Surgeons Prefer Traditional Breast Reduction Techniques

Rohrich RJ, Gosman AA, et al:
Plast Reconstr Surg; 2004; 114 (December): 1724-1733

Most surgeons report performing more breast reductions using traditional inferior pedicles/Wise pattern incisions, as well as having greater satisfaction and fewer complications.

Classic Article Review -

Background: Inferior pedicle breast reduction techniques are reliable but have disadvantages (potentially bottoming out, long scars, etc). Newer "vertical reduction" or "limited-incision" techniques have shortened scar length but are considered technically difficult, with a long learning curve and possibly a higher complication rate.

Objective: To survey plastic surgeons to determine the most commonly used techniques and measure surgeon and patient satisfaction as well as rates and types of complications.

Methods: A survey was sent to 1500 members of the American Society for Aesthetic Plastic Surgery. Surgeons were asked to choose which breast reduction techniques they used among choices of pedicles and incision types or specific surgeon techniques, ie, Hall-Findlay. Surgeons were not limited to one response. Surgeons were asked to rate their satisfaction with results on a scale of 1 to 5 as well as their patients' satisfaction (1 to 5). They were asked how long they had been performing breast reductions, how many breast reductions were performed in a year, and how many and what type of complications they encountered in their practice.

Results: 554 surveys were returned (37%). The 5 most popular types of breast reduction were inferior pedicle (44.1%), Wise pattern (16.6%), limited incision (5.3%), Hall-Findlay (4.8%), and McKissock (4.8%). Of respondents, 41% chose >1 technique. Surgeons were categorized into 2 groups: those who favored inferior pedicle and Wise-pattern ("traditional incision" group, 56% of respondents) and those who favored "limited incision" technique (6.9%). The traditional group performed more breast reductions per year (42.0 vs 21.7) and had been using their technique longer (16.9 vs 6.3 years). The traditional group reported greater satisfaction with their operation (42.0% chose the level 5/5 vs 28.9% in the limited group) as well as greater patient satisfaction (68% of traditional = 5/5 vs 47% for the limited incision group). Respondents in the traditional group reported 60.9% with complications <5% versus 44.4% for the limited incision group. The most common complications for the traditional group were suture spitting, inframammary fold scarring, and skin loss; and for the limited incision group were suture spitting, nipple scarring, need for revision, and loss of sensation.

Conclusions: Although limited incision techniques have gained popularity, traditional inferior pedicle/Wise pattern techniques remain most popular among plastic surgeons, with greater self-reported patient satisfaction and fewer complications.

Reviewer's Comments: This paper was limited by respondent bias. Surgeons who returned the survey probably had a special interest in breast reduction. Also, surgeons using traditional techniques may have been older and more comfortable with their techniques and may have had a skewed view of their complication rate or patient satisfaction, while younger surgeons may have been hypervigilant about these things.

print tag: () Refer to original journal article.
Oncoplastic Breast Reductions Safe, No Significant Postop Findings


Losken A, Schaefer TG, et al.
Plast Reconstr Surg; 2009; 124 (July): 9-17

Oncoplastic breast reductions are safe and do not significantly alter postoperative mammographic findings compared to undergoing standard lumpectomy.

Background: Performing breast reductions at the time of oncologic resections has recently become more popular. However, there are concerns that combining these techniques changes breast architecture and may make future cancer surveillance and detection more difficult in these patients.

Objective: To study long-term cancer surveillance and recurrence in patients undergoing breast reductions at the time of cancer resections.

Design/Participants: Retrospective review of 2 groups of patients who underwent breast cancer resections. The control group had standard lumpectomies, whereas the study group had reductions performed at the time their cancers were excised. All patients were treated at the Emory University Hospital by the same surgeon, and were followed by a multidisciplinary team at the Emory Winship Cancer Center. Seventeen patients were included in each of the 2 groups.

Methods: The authors reviewed charts and mammograms of all 34 patients in the study for postoperative mammogram sensitivity and time to postoperative mammographic stabilization. Mammographic changes, local and distant recurrences, number of postoperative imaging studies, and number of tissue biopsies were all recorded. Tissue biopsy techniques included fine-needle aspirations, core biopsies, and excisional biopsies.

Results: Average follow-up time was 6.3 years in the study group and 5.9 years in the control group. Typical mammographic findings, including density, architectural distortion, cysts, calcifications, breast edema, and skin thickening, were not significantly different between groups. Average time to reach mammographic stability was slightly longer in the study group than in the control group (25.6 vs 21.2 months, respectively), but this difference was not statistically significant. The study group also tended to have slightly more postoperative mammograms and ultrasounds, but these differences were also not statistically significant. Study patients, however, did have a significantly higher number of postoperative biopsies compared to the control group (0.25 vs 0.03 per follow-up year; \( P = 0.015 \)). Each group had 1 local recurrence. There were no distant recurrences in the oncoplastic reduction group and 2 in the control group.

Conclusions: Oncoplastic reductions are safe and do not significantly change postoperative mammogram findings compared to undergoing lumpectomy alone. However, patients undergoing oncoplastic reductions do tend to have more postoperative biopsies.

