Dysport is a safe and effective type of botulinum toxin A that can be used in place of Botox.

**Background:** Botulinum toxin type A has been shown to reduce the activity of glabellar muscles, decreasing the occurrence of expression-related facial lines. In April 2009, the U.S. Food and Drug Administration (FDA) approved a new formulation called Dysport.

**Objective:** To evaluate the safety, efficacy, and duration of response of variable-dosed Dysport in the treatment of moderate to severe glabellar lines.

**Design:** Randomized, double-blind placebo-controlled study.

**Participants:** 816 patients from among 27 centers.

**Methods:** Patients were randomized in a 2:1 ratio to 1 treatment of Dysport (n=544) or placebo (n=272). Patients were excluded if they had received previous treatment within the last 150 days. African-American patients were randomized separately. A subset of patients was evaluated for treatment-related effects on QT prolongation. Each patient received 5 injections: procerus, right and left corrugators, right and left lateral corrugators/orbicularis. Efficacy and duration of effect were measured at 14, 30, 60, 90, 120, and 150 days. Patients treated with variable-dosed Dysport displayed longer duration of treatment compared to those who received placebo.

**Results:** Median duration of effect was approximately 108 days. African American patients had a longer median duration of action. At 90 days, 61% of patients continued to show a response, and at 150 days, 17% showed a response. A visible reduction in glabellar lines was seen as early as 24 hours, with a median onset of 4 days. Subgroup analysis revealed the following: lower response rates in patients aged >65 years and higher response rates in women versus men as well as in patients with less severe glabellar lines. With regard to side effects of treatment, 168 patients (31%) experienced adverse events, only 33 (6%) of which were believed to be "probably" related to treatment. Of all events, the majority were eye-related disorders, with 12 reported cases of eyelid ptosis (only 1 was "probably" related to treatment), and 18 patients reported injection site-related effects (bruising, irritation, pain, etc). No prolongation of the QT interval was related to treatment.

**Conclusions:** Dysport is well tolerated and provides a longer-lasting reduction in glabellar lines compared to placebo.

**Reviewer's Comments:** Botulinum toxin type A injections have become increasingly common for treatment of glabellar lines as well as several off-label injection sites. The FDA has now approved an alternative to the commonly prescribed treatment known as Botox. This study confirms that Dysport is a safe and effective option for treatment of glabellar lines. An even more beneficial study will now be to compare Dysport to the commonly prescribed Botox. A comparison study may encourage practitioners to modify their treatment algorithms to include Dysport since a study comparing this new product to placebo is less than likely to do so. (Reviewer-Robert T. Grant, MD.)
At 4 years after surgery, innervation of free flap breast reconstructions improves patient-related quality of life.

**Background:** With free flap breast reconstruction, it is possible to restore sensation to the reconstructed breast. However, it is not known whether innervation of the flap improves a patient’s quality of life.

**Objective:** To compare patient-reported outcomes after innervated or non-innervated free transverse rectus abdominis musculocutaneous (TRAM) flap breast reconstruction.

**Design:** Prospective evaluation with validated outcome tools.

**Participants/Methods:** 27 mastectomy patients were prospectively randomized to receive either innervated or non-innervated free flap breast reconstruction. The T10 intercostal nerve was neurotized to the T4 sensory nerve for innervated flaps. Three quality-of-life surveys were sent to patients at a mean of 48 months postoperatively: the Medical Outcomes Study 36-Item Short Form Health Survey, the Body Image after Breast Cancer Questionnaire, and the Functional Assessment of Cancer Therapy—Breast.

**Results:** Patient demographics were similar among the 12 innervated flap patients and the 15 non-innervated patients. Surveys were returned by 18 of 27 patients. At 4 years postoperatively, statistically significant improvements were seen for the innervated group in 6 of 8 domains in the Short Form Health Survey. Patients with neurotized flaps also had better scores in 5 of 6 domains in the Body Image after Breast Cancer Questionnaire, and a statistically significant better quality of life demonstrated by the overall Functional Assessment of Cancer Therapy—Breast score.

