The Male Facelift

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Abstract

Rhytidectomy techniques have evolved significantly since the procedure was first described in the early twentieth century. Techniques vary based on surgeon preference, patient characteristics, and the desired outcome. As facelifts are embraced by the general public and the frequency of rhytidectomy increases, attention to male patient-specific technique is critical. Male and female facelift techniques are fundamentally similar; however, there are nuances to patient selection and technique in males that guide the surgeon to improved postoperative outcomes. Attention to incision placement, trichophytic technique, and adjunct procedures will improve overall cosmesis in the male patient. Understanding of potential risks and their likelihood in the male patient will also minimize complications and allow for rapid recovery.

Keywords
- facelift
- rhytidectomy
- SMAS
- male patient
- male facelift

Rhytidectomy is an important component of facial rejuvenation surgery which is used, in complement, to restore the facial soft tissue system to an appropriately younger position. In the ideal patient, rhytidectomy provides high patient satisfaction. If the patient is optimized and meticulous surgical detail applied, complication rates should be low, and recovery should be rapid.

Original techniques for rhytidectomy involved excising the skin without performing any undermining.[1,2] By the 1970s Skoog developed an advancement flap using the superficial musculoaponeurotic system (SMAS) which provided a shift in technique for rhytidectomy.[2,3] This procedure was further modified to include rotation-advancement flaps with or without excision of complete strips of the SMAS.[2] The previous technique lacked improvement in midface ptosis and deep nasolabial folds. This lack of improvement inspired Hamra and others to develop the deep-plane and composite rhytidectomies in the 1990s.[4–7] Many variations of the aforementioned techniques have since been described in the literature, including the lateral SMAS rhytidectomy, extended SMAS rhytidectomy, bi- and tri-plane rhytidectomy, and the subperiosteal rhytidectomy.[8–13] In a systematic review published by Chang et al., there were inadequate data to illustrate differences between cosmetic results, complication rates, and patient satisfaction due to a wide variation in surgical technique.[14]

In 2018, 121,531 rhytidectomies were performed, of which 12,017 (10.1%) were males.[15] There has been a 20% increase since 1998, where roughly 100,208 rhytidectomies were performed.[15] The increase in case volume may be attributed to the dynamic job market, increased priorities on health, and the desire to postpone retirement.[16] As facial aging surgery, and plastic surgery in general, become more accepted by the general public, rates of both male and female rhytidectomy will increase. The male rhytidectomy presents with different challenges to the surgeon requiring special attention to thicker skin, facial hair growth patterns, heavier brows, central face fat atrophy, descent of the jowl fat pad, cervical fascial laxity, and overall increased risk for hematoma.[16]

Patient Selection

Successful facial rejuvenation surgery requires diligent preoperative evaluation and patient selection. When performing rhytidectomy the surgeon should follow strict patient selection guidelines to optimize results and decrease the risk of complications. In addition, the extent of facial aging, phenotype, and patient-specific characteristics should be taken into consideration.

Many classification systems can be applied to the evaluation of a patient in the aging face consultation. The Dedo

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classification for characterization of the neck is commonly used and is described below[17]:

- Class I: neck is youthful with minimal deformity. Patients are characterized by well-defined cervicomental angle, excellent platysma muscle tone, and no submental fat.
- Class II: neck with skin laxity without submental fat or platysma muscle weakness.
- Class III: accumulation of submental fat.
- Class IV: platysmal banding present.
- Class V: retrognathia.
- Class VI: low-lying hyoid bone.

Full history and physical examination are necessary when selecting male facelift patients. Ideal candidates are in good physical and mental health. Expectations are reviewed with the patient and clearly outlined by the surgeon—understanding of these expectations is also a prerequisite to surgery. Pre-existing or subclinical psychological issues should also be evaluated and discussed prior to surgery.

The facial skeleton should be evaluated prior to surgery. The ideal candidate has supportive malar areas, posterior and high hyoid bone, good skin elasticity, and minimal adipose tissue.[8,18] Fine and deep rhytids, as well as pigmentation, should also be considered, as skin resurfacing can be used as an adjunct to rhytidectomy for improved cosmetic outcome. Although the ideal candidate may have the above-mentioned characteristics, these are not a prerequisite—rather, these are discussion points that should be outlined with the patient when discussing expectations.

Specific characteristics may be of concern when selecting the male rhytidectomy patient, such as anticoagulative medications, tobacco use, unfavorable Dedo class, microgenia, prominent and/or ptotic submandibular glands, or deep nasolabial grooves.[8] Anticoagulants should be discontinued greater than 1 week prior to surgery if cleared by the patient's primary care physician. Tobacco or nicotine use should be stopped 2 weeks prior to surgery and for 4 weeks postoperatively.[18] Prominent submandibular glands should be indicated and the patient should be aware that rhytidectomy will not improve fullness in that area, unless the surgeon is willing to plicate or excise the glands. Lastly, deep nasolabial grooves cannot be eliminated with rhytidectomy, but may be greatly improved with SMAS augmentation, midface lift, or deep-plane technique with release of bony and musculocutaneous ligaments.[8]

Preoperative Evaluation

The initial patient consultation often occurs in the surgeon's clinic in a face-to-face encounter. Ideally, standardized photos are taken first during the patient encounter. A full set includes frontal, oblique, lateral, static, and dynamic close-ups of the forehead, perioral region, midface, and neck. Some surgeons elect to record dynamic videos as well. A detailed history is obtained from the patient and documented for permanent record. A medical history is obtained, with an emphasis on bleeding diastheses or previous procedures that may have been complicated by excessive blood loss or perioperative bleeding. Discussing any history of prolonged bleeding, easy bruising, and the use of anticoagulation therapy is critical to the encounter. Any medical comorbidity should be reviewed and, if necessary, it should be further investigated prior to surgical intervention. A complete surgical history is also obtained, both cosmetic and noncosmetic procedures, and discussed thoroughly with the patient. A social history is obtained, focusing specifically on tobacco products—it is highly recommended that patients abstain from tobacco use at least 2 weeks prior to surgery and for 4 weeks following surgery to improve healing. All medications and supplements are reviewed and documented in the medical record.

Next, a physical examination is performed by the surgeon. A complete head and neck examination can be warranted, but often the surgeon will focus on prudent areas specific to the patient's desires. In the setting of male rhytidectomy, facial skin laxity, jowling, fine and deep rhytids, platysmal banding, and midface ptosis are evaluated and documented. The senior author (DER) prefers a Likert scale in each category, with 1+ indicating minimal to no facial aging changes and 4+ indicating severe facial aging changes.

Once an extensive discussion is complete, and the patient and surgeon decide that their goals are aligned, digital enhancement of the photos is done. These photos are shown to the patient during the initial consultation as a tool to review expected changes after surgery. Photographs of the expected postoperative course are also shown to the patient.