Reviewer's Comments: This is a very timely article given the increasing popularity of oncoplastic breast reductions. It is reassuring that this study did not find increased local or distant recurrences in these patients, and that the sensitivity of their postoperative mammograms was not significantly different than that of those undergoing straightforward lumpectomies. However, these patients should be counseled preoperatively that they may need to undergo more tissue biopsies postoperatively than if they undergo a traditional lumpectomy without reductions.

print tag: () Refer to original journal article.
Patient Concern About Scars Is Greater Than Surgeons Think!

Insights Into Patient and Clinician Concerns About Scar Appearance: Semiquantitative Structured Surveys.

Young VL, Hutchison J: Plast Reconstr Surg; 2009; 124 (July): 256-265

Patients are highly concerned about scar appearance, irrespective of age, gender, ethnic background, or geographic location; these concerns extend across all body areas as well.

**Background:** Patient distress from postsurgical scars is a reality of the plastic surgeon's world. However, many studies have shown that degree of distress correlates poorly with severity of scarring. We understand intuitively that the patient's sensitivity to the scar is also at issue. Nonetheless, factors that influence this dynamic interaction remain poorly defined.

**Objective:** To seek insight into those factors that determine patient and surgeon distress about scar appearance.

**Design/Methods:** This paper reports and analyzes the results of a questionnaire administered to patients following a plastic surgical or dermatologic procedure. Through researcher interview, patients were selected for a demographic profile "representative of the general community." Those demographic criteria were not presented. Patients were excluded from the study if they had "no concerns" about their scars. Of 175 patients screened, 97 were included in the study on the basis of demographics. These patients were administered the Self-Completion Form at a facilitator-moderated meeting. In addition, 24 clinicians participated in telephone interviews regarding scar appearance and communication.

**Results:** Respondents expressed concern about their scars on both "visible" and "non-visible" body sites. Of respondents, 91% stated that they would value even a small improvement in their scarring. Curiously, while 75% of respondents indicated that they would "go to any length to minimize their scarring," a smaller proportion indicated that they would be willing to incur expense. Also, 71% believed they were more concerned than their surgeon about their scar.

**Conclusions:** Patients are highly concerned about scar appearance, irrespective of age, gender, ethnic background, or geographic location. The authors stressed that concerns extended across all body areas. They reminded us that patients perceive that the surgeon is less concerned regarding the scar and its impact.

**Reviewer's Comments:** This study is interesting, but may raise more questions about its design and implementation than it answers. The demographic selection process remains undefined. The authors concluded that concerns regarding scar appearance were equally distributed across gender, age, and other demographics. Those conclusions are not supported. Since study criteria excluded all patients who had no concern about their scars, it is neither surprising nor significant that all remaining respondents had concerns! In addition, the possible contradiction of patients who would "go to any length" for improvement but not incur expense raises questions about internal consistency. Of particular value to practicing surgeons, however, is the observation that the majority of patients felt that they were more concerned than their surgeon about the scar resulting from surgery. Clearly, surgeons should be concerned with all aspects of their patients' experience, and they should be perceived as concerned as well.

**print tag:** () Refer to original journal article.
**Improve Migraine Symptoms With Trigger Site Surgery**

*A Placebo-Controlled Surgical Trial of the Treatment of Migraine Headaches.*

Guyuron B, Reed D, et al:

*Plast Reconstr Surg;* 2009; 124 (August): 461-468

---

Migraine symptoms can be improved with surgical deactivation of headache trigger points.

**Background:** Migraine headaches are not only personally debilitating but also costly to society. Many migraine sufferers continue to experience symptoms or undesirable side effects from current treatments.

**Objective:** To assess the results of surgical deactivation of migraine trigger points in the frontal, temporal, and occipital regions.

**Design:** Prospective, randomized placebo-controlled study.

**Methods:** After confirming the specific diagnosis of migraine headache and trigger site in conjunction with attending neurologists, patients were assigned to a control group that had local nerves and muscles exposed in the trigger site but not treated versus treatment groups that had glabellar muscles removed for the frontal group, the zygomaticotemporal branch of the trigeminal nerve removed for the temporal trigger site group, or a segment of the semispinalis muscle for the occipital group. Seventy-six patients were entered in the study. All maintained a headache diary. All completed multiple quality-of-life assessment survey tools at 3, 6, 9, and 12 months postoperatively.

**Results:** 57% of patients had complete elimination of migraines at 1 year versus 4% in the sham surgery group. In the treated group, 84% of patients reported significant improvement versus 58% in the sham surgery group.

**Conclusions:** Surgical treatment of trigger sites for migraine headaches can be effective therapy.

**Reviewer's Comments:** This is a fascinating study. I am sure the local IRB had great debates about allowing control patients to have sham surgery, particularly the occipital group who required general anesthesia and a 4-cm incision in the mid-occipital area! However, I can't think of any other way that the authors could have controlled for the very obvious fact that assessment of outcomes of a novel surgical procedure was being studied! As it was, there are questions that arise from this study--mainly, why did so many sham patients get improvement? And why did a fair number not? Is it due to the impact of scarring associated with the procedures themselves or the relatively inexact way trigger sites, or multiple trigger sites, are identified? Regardless, this paper demonstrates another example of an innovative approach that can develop when a fortuitous but unexpected outcome (headache relief) results following a cosmetic operation (reduction of forehead wrinkles by glabellar muscle resection)!

