Endoscopic Subperiosteal Midface Lift


In 1998 my colleague and I described my endoscopic malar/midface suspension procedure and reported on our first 200 procedures.1 We arbitrarily designated the midface as the area between the midhorizontal orbit and the inferior mandibular margin. Aging changes in this area include malar tissue ptosis, infraorbital hollowing, nasolabial and mandibular labial fold deepening, and increased jowling.

Initially, I favored the supraperiosteal dissection level. In 1996 I adopted the subperiosteal level because it is safer, easier to teach, and easier to work with, especially for fellow surgeons less experienced with endoscopy. The subperiosteal dissection plane also eliminates suture indentations and skin tension irregularities associated with the more superficial plane.

Endoscopic subperiosteal suspension accomplishes upper and midface improvement with hidden or invisible incisions. Although this procedure may be performed alone, I now combine it with a traditional face/neck lift in about 70% of our patients. This procedure corrects upper and midface deformities, but it does not adequately correct jowl and neck problems.

Here, I will emphasize changes in my technique. For details on patient selection, midface anatomy, and surgical technique, the reader may refer to our 1998 publication.1

Technique

My procedure uses 2 approaches: gingival buccal sulcus and temporal (Figure 1). I begin with a gingival buccal sulcus approach, which allows subperiosteal dissection over the maxilla face, and laterally over the zygoma. I make sure to remain under the periosteum, especially along the infraorbital rim and laterally at the zygomatic arch, and to visualize and preserve the zygomaticofacial nerve. Multiple rami of the temporal branch of the facial nerve cross the zygomatic arch in the middle third, and subperiosteal dissection is essential to avoid nerve injury in that area.2

One change in my technique is to include a more complete and extensive subperiosteal elevation. I do not believe that an optimal superior lift can be achieved without a complete subperiosteal release. From below, I endoscopically release the inferior arcus marginalis both medial and lateral to the infraorbital nerve. I then incise the inferior orbital septum and advance excess orbital fat out and over the infraorbital rim when indicated. This advancement provides improvement of the deficient infraorbital area and nasojugal (tear trough) region.

If necessary, I place additional fat grafts at the subperiosteal tear trough. Fat may be harvested from the upper eyelid, the buccal fat pad, or submental fat, and stabilized with sutures. Although I have mobilized and suspended Bichat’s fat pad, as described,3 I do so rarely because I believe that buccal fat reduction is indicated in selected round-faced patients only. After closing the gingival buccal incisions with two 3-0 chromic sutures, I begin the temporal approach.

I make several small 2-cm endoscopic access incisions on each side of the temporal hair and dissect along the deep temporal fascia carrying the dissection to the superior orbital margin. I enter the subperiosteal level along the
**Figure 1.** Suspension vectors for endoscopic subperiosteal midface lift. SOOF, suborbicularis oculi fat.

**Figure 2.** Approaches, incisions, and pertinent midface anatomy for endoscopic subperiosteal midface lift.
lateral orbital rim and carry the dissection inferiorly along the rim allowing a safe entrance into the lower subperiosteal pocket with minimal risk to the temporal branches of the facial nerve, which cross the middle third of the zygomatic arch. I then expand the dissection laterally along the zygomatic arch to achieve a complete release for midface tissue elevation. Lateral subperiosteal elevation is necessary along the arch to avoid temporal branch nerve trauma.

Endoscopic visualization allows a safe and complete tissue release. In contrast, blunt finger or blind scissor dissection results in a limited release. I accomplish my midface suspension with endoscopic suture placement from above (Figure 2). If these sutures are placed endoscopically and into the periosteal layer there is no danger to facial nerve branches in this area. You may place the midface suspension sutures from below and then later pass those sutures superiorly if you are not adept and comfortable with the endoscopic placement from above. I prefer two 3-0 Monocryl sutures (Ethicon Inc., Somerville, NJ) and one 4-0 Mersilene suture (Ethicon Inc., Somerville, NJ) for each midface suspension. These sutures are secured to the deep temporal fascia and periosteum at the superior access incisions.

I perform a similar subperiosteal suspension at the lateral brow, using Monocryl suspension sutures placed endoscopically into the completely released brow periosteum and superficially enough to avoid any temporal nerve branch contact. These sutures are then secured to the periosteum superior to the access incision above. (I abandoned the screw and bone tunnel fixation methods several years ago.)
Results

The 5- to 7-year results, including more than 550 endoscopic upper and midface suspension procedures, performed alone or in combination with face and neck lift, are definitely superior to results achieved with my previous standard face/neck lift and transcoronal forehead techniques. Patient surveys on this surgery are more than 90% positive, and postoperative results show impressive improvements both short-term and long-term, about 5 to 7 years (Figures 3 to 5).

I am also pleased and reassured to see increasing numbers of experienced aesthetic surgeons describing similar midface suspension techniques and results.3-8 Many of these experts have abandoned the eyelid incision approach, as I did 6 years ago. The advantages of endoscopic-assisted surgery include better visualization of important structures, a more complete tissue release, smaller incisions, “invisible” scars, and less postoperative edema.

This technique is also more precise, more interesting, and, it is hoped, more enjoyable for the surgeon. Disadvantages of endoscopic techniques include equipment costs and the need for proficiency in endoscopic surgical skills.

References


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