

Chapter 61

Secondary Rhytidoplasty



**Paulo Roberto Becker-Amaral, Ronaldo Webster,
and Leonardo Milanese Possamai**

61.1 Introduction

Facial esthetic surgery remains one of the more challenging procedures in plastic surgery. Unavoidably, despite technically perfect surgery, time and the patient's conditions affect the longevity of results. What seems to be acceptable in the eyes of the surgeon may not be so for the patient. After a primary facelift, the surgeon can correct several aspects of facial senescence. Muscular malpositioning, skin laxity, the shape of the orbit and eyes, mandibular contours, facial volume, and skin quality are commonly addressed via surgery.

After facelifting, any edema is gradually absorbed, but some facial volume is lost despite reconstitution (today, principally with fat). Over time, peri-orbicular wrinkles develop around the mouth and eyes, the cervical area and jowls become lax, and frontal creases begin to re-appear. Patients, seeking to prolong the longevity of earlier results, now request “maintenance” care that often includes minimally invasive procedures. All of botulinum toxin, fillers, collagen stimulators, suspension sutures, ablative and non-ablative laser treatments, and radiofrequency treatment can be used. However, as more time passes and the maintenance protocols fail to

P. R. Becker-Amaral (✉)

Serviço de Cirurgia Plástica da Santa Casa de Porto Alegre, Porto Alegre, Brazil

Brazilian Society of Plastic Surgery, São Paulo, Brazil

International Society of Aesthetic Plastic Surgery, Hanover, NH, USA

R. Webster

Brazilian Society of Plastic Surgery, São Paulo, Brazil

Universidade Federal de Ciências da Saúde de Porto Alegre, Porto Alegre, Brazil

American Society of Plastic Surgery, Arlington Heights, IL, USA

L. M. Possamai

Universidade Federal de Ciências da Saúde de Porto Alegre, Porto Alegre, Brazil

satisfy the patient, she/he will approach the surgeon once more. An accurate history of the primary facelift, psychological assessment, and a review of the maintenance protocols used prior to possible surgery are essential. The secondary facelift patient may be at increased anesthetic risk, because of new clinical diseases. These clinical problems may include hypertension, coronary disease, and diabetes. After comprehensive clinical evaluation, the surgical planning of the secondary facelift must feature alternative choices made by reference to the previous facelift and/or adjunct procedures.

Often, a false skin excess is evident. Previous scarring caused by subcutaneous and superficial muscular aponeurotic system (SMAS) tissue dissection may limit the amount of skin available for resection. Past surgical interventions are often associated with surgical deformities, scar malpositioning, hypertrophy, or keloids. The earlobe may be deformed, may be a “pixie ear,” or may be hypertrophic [19]. Pre-auricular hair can be absent or cranially displaced. Platysmal bands may have reappeared. The peri-orbit can be altered or constricted. The submandibular glands may be evident. Small motor asymmetries may be noted, sometimes associated with neural trauma caused by prior surgery. Each of these problems must be faced to obtain a surgical outcome that the patient and doctor consider natural. Sometimes, the surgeon is asked to perform a small “touch-up” of the prior procedure. Quite often, this is a trap; some of the issues described above will render the outcome unsatisfactory from the patient’s viewpoint. The following tactics can be generally used when considering a secondary facelift.

61.2 Methods

61.2.1 Clinical Evaluation and Anesthesia

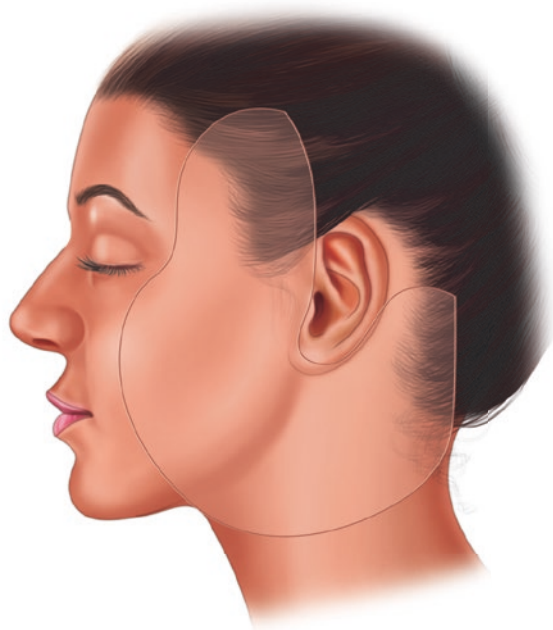
Careful clinical evaluation is essential prior to surgery. Good perioperative anesthesia management is critical to prevent the development of complications during rhytidectomy, regardless of the surgical setting. Thus, the surgeon and his/her staff and the anesthesiologist must communicate during all phases of surgery. The surgeon must understand the benefits and risks of various anesthetic methods and medications and their interactions. If psychological and anatomical considerations permit, local anesthesia plus sedation can be used. A combination of lidocaine/adrenaline and/or ropivacaine diluted in 0.9% (w/v) saline is routinely infiltrated prior to incision and undermining, depending on clinical safety. Tumescence magnifies spaces and improves safety when undermining previously dissected areas. Vigilant hemodynamic control is imperative, including strict monitoring of oxygen saturation, blood pressure, and heart and respiratory rates. It’s important to keep the patient in a proper temperature. Blood pressure control is of utmost importance [6]. Poorly controlled hypertension can be associated with perioperative bleeding and hematoma formation. Patients with a history of hypertension should establish appropriate

