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The Suture-Suspension Neck Lift

This advanced technique, when done properly, results in high patient satisfaction

by George John Bitar, MD, and Vincent C. Giampapa, MD

Several techniques for performing neck lifts are described in the literature.[1,2] In last month's issue of *Plastic Surgery Products*, an algorithm was presented for deciding which procedure to recommend to the patient who wants neck rejuvenation: liposuction, a suture-suspension neck lift, or both.[3]

Now, we are going a step further and will discuss the subtle nuances of neck lifts from the initial consultation to fine surgical details that can make the difference between a happy patient and an unhappy one. We will concentrate on a specific neck-lift procedure: the suture-suspension neck lift with fibrin sealant.[4]

Preparing the Patient

The initial consultation is the cornerstone of an excellent physician–patient relationship. Expectations are set, and realistic goals are carefully delineated. It is essential to explain what a neck lift is (it's still commonly called a "chin lift") and what it can accomplish for the patient.

Usually, a patient comes in because she caught a glimpse of her profile in a photograph or was told by a friend that her neck was sagging. She wants to improve her neck, but she does not want a full facelift. The indication for a suture-suspension neck lift, in general, is a poorly defined cervicomental angle and mandibular border, which are common manifestations of the neck that result from aging or weight gain.

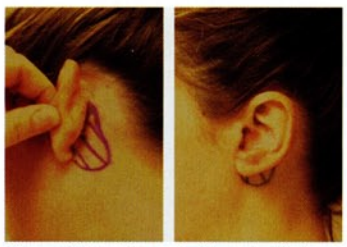


Figure 1: The skin marked is excised during a neck-lift procedure, leaving hidden scars and an improved neckline contour.

The surgeon who will be performing the operation—not an assistant or nurse—should describe the procedure in comparison to a facelift. We suggest a verbal description of where the incisions would be—behind the ear, in the postauricular sulcus, and under the chin in the submental area—as well as the variance in the quality of the scars and possible "southward" migration. It is also important to discuss the amount of skin resected, the suture-suspension technique with permanent sutures, and the purpose of the fibrin sealant.

Stress how a neck lift differs from a facelift. Both will theoretically rejuvenate the neck. However, a facelift will improve the mandibular border, the labiomandibular region, and the midface, whereas a neck lift will not. We ask the patient to sit in front of a mirror, and, with a long cotton swab, press against the neckline to show the depth of the cervicomental angle and the amount of realistic improvement a neck lift will yield. Then, we pull on the neck skin posteriorly with both hands to show the anterior effect of a neck lift.

Immediately after that, we pull on the facial skin and neck skin posteriorly to show what a facelift would accomplish. This may seem like a trivial exercise, but it establishes the difference between the procedures in the patient's mind and makes it less likely for her to confuse the results expected from each one.

This is also a good opportunity to stress to the patient that the neck laxity will be significantly improved, but it is not going to be 100% better. If the patient has severe neck laxity, it is important to tell her that if she chooses to have a neck lift rather than a facelift, she may need to resect more skin in a future revision or touch-up procedure.

Discussing the Complications

There is a fine line between being realistic with a patient and making her afraid to have the surgery. Honesty is always the best policy. It is very important to discuss in detail the risks of a neck lift and compare them to those of a facelift. We discuss the risks of hematoma, seroma, skin necrosis, unsightly scars, nerve damage, discomfort

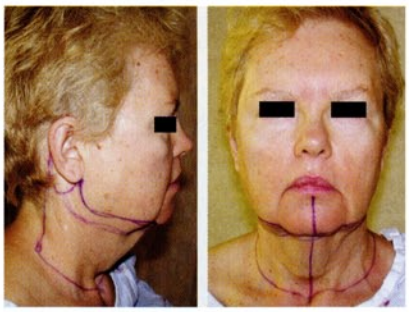
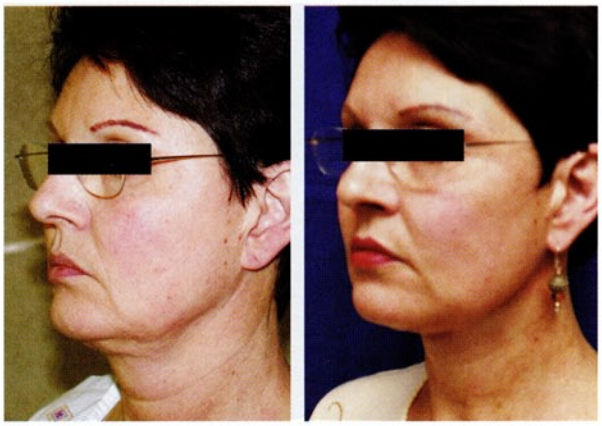


