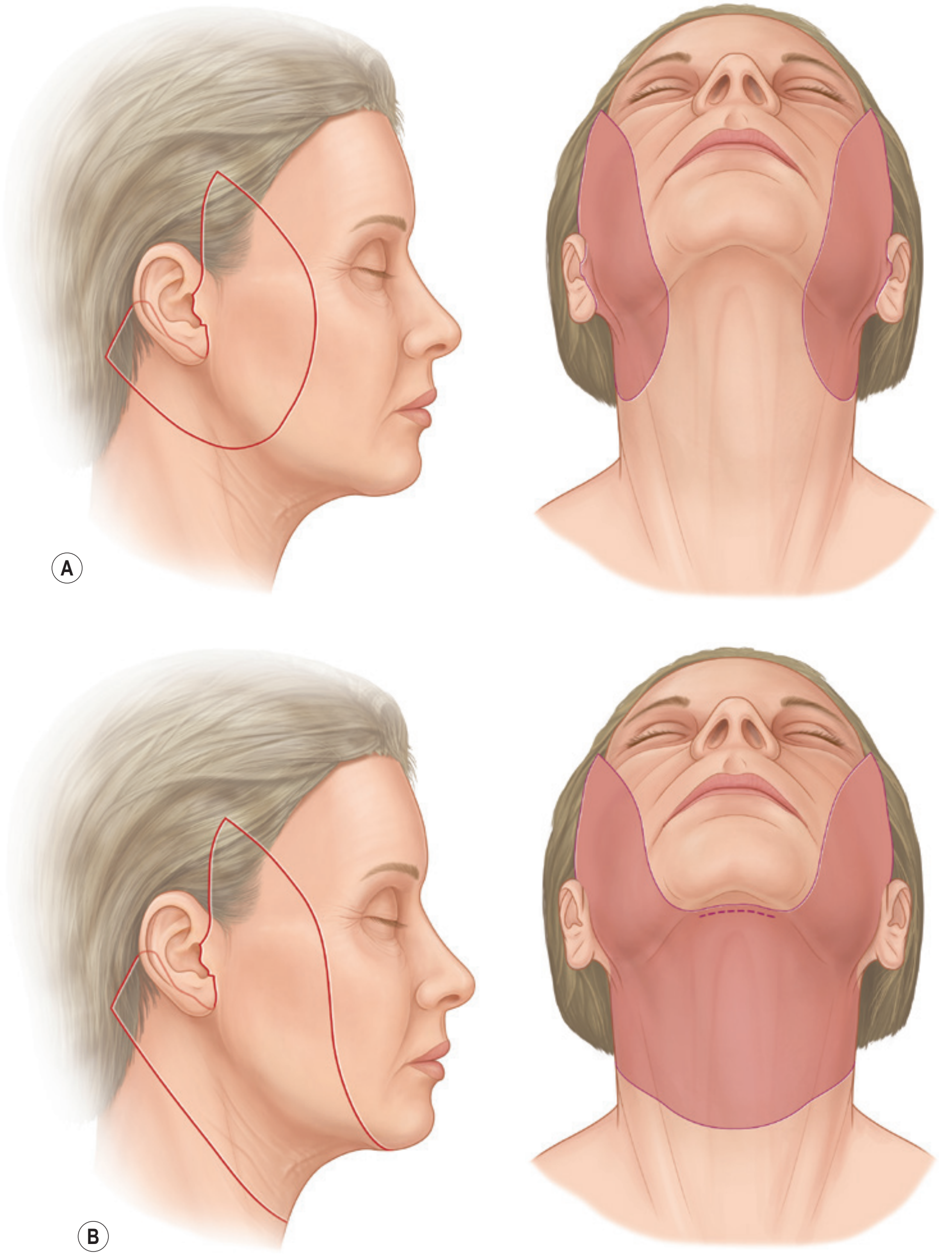

Figure 2.14 **(A)** Traditional subcutaneous flap dissection with no submental incision. **(B)** Traditional subcutaneous flap dissection with submental incision.

incision starts to transition posteriorly. Once again, a half-buried mattress suture can be used.

- At this point, trimming of the overlapping flap and suturing can be done in the temple and in the occipital region.
- The facelift flap is redraped in the desired direction with gentle tension.
- Attention is then turned to trimming excess skin around the ear, with absolutely no tension on the closure.
- If a tragal edge incision is used, the tragal flap is thinned, and hair follicles are removed.
- In the retroauricular sulcus, there is normally little or no skin to be trimmed if the posterior flap has been correctly positioned.
- Earlobe inset is done last and is designed to angle 15° posterior to the long access of the ear (*Fig. 2.16*).
- Skin trimming around the earlobe should be conservative.
- Tension on the earlobe can lead to distortions such as the pixy ear deformity and the malpositioned earlobe.

Midfacelift (blepharoplasty approach)

- In an attempt to lift the tissue immediately inferior to the infraorbital rim (the midface), an approach through the lower lid was developed that involves a subciliary or a transconjunctival blepharoplasty–type incision followed by a dissection down over the face of the maxilla.