---

**print tag:** () Refer to original journal article.
Surgeons Need Validated Instrument to Measure Esthetic Outcomes

A Systematic Review of Patient-Reported Outcome Measures After Facial Cosmetic Surgery and/or Nonsurgical Facial Rejuvenation.

Kosowski TR, McCarthy C, et al:
Plast Reconstr Surg; 2009; 123 (June): 1819-1827

There are, as yet, no validated outcome instruments for esthetic surgery.

**Background:** Patient-reported outcomes and measures used to assess them are growing fields of medical research. This paper reviews the current availability of such outcome measures as they are applicable to esthetic plastic surgical procedures and treatments.

**Objective:** To attempt to identify patient-reported outcome measures that were developed and validated for use in patients undergoing surgical and/or nonsurgical cosmetic procedures. It evaluates the measures so identified for their content and for the appropriateness of their development and validation methods.

**Design:** The authors, with the assistance of a reference librarian, developed a comprehensive list of search terms to identify reports of outcome measures in the biomedical literature. This paper reports the results of that systematic review based on an electronic bibliographic search. Specific search terms are offered for review in a tabular form.

**Methods:** All articles found by the search were carefully examined. Only those identified as outcome measures that were used to evaluate esthetic treatment results were included for purposes of this review. The authors evaluated those papers for study content as well as for their development and validation methods. Standards offered by the Medical Outcome Trust and the U.S. Food and Drug Administration were used as benchmarks. Finally, only outcome measures that were specifically developed and validated for esthetic surgical issues were included.

**Results:** The systematic review yielded a total of 442 articles reporting outcome measures. Of those, only 47 were relevant to cosmetic issues. Of these 47, a further 38 were excluded because they were based on generic health, psychiatric, symptom, or visual analog instruments. Ultimately, only 9 studies were judged to be specifically developed to assess cosmetic treatment issues.

**Conclusions:** All 9 outcome instruments that the authors' search identified were significantly flawed. They noted shortcomings of content and more serious deficiencies attributable to development and validation processes behind the questionnaires. In summary, they suggested that a well-designed esthetic procedure instrument should be developed.

**Reviewer’s Comments:** In essence, this paper reports that the authors searched for a good esthetic evaluation instrument and found none. They assert that, were a proper questionnaire developed, it would help us understand the impact of such treatments and improve outcomes. On a more practical note, the paper does provide a timely and concise review of outcome study concepts and terminology. There is even a convenient glossary. Moreover, it reviews several existing study instruments that the reader may find useful and relevant in their current form, or helpful as the basis for developing new measures.

**print tag:** () Refer to original journal article.
Most Cost-Effective Donor Site Dressing Still Undetermined

Systematic Review of Skin Graft Donor-Site Dressings.
Voineskos SH, Ayeni OA, et al:
Plast Reconstr Surg; 2009; 124 (July): 298-306

Weak evidence exists supporting use of moist dressings instead of non-moist dressings at skin graft harvest sites.

Background: Various methods exist to dress the donor site after a skin graft is harvested. There is ongoing debate about the best, most cost-effective way to cover a skin graft harvest site.

Objective: To systematically review outcomes of donor-site dressings for skin grafts.

Design: Systematic literature review.

Methods: 2 independent reviewers performed a comprehensive literature review with specific inclusion and exclusion criteria. Acceptable articles included those with patients who needed split-thickness skin grafts, those that were a review article or comparative study, and those published as full reports. Dressings were classified as moist or non-moist based on the state at initial application. The review sought to determine which dressing is associated with the best healing quality and fastest healing rate, least pain, lowest infection rate, lowest cost, and best quality of life.

Results: In the final analysis, 75 articles, 3 of which were review articles, were included. Non-moist dressings were most commonly Xeroform, Scarlet Red, and Jelonet. Usually, moist dressings were Opsite, Kaltostat, Duoderm, and Allevyn. Quality of life was not measured in any of the studies. Healing rate and pain were the most commonly measured outcomes in the articles. A direct comparison between moist and non-moist dressing was difficult because of the methodological heterogeneity of the articles; 57% of studies found that moist dressings had a faster healing rate, while 32% showed no difference. Studies differed in whether moist or non-moist dressings were associated with higher direct costs. Of 27 studies that studied pain at the skin graft donor site, 25 found that moist dressing resulted in less pain than did non-moist dressings. Most studies and trials concluded that moist dressings were favorable.

Conclusions: "Wet dressings" have some weak evidence supporting them. However, randomized controlled trials with parallel economic evaluations are needed.