Once the face-to-face encounter is complete and the patient has decided to move forward with surgery, the preoperative medical work-up is initiated. The senior author (DER) prefers to obtain medical clearance completed by the patient's primary care physician, or in specific cases, a specialist that manages medical comorbidities. The medical clearance form specifically asks the primary care physician whether the patient is cleared to have surgery and if there are any known contraindications to surgery. Preoperative laboratory evaluation includes a complete blood count, chemistry profile, coagulation studies, human immunodeficiency virus status, urinalysis, and electrocardiogram in all patients older than 30 years of age.

Two weeks prior to surgery, the patient is instructed to stop all supplements that may cause an anticoagulative effect. This includes the following: fish oil, vitamin E, ginseng, garlic, aspirin, and all types of nonsteroidal anti-inflammatory medications. If the patient is on a prescribed anticoagulant (e.g., Warfarin, clopidogrel, or dabigatran), clearance is obtained from the prescribing physician and the medication is stopped 3 to 5 days prior to surgery. On the night prior to surgery, the patient's face is cleansed with chlorhexidine gluconate scrub.

On the day of surgery, the patient and surgeon again meet face-to-face. A focused physical exam is again performed, and the planned surgery is outlined. The patient is marked as described below, while the patient is in the upright position. The hair is twisted into numerous small ponytails and taped in place.

Anesthesia

Male rhytidectomy can be performed under different types of anesthesia, depending on surgeon's preference, patient's preference, and preoperative evaluation. The senior author (DER) prefers intravenous sedation with local anesthetics. In the preoperative area, the patient is seen and evaluated by a member of the anesthesiology team. Intravenous access is obtained, and fluid is administered. If the patient is a good candidate for oral sedation, 10 to 20 mg of oral diazepam is given. The patient is then taken to the operative suite where he is given intravenous fentanyl and a continuous propofol drip to achieve an appropriate level of anesthesia.

Next, the surgical team administers local anesthetics. The incisions are injected with 1% lidocaine with 1:100,000 epinephrine mixed with 0.5% bupivacaine (1:1). The areas of the face and neck to be undermined are infiltrated with tumescent solution as detailed below:

- 220 mL of lactated Ringer's solution.
- 30 mL of 2% lidocaine.
- 0.5 mL of 1:1,000 epinephrine.

Operative Technique

Rhytidectomy in the male patient is fundamentally similar to that in any other patient. However, there are nuances to the male anatomy that should be taken into account to improve cosmetic outcome. The incisions are marked preoperatively and are designed within natural anatomical creases to maximize camouflage (►**Fig. 1**). The temporal aspect of the incision is carried superiorly into the hairline to the level of the linea temporalis. The temporal incision is beveled anteriorly in the direction of the hair follicles to preserve hair and camouflage the incision. In males with high sideburns (approximately the level of the helical root), the incision may instead be carried anteriorly beneath the sideburn (►**Fig. 2**). This will allow for vertical lifting of the excess facial skin without distortion of the sideburn further superiorly.

The preauricular incision is drawn within a natural preauricular crease often found in men. As the tragus is approached, the incision is kept anterior to the tragus in most male patients (►**Fig. 3**). This is done to avoid retrograde movement of the sideburn or beard onto the tragus, which can be unappealing. However, in males with minimal facial hair and sideburns above the tragus, the incision can be carried retrotragal. The incision continues inferiorly in a natural crease between the lobule and the face and carried posteriorly along the postauricular sulcus. At approximately the level of the malar eminence, the incision makes a gentle curve toward the postauricular hairline and is carried inferiorly along the postauricular hairline. A trichophytic incision should be made at the postauricular hairline, over-beveling the blade in the direction of the hair follicles. This maximizes the number of retained follicles and allows for hair to grow through the potential scar. This is particularly important in males who keep their hairstyle short. ►**Fig. 4** demonstrates preoperative photos of markings.

The procedure begins with suction-assisted lipectomy of the neck and submental areas (►**Fig. 5**). A small 1-cm incision is made in the submental crease, along with mirroring 1-cm incisions in each postauricular crease. The incisions should be large enough to avoid friction injury when passing a liposuction cannula through. Each incision is undermined using facelift scissors to allow access with a 4-mm spatulated tip liposuction cannula. Starting on the right postauricular incision, liposuction is performed, ensuring that the suction ports face the underlying soft tissue and not the dermal plexus of the skin. This is done in a fanning, criss-crossing manner so that maximal undermining of the neck is achieved. Next, a liposuction cannula is placed into the submental incision and, in a similar manner, submental liposuction is performed. In men with minimal subcutaneous submental or cervical adipose

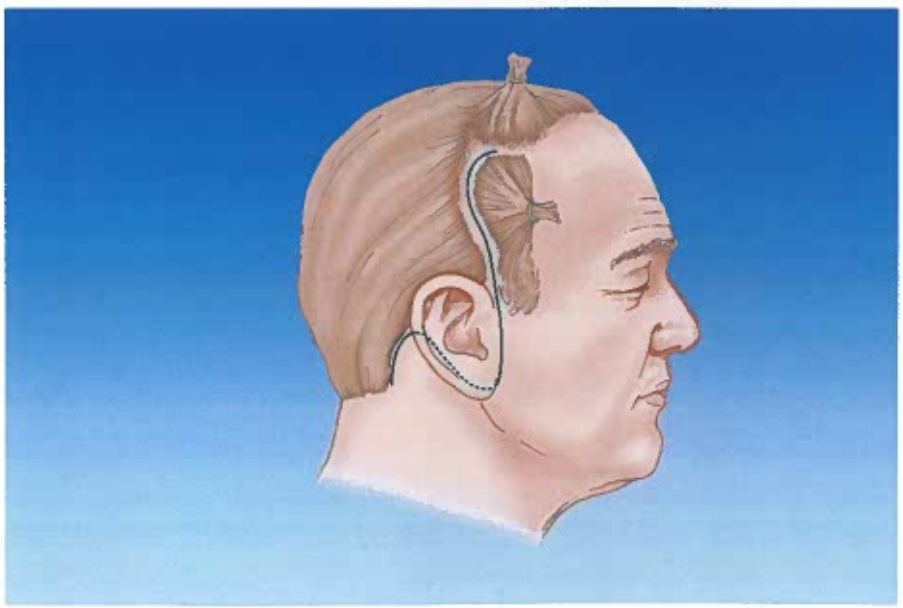

Fig. 1 Typical rhytidectomy incision in male patient with relatively long sideburn.