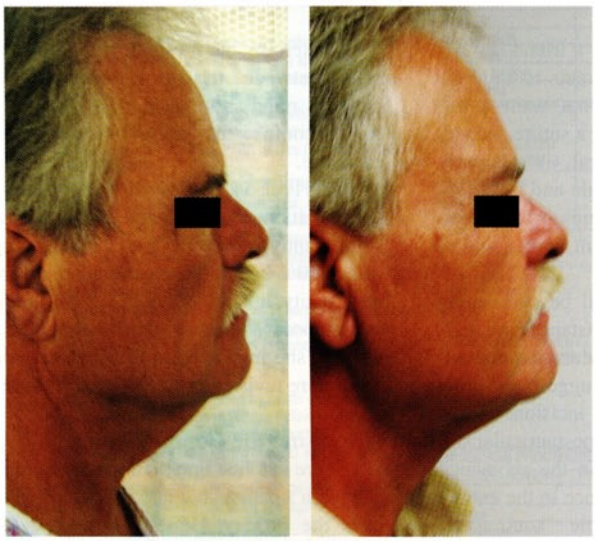
Figure 2: In a neck with severe laxity, the markings show the extent of liposuction. The jowls and the inferior aspect of the neck should be addressed with caution. The markings behind the ear delineate the only segment of skin that is excised.

Before & After



A 58-year-old woman is shown before and 1 year after a suture-suspension neck lift that moderately improved the jowls.

Before & After



A 63-year-old man is shown before and 1 year after a suture-suspension neck lift. He elected to have a neck lift instead of a full facelift with neckline improvement.

from neck tightness, asymmetry and other unsatisfactory results, and the potential for revision surgery.

It is also a good idea to involve the patient in her care. It makes her an active participant and enables her to identify a complication and alert the surgeon to treat it in a timely fashion. It is more effective to explain to a patient why smoking increases the complication rate than to tell her to quit smoking before the surgery. Postoperatively, smokers may develop postauricular skin ischemia or necrosis where the skin is under the most tension, so delaying surgery until the patient is smoke-free for at least 2 weeks may help decrease the complication rate.

Refinements in Surgical Techniques

Planning the surgery. A neck lift can be a fairly straightforward procedure with few, if any, complications, but attention to detail is critical. The first step is to draw the markings correctly (Figures 1 and 2, page 31). The amount of skin to be excised behind the ear is very important. If too much skin is excised, it is difficult to close the incisions without placing the neck under significant tension. If not enough is excised, the neck laxity will not be fully corrected. It is best to err on the side of excising less skin initially, and, at the time of closure, to resect more skin if necessary.

Liposuction. The amount of fat to be liposuctioned varies by individual. There is a tendency to liposuction every neck. If a neck has a paucity of fat, liposuction can do more harm than good by making the skin irregular, as well as make the patient look unattractive and skeletonized. Equally important is to not suction the lateral base of the neck. It is usually unnecessary, and it may increase the risk of hematoma in an area where the adipose layer is thin and the skin adheres to the underlying sternocleidomastoid muscle.

A 3-mm or 4-mm spatulated cannula can give good results in terms of ease of liposuction and contour regularity. To improve the mandibular border and decrease the amount of jowling, it is important to liposuction both above and below the mandibular border, leaving a strip of subcutaneous fat along the bony mandibular border for highlighting the border itself. This maneuver will accentuate the angle and create an esthetically pleasing, strong jawline—this is an especially desirable result in men. We have not had any clinically significant injuries to the marginal mandibular nerve with this technique.

Platysma management. Managing the platysma may be the most technically challenging aspect of a neck lift. A few key points are worth discussing when addressing the platysma.

It is important to suture the platysma midline edges with buried permanent sutures. If absorbable sutures are used, the tension can allow the muscles to spread apart when they dissolve and loosen the tightening effect that the midline sutures have created to narrow the neck width.

When suturing the two medial edges of the platysma, the suture "bites" should not be taken too far apart. If they are, the platysma will bunch up at the midline, creating an undesirable ridge that patients will feel and be dissatisfied with afterward.

It is important to tie the artificial ligament-like suture suspension firmly, but not too tightly, to avoid making the patient uncomfortable. Finally, it is important to bury the suture knots in the postauricular region with overlying absorbable sutures at a point where the two ends of the suture suspension are tied to the mastoid fascia to form the artificial sling. Failing to bury the sutures will create two masses behind the patient's ears that will cause her concern or irritation, or will erode through the skin.

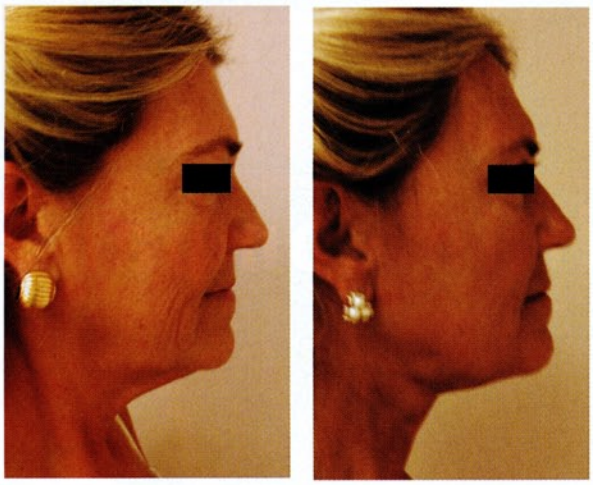
Sealing the incisions. At closure, the surgeon should inspect the