**Conclusions:** Innervation of free TRAM breast reconstructions restores sensation and improves patient-reported quality of life.

**Reviewer's Comments:** Non-neurotized free flaps do get some return of sensation several years after surgery. However, innervated flaps have been found to have improved sensation. Prior studies have focused on demonstrating an improvement in flap sensation after innervation. This study, however, uses 3 validated outcomes instruments to evaluate quality of life after innervated free flap reconstruction. I was actually surprised to see that innervated patients performed better on surveys than did non-innervated patients because, by 4 years, I would have expected some return of sensation in both groups. These results are interesting, but the numbers are small, with only 18 patients completing the survey. Additionally, the authors state that there are no breast cancer reconstruction-specific quality-of-life questionnaires. However, now plastic surgeons have the Breast-Q to fill that need, and this study should be performed in larger numbers using this validated questionnaire. Only then might I consider routinely neurotizing my free flap breast reconstructions. (Reviewer-Christine H. Rohde, MD).

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Keywords: Free Flap Reconstruction, Flap Innervation, Quality of Life

Print Tag: Refer to original journal article
Low-back compressive forces and functional disability both decrease following breast reduction surgery in women with macromastia.

**Background:** Women with macromastia often suffer from pain in their shoulders, back, and neck; inframammary rashes; and painful bra strap grooves across their shoulders. Many of these symptoms are relieved by breast reduction surgery, yet some insurance companies deny coverage for the procedure, claiming a lack of objective evidence that the surgery is beneficial.

**Objective:** (1) To examine the effect of breast reduction surgery on low-back compressive forces preoperatively and postoperatively while a patient performs lifting tasks. (2) To determine how a woman's level of disability changes with breast reduction surgery.

**Design:** Prospective study involving repeated measures of examined variables.

**Participants:** 11 women with macromastia who sought consultation for breast reduction surgery at the University of Utah Health Sciences Center between April 2007 and February 2008. Women were excluded from study if they had pathology that limited their ability to squat and lift a 5-lb object from the floor, or if they had any other pathology affecting their lifting abilities or spinal motion.

**Methods:** Participants were evaluated prior to surgery and at approximately 3 months postoperatively. Biomechanical stress on the spine was measured by analyzing data collected in a motion analysis laboratory as patients picked up a 5-lb weight. Peak compressive forces on the low back were calculated during each lifting task. Patients' levels of preoperative and postoperative disability were quantitatively assessed using the standardized Functional Rating Index. This index emphasizes function while measuring a patient's opinions, attitudes, and self-rating of disability. The index contains 10 sections that evaluate pain intensity, frequency of pain, sleeping, personal care, travel, work, recreation, lifting, walking, and standing.

**Results:** Mean age of participants was 44 years, mean body mass index was 32, and mean total weight of breast tissue removed was 1422 g (range, 859 to 2495 g). The women demonstrated a 35% reduction postoperatively in average maximum low-back compressive force during the analyzed lifting task. Disability scores improved 76% postoperatively, with statistically significant improvements in all 10 areas examined by the disability index. Areas of greatest improvement were frequency of pain and discomfort with travel.

**Conclusions:** This study showed objective improvement in low-back compressive forces and patients' reported levels of functional disability following breast reduction surgery.

**Reviewer's Comments:** This very helpful and important publication provides additional data to support medical benefits of breast reduction surgery for women suffering from macromastia. Hopefully, this study will further aid plastic surgeons and their patients attempting to obtain insurance coverage for this frequently life-improving procedure. (Reviewer-Jeffrey A. Ascherman, MD).

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Keywords: Surgery, Low Back Compressive Forces, Functional Disability, Macromastia

Print Tag: Refer to original journal article
Suturing through narrow cartilage grafts may result in fracture of the graft.