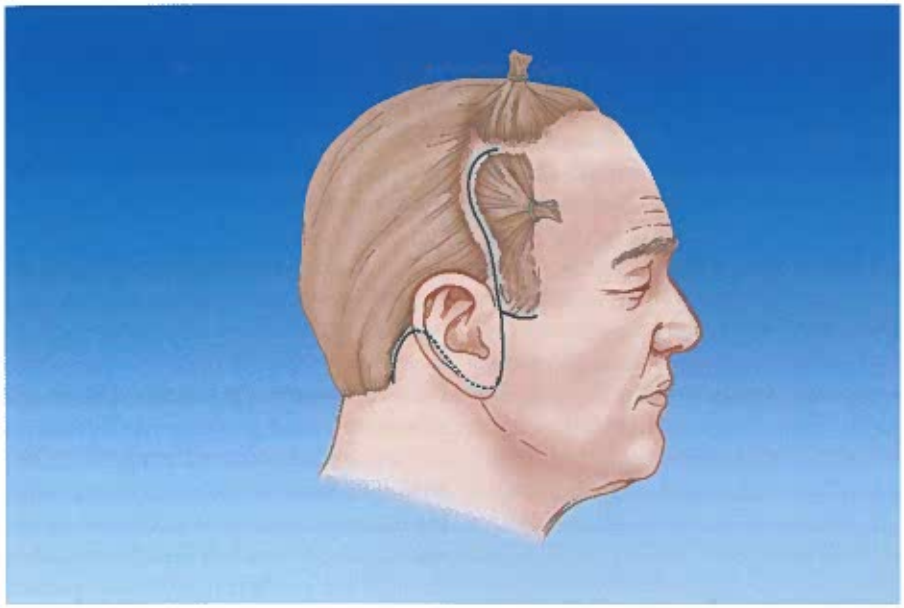

Fig. 2 Modified rhytidectomy incision in male patient with short sideburn.

tissue, suction may not be necessary and undermining with the 4-mm liposuction cannula alone may be adequate to mobilize the skin flap.

At this point, the platysmectomy and/or platysmaplasty may be performed via the submental incision (►**Fig. 6**). The decision to proceed with platysmaplasty should made preoperatively during dynamic assessment of the patient. In some patients, visible platysmal banding is seen at rest; however, some patients require dynamic movement of the mouth to demonstrate the degree of platysmal banding. For this reason, all patients are asked to show their teeth preoperatively to assess for dynamic platysmal banding. In patients where platysmaplasty is necessary, the submental incision is extended to approximately 1.5 to 2 cm in length. A lighted retractor is

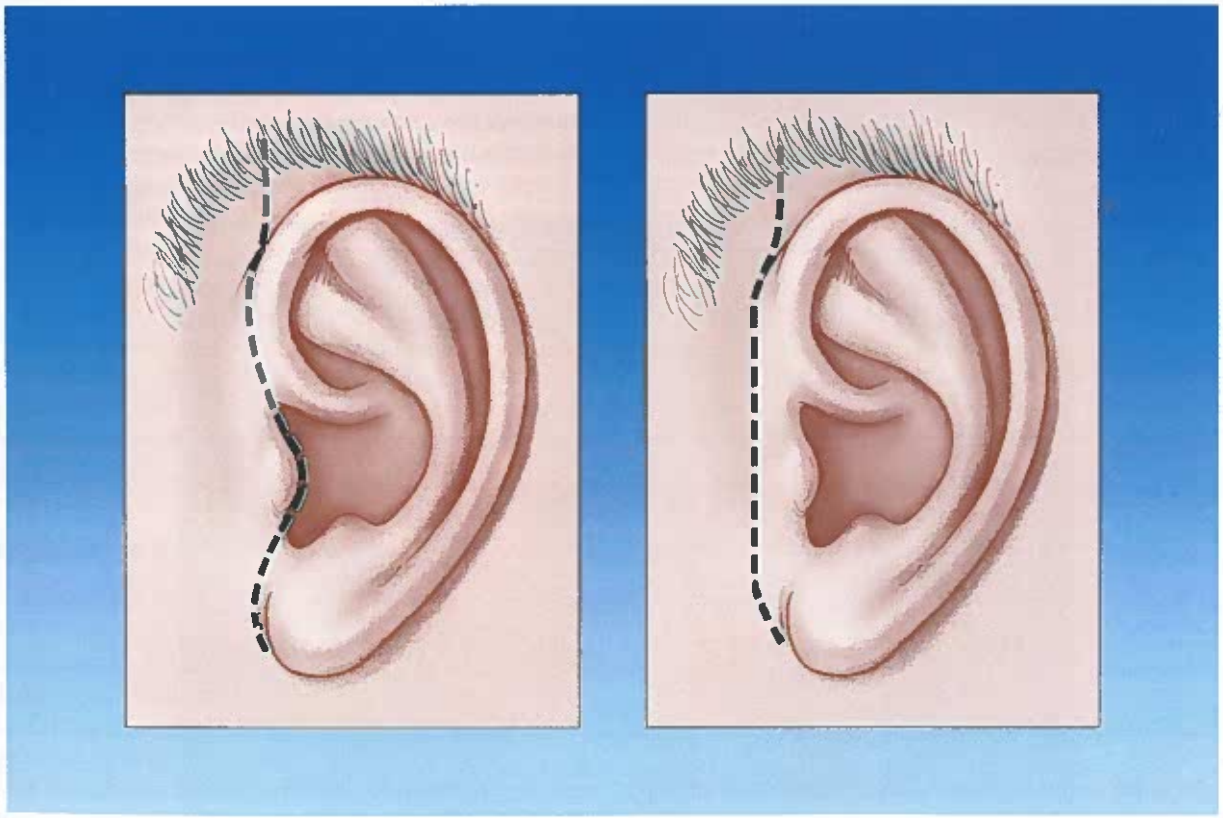

Fig. 3 Schematic of retrotragal and pretragal incision for male rhytidectomy patient.

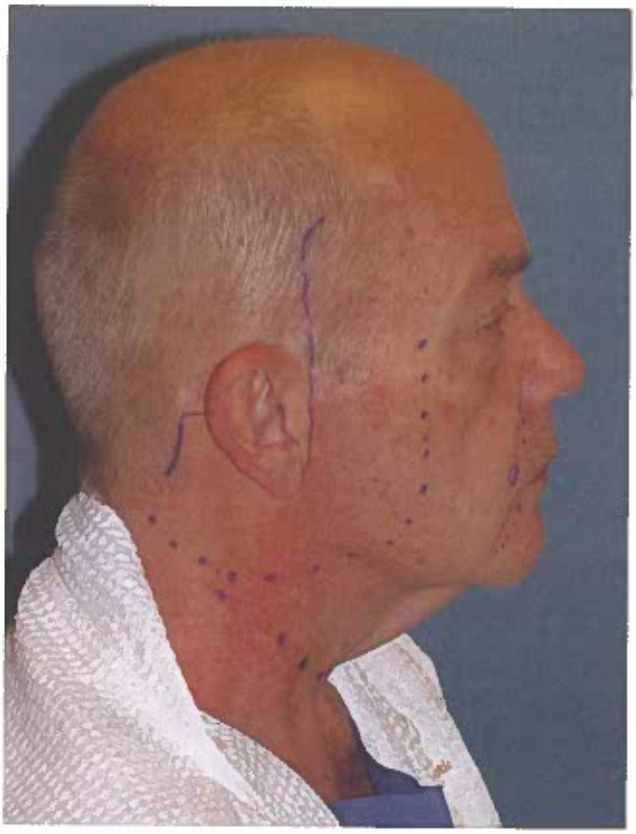

Fig. 4 Preoperative markings demonstrating incisions, sites of undermining, submental incision, and platysmal bands.

used to expose and illuminate the submental region through the submental crease. Kahn beveled facelift scissors are used to perform a direct lipectomy if there is additional adipose tissue that was not addressed with liposuction. Next, the medial edges of the platysmal bands are identified. A platysmectomy is performed, where a wedge of muscle is excised using suction electrocautery at the level of the hyoid, at the cervicomental angle. If after platysmectomy, the platysmal bands continue to be ptotic, a platysmaplasty is performed. This is accomplished by approximating the medial borders of the submental platysma using 2–0 Ethibond sutures (Ethicon) in a buried, interrupted fashion.