The Male Neck Lift

The suture-suspension technique is an excellent rejuvenation tool for male patients who are interested in treating only their necks, and not the whole face. Men find this technique appealing because the incisions are hidden behind the ears. Several factors make a neck lift more challenging in men than in women:

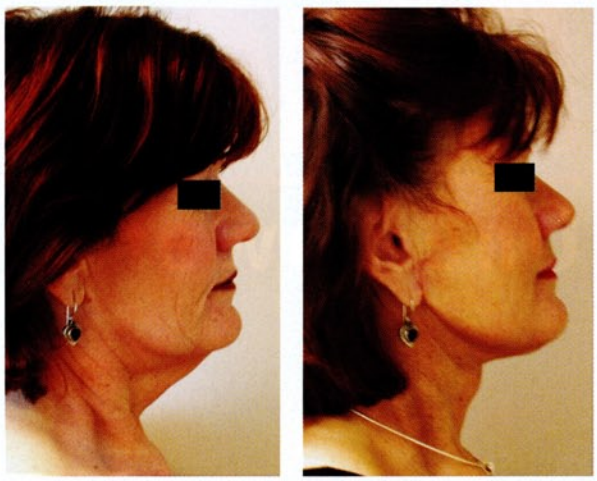
- The neck area has a richer blood supply in men than in women because of the blood flow to the hair follicles. Therefore, good hemostasis should be obtained by electrocautery before closure.
- The interlocking suture suspension should be 0, as opposed to 3-0 for women.
- Men must be counseled not to shave their necks for a couple of weeks after surgery to avoid injury to the numbed neck flaps.
- Men must be counseled to rest after surgery to avoid early complications. Men tend to become impatient after surgery and want to return to high-energy activities prematurely.

Before & After



This 56-year-old woman showed considerable improvement with a neck lift and fat grafting to the labiomandibular area. She is shown before and 1 year after surgery.

Before & After



This 53-year-old bariatric surgery patient, who had only moderate cheek laxity and jowling, is shown before and 1 year after an extended suture-suspension neck lift. A facelift was not necessary to provide significant enhancement.

lateral aspects of the neck dissection and ensure that hemostasis is complete. Next, fibrin sealant is applied to decrease edema, promote hemostasis, eliminate dead space, and prevent hematoma or seroma formation. The sealant is applied by spraying a mist of fibrinogen and thrombin simultaneously from separate syringes—the materials combine to form fibrin. The amount recommended is 2–3 mL in each syringe.

Sealant spraying should be accomplished in 1 minute or less, and the neck should be massaged to spread the fibrin evenly. Gentle manual pressure should be applied evenly with the surgeon's fingers spread over the whole neck for 3 minutes to prevent pooling of the fibrin sealant in any one area, and thus possibly necrosis of the overlying skin. It is not advisable to spray more than the recommended amount of fibrin precursors because overspraying is more likely to form pools.

More Than the Neck

We frequently encounter a patient who would like to have additional procedures along with her neck lift. If the patient's expectations are managed appropriately, doing an additional procedure or two with a neck lift can produce excellent results. Some frequently requested procedures are:

- **A chin implant** can provide a prominent chin projection and enhance a jawline. It also helps keep the skin from becoming redundant in the submental area. Because the submental incision is already made for the neck lift, it is very easy to insert an allopathic chin implant through the same incision.
- **Fat grafting** as a filler for the deficient areas in the face such as cheeks, nasolabial folds, labiomandibular folds, mandibular angle, and lips may enhance the results and create an effect similar to a facelift.
- **Submandibular gland** management is important, especially in very heavy necks in older patients, in whom the submandibular gland contour will only become apparent after the neck lift. To address the ptotic submandibular gland, we recommend a presurgical discussion with the patient to explain that the neckline may never be perfect due to submandibular gland prominence. In the operating room, one or two suture suspensions can be placed about 0.5 cm apart on each side of the submandibular gland. The sutures are then tightened to create a "hammock effect," thus tucking the gland into a more cephalic position.

Dressing Placement

No surgery is over until the dressings are placed. We advise the surgeon to place the dressings himself or herself because of the importance of this step. We prefer to cover the neck with paper tape and then cover the head with bandages, ABD pads, and wraps for 24 hours.

It is very important not to make the dressings too tight; otherwise, there might be ensuing necrosis of the submental region where the skin has been undermined. One should be able to place two fingers comfortably between the dressings and the skin at the conclusion of the procedure.

There are many techniques for neck rejuvenation. We have discussed one technique in detail that we think is simple and reproducible, and yields good results. The key to any happy outcome is good communication with the patient and the management of expectations. The technical points that we have discussed should serve to help surgeons who perform suture-suspension neck lifts achieve consistently good results and patient satisfaction. PSP

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