



## Cosmetic Lower Face and Neck Lift with Local and Tumescent Anesthesia

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### Background

Much has been written about lower face and neck lifting with regard to surgical technique [1-6]. Specifically, volumes can be found about differences between SMAS dissection versus skin only versus SMAS plication. Very little, however, has been written about the specific anesthetic used for lower face and neck lift specifically as it relates to postoperative complications. The objective in this study was to look at a series of 250 patients who underwent lower face and neck lifting with local anesthetic only. The methods used were to look at the results, both subjective and objective, of 250 consecutive lower face and neck lifts completed under only local anesthesia using both low concentration lidocaine as well as facial tumescence. The resulting complication rates, as well as patient satisfaction rates, were observed. The conclusions of the study were that the patient satisfaction rate and patient tolerance rate were all extremely high as measured by routine postop patient questionnaires 6 months post-operative. Additionally, the complication rate was extremely low in this series of 250 patients. Given the success rate for this technique, more physicians should consider this safer approach for a lower face and neck lift, which can frequently be delivered at a lower cost to the patients.

### Methods

Between 2011-2014 the senior author performed 250 lower face and neck lifts under local anesthesia. OR theater help included an RN circulator, as well as a surgical technician. No anesthesia provider was present. The patients selected were all in a good state of health and met the criteria for lower face and neck lift including significant jowling, neck laxity, neck lipodystrophy and facial rhytides. The ratio of males to females was 1:8. Each of the surgeries was performed in a fully accredited operating room suite with traditional monitoring of blood pressure, cardiac rhythm, pulse oximetry, and heart rate. Although no intravenous sedation was used in any of the cases, a heplock was placed to allow for IV access in the event that medication for blood pressure management needed to be delivered. The patients were all given some form of oral sedation including a narcotic such as oxycodone and a sedative such as Valium, preoperatively. In a small number of cases an intramuscular injection of Demerol was also administered. No IV sedation was given to any of the patients. The procedures were all performed in an accredited surgery center, with all necessary resuscitation equipment available, in the event of

laryngo-spasm or cardiac arrhythmias. The presence of a heplock facilitated rapid response to blood pressure changes and possible arrhythmias.

The typical patient was brought to the operating room and initially anesthetized with 40 cc of 0.5% Xylocaine with adrenaline mixed with 2.0 cc of sodium bicarbonate to diminish the stinging resulting from the low pH of the lidocaine. This was given directly into the periauricular proposed incisions. The balance of the face was then tumesced using a Klein pump. 500 cc of saline was mixed with an additional 50 cc of 1% Xylocaine with adrenaline, 1.0 cc of Kenalog 10, and 10 cc of sodium bicarbonate with one amp of epinephrine used for additional vasoconstriction. No more than 200 cc of Klein Solution was used or needed in any patient, with an average of 150cc infused. During the injection, intervals of several minutes were allowed to elapse for blood pressure equilibration. In one-third of patients, a moderate elevation in blood pressure was noted requiring the parenteral administration of Labetalol and/or Apresoline. All high blood pressures which resulted from the facial tumescence were easily managed. All blood pressures were brought down to within normal limits prior to the onset of surgery, as outlined above. The patients all underwent traditional periauricular incisions with a 50/50 pre and retrotragal approach. The traditional subcutaneous elevations were done with facelift scissors. This included the dissection to the nasolabial folds and thorough neck dissections. In less than 2% of cases, was a submental incision used. This was only in the event of severe, visible platysma diastasis centrally. Through the lateral incision, adequate access with the fiber optic retractor was permitted in virtually every case allowing complete submental subcutaneous dissection.