**Background:** Congenital weakness, malposition, or over-resection of alar cartilage can result in contour deformities, collapse, and/or retraction of the alar rim. Surgical procedures described for correction of such deformities are many. This paper offers yet another approach.

**Objective:** (1) To attempt to refine alar rim reconstruction with a personal technique for an extra-anatomic graft; (2) to suggest indications for and limitations of the procedure; and (3) to characterize its effectiveness by analyzing results obtained in a small series of alar rim graft cases.

**Design:** Topic and literature review that is relevant to a detailed description of an original surgical technique. In addition, the paper presents a retrospective photographic and medical record review of 31 patients treated in a consecutive case series performed by the senior author.

**Methods:** Clinical indications for alar rim grafts included alar cartilage malposition, alar flare, external valve collapse, alar retraction, and alar contour asymmetry. Numbered among the important technical details of the surgery were the following: (1) eversion of the alar rim with a double hook and external digital pressure to facilitate dissection, (2) precise subcutaneous tunneling along the alar margin from the medial extent of a marginal incision to the alar base, (3) carving of an autologous cartilage graft 2 to 3 mm wide and 15 to 25 mm long as dictated by alar dimensions, (4) beveling of graft edges to avoid visibility, and (5) fixation of the graft with an encircling gut suture anchored to soft tissues at the medial pole. Nasal septal cartilage was used as the graft material in most cases, but auricular and costal cartilage may also be suitable graft material.

**Results:** 31 cases were reviewed. Mean follow-up period was 26 months. There were no graft infections, displacements, or extrusions. Patients were uniformly satisfied with the results. Parameters of alar contour and support were subjectively judged “notably improved.”

**Conclusions:** In patients who have even a small amount of autograft cartilage available, alar rim grafts as described herein are a viable option for correction of alar retraction, collapse, flare, and asymmetry. They offer the caveat that the technique requires adequate lining and skin elasticity to allow stretching and unfurling of the retracted rim.

**Reviewer’s Comments:** This technique is interesting because it requires only a small amount of cartilage for the graft, and because it is technically easy to perform. The authors acknowledge that alar retraction and notching complicated by soft tissue deficiency and scar contracture are beyond the scope of this technique. Experience suggests that such severe cases will require more extensive procedures that provide soft tissue replenishment with grafts, flaps, or extensive skin envelope mobilization. (Reviewer-Norman V. Godfrey, MD).

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Keywords: Alar Rim, Alar Retraction, Alar Notching, External Valve Collapse

Print Tag: Refer to original journal article
Aesthetic Ideals Are Overwhelmingly Agreed Upon by Patients

Analysis of Patient-Determined Preoperative Computer Imaging.

Mahajan AY, Shafiei M, Marcus BC:

Arch Facial Plast Surg 2009; 11 (September/October): 290-295

People worldwide share a concept of an ideal nasal profile, and that ideal differs from the average profile.

**Background:** Objective and quantitative definitions of nasal attractiveness would offer great advantage but remain elusive. Personal orientation to the subject and individual preferences may engender disagreement regarding universal ideals. Moreover, as clinicians, we must keep patients’ preferences foremost.

**Objective:** To explore the correlation between rhinoplasty patients’ aesthetic preferences, as revealed in computer imaging sessions, and those attributes that are widely touted as classical ideals. This study asks whether classically defined aesthetic proportions remain relevant for the modern rhinoplasty patient.

**Design:** Retrospective analysis of 20 consecutive female rhinoplasty patient photographs and simulations performed to assess selected proportions of existing and desired nasal appearance.

**Methods:** The authors used computer imaging sessions with individual female rhinoplasty patients to create a simulation of nasal appearance pleasing to that patient. They then analyzed dimensions and proportions of those simulated noses to determine the degree of correlation with classical ideals. Ratios of alar base width to dorsal length and interpupillary distance as well as nasofacial and nasolabial angles and the ratio nasal tip projection to nasal length were calculated. These were compared to ideals as described in Powell and Humphreys textbook. Data were assessed for significance using the 2-tailed t test.