Reviewer's Comments: It seems that there is a general trend toward use of moist dressings for skin graft harvest sites. However, this review shows that the literature is heterogeneous, without an examination of quality-of-life issues. Because this review groups together different types of studies with various designs and of varying quality, the authors conclude that there is no clear evidence for moist dressings being superior to non-moist ones. They recommend a randomized controlled trial with an economic evaluation as the best study to answer the study questions. I agree with this assessment. However, in the meantime, I will continue to use moist dressings since the available evidence, flawed as it may be, still suggests that moist dressings are better overall for patients.

print tag: () Refer to original journal article.
Backed by Science -- Give This Flap a Try!

Anatomical Study of Pectoral Intercostal Perforators and Clinical Study of the Pectoral Intercostal Perforator Flap for Hand Reconstruction.

Oki K, Murakami M, et al:

Plast Reconstr Surg; 2009; 123 (June): 1789-1800

A study of the blood supply for the pectoral intercostal perforator flap confirms the basis for the flap and allows for further refinements of the flap.

**Background:** The pectoral intercostal perforator flap is often used for hand reconstruction at Nippon Medical School in Japan. The blood supply for their flap uses perforators from the 5th to 8th intercostal spaces. They use a narrow skin pedicle, and a wide flap area that is very thin - beneficial in the coverage of hands.

**Objective:** To discuss the authors' clinical experience with the flap and to clarify arterial networks of the flap using cadavers.

**Design:** Using 13 cadavers, angiograms and dissections evaluated the arterial networks involved in this flap. They then retrospectively reviewed 21 cases performed over the last 13 years.

**Methods:** 13 cadavers (5 males and 8 females) were studied, as well as 21 clinical cases (14 males and 7 females). Angiograms were performed by injecting contrast into the internal thoracic, subclavian, deep inferior epigastric, and femoral arteries followed by radiography. Anatomic dissections were performed in 3 cadavers. Clinical cases were reviewed retrospectively with each result judged functionally and esthetically.

**Results:** In the anatomic study, the authors found that they could divide the intercostal skin into 3 "segments" of blood supply. They were most interested in the 2nd segment that encompassed the 5th to 8th intercostal spaces, which they liked because "perforators communicated with one another to form a 'latticework' pattern." They also found that intercostal perforators, as well as superior epigastric and inferior epigastric systems, were related to each other through choke vessels. Good results were found clinically.

**Conclusions:** The authors supported use of the pectoral intercostal perforator flap with an anatomic study showing that the flap was perfused by arterial networks arising from perforators in the intercostal spaces and abdomen. Clinically, flap quality was considered good, particularly when considering thinness and texture.

**Reviewer's Comments:** If you are not familiar with this flap, I recommend that you skim the paper once and then read it carefully. Fortunately, the paper is well organized and clear. This piqued my interest because I use groin flaps and frequently need to debulk and revise them after it is divided. The photographs show nice results and you can see how thin they are. They also clearly describe how the flap is raised, and there are many pearls. It is nice to see papers like this in the literature backing the use of a flap with science. The scar is less than to be desired, but I see the flap's utility in hand reconstruction, especially since it can be made "super thin." In the future, we may see the information gathered in this study used to develop a free flap version of this flap and perhaps we will see the delay phenomenon used to extend the size of this flap. I would give this flap a try.

**print tag:** () Refer to original journal article.
Botox - Not Just for Faces Any More!

Botox Therapy for Ischemic Digits.
Neumeister MW, Chambers CB, et al:
Plast Reconstr Surg; 2009; 124 (July): 191-200

Botox injections are effective at relieving pain and improving digital blood flow in Raynaud's phenomenon.

**Background:** Raynaud's phenomenon can lead to ischemic ulcerations and digital pain. Treatment can be very difficult, and patients can develop disability and emotional distress because of symptoms related to Raynaud's. Local injections of botulinum toxin A (Botox) can provide some relief in these patients.

**Objective:** To examine outcomes of patients with Raynaud's phenomenon treated with Botox.

**Design:** Retrospective study.

**Methods:** Raynaud's phenomenon patient outcomes were assessed after 50 to 100 units of Botox were injected into the palm around each involved neurovascular bundle. Each patient had hand pain from chronic ischemia and no occlusive disease by vascular studies. Pain relief and blood flow were evaluated. Measurements of blood flow were made with pre- and post-injection laser Doppler scanning.

**Results:** 19 patients were retrospectively studied; 84% (16 of 19) had pain reduction at rest. Thirteen patients had immediate relief of pain, while 3 reported a gradual decrease of pain over 1 to 2 months. The 3 patients with no pain relief had scleroderma (2 patients) and lupus and rheumatoid arthritis (1 patient). Recurrent pain necessitated repeat injections in 4 patients. Follow-up ranged from 13 to 59 months, and 12 patients did not need repeat injections. Three patients had temporary paralysis of intrinsic muscles that lasted about 2 months. Blood flow analysis showed a marked improvement in digital blood flow (-48.15% to 425.0%) within 30 minutes after Botox treatment.

**Conclusions:** Botox improved pain and perfusion in Raynaud's phenomenon patients with clinically evident digital ischemia.

