Adjunctive Techniques in Contemporary Rhytidectomy

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KEYWORDS

Rhytidectomy • Face and neck lift • Facial rejuvenation • Facial plastic surgery • Cosmetic surgery

KEY POINTS

- Facial rejuvenation surgery can produce significant results when a combination of procedures are added to rhytidectomy and performed simultaneously.
- Multiple adjunctive procedures can be performed safely.
- Proper surgical training and experience are critically important to outcomes and patient safety.
- Marketing so-called mini procedures as more safe and effective is misleading to patients.

Introduction

Patients seeking facial rejuvenation surgery often report 3 primary concerns: the desire for a natural, more youthful appearance; the hope that they do not lose their identities; and the goal of avoiding the appearance of a particular celebrity with a poor result from cosmetic surgery. They want their transformations to be safe and minimally invasive when possible, and without the traditional stigmata of surgery, including altered hairlines, noticeable scarring, ear lobe deformities, and irregular facial contours. In addition, patients hope that these improvements can be accomplished without significant postoperative downtime and discomfort.

Because of these factors and others, many manufacturers of aesthetic devices, and also some surgeons, have pursued strategies that speak to patients' concerns but offer suboptimal results. Techniques typically classified as mini facelifts and other noninvasive aesthetic procedures have become popular, but many are primarily marketing strategies to lure patients into treatments that seem less invasive but still provide good results. It is our opinion that facial rejuvenation surgery is being minimized at the expense of results and often by inadequately trained surgeons in an attempt to meet the demands of this patient population, and also to generate revenue. Welltrained facial plastic/cosmetic surgeons can achieve significant results and minimize the stigmata of surgery by performing a traditional superficial musculoaponeurotic system (SMAS) rhytidectomy approach supplemented with adjunctive techniques such as brow lifting, blepharoplasty, autologous fat transfer, chin and cheek implants, submental liposuction, CO2 or erbium

Disclosures: None.

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facial resurfacing, chemical peels, dermabrasion, Botox, and other techniques as indicated.

Of primary importance are the required surgical skill sets, along with choosing the proper placement of incisions, volume addition if needed, and skin resurfacing based on skin type and patient goals. Operative time is also important to improve patient safety and decrease the risk of complications associated with prolonged anesthesia. The adjunctive techniques listed earlier help to maximize the aesthetic result in a safe manner when performed by an experienced facial plastic/ cosmetic surgeon. Our opinion is that, although less is now being promoted to be more, it is not when speaking of facial rejuvenation surgery. This article reviews the various techniques that can, and often should, be added to rhytidectomy to obtain excellent results.

History of the facelift

Surgeons in Europe and the Americas first performed contemporary facelifting techniques in the early 1900s. Bourguet¹ and Bettman² have been credited with the first presentation of the subcutaneous rhytidectomy involving undermining of facial skin flaps and lipectomy. In 1928, Joseph³ introduced the post-tragal, preauricular incision. Advances in safety in anesthesia in the 1960s allowed more extensive procedures to be undertaken. In 1968, Skoog achieved a more prolonged lift by developing a cervicofacial flap involving the platysma and superficial fascia of the lower facial third.^{4,5}

In 1976, Mitz and Peyronie,⁶ working under Tessier, described their discovery of the SMAS. This landmark article confirmed the existence of a fascial layer investing the muscles of facial expression, distinct from the underlying parotidomasseteric fascia. The SMAS was noted to lie in a tissue plane contiguous with the platysma of the neck and the temporoparietal fascia of the scalp. Fibrous adhesions from this layer to the overlying subcutaneous fat and skin thus allowed the manipulation of the SMAS to effect changes in the skin.⁶ The SMAS rhytidectomy soon became, and has remained, the preferred technique by most facial aesthetic surgeons.

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Contributions from accomplished facial plastic surgeons Jack Anderson and E. Gaylon McCollough recently shaped the authors' current understanding and practice of facial rejuvenation surgery. Many of the techniques described here can be attributed to the direct teaching and observation of both of these surgeons.

Surgical anatomy of the face

SMAS

The SMAS is a fibromuscular layer investing the muscles of facial expression.

The SMAS concept was introduced by Tessier but was later defined by Mitz and Peyronie⁶ in 1976. The characteristics used by Tessier and his students to describe the SMAS include the following:

- The SMAS divides the subcutaneous fat into 2 layers
- Fibrous septae extend from the dermis to the SMAS
- Fat lies between the deep facial muscles and the SMAS
- Larger vessels and nerves lie deep to the SMAS, smaller branches perforate it, and the subdermal plexus is superficial to it
- The network of the SMAS may act as a distributor of force for the various facial musculature
- The SMAS lies superficial to the parotid fascia (Fig. 1)

The SMAS below the zygoma corresponds with the superficial fascia and is superficial to the parotid fascia. Jost and Levet⁷ described cadaver and clinical studies to support their opinion that the SMAS layer in the cheek includes the parotid fascia. They think that the parotid fascia, as a remnant of the primitive platysma, represents the structurally important layer of the SMAS in this area. They describe it as being contiguous with the platysma below and extending to the zygoma above.

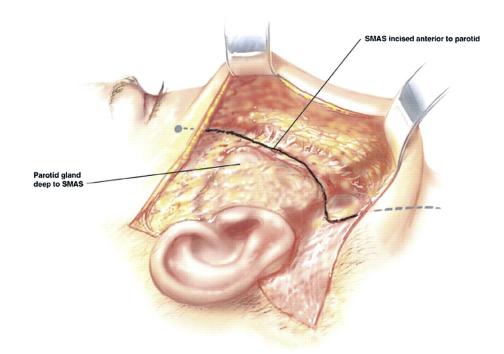
Wasset⁸ published a study based on anatomic dissections that revealed the parotid fascia to be essentially the same as the SMAS, and that the platysma muscle, parotid fascia, and fibromuscular layer in the anterior cheek represent the same layer. Wasset⁸ also states that the superficial layer of the orbicularis oris muscle, where the dermis is directly attached to the underlying muscular tissues, represents the SMAS.

In the midface, the fibromuscular SMAS extends from the parotid and envelops the facial muscle. Because of this firm attachment to the zygomatic major muscle, and its bony attachments, posterior tension on the SMAS cannot significantly affect the contour of the cheek anterior to this level.

The SMAS above the zygoma is a more substantial layer than the fragile fibrous network seen in the midface. There is a discontinuity of the SMAS at the level of the zygoma because of attachments of the various fascial layers at the zygomatic arch. In the temporal region, the SMAS, the superficial temporal fascia, and the temporoparietal fascia are synonymous.⁹

There are important regional variations in the relationship of the SMAS to neurovascular structures. In the lower face, the facial nerve branches are always deep to the SMAS and innervate the facial muscles on their undersurface. The vessels and sensory nerves in the lower face similarly arise deep to the SMAS and remain at that level, except for their terminal branches. These structures are protected if dissection is superficial to the SMAS in the lower face. In the midface, the facial nerve branches are protected if the dissection is superficial to the muscles of facial expression.⁹

In the temporal area, the temporal (frontal) branch of the facial nerve emerges from within the parotid gland just inferior to the caudal border of the zygomatic arch. At the arch level, it closely approximates the periosteum and lies deep to the temporalis fascia. Once the nerve has crossed the arch, it emerges from the deeper fascia and lies within the fatty tissue on the deep surface of the temporoparietal fascia until it enters the undersurface of the frontalis muscle.⁹



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