**Results:** The authors found that patient-preferred ratios of alar base width to interpupillary distance, the ratio of nasal tip projection to nasal length (Goode ratio), and the nasolabial angle were statistically indistinguishable from widely accepted ideals. They found that the nasofacial angle and the ratio of alar base width to nasal length were extremely close (but not to a confidence level of 95%) to respective ideals.

**Conclusions:** The authors state specifically that their study addressed a single question: Are the ideal proportions of the nose as defined by Powell and Humphreys the same as those desired by today’s rhinoplasty patients? Based on proportional analysis of patient-preferred nasal appearance, they concluded that the answer is yes. They also concluded that such ideals are useful as benchmarks for nasofacial analysis and as aids to creating simulations that help define patients’ objectives.

**Reviewer’s Comments:** I believe this paper is worthwhile. While it breaks no new ground, the data accrued confirm that which most clinical surgeons would intuit: familiar aesthetic ideals still please the majority of patients. That confirmation is reassuring. What is more, the ensuing discussion offers many interesting, relevant, and informative thoughts that stimulate us to think about fundamental objectives of rhinoplasty surgeons and patients: reliably crafting a more aesthetically pleasing nasal appearance. Read this paper and some of its excellent references. (Reviewer-Norman V. Godfrey, MD).

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Keywords: Nasofacial Analysis, Aesthetic Proportions, Computer Simulation

Print Tag: Refer to original journal article
The simple device of "completion osteotomy" through a stab incision permits adequate reduction for greenstick and impacted fractures with no additional open component to the treatment.

**Background:** Treatment options for nasal fractures include closed and open reduction, but controversy continues to swirl regarding specific indications for each. Advocates of each approach emphasize its virtues, but existing reports vary in suggested indications and observed results for each.

**Objective:** To measure and compare multiple outcomes of open and closed reductions. The authors offered a treatment decision-tree based on their particular classification of nasal fractures.

**Design:** The paper is the product of a retrospective review of 164 consecutive traumatic nasal injuries treated at the Penn State Hershey Medical Center over an 11-year period. Seventy-eight nasal injury patients with inadequate records or who refused study participation were excluded. Of the remaining 86 patients, 41 underwent closed reduction, while the remaining 45 had open reduction.

**Methods:** Injuries were classified on the basis of patient photographs, radiographic and operative reports, and clinical notes. Revision rate was calculated as the total number of revisions divided by the total number of initial reductions for closed and open groups. Patient satisfaction was assessed by telephone interview with particular attention to selected questions from the Glasgow Benefit Inventory. Quality and symmetry of the result was judged by faculty review of photographs.

**Results:** The authors found that less-severe injuries were logically classified as (1) simple fractures without midline deviation, (2) simple fractures with midline deviation, or (3) comminuted fractures with crooked septum but intact midline support. They also noted that more-severe injuries were best classified as (4) severely deviated nasal and septal fractures or (5) complex nasal/septal fractures associated with severe soft tissue injuries. Of 41 patients treated with closed reduction, all but 1 were type 1 or 2. Of 45 treated with open reduction, 60% were type 4 or 5 injuries. Revision rate was 2% for the closed reduction group and 9% for the open reduction group. Patient satisfaction and photographic assessment of quality/symmetry of result were equal for both closed and open reduction groups.

**Conclusions:** When closed and open approaches are selected for appropriate injuries, they both yield excellent results. The authors suggest that their fracture classification was clinically practical in that type 1 and 2 fractures were reliably treated with closed reduction. They also noted that the simple device of "completion osteotomy" through a stab incision permitted adequate reduction for greenstick and impacted fractures with no additional open component to the treatment.