**Reviewer's Comments:** Raynaud's phenomenon can be disabling and difficult to treat. This retrospective study provides evidence that Botox injections can improve pain and ischemia. The patient numbers are small, but there was clearly an improvement seen in symptoms and blood flow by laser Doppler. A prospective study would provide a higher level of clinical evidence and would certainly be simple to design and carry out. Perhaps a prospective study would also provide data on the amount of Botox necessary to produce a clinical effect in Raynaud's, while minimizing intrinsic muscle paralysis. The temporary paralysis in 3 patients, although transitory, was likely an annoyance to patients themselves. Doppler studies provide additional evidence of the efficacy of Botox in treating ischemic digits. Might Botox also have effects in other transient ischemic diseases?

**print tag:** () Refer to original journal article.
Decrease Abdominoplasty Morbidity With Use of Rib Blocks

Outpatient Abdominoplasty Facilitated by Rib Blocks.

Michaels BM, Eko FN; Plast Reconstr Surg; 2009; 124 (August): 635-642

Preemptive injections of local anesthesia rib blocks reduce the need for pain medications in abdominoplasty patients.

Background: Abdominoplasties have traditionally been performed in the hospital inpatient setting. Improvements in anesthesia and surgical techniques in the last 10 years have allowed a transition to outpatient cosmetic surgery, including abdominoplasties with or without concomitant procedures.

Objective: To assess the impact of use of preemptive local anesthesia administered as a rib block as an adjunct measure for further improving pain control and minimizing immediate postoperative recovery.

Design: Retrospective review.

Methods: 39 abdominoplasties performed under general anesthesia were compared to 29 procedures performed using rib blocks administered with the patient prone and IV sedation during the 1999 to 2006 study period. Data concerning duration of procedure, time in the recovery room, amount and frequency of postoperative pain medication used, and incidence of nausea and vomiting were evaluated.

Results: Patients who underwent rib blocks for anesthesia prior to their procedures experienced significantly decreased recovery room time, postoperative pain, postoperative pain medication requirements, and postoperative nausea and vomiting.

Conclusions: Preemptive pain control with rib blocks facilitates the performance of abdominoplasties, including repair of rectus diastasis, in the outpatient setting.

Reviewer's Comments: I routinely administer local anesthesia before all of my body contour operations as a field block to help reduce postoperative pain and increase patient comfort. I learned a better way to do it for my abdominoplasty patients from this paper. I had never performed my local anesthetic injections preoperatively with my patients in the prone position. I had always injected subcutaneously, hoping to achieve block of the intercostal nerves from diffusion of the local anesthetic medication. I plan on trying the author's technique. Their results are impressive. As the technique seems straightforward, the learning curve necessary to achieve reliable results with their approach should not be too steep.

print tag: () Refer to original journal article.
Tip Refinement Includes a Spectrum of Techniques

Graduated Approach to Refinement of the Nasal Lobule.
Patrocinio LG, Patrocinio TG, et al:
Arch Facial Plast Surg; 2009; 11 (July-August): 221-229

Transdomal and interdomal sutures permit an incremental narrowing of the tip.

Background: Nasal tip surgery is widely regarded as the most challenging aspect of rhinoplasty. Modern surgeons appreciate that no single surgical technique is adequate. The authors offer their suggestions for an approach that includes a graduated spectrum of maneuvers that can be used as the tip anatomy requires.

Objective: To present the details of a graduated approach to surgical refinement of the nasal lobule. The authors also sought to describe anatomic features that direct decisions regarding such an approach.

Design: Retrospective review of a consecutive case series.

Methods: 641 consecutive rhinoplasty cases were evaluated in the 4-year period from January 2003 to December 2006. All charts had a minimum follow-up period of 1 year and adequate clinical and photographic material to permit analysis. The authors presented their various techniques and the indications for each: (1) no tip surgery: for refined, well-defined tips; (2) interdomal breakup: spreading the tips of iris scissors in the tissues between the domes for slightly divergent tip-defining points; (3) cephalic trim of alar cartilage: for slightly bulbous tips with normal interdomal distance; (4) domal suture: for increased angle of divergence of the intermediate crura or widened domal arches; (5) shield graft: for wide domes or interdomal distance wherein domal suture yields inadequate definition due to excessive skin thickness; (6) vertical dome division: for broad amorphous tips with Fitzpatrick skin types V and VI; and (7) lower lateral replacement: for inadequate tip cartilage in cleft lip noses, destructive nasal disorders, and secondary cases with over-resected tips.

Results: 641 charts were reviewed for the 4-year study period. Mean follow-up was 1.5 years. Postoperative asymmetry of the tip was noted in 4.4%. Excessive tip width remained in 5.3%. Revision rate for tip refinement issues was 5.6%. Patient satisfaction (following any revisions) was 95.6%.

Conclusions: The authors’ graduated approach yielded excellent outcomes, a high patient satisfaction rate, and a low revision rate.