Next, the temporal portion of the incision is made. This incision is taken down to the superficial layer of the deep temporal fascia (►**Fig. 7**). This plane is elevated anteriorly to the linea temporalis with blunt finger dissection. At the level of the zygomatic root, subcutaneous dissection is carried anteriorly. This leaves a transition from the superficial layer of the deep temporal fascia in the temporal region to the temporoparietal fascia over the zygomatic arch. The frontal branch of the facial nerve lies in this region, approximately 1.5 cm posterior to the lateral canthus along the zygomatic arch. For this reason, the temporoparietal fascia is cauterized and divided carefully 2 cm anterior to the tragus and no further anterior than the anterior-most projection of the sideburn. Once the temporoparietal fascia is divided here, the facial cutaneous skin flap can be elevated in its entirety, leaving below the temporoparietal fascia transitioning to the superficial musculoaponeurotic system (SMAS) and platysma inferiorly.

Attention is turned to the postauricular portion of the incision, which is made with a scalpel. The lower face and neck subcutaneous dissection is accomplished using Kahn beveled facelift scissors. The subcutaneous, supraplatysmal plane in the neck is created first, leaving an undissected band along the mandibular angle that separates the platysma from the SMAS. This area is divided carefully in a subcutaneous plane to avoid damage to the marginal mandibular branch of the facial nerve. Once this is divided, elevation of the skin flap is complete (►**Fig. 8**).

After the entire skin flap is elevated, the surgeon gets an unobstructed view of the SMAS and platysma, which would be used to elevate the jowls and neck during rhytidectomy.

Fig. 5 Liposuction technique using a 4-mm spatulated liposuction cannula via preauricular and submental incisions.

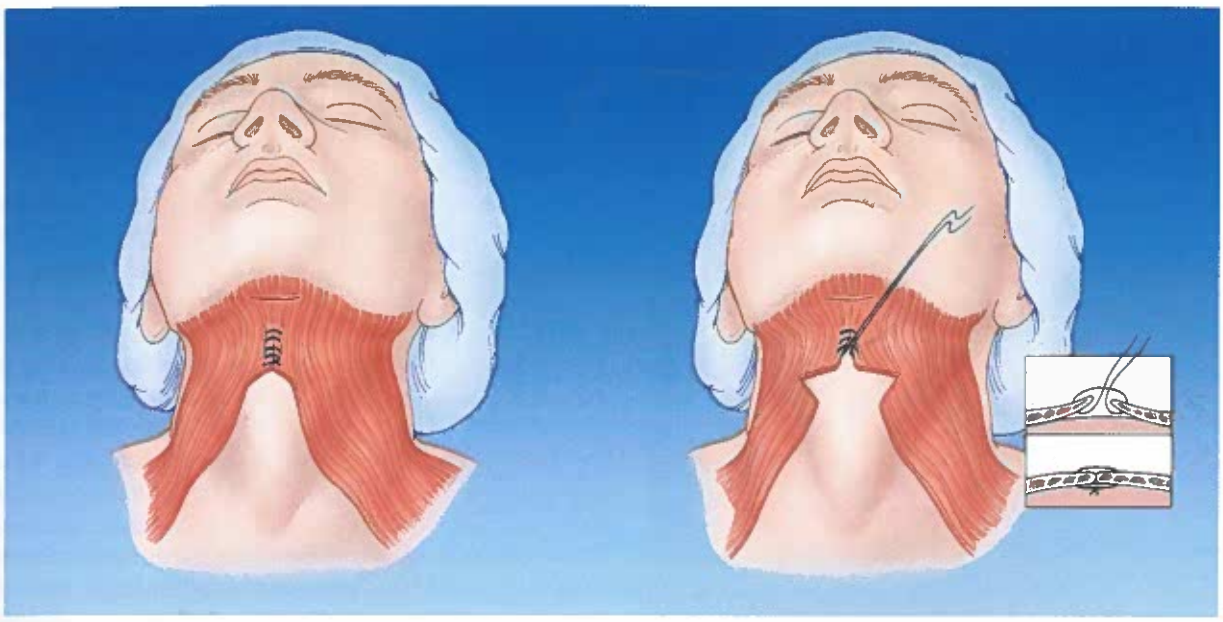

Fig. 6 Schematic of platysmaplasty without and with platysmectomy.

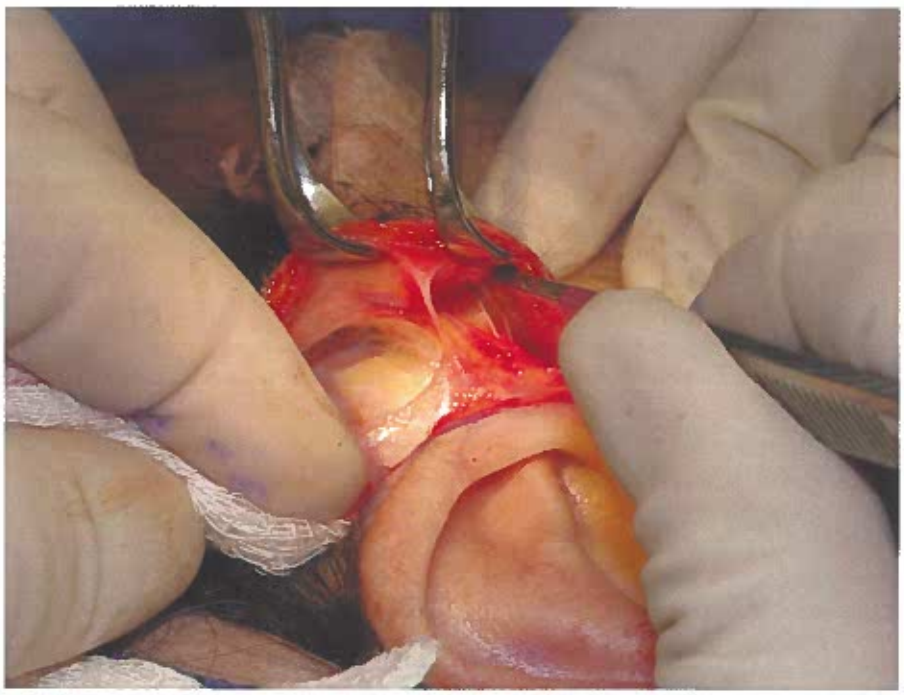

Fig. 7 Temporal incision carried down to superficial layer of the deep temporal fascia with transition to the temporoparietal fascia at the zygoma.