**Reviewer’s Comments:** A simple, reliable, and practical set of nasal fracture criteria to guide treatment decisions remains elusive. The simplest injuries yield to closed reduction, while more complex fractures require open methods. The status of the septum is pivotal to treatment selection. (Reviewer-Norman V. Godfrey, MD).

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Keywords: Nasal Fracture, Open Reduction, Closed Reduction, Septal Fracture

Print Tag: Refer to original journal article
Supratip Transposition Flap Reduces Supratip Fullness

Correction of Pollybeak and Dimpling Deformities of the Nasal Tip in the Contracted, Short Nose by the Use of a Supratip Transposition Flap.


Arch Facial Plast Surg 2009; September/October (5): 311-319

The elliptical shape of a supratip flap helps minimize dog-ear deformity.

Background: Silicone nasal augmentation is widely practiced in Asia. Complications of infection or extrusion of the prostheses may result in a contracted, short nose with inelastic skin, supratip prominence, and a dimpling scar defect at the tip. This constellation of deformities is a challenge to reconstructive talents.

Objective: To present the indications for and the technical details of a supratip transposition flap that may be applicable to rhinoplasty patients suffering from these difficult deformities.

Design: This paper is a topic and literature review relevant to the deformity that may result from complicated implant augmentation rhinoplasty. The authors describe their personal surgical technique for the reconstruction of a contracted short nose with a supratip prominence and deficient scarred nasal tip. Finally, they discuss the subtleties of indications and individual flap elevation to permit more expert execution by even relatively inexperienced surgeons.

Methods: The surgical approach is 2-staged. Step 1 is an open corrective rhinoplasty. Wide mobilization of the soft-tissue envelope of the nose up to the radix and complete capsulectomy (or partial capsulectomy and capsulotomy) release the contracture of nasal length. After the release, placement of long spreader grafts with extensions into the tip maintains nasal length and completes the structural restoration. Following incision closure, the nose is inspected for persistence of supratip prominence and tip dimpling due to contracted tip scar. If these remain, the dimpled scar is excised, and the defect is reconstructed with a transposition from the adjacent supratip skin. With the flap taken from the supratip area, closure of the donor defect reduces the prominence located therein.

Results: The authors retrospectively reviewed 10 cases that were reconstructed in this manner in 2007 and 2008. No infection, hematoma, bleeding, necrosis, or wound disruption occurred. All results were subjectively judged to have smooth profile contour and satisfactory scar quality with maturation. Of the 10 patients, 4 required revision of the flap edge for improved alignment. Change of flap shape from round to elliptical minimized such dog-ear formation. Ultimately, all 10 patients were satisfied with the results.

Conclusions: When open rhinoplasty capsulectomy and nasal extension spreader grafts do not completely correct the contracted pollybeak nose with a dimpled tip, a supratip transposition flap will reliably and efficiently reconstruct the cutaneous problems.

Reviewer's Comments: The paper is well worth reading. It is an excellent literature review and technical description. The information is directly applicable to a small population of patients with the late deformities typical of infected augmentation rhinoplasty. The paper is well illustrated with diagrams and photographs of clinical cases. Case reviews of 3 patients are used to effectively illustrate the subtle variations of technique needed for the best effect. (Reviewer-Norman V. Godfrey, MD).

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Keywords: Asian Rhinoplasty, Nasal Flaps, Complications, Augmentation Rhinoplasty

Print Tag: Refer to original journal article
Ristow B:


Treatment with vitamin E may decrease the chance of a DVT while not increasing bleeding in face lift patients, but don't bet your practice on it yet.

Background: There are 2 dreaded complications in face lift surgery: hematomas and deep venous thromboses (DVTs). What prevents the latter problem can contribute to causing the former. Therefore, prevention of both requires a clinical balancing act. Vitamin E has traditionally been regarded as a cause of increased surgical bleeding, and patients have been instructed to stop using it before surgery.

Objective: To investigate the use of vitamin E to prevent DVTs.

Design: Retrospective review.