Reviewer’s Comments: This paper reports the technical approach to and clinical experience with tip-plasty for the authors. While this reviewer would debate some of the specific techniques presented in favor of others, I applaud the thoughtful and graduated selection of tip surgery based upon the deformity identified. The “one tip-plasty for all” approach has passed, and happily so! Perhaps the only criticism of the paper is the suggestion that it represents a “study.” I doubt that the authors learned anything from the “investigation.” Rather, this paper is a reasonable review that can remind the reader of a thoughtful approach and some specific techniques and indications in tip surgery.

print tag: () Refer to original journal article.
Harmonic Scalpel Provides Benefits for Patients, Surgeons During Rhytidectomy

Use of the Harmonic Blade in Face Lifting: A Report Based on 420 Operations.

Firmin FO, Marchac AC, Lotz NC:
Plast Reconstr Surg; 2009; 124 (July): 245-255

The Harmonic scalpel is a relatively new technology that may lessen patients' postoperative recovery burden and may aid the surgeon in dissection and hemostasis during facelift procedures.

Background: New technology may lead to decreased recovery time and postoperative pain in patients undergoing rhytidectomy procedures.

Objective: To review the experience of a single surgeon using the Harmonic scalpel (Ethicon Endo-Surgery) in 420 consecutive facelift operations.

Design: Retrospective chart review.

Participants: 420 patients at a single institution.

Methods: 420 patients who underwent face and neck lifting procedures with the Harmonic scalpel used as the primary instrument of dissection and hemostasis were evaluated retrospectively for complications (hematoma, paralysis, lipolysis, skin burns, skin perforations, hair loss). An additional 100 patients were evaluated prospectively in an effort to determine whether or not the Harmonic scalpel affected the patients' level of discomfort in the immediate postoperative period, recovery time, operative time, or the amount of drainage after the procedure.

Results: The overall complication rate was 3.1%. There were 5 cases of hematoma (1.2%), 3 cases of temporary facial nerve paralysis (1.0%), 3 cases of submental lipolysis (0.7%), 1 skin burn (0.2%), and 1 skin perforation (0.2%). There were no cases of hair loss. The mean operative time for a surgeon experienced in using the Harmonic scalpel for facial rhytidectomy (without neck lifting) was 110 minutes, while the mean duration of a facial and neck rhytidectomy was 180 minutes. Patients were able to return to normal everyday life on postoperative day 8. The anatomic dissection was reported to be "easier" by the operating surgeon when using the Harmonic scalpel.

Conclusions: The Harmonic scalpel is a new technology that may decrease postoperative swelling, bruising, and discomfort after rhytidectomy, and may aid the surgeon in anatomic dissection and hemostasis without adding more risk or operative time.

Reviewer's Comments: Although this study is limited by the biases inherent in its retrospective design, its lack of clinical control groups, and the obvious bias of the sponsoring organization, it effectively introduces a relatively new technology into the literature. The authors provided an interesting overview of the evolution of the Harmonic scalpel in their practice, and gave enough anecdotal evidence to warrant a professional curiosity about the product. The sample size was large enough to power the study, but the lack of clinical control groups, as well as the lack of comparison of the data to previously published standards, was a major drawback in this article. Without these comparisons and controls, it is difficult to conclude that the Harmonic scalpel has any practical advantages over traditional methods of rhytidectomy.

print tag: () Refer to original journal article.
Reduce Complications of Breast Augmentation With Antibiotic Irrigation

Protective Effects of Topical Antibiotics in Breast Augmentation.

Use of antibiotic irrigation during cosmetic breast augmentation surgery may decrease the risk of infection and seroma formation.

**Background:** Although it is quite common for plastic surgeons to perform some type of antibiotic lavage during breast implant procedures, this practice has not been definitively demonstrated to reduce infection rates.

**Objective:** To determine whether antibiotic irrigation makes a difference in the rate of infection and/or capsular contracture in breast augmentation surgery.

**Design:** Retrospective chart review.

**Methods:** Charts of 436 women who underwent cosmetic breast augmentation at a single institution by a single surgeon at 2 separate time periods were reviewed retrospectively to determine rates of infection, seroma, and capsular contracture as they related to use of antibiotic irrigation during the procedures. The first cohort was operated on between 2000 and 2002, and consisted of 218 women who received antibiotic irrigation during their surgery. The second cohort of 218 women was operated on between 2005 and 2007, and did not receive antibiotic irrigation during their procedures.

**Results:** There was a statistically significant increase in the rate of infection and seroma in the cohort that did not receive antibiotic irrigation. The rate of infection in the antibiotic cohort was 12.8% versus 6.7% in the non-antibiotic cohort. The rate of seroma was 2.9% in the antibiotic group versus 7.6% in the non-antibiotic group. There was no difference in the rate of capsular contracture between groups.

**Conclusions:** Use of antibiotic irrigation may reduce the rate of infection and seroma in cosmetic breast augmentation.

**Reviewer's Comments:** Although the conclusions of this study are limited by the biases inherent in its retrospective design, the article is well written, and the data are relatively free of confounding factors. The large sample size, the similarity of the cohorts, and the fact that all procedures were performed by the same surgeon, make the data worthy of consideration. However, the authors neglected to reference their inclusion/exclusion criteria, failed to define what they meant by "suspected infection," and did not indicate whether or not the patients received preoperative intravenous antibiotics. In spite of these shortcomings, it is reasonable to conclude, based on this article, that antibiotic irrigation may have a role in preventing infections in cosmetic breast augmentations, but that a prospective randomized controlled study is still needed to make a definitive conclusion.