blood pressure control preoperatively with the assistance of their primary care physicians [3, 9]. In our practice, intraoperative blood pressure is held in the low-to-normal range to minimize bleeding. However, extreme hypotension must be avoided because this can mask perforators that may bleed postoperatively when the blood pressure returns to normal or if rebound hypertension develops. In addition, tachycardia and hypertension are attributable primarily to pain and anxiety in awake patients. These should be treated appropriately after hypovolemia, anemia, and acidosis have been ruled out. The rhytidectomy patient is unique in that blood pressure should be strictly controlled to minimize subcutaneous bleeding and hematoma formation [4]. As blood pressure is influenced by patient anxiety, pain, nausea, and vomiting, effective control and prevention of these symptoms is recommended. Thus, a safe and effective anesthesia protocol is vital, as well as an attentive care routine in the recovery room [12].

61.2.2 Incisions and Skin Undermining

Precapillary incisions permit the establishment of vertical traction vectors without disrupting the hairline, which has often been altered by previous procedures (Fig. 61.1). A retrotragal incision can be used to minimize the visible length of the

Fig. 61.1 Incisions and skin undermining in the secondary facelift



scar in front of the ear. The gradual skin tone gradient from the malar to the tragal area is preserved; the surgical marks are inconspicuous. In males, this approach is possible if beard follicles can be eliminated from the tragal area via direct ablation without damaging the vascularization; otherwise, a pretragal approach can be safely employed. An incision of 3 cm, parallel and just behind the submental groove, is done to allow procedures in the neck.

61.2.3 Facial and Neck Skin Undermining

Extension of skin undermining proceeds as required, with integration of the lateral facial detachment within the anterior cervical area (if necessary). Also, this is the required first step in SMAS redraping if laxity must be treated. Excessive undermining can cause swelling and vascular compromise of the skin flap. During secondary facelifting, the false skin excess must not be overlooked. Limited undermining can be performed in selected patients with minimal skin laxity and a wide, malar facial width; advancing the medial SMAS laterally may not be necessary. In contrast, narrow faces requiring volume recruitment upward to the zygomatic area must undergo extended skin undermining. Also, faces exhibiting skin redundancy medial to the lateral canthus, inferior jowling, or pronounced marionette lines, and those exhibiting massive weight loss, usually require extensive skin undermining [7, 17].

61.2.4 The SMAS Approach

Narrow faces requiring volume recruitment undergo SMAS-stacking plication; wider fuller faces are treated via SMASectomy [3]. When excess volume is preoperatively evident, a SMAS strip is carefully excised perpendicular to the vector of SMAS advancement, often obliquely at the junction of the static and mobile SMAS. When a vertical vector is preferred, this strip is excised more horizontally and then advanced. Pinpoint sutures can be used to imbricate the SMAS in areas exhibiting fullness or irregularities [17].

61.2.5 Open Treatment of the Neck

The platysma, fat, and neck skin are often addressed during primary facial rejuvenation, but any issues with these elements are prone to early recurrence and the development of deformities (Fig. 61.2). Platysmaplasty can be revisited in several ways.

Fig. 61.2 The plication of the platysma muscle and of the medial portion of the digastric muscles (Labbé's corset), as well as the plication of the SMAS or SMASectomy (Baker) attenuates laxity, and improves the cervicofacial contour



Corset or simple sutures can be placed, with or without inferior sectioning. The lateral, platysmal window technique is sometimes useful [15]. Digastric corset suturing, combined with cervical, suspensory ligament reconstruction (as described by Labbé et al.), is available if needed [8]. The submandibular glands can be approached if they are hypertrophic or displaced. Natural aging may still occur, but the platysmal bands and cervical contours are improved using this approach. In addition, extensive skin undermining permits even redraping. Fat issues are addressed via “superwet” injections, sharp excisions, or open liposuction, the precision of which is improved on visualization of the supraplatysmal and subplatysmal fat [2]. Today, patients with even faint platysmal bands may undergo combination neck skin undermining, fat excision/suction, and submental and lateral platysma-plasty [14, 15].