Methods: 146 face lift patients in a 15-month period were administered 400 IU of alpha tocopherol for 3 weeks before surgery. Other potential anticoagulants were discontinued. A standard SMAS facelift was performed. Drains (but no dressings) were used.

Results: The author’s “impression” was that intraoperative bleeding was increased. No patient developed a DVT.

Conclusions: Vitamin E is safe to use as DVT prophylaxis in face lift patients. The author starts it 3 weeks’ preoperatively and continues it postoperatively.

Reviewer’s Comments: The author is one of the most well known and one of the best face lift surgeons in the world. His 146 face lifts with neither a hematoma nor a DVT is remarkable. However, this paper is not a controlled study, and practicing plastic surgeons need to be cautious before adopting the technique of using vitamin E as a form of DVT prophylaxis. Because the rates of both hematomas and DVTs are very low with this surgeon, proper statistical analysis requires hundreds of additional patients who would be compared to hundreds of other patients who did not receive vitamin E. Only then can we make valid scientific conclusions. Considering the published rate of a DVT in face lift surgery is 1 in 300 (not particularly rare), if the author were to have a DVT in any of his next 154 patients, then his conclusions that vitamin E is effective in preventing DVTs in face lifts would be invalid. In addition, to properly analyze this data, these patients should be studied with noninvasive Dopplers, since many DVTs are silent. The good news with this paper is that the vitamin E did not increase the hematoma rate with this surgeon. However, to make a valid scientific claim, his vitamin E patients must be compared with those who are not taking vitamin E. Until these studies are done, I would caution plastic surgeons against adopting vitamin E as a method of DVT prophylaxis. Plaintiff's attorneys will be even more unrelenting on attacking these data than I am. (Reviewer-Arthur W. Perry, MD).

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Keywords: Face Lift, Vitamin E, Hematoma, DVT, Prophylaxis

Print Tag: Refer to original journal article
When evaluating linear scars using a new visual assessment tool, patients tend to rate their scars as better compared with surgeons’ ratings.

**Background:** Scar evaluation tools have generally been designed for burn scars rather than for linear scars. **Objective:** To test the authors’ new tool, visual assessment of linear scars, in terms of reliability and patient versus surgeon ratings of scars. **Design:** Comparison of patient and surgeon assessments using a new linear scar rating tool; cross-sectional study, and test-retest study. **Participants/Methods:** 51 patients evaluated their 6-month-old scars (linear breast or linear abdominal scars) using the visual assessment of linear scars. Two surgeons rated the photographs of the same scars using the tool. A t test was performed to see if the patients’ and surgeons’ ratings significantly differed, and inter-rater and intra-rater reliability was assessed with Spearman correlation. **Results:** Assessment of scars was made by visually comparing scars to sorted anchor photographs and assigning them a score of 1 to 9 (9 being the worst). Mean scar ratings did not differ between the 2 surgeons. However, surgeons had significantly higher mean ratings (higher = worse scar) than did patients. Using this tool, there was high inter-rater and intra-rater reliability between surgeons. **Conclusions:** The visual assessment of linear scars is a reliable tool demonstrating that patients might rate scar appearance better than their surgeons rate them. **Reviewer’s Comments:** The visual assessment of linear scars is an easy tool that uses visual rather than verbal descriptors. There are already several scar rating tools, but this one focuses on linear scars and the patients’ perspective of their scars. The limitations of this study are well described by the authors. The 3 limitations that most struck me were the fact that the patients were Caucasian only, that patients rated actual scars while surgeons rated photographs, and that there was no way to validate the tool. The quality of photographs may account for the difference between surgeon and patient ratings. Asians and African Americans have more problems with keloids, which might affect the utility of this scar assessment tool in non-Caucasians. However, overall, this simple visual tool may be useful in research that requires assessment of linear scars. (Reviewer-Christine Rohde, MD).

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Keywords: Scars, Assessment Tools

Print Tag: Refer to original journal article
Can Barbed Sutures Be Used in Flexor Tendon Repair?