The SMAS is identified in the preauricular area starting just below the zygomatic arch. Holding approximately 1 to 2 cm anterior to the tragus, a strip of SMAS is excised using facelift scissors, taking care not to violate the underlying parotid fascia (►**Fig. 9**). This strip of SMAS is excised, in continuity, down to the angle of the mandible until the transition to platysma. This SMAS is placed in saline on the back table and can be used for augmentation of the nasolabial folds, marionette lines, and lips if the patient desires.

An SMAS flap is then elevated by dissecting in the sub-SMAS plane to mobilize the SMAS and platysma (►**Fig. 10**). Typically, 3 to 5 cm of dissection is necessary to the anterior border of the parotid gland, but additional dissection anteriorly may be necessary to achieve the desired lift. After the SMAS flap is elevated, the surgeon mobilizes the flap in a vertical manner to achieve the desired lift (►**Fig. 11**). The SMAS is imbricated superiorly and posteriorly using 2–0 Ethibond sutures in a buried, interrupted manner (►**Fig. 12**). The first suture is used to draw the SMAS at the level of the mandibular angle to the mastoid fascia. The surgeon must be careful not to distort or move the ear with this suture. The second suture is placed superiorly at the

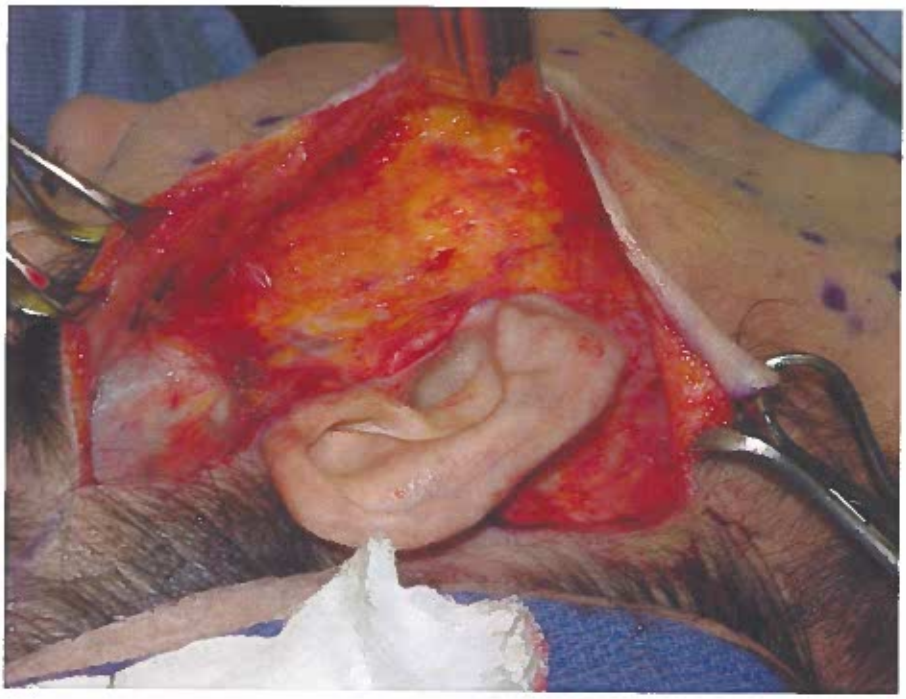

Fig. 8 Complete elevation of the face and neck skin flap.

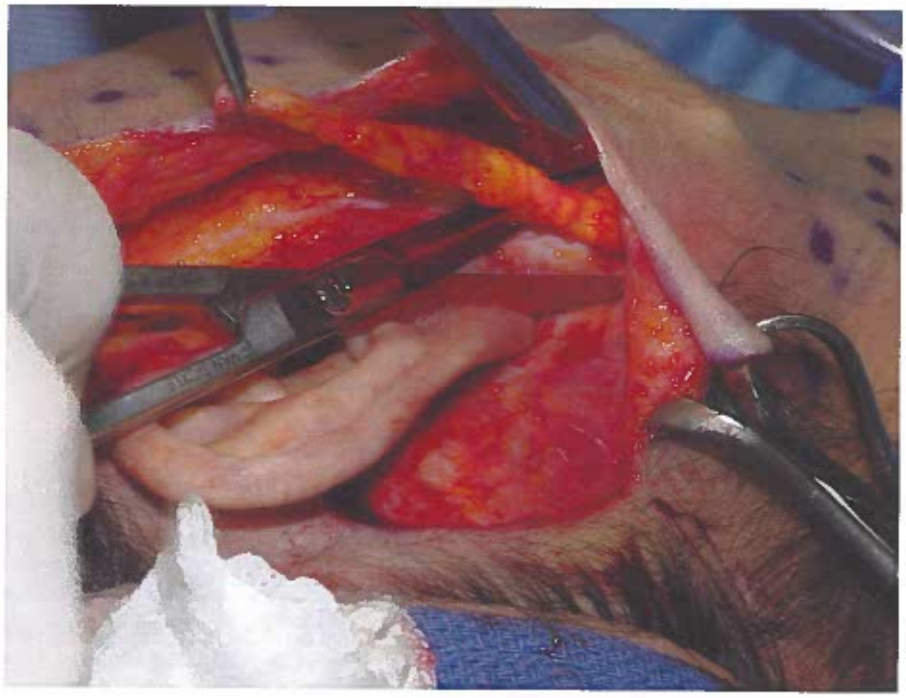

Fig. 9 Vertical SMASectomy in the preauricular area.

superior-most border of the SMAS and suspended to the superficial layer of the deep temporal fascia. The remaining sutures are placed to further imbricate the SMAS and provide superior and posterior lift. The posterior border of the platysma muscle is mobilized in continuity with the SMAS and sutured to the sternocleidomastoid fascia. After all sutures have been placed, excess SMAS is excised to avoid contour irregularities. Irrigation is then performed, and hemostasis is obtained.

Next, the cutaneous flap is advanced in a superior and posterior direction, mimicking the lift achieved by the SMAS flap. The infralobular skin is advanced to the peak of the postauricular incision and secured with a stainless-steel staple. The preauricular skin is then advanced to the level of the helical root, where the skin flap is again secured with a stainless-steel staple. The overlapping and excess skin is carefully sharply excised (►**Fig. 13**). The surgeon should be careful not to apply excessive tension to the skin flap, as this