*print tag:* (Refer to original journal article.)
Better Rejuvenation of Perioral Region With Deep Fat Augmentation of Lips, Chin

The Anatomy and Clinical Implications of Perioral Submuscular Fat.
Rohrich RJ, Pessa JE:
Plast Reconstr Surg; 2009; 124 (July): 266-271

Augmentation of the deep fat of the lips and chin may lead to better results when attempting to rejuvenate the perioral region.

**Background:** Atrophy of facial fat may play a significant role in the aged appearance that causes many men and women to seek facial rejuvenation procedures.

**Objective:** To further characterize the anatomy of perioral fat in an effort to enhance rejuvenation of this area.

**Design:** Anatomic dissection and discussion.

**Methods:** The upper lip, lower lip, and chin regions of the face were dissected in 10 fresh cadaver specimens. HE staining was performed on several specimens to characterize the histologic composition, and arterial latex injections were used to define the anatomic boundaries of the fat "compartments" in these regions.

**Results:** An anatomically distinct layer of fat was found deep to the orbicularis oris muscle in both the upper and lower lip. An additional distinct fatty layer was found deep to the mentalis muscle in the chin. The deep fat of the lips was present as far anteriorly as the wet-dry border by arterial latex injection, and was confirmed histologically on HE stains.

**Conclusions:** Augmentation of the deep fat of the lips and chin may lead to better results when attempting to rejuvenate the perioral region. Traditional superficial augmentation of the mucocutaneous junction improves perioral wrinkles and enhances the definition of the vermilion border, while deep fat augmentation may improve volume, shape, and eversion of the lips.

**Reviewer's Comments:** Although this study is limited by the lack of a clinical component, the authors effectively present an interesting anatomic description that may turn out to have clinical significance in the field of facial rejuvenation. In line with previously published work on facial fat compartments, the concept has been extended to the perioral region, and is certainly relevant in an age when the popularity of autologous and artificial augmentation of this area is rising. Since superficial augmentation of the mucocutaneous junction often results in an unnatural appearance, it may be worth investigating whether or not augmentation of the deeper fat of the lip is safe, practical, and effective in producing a more natural rejuvenation. As in the other articles on facial fat anatomy, a well-designed clinical correlate study will be necessary to make any valid conclusions on the significance of these anatomic findings.

*print tag: () Refer to original journal article.*
Durable Results Produced by Outfracturing Inferior Turbinate During Septoplasty

Outfracture of the Inferior Turbine: A Computed Tomography Study.
Buyuklu F, Cakmak O, et al:
Plast Reconstr Surg; 2009; 123 (June): 1704-1709

Outfracturing the inferior turbinate during septoplasty procedures appears to produce durable results in opening the nasal airway.

Background: Although a myriad of techniques exist to treat inferior turbinate hypertrophy, there is still no consensus on which technique is the most efficacious.

Objective: To determine the durability of the increased nasal airway area after inferior turbinate outfracturing during septoplasty procedures.

Design: Prospective cohort study.

Participants: 10 patients (20 inferior turbinates) at a single institution.

Methods: 10 patients with mild to moderate inferior turbinate hypertrophy and septal deviation underwent septoplasty with outfracture of both inferior turbinates. Each patient was evaluated at 9 months postoperatively with a high-resolution, 3-mm cut, coronal CT scan to evaluate the degree of lateralization of the inferior turbinate that persisted after surgery. Measurements of lateralization were taken at 3 standardized points along the length of the bone and compared to preoperative measurements at the same radiologic points of analysis.

Results: A statistically significant degree of inferior turbinate lateralization was found at all 3 standardized points of analysis along the length of the bone.

Conclusions: Outfracture of the inferior turbinate is a reliable and durable technique for opening the nasal airway in cases of mild to moderate turbinate hypertrophy.

Reviewer's Comments: Although this study is limited by the biases inherent in its uncontrolled, nonrandomized design, and by its relatively small sample size, it does a reasonably good job of scientifically analyzing a simple surgical technique. Based on the author's experience, outfracture of the inferior turbinates produces significant lateralization of the bone that persists for at least 9 months. This is useful information given that no other studies like this have been published recently, but the question remains as to whether this technique leads to clinically significant improvements in airflow dynamics in these patients. A correlation of these data to clinical outcomes in the patients included in the study would have made the article much more useful.
TRAM Offers Better Long-Term Patient Satisfaction Over Implant Techniques

**Patient-Reported Aesthetic Satisfaction With Breast Reconstruction During the Long-Term Survivorship Period.**


Knowledge of trends in long-term esthetic satisfaction will help patients and clinicians navigate the complex decision-making process of breast reconstruction.

**Background:** It is well accepted that tissue expander/implant and autogenous tissue breast reconstructions have different aging processes. However, the time at which these processes stabilize is unclear.