61.2.6 Traction of the Skin

The skin traction is vertical and soft and delicate, and the skin resection is ever moderate, to achieve a natural result.

61.2.7 Volumization

The fat injection into facially deflated areas constituted a major breakthrough in facelifting. Prior to the introduction of this technique, residual hollowing of the midface and deep nasolabial grooves was occasionally observed. As our understanding of facial fat compartments evolved, so did the technique of fat augmentation, which addresses (principally) issues with the deep malar fat pad and the nasolabial region [18]. Treatment of the latter region creates youthful malar highlights that SMAS alone often cannot achieve. The oral commissure and marionette areas are also often augmented; this is becoming a routine form of facial rejuvenation. Fat is injected via 1-mL syringes deep along the periosteum of the midface, in a layered manner. This is often integrated with lower and upper eyelid surgery. Frontal and temporal areas of resorption can also be fat-grafted.

61.2.8 Use of Lasers and Peel Resurfacing During a Secondary Facelifting

Laser and chemical peels are useful adjuncts when rejuvenating the aging face. Selective application in problem regions such as the perioral and periorbital areas minimizes postoperative discomfort and improves the skin contours. Superficial-to-moderate facial wrinkles are treated with a combination of Jessner solution and 35% (v/v) trichloroacetic acid. Lasers can also be applied in problem areas; carbon dioxide lasers are very effective in the midface region, especially the oral and orbital peri-orbicular areas [19] (Figs. 61.3, 61.4, and 61.5).

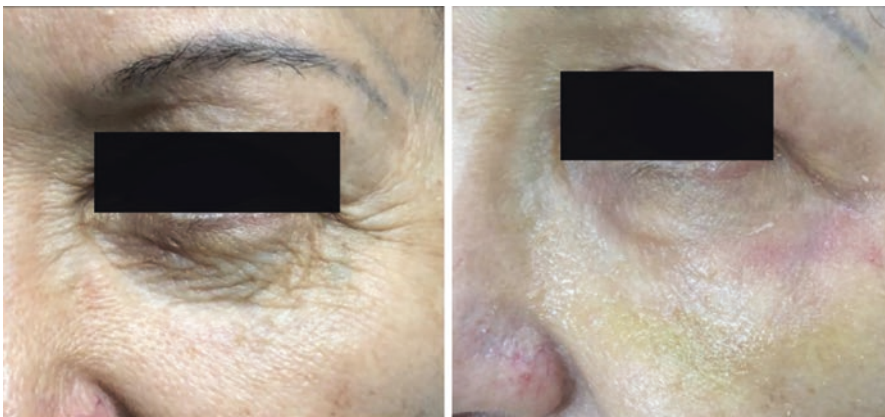


Fig. 61.3 CO₂ laser and fat grafting



Fig. 61.4 CO₂ laser



Fig. 61.5 Secondary facelift and chemical peel with Jessner solution and 35% trichloroacetic acid

61.2.9 Peri-auricular Areas and the Scalp: Scar Visibility, Brow Position, and the Earlobe

Excessive tension caused by lack of planning and/or the false skin excess must be avoided. Precapillary incisions can be employed to maintain the position of hair in the pre- and postauricular areas. A pinpoint approach to the brow, as proposed by Castañares et al., can be performed in selected cases [20]. Videoendoscopic or subcutaneous dissection can also be used, depending on the patient's history. During the postoperative period, caudal extension of the earlobe secondary to traction

applied by the submandibular tissues can occur. Such an earlobe, often termed a “pixie ear,” is unnatural, and patients often request repair. The issue can be avoided in the first place by paying careful attention to the skin traction vectors and relieving tension during skin closure in this area [10].

61.2.10 Case Reports

61.2.10.1 Case 1 (Figs. 61.6 and 61.7)

61.2.10.2 Case 2 (Fig. 61.8)



Fig. 61.6 A 55-year-old female patient. Secondary facelift with extended cervicoplasty, digastric corset, SMG partial resection, and Auersvald’s net

Fig. 61.7 Auersvald's net in an isolated neck procedure. Can be used in a full-face undermining



Fig. 61.8 A 56-year-old female patient. Superior and inferior blepharoplasty with micro- and nano-fat grafting (20 ml). Extended cervicoplasty, digastric corset, corset platysmaplasty, lateral platysmal window, submandibular gland plication in the posterior portion of digastric muscle, and Auersvald's net. Chemical peel with Jessner solution and 35% trichloroacetic acid

61.3 Complications

The complication rate of secondary rhytidectomy is similar to that of primary rhytidoplasty [5, 11]. Although rare, complications that we have encountered include skin sloughing, infection, and hematoma [16]. To overcome irregularities and reduce bleeding, Auersvald's net is very valuable, improving the final results [1] and virtually eliminating the occurrence of postoperative hematomas. Esthetic deformities include persistent neck banding, fat malpositioning or irregularities (particularly in the submental area), and persistent jowling [13]. Furthermore, neck opening has become increasingly common, greatly improving the esthetic appearance. Rarely, patients develop severe, recurrent platysmal bands. Persistent jowling is a function of patient selection and age; younger patients maintain much better long-term results.