Barbed Suture Tenorrhaphy: An Ex Vivo Biomechanical Analysis.
Parikh PM, Davison SP, Higgins JP:


In a cadaveric study, barbed sutures allow a knotless repair with decreased cross-sectional width of the repair and comparable strength to conventional repairs.

**Background:** The ideal flexor tendon repair should minimize bulk and provide superior tensile strength. The most widely accepted repairs consist of multi-strand techniques in which tensile strength is ultimately limited by knot failure or slippage of locking loops.

**Objective:** To evaluate barbed sutures for tenorrhaphy, which, in theory, provide a knotless repair with extensive suture-tendon interaction due to the barbs.

**Design:** Prospective randomized ex vivo analysis.

**Methods:** 38 flexor tendons were harvested from cadaver fingers and transected at zone II, and the cross-sectional area was measured. Tendons were randomized to either 1 of 3 control groups (repair with traditional 4-strand locked cruciate technique with 4-0 Prolene, n=8; 4-0 Ethibond, n=8; or 4-0 Fiberwire, n=8) or a study group (3-strand barbed suture repair, n=8; or 6-strand barbed suture repair using 2-0 polypropylene Quill suture, n=6). In the barbed suture technique, there were strands that both traversed between the 2 ends of the tendon in a direction parallel to the tendon fibers as well as several transverse sutures that traveled up and down perpendicular to the fibers. Tendons were placed on a load cell and linearly distracted with measurement of force required to cause a visible gap of 3 mm or an abrupt drop in tensile strength. The cross-sectional area of the tendon after repair was also measured and compared to the original area.

**Results:** No difference in load to failure (LTF) was found between control groups. No significant difference was noted between control groups (LTF, 33 N) and 3-strand barbed repair (LTF, 36 N), but 6-strand repair had an increased LTF of 88 N ($P<$0.001). Both barbed repair groups had a decrease in repair site bunching as measured by cross-sectional area ratio ($P<$0.01). When barbed sutures failed, it was due to suture breakage, whereas cruciate repair techniques failed due to knot failure or slippage of loops.

**Conclusions:** In an ex vivo model, the 3-strand barbed-suture technique for flexor tendon repair achieves comparable tensile strength to traditional cruciate repair techniques, while the 6-strand technique demonstrates increased tensile strength. Both barbed suture techniques minimize repair-site bunching.

**Reviewer's Comments:** This is a reasonable start in evaluating the use of barbed sutures in flexor tendon repair, with an adequate-sized study group and good methods. However, before barbed sutures should be used regularly in a part of the body subject to such frequency of repetitive movements in a small space with lots of bending, a study of maintenance of strength over time should be performed. Studies in animals or early clinical trials should also be done to determine if there is increased scarring in tendons with barbed sutures. It should be noted that 2-0 Quills were used to compare to 4-0 conventional sutures because the barbs create stress risers that are known to decrease native tensile strength. (Reviewer-Robert T. Grant, MD).

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Keywords: Flexor Tendon Repair, Sutures, Barbed Sutures

Print Tag: Refer to original journal article
Plastic surgeons have a responsibility to effectively screen for breast cancer in the cosmetic breast surgery patient population.

**Background:** Preoperative screening for breast cancer is an important topic in the cosmetic breast surgery population since the procedures lead to permanent changes in the breast architecture.

**Objective:** To determine the familiarity of members of the American society of Plastic Surgeons (ASPS) with the American Cancer Society (ACS) guidelines for breast cancer screening, and to characterize the screening practices of plastic surgeons.

**Design:** Online survey.

**Participants:** 1066 members of the ASPS.

**Methods:** 4520 ASPS members were invited to participate in a 20-question online survey designed to characterize surgeon demographics, practice patterns, familiarity with the ACS screening guidelines, and actual screening practices. Responses were tallied and analyzed using Pearson's chi-square test, Fisher’s exact text, and logistic regression.