**Objective:** To evaluate long-term patient-reported esthetic satisfaction with these 2 types of breast reconstruction.

**Design:** Retrospective review.

**Participants/Methods:** The authors surveyed 219 women at a single institution who underwent breast reconstruction between 1988 and 2006 (110 expander/implant and 109 transverse rectus abdominis myocutaneous [TRAM] reconstructions). Groups were divided into 3 periods: short-term (≤5 years), intermediate (6 to 8 years), and long-term (>8 years). Mean length of follow-up after reconstruction was 6.5 years (range, 1 to 18 years).

**Results:** Procedure type did not have an effect on esthetic satisfaction in the first 5 years. However, in the long-term, reconstruction type considerably affected satisfaction. Satisfaction with TRAM reconstruction remained relatively constant. However, satisfaction with expander/implant reconstruction was significantly less in the long-term. Specifically, patients who had undergone implant reconstruction >8 years earlier compared with those who had undergone implant reconstruction <5 years earlier were significantly less satisfied with breast appearance, softness, and size.

**Conclusions:** In women who have gone >5 years from the time of their reconstruction and those who have undergone a TRAM, compared with expander/implant patients, appear to have significantly greater esthetic satisfaction. These data have important implications for patients in the survivorship period and may help women and the clinicians caring for them navigate the complex decision-making process of breast reconstruction.

**Reviewer’s Comments:** More women than ever before are surviving breast cancer and are faced with the decision of which type of reconstruction would best suit them. Outcomes data are helpful in empowering patients to help make informed decisions about the best reconstructive technique to fit their personal needs. This study incorporates the BREAST-Q metric developed at MSKCC as a means of analyzing patient satisfaction. One drawback of the study is its selection bias. The patient groups studied, despite being well-matched across both autologous tissue and implant groups, are homogenous, well-educated, and may not be reflective of the broader experience across a diversity of ethnic groups and a variety of socioeconomic backgrounds. Also, both autologous tissue and implant/expander techniques continue to evolve since the 1988 to 2006 time span studied here (eg, dermal matrices have been introduced to improve implant-based techniques, more perforator flaps have been performed recently for autologous tissue reconstructions). Regardless, data-driven outcomes studies benefit all stakeholders involved with the care of breast reconstruction patients. The real benefit of studies like these will be enhanced long-term patient satisfaction with the reconstruction technique they have chosen.

**print tag:** () Refer to original journal article.
How to Best Manage Small Areas of Mastectomy Flap Necrosis

Antony AK, Mehrara BM, et al:
Plast Reconstr Surg; 2009; 124 (August): 356-363

For small areas of mastectomy flap necrosis, a combination of observation and demarcation of the eschar over a period of up to 1 month, removal of fluid to decompress the expander, and excision and re-closure of the mastectomy flaps allow salvage of an expander-based reconstruction.

Background: Rates of skin flap necrosis after mastectomy vary. Skin loss over a tissue expander can lead to infections and/or need for explantation.

Objective: To describe management of tissue expander patients who suffer mastectomy flap necrosis.

Design: Retrospective review.

Participants/Methods: 178 patients (of 4158 patients who had expanders placed after mastectomy) who suffered skin flap necrosis from 1995 to 2008 were studied. Nine patients with “extensive” necrosis underwent immediate excision of necrotic skin, explantation, and advancement of flap re-closure. Overall, 120 patients healed with no excision of the flap necrosis. The remaining 58 underwent staged excision using the authors’ protocol. The eschar was observed for a 3- to 4-week period allowing for demarcation. The necrotic skin was then excised and the mastectomy incisions re-closed, after removing sufficient amounts of fluid from the expander allowing tension-free re-closure. No dermal matrix patient was included in this group.

Results: Mean dimension of the non-excision group’s flap necrosis was 15.8 cm versus 42.5 cm in the excised group (and 95.3 cm in the group that had their expander removed right away). Three patients in the staged-excision group developed a subsequent infection and had their expanders removed. The remaining patients all had salvage of their expander reconstructions and uneventful implant exchanges. Prior radiation therapy had no effect on excision rates, but patients who were undergoing chemotherapy were more likely to have their eschar excised.

Conclusions: For small areas of mastectomy flap necrosis, a combination of observation and demarcation of the eschar over a period of up to a month, removal of fluid to decompress the expander, and excision and re-closure of the mastectomy flaps allow salvage of an expander-based reconstruction.

Reviewer’s Comments: This technique is a straightforward way to deal with what is a real nuisance. When to start chemotherapy in a timely fashion after mastectomy when there is a flap problem is always a challenge. Oncologists are reluctant to give chemo unless wound healing is well advanced. It is interesting that patients with mastectomy flap eschar were allowed to start chemotherapy in this study. That says to me that the areas of skin flap necrosis were really small. One advantage of use of dermal matrices in expander reconstructions is a shorter time to full expansion. However, this paper does not address how to manage the problem of flap necrosis and exposed dermal matrix that has not incorporated into the local tissue. Anecdotal reports suggest that a more prompt re-closure over the dermal matrix works well too, but I have seen cases where the AlloDerm needs to be removed, as it becomes a nidus for infection lying unincorporated under necrotic tissue during the skin flap demarcation period.

print tag: () Refer to original journal article.