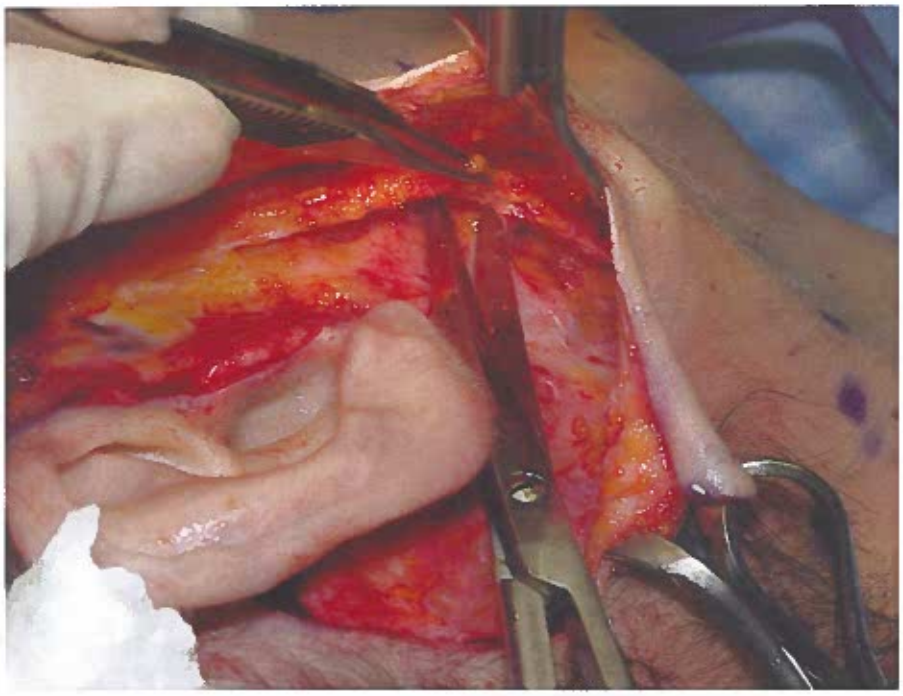

Fig. 10 Dissection of a sub-superficial musculoaponeurotic system flap to the anterior border of the parotid gland.

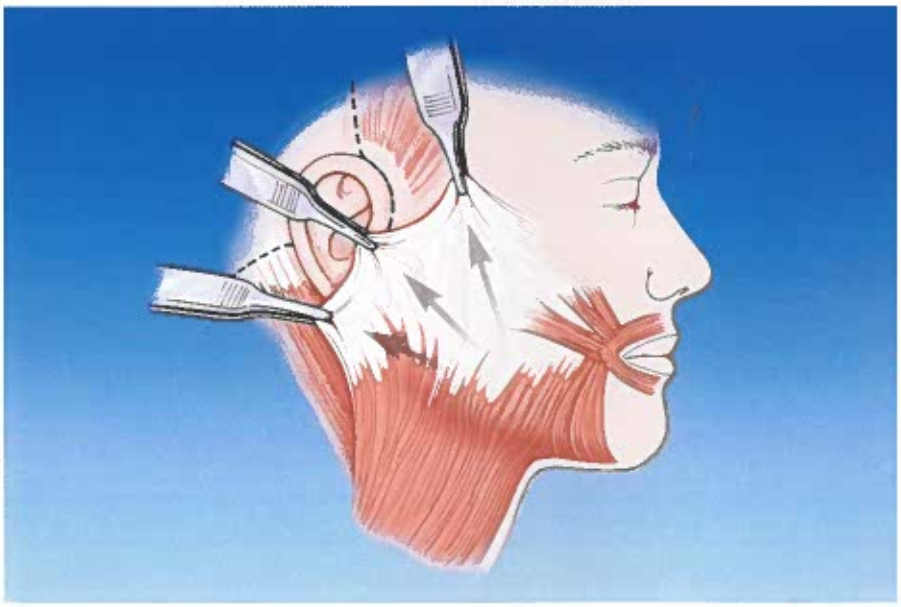

Fig. 11 Elevation of the superficial musculoaponeurotic system flap and mobilization in the posterior and superior vector.

may compromise subdermal blood flow and cause ischemia. In males with high sideburns, an incision is created inferior to the sideburn and a triangle of skin is removed to avoid further elevation of the sideburn. Next, complete closure of the skin is performed. The inferior-most point of the tragus is sutured to the skin using a 5–0 Prolene (Ethicon) in a vertical mattress fashion. In hair-bearing areas such as the temple and the postauricular hairline, closure is performed with stainless steel staples. The tragal flap is stabilized with 5–0 plain catgut suture in an interrupted fashion. The remainder of the pre- and postauricular incision is closed with 5–0 plain catgut in a running, locking fashion. Post-auricularly, a single gap of 1 cm is left at the level of the conchal bowl for the placement of a 0.25-inch penrose drain, which is stapled in place.

At this point, the rhytidectomy is complete and the surgeon can turn his attention to additional surgical techniques such as brow lift, blepharoplasty, hair transplantation, or direct submentoplasty.

Postoperative Management

The postoperative period begins with application of a postoperative dressing. The dressing consists of a Xeroform gauze (Covidien) cut in a U shape and placed around each auricle

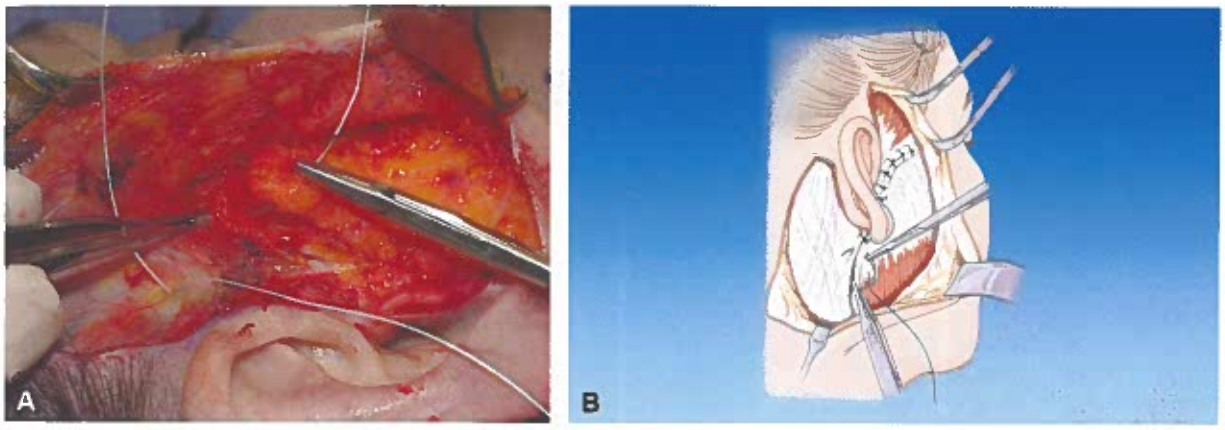

Fig. 12 (A) Imbrication of the superficial musculoaponeurotic system flap to create the desired lift. (B) Schematic representation of imbrication.

Fig. 13 Excision of excess skin.

along the closed incisions, followed by the placement of two pieces of folded 4 × 4 gauze anterior and posterior to the auricle. The head is then wrapped with two Kerlix bandage rolls (Covidien) and a Coban dressing (3M).[8] The patient is then observed in the postoperative suite where ice-chilled gauze is applied to the patient's eyes to reduce swelling and vitals are closely monitored. Once the patient is alert, responding appropriately, and following commands, liquids are given orally. Once the patient is able to tolerate liquids by mouth, he is discharged with a trained sitter.