**Results:** 1066 surgeons participated in the survey (24% response rate). Of these, 83% were male, and 73% were in private practice. The use of mammography as a screening tool was widely variable, but most surgeons ordered mammograms for patients who were aged >40 years or who had a family history of breast cancer (61% claimed that they modeled their screening practices after the ACS guidelines). Younger surgeons in practice <15 years tended to screen with mammography earlier and more frequently than their more experienced counterparts (those in practice >15 years) who tended to rely on clinical breast exams as their screening tool of choice. Female surgeons screened more aggressively and, therefore, made more cancer diagnoses but were less likely to base their screening practices on ACS guidelines. Surgeons who reported familiarity with ACS guidelines made more cancer diagnoses than did the 30% of respondents who reported no familiarity with the guidelines.

**Conclusions:** It is essential that plastic surgeons be knowledgeable of the ACS guidelines to effectively screen cosmetic breast surgery patients.

**Reviewer's Comments:** This article did a good job of raising awareness on the important issue of breast cancer screening in the cosmetic breast surgery population, but it did so without much scientific merit behind the data presented. The recall bias inherent in the survey method and the low response rate of 24% make it difficult to make viable conclusions based on the data, but the importance of effective screening in cosmetic breast surgery patients is a message that does not need analytical support. Variability in screening practices is an expected finding, but it is surprising that nearly one third of ASPS surgeons claim no familiarity with ACS guidelines, and that not all surgeons perform clinical breast exams on their patients. (Reviewer-Robert T. Grant, MD).

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Keywords: Mammogram, Breast Cancer Screening, Cosmetic Breast Surgery

Print Tag: Refer to original journal article
Low-height tissue expanders allow preferential expansion of the lower pole with similar complication rates as those of other surgeons using moderate- and full-height expanders.

**Background:** The recent increase in bilateral mastectomies (due to requests for prophylactic contralateral procedures) has led to heightened interest in 2-stage tissue expander reconstruction. Other authors have described their experience with moderate- and full-height expanders with complication rates between 8% and 11%.

**Objective:** The current author evaluated his own experience with low-height expanders.

**Design:** Single-surgeon retrospective series.

**Methods:** 172 consecutive patients who underwent 2-stage expander/implant breast reconstruction by the same surgeon. All low-height tissue expanders were used for the first stage, but the exchange involved the use of both saline and silicone implants of round and shaped styles. All mastectomies were done by the same breast surgeon using an inframammary-fold sparing technique. All expanders were placed in a subpectoral plane using the same technique of raising serratus laterally with inferior dissection to a subcutaneous plane (similar to dual-plane augmentation).

**Results:** 18 patients had complications, for a rate of 10.5%. Six patients had malposition, 7 patients had infection, 3 patients had rupture, 1 patient had contracture, and 1 patient had traumatic extrusion. Four of 7 patients with infection required device removal, and 1 underwent delayed replacement.

**Conclusions:** This complication rate compares to previously published rates of 8.5% by Cordeiro for full-height devices and 11% by Spear with moderate-height expanders. The author believes it is important to have consistent use of implants with integrated ports, subpectoral device placement, and release to a subcutaneous plane inferiorly.

**Reviewer's Comments:** This article highlights one author's experience with low-height expanders and demonstrates that they are safe for use compared to other types of expanders. However, the author's experience seems to be very limited—he works with only 1 breast surgeon who seems to be very consistent in his ability to ensure no dissection past the inframammary fold. Also, the surgeon describes how he would use AlloDerm in a patient with thin flaps, redundant skin, or a disrupted inframammary fold but does not reveal if he has used it in any of his previous patients (or those in the study) or what he would do if there was insufficient lateral muscle or fascia coverage. In the case of a disrupted IMF, it would be difficult to reconstruct the IMF with AlloDerm while simultaneously allowing dissection into a subcutaneous plane. Would the implant be