61.4 Conclusions

Secondary facelifts must be performed only on carefully selected patients. The better the facial proportions (thus, the closer the face to the esthetic ideal), the better the results in terms of both duration and appeal. Fat grafting during secondary facelifting is indispensable. Skin resurfacing with lasers and trichloroacetic acid peeling can improve overall appearance. Full necks must be treated carefully to ensure the desired outcomes. Neck opening affords lasting benefits. Endoscopic and limited temporal brow lifts are now the mainstream practices. These more limited approaches yield natural results with minimal morbidity.

Acknowledgments Illustrations – Paulo Pereira de Souza Favali, MD

The English in this document has been checked by at least two professional editors, both native speakers of English. For a certificate, please see <http://www.textcheck.com/certificate/4JU0zH>

References

1. Auersvald A. Hemostatic net in rhytidoplasty: an efficient and safe method for preventing hematoma in 405 consecutive patients. *Aesthet Plast Surg.* 2014;38(1):8.
2. Auersvald A, Uebel O. Subplatysmal necklift: a retrospective analysis of 504 patients. *Aesthet Plast Surg.* 2017;37(1):10.
3. Baker DC, Stefani WA, Chiu ES. Reducing the incidence of hematoma requiring surgical evacuation following male rhytidectomy: a 30-year review of 985 cases. *Plast Reconstr Surg.* 2005;116:1973.
4. Berner RE, Morain WD, Noe JM. Postoperative hypertension as an etiological factor in hematoma after rhytidectomy: prevention with chlorpromazine. *Plast Reconstr Surg.* 1976;57:314.
5. Funk E, Adamson PA. A comparison of primary and secondary rhytidectomy results. *Aesthet Plast Surg.* 2011;35:96.

6. Grover R, Jones B, Waterhouse N. The prevention of haematoma following rhytidectomy: a review of 1078 consecutive facelifts. *Br J Plast Surg.* 2001;54:481.
7. Hatef DA, Sclafani AP. Secondary rhytidectomy. *Semin Plast Surg.* 2009;23(4):257.
8. Labbé D, Kaluzinski E. Submental area rejuvenation by digastric corset: anatomical study and clinical application in 20 cases. *Aesthet Plast Surg.* 2013;37(2):9.
9. Maricevich MA, Adair MJ, Maricevich RL, et al. Facelift complications related to median and peak blood pressure evaluation. *Aesthet Plast Surg.* 2014;38:641.
10. Marlen S, Constantin S, Georgii S. How to avoid earlobe deformation in face lift. *Aesthet Plast Surg.* 2015;39(4):483.
11. Matarasso A, Wallach SG, Difrancesco L, et al. Age based comparisons of patients undergoing secondary rhytidectomy. *Aesthet Surg J.* 2002;22:526.
12. Matchett RM, Caraway JH. Anesthesia and aesthetic surgery. *Aesthet Surg J.* 1998;18:3.
13. Narasimhan K, Ramanadham S, O'Reilly E, et al. Secondary neck lift and the importance of midline platysmaplasty: review of 101 cases. *Plast Reconstr Surg.* 2016;137(4):667.
14. Narasimhan K, Stuzin JM, Rohrich RJ. Five-step neck lift: integrating anatomy with clinical practice to optimize results. *Plast Reconstr Surg.* 2013;132(2):339.
15. Pezeshk RA, Rohrich RJ. Neck rejuvenation through the lateral platysma window: a key component of face-lift surgery. *Plast Reconstr Surg.* 2017;139(4):1.
16. Rasko Y, Evan B, Rohrich R. Secondary rhytidectomy: comprehensive review and current concepts. *Plast Reconstr Surg.* 2012;30:1370.
17. Rohrich RJ, Lemmon JA, Brown SA. The individualized component face lift: developing a systematic approach to facial rejuvenation. *Plast Reconstr Surg.* 2009;123:13.
18. Rohrich RJ. The fat compartments of the face: anatomy and clinical implications for cosmetic surgery. *Plast Reconstr Surg.* 2007;119:8.
19. Schwartz RJ, Rohrich RJ, Barton FE, et al. Long-term assessment of CO₂ facial laser resurfacing: aesthetic results and complications. *Plast Reconstr Surg.* 1999;103:3.
20. Schrudde J, Petrovici VE. Forehead wrinkles, glabellar frown and ptosis of the eyebrows. *Plast Reconstr Surg.* 1964;34:7.