The patient returns to the office on postoperative day 1 for evaluation. The circumferential dressing is removed, and the patient is examined. If there is no concern for fluid collection, the postauricular drain is removed. The surgical staff thoroughly reviews postoperative instructions with the patient and his family. A written copy of these instructions is provided to the patient. The incisions are cleaned with hydrogen peroxide in the pre- and postauricular skin and with witch hazel along the temporal and posterior hair-bearing incision. The patient may begin taking showers on postoperative day 1 using water only. On postoperative day 2, the patient may begin washing his hair with baby shampoo that does not irritate the eyes. A modified Jobst facial dressing is provided, and the patient is asked to wear this around the temporal area, face, and neck in a circumferential manner to provide gentle pressure during the first postoperative week. The patient is asked to restrict physical activity and head movement for 2 full weeks. The patient should refrain from driving for 2 weeks, sleep with his head elevated to 30 to 45 degrees and avoid Valsalva. Arnica montana and bromelain are provided preoperatively, and the patient continues these medications postoperatively. The patient will also take antibiotics to cover potential skin infections, acyclovir to reduce the risk of herpes simplex infection if laser resurfacing or perioral grafting is performed, and a prednisone taper to reduce swelling. Appropriate pain medication

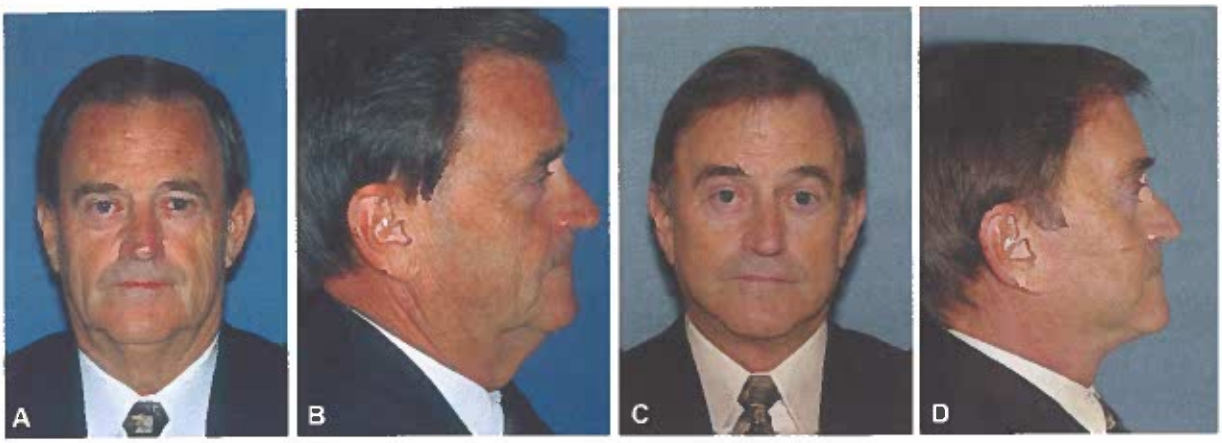

Fig. 14 A 63-year-old patient with preoperative (A) frontal and (B) right-sided profile views, who underwent biplanar superficial musculoaponeurotic system rhytidectomy with 3-year postoperative (C) frontal and (D) right-sided profile views.

is also provided, although patients typically do not require the entire dispensed amount. The patient is next seen at postoperative week 1 when the sutures and staples are removed, except for the prolene suture that sits at the base of the lobule. The patient will return at postoperative week 2 for removal of the prolene suture. Going forward, the patient is then seen at 3 months, 6 months, and at 1 year. Examples of postoperative results are shown in ►**Figs. 14** and **15**.

Complications

Complications during and after facelift surgery can occur in a small group of patients—knowledge of the types of complications can help surgeons recognize, manage, and potentially avoid suboptimal outcomes. Extensive and frank preoperative discussion with the patient is paramount. The patient should have a thorough understanding of potential risks, as well as the limitations of the intervention. Preoperative photographs should be reviewed with the patient, and examples of the postoperative recovery and results should be clearly demonstrated to the patient. After the preoperative evaluation and consultation, the patient should be aware of expected postoperative edema, ecchymosis, pain, and temporary numbness/paresthesias. Basic perioperative measures and intraoperative techniques should be employed by the surgeon to reduce complications, which include hematoma, facial paresis/paralysis, flap necrosis, infection, scarring, and persistent numbness. Less commonly, complications such as alopecia, hairline changes, tragal deformity, and tragal phenotype changes can be seen.

Hematoma

Hematoma is widely regarded as the most common complication in facelift surgery and has been documented in approximately 1 to 15% of the patients.[8,19–23] Male patients have a higher rate of hematoma formation at 8.7 to 12.9%.[20,24] Preoperative medical optimization and avoidance of nonsteroidal anti-inflammatory drugs, aspirin, and certain herbal supplements can theoretically reduce the rate of intraoperative bleeding and postoperative hematoma formation. The senior author (DER) recommends cessation of the aforementioned medications, as well as anticoagulants, 2 weeks preoperatively. Other intrinsic and environmental factors must also be recognized, such as uncontrolled hypertension, smoking, alcohol use, and blood dyscrasias.

Intraoperatively and postoperatively, early recognition of hematoma is paramount, as persistent pressure on the overlying skin flap and underlying soft tissue can cause

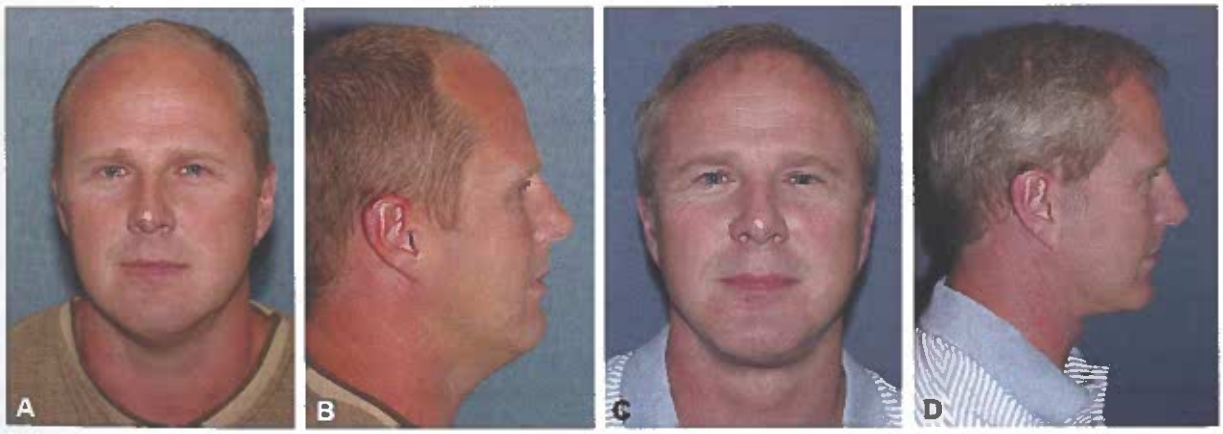

Fig. 15 A 49-year-old patient with preoperative (A) frontal and (B) right-sided profile views, who underwent biplanar superficial musculoaponeurotic system rhytidectomy and hair transplant with 10-year postoperative (C) frontal and (D) right-sided profile views.