After subcutaneous dissection was accomplished bilaterally, a D&C cannula was used for liposuction (in an open fashion) of the patient's neck. This allowed for complete visibility of the exposed platysma muscles. Lateral platysmaplasty was then accomplished using a 2-0 Vicryl suture. An initial 2-0 Vicryl suture was used to define the most posterior and inferior neck folds which allowed the senior author to provide a nearly 90 degree neckline for most patients. Once the suture was tied, this same suture was then run superiorly allowing for a postero-lateral SMAS plication. Several additional 2-0 Vicryl sutures were used to produce more lateral platysmaplasty as necessary. This produced a superbly cosmetic definition in the vast majority of patient's necklines, when combined with the open liposuction approach. As noted in the few patients who demonstrated severe central diastasis and visible platysmal banding, a submental incision was performed and a central platysmaplasty was accomplished using either a 3-0 or 2-0 Vicryl suture. After completion of the SMAS plication, a final contouring of the

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the jawline was done using the D&C cannula. This allowed for a completely straight jawline. Some patients required trimming of the submandibular fat to debulk it after plication, reducing the amount of visible jowling. In patients who exhibited any significant ooze, and in virtually all male patients, a small Jackson-Pratt drain was brought out through the posterior incision. Initial tacking of the flaps was made with surgical staples allowing for appropriate trimming of skin. After completion of the excess skin excision, the wounds were closed using several tacking 4-0 Vicryl sutures. The preauricular incisions were always closed using a 5-0 Prolene suture. Retroauricular incisions were closed using 4-0 or 5-0 plain gut suture. The patients were then dressed with Xeroform gauze, facial fluffs, and an Ace wrap. All patients were seen within 24 hours postoperatively for dressing removal and drain removal, when drains were in place. The sutures were removed at one week. Contraindications to local anesthesia included patient preference after counseling, prior cardiac history, combination surgeries which would require potentially toxic doses of lidocaine, and highly anxious patients.



Figure 1: (Left) Preoperative Views, (Right) 6-month Postoperative Views



Figure 1: (Left) Preoperative Views, (Right) 6-month Postoperative Views

## Results

Of the 250 patients in this survey there were no significant hematomas noted (no return trips to the OR for an incision and drainage, and no needle aspirations required postoperatively). Consistent with the series published by Tanna [4], this is markedly different from the senior author's own series of a hematoma rate under general anesthesia of approximately 5%, which is consistent with the three to eight percent rate according to multiple studies [6, 7-11]. There were no facial nerve injuries and no injuries noted to the greater auricular nerve. There were no patients who experienced any significant wound healing problems or skin slough. Approximately 5% of the patients required Kenalog injections to optimize their scars in the initial three to six months postoperatively.

## Discussion

It is clear that face-lifting procedures have become quite safe and readily achievable under local anesthesia [4, 12]. Patients commonly request local procedures and patients are often scared of the possible complications associated with general anesthesia, particularly so the more elderly they become. Further, marketing

campaigns by one or more nationally based companies who perform outpatient face-lifting type procedures under local anesthesia have driven many plastic surgeons to reevaluate the ability to offer similar procedures to their patients.

In this author's practice, local anesthesia has been an enormous boon and an improvement to the practice of face-lifting. Not only can all of the same maneuvers be done under local anesthesia safely, but also, these maneuvers can be performed with little or no risk of deep venous thrombosis postoperatively, and little or no risk of nausea or vomiting, which certainly can lead to increased rates of hematoma postoperatively. In this series of 250 patients, no significant hematomas that required drainage were noted. Not one patient of the group expressed regret regarding the choice of local anesthesia for the procedure.

Also of note is the ability to produce an excellent cosmetic result with, not only a lower complication rate, but also a lower price point for the average patient.

With the advent of tumescent anesthesia along with appropriate monitoring of the patient with adjuvant antihypertensive care, a facelift using only local anesthesia can produce an excellent outcome for the average patient who is reluctant to undergo general anesthesia.

## Conclusion

Perhaps the consideration of local anesthesia transcends just the cost and overall lower complication rate noted here. It is the assumption of the senior author that most patients undergoing general anesthesia will have a standard dip in their mean arterial blood pressure. While this makes the dissection and surgery "drier" during the process, most patients will emerge from the anesthetic and deve-

lop rebound hypertension due to potential discomfort, fear and disorientation in the recovery room. This contributes to the initial, postoperative hematomas seen. Further, Postoperative nausea, which can be the result of a general anesthetic, can lead to vomiting and increased intracranial pressure further increasing the potential rate for hematoma. It is for these reasons that local anesthetic should be considered for face-lifting. Respect of lidocaine toxicities must to be considered, but with the use of facial tumescence plus the use of low dose Xylocaine with adrenaline (0.5% Xylocaine with epi.), the safety of local anesthesia is quite clear.

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