ischemia of the skin-flap and can lead to disastrous long-term sequelae. Intraoperatively, the hematoma should be evacuated quickly, and irrigation performed to clean the operative field. Careful hemostasis must be achieved afterward. Postoperative hematomas may be rapidly expanding or insidious. Rapidly expanding hematomas are a surgical emergency and are accompanied with firm swelling, pain, and in some cases ecchymosis. The patient should be taken to the operating suite immediately for evacuation of the hematoma. In the case of a rapidly expanding hematoma, the surgeon should pay close attention to the patient's airway. In the case of a slow growing hematoma, often venous in nature, ballotable fluid may be palpable and ecchymosis is often seen on the overlying skin flap. This type of hematoma can be evacuated surgically or with serial needle aspirations, depending on the size, location, and propensity for recurrence. Short-term sequelae of hematomas include flap necrosis, while long-term sequelae include scarring, excessive fibrosis, and skin discoloration.[8]

Scarring

Rhytidectomy incisions are strategically placed in natural skin creases and in the postauricular area to avoid visible postoperative scars. Scarring exists on a range, from natural, well-healed incisions to hypertrophic scars and keloids. In the male rhytidectomy, the preauricular incision is often placed anterior to the tragus and can be visible between the tragus and the sideburn. Post-auricularly, the scars are hidden in the postauricular crease and along the hairline. As men often wear their hair short, the postauricular hairline scar may be more noticeable.

To decrease the risk of visible scarring, the surgeon must follow general tissue handling principles. As the rhytidectomy is completed and skin is re-draped, the skin flap should not be under tension as this will lead to hypertrophic and/or widened scars. Incisions are first placed into natural creases preauricularly. In the temporal area and the postauricular hairline, the incision is over beveled in the orientation of the hair follicles to preserve hair and to allow for the remaining hair follicles to grow through the scar in a trichophytic fashion. The postauricular incision is placed along the posterior aspect of the auricle, as this scar typically migrates into the postauricular crease with time. At the lobule, approximately 2 to 3 mm of skin is left redundant so that when the lobule is attached to the facial skin, there is a slight superior displacement of the lobule. Although bunched at first, this settles with inferior displacement of the facial skin as the patient heals.

Flap Necrosis

Flap necrosis can occur when there is insufficient vascular supply to a portion of the skin flap. Anatomically, the skin is supplied by the subdermal plexus, and the facial skin is supplied by a combination of random and axial blood supply from the facial, superficial temporal, and occipital arteries. Skin flap necrosis is seen in approximately 0.3 to 3% of the individuals but can vary widely depending on patient characteristics and surgical technique.[25] This most commonly occurs in the distal-most portions of the skin flap, such as the tragus and the postauricular area. The postauricular area is particularly susceptible as it is typically the thinnest portion of the skin flap. Vascular compromise secondary to hematoma formation can predispose to skin flap necrosis as described above. Other external factors may increase the chance of flap necrosis such as a dressing that is too tight, excessive tension on the skin flap after closure, or damage to the subdermal plexus intraoperatively. Patient factors may also contribute, such as tobacco/nicotine use, vasculopathies, and other systemic medical conditions. Tobacco use is particularly important, as this can be evaluated preoperatively and stopped prior to surgery. The senior surgeon prefers that the patient should stop the use of tobacco products 2 weeks prior to the date of surgery. Some surgeons recommend 3 to 6 months of tobacco cessation prior to surgery.[8,26] Even with adequate tobacco cessation, the risk of skin flap necrosis remains higher in the smoking patient than the nonsmoking patient.[27] Management of skin flap compromise begins with topical nitroglycerin paste applied twice daily to the area of concern, as soon as it is observed. If skin flap necrosis develops, the necrotic epidermis should be debrided conservatively while attempting to maintain the dermis. The patient should be seen frequently in the postoperative period. If significant necrosis occurs, the area should be allowed to heal in secondarily. After the scar contracts and matures, the resultant scar is often less offensive than the originally imagined. Further scar revision may be helpful.

Facial Paralysis

Facial paralysis may develop after injury to the facial nerve during rhytidectomy. In experienced hands, nerve injuries are rare and occur in 0.5 to 2.5% of the patients.[25] Injury to a branch of the facial nerve often occurs as a result of a traction injury, although direct transection of the nerve can occur as well. Careful and meticulous surgical technique and knowledge of the anatomical planes decrease these chances. The most commonly injured nerve is the marginal mandibular branch of the facial nerve, followed by the temporal and buccal branches, which are affected in 40.0, 32.7, and 12.7% of the facial nerve injuries, respectively.[28] Damage to facial nerve branches is often temporary and the timetable for return of function varies between patients, typically between 3 months and a year. Rarely, long-term paralysis may occur, which can be treated with contralateral neurotoxin injection to achieve symmetry.

Numbness

Numbness in the rhytidectomy patient can be considered both as an expected temporary postoperative finding and a complication. During dissection of the skin flap, the distal cutaneous sensory nerves are transected, and sensations of the face, neck, and ears are often lost. As a result, the patient should expect postoperative numbness for 3 to 6 months. As the patient heals, sensation should slowly return. The patient should be counseled preoperatively and reassured postoperatively.

Long-term postoperative numbness, however, is considered a complication of rhytidectomy. This is most commonly due to injury of the greater auricular nerve during dissection in the neck and can be seen in as many as 7% of the patients.[24] The

lesser occipital nerve can also be injured, although this is less frequently seen. The surgeon can avoid damage to these large caliber sensory nerves by maintaining dissection in the immediate subcutaneous plane.

Infection

Infection is infrequently encountered in the post-rhytidectomy patient due to high vascularity in the surgical bed and strict perioperative antibiotic prophylaxis. Various studies have demonstrated postoperative infection rates between 0.26 and 1.12% and vary based on rhytidectomy technique, although not significantly.[29] The senior author (DER) prefers perioperative antibiotic prophylaxis. The patient receives a single dose of intravenous antibiotic prior to the start of surgery and will receive postoperative antibiotics to cover potential skin infections. The senior author prefers Keflex 500-mg BID for 7 to 10 days for postoperative antibiotics. Postoperative antiviral prophylaxis is given if skin resurfacing or perioral grafting is performed as an adjunct to rhytidectomy. In these patients, the senior author prefers acyclovir 200 mg five times daily for 7 to 10 days.

Conclusion

Rhytidectomy can provide the male patient with a natural, refreshed, and unstretched appearance, resulting in high patient satisfaction. Proper patient selection is critical, and expectations should be established prior to surgery. The male rhytidectomy remains similar to the female rhytidectomy in technique, but various technical modifications can be made to improve cosmetic outcome. The surgeon should obey surgical principles and maintain familiarity with general head and neck anatomy to avoid complications and ensure recovery.

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Conflict of Interest
None of the authors have conflict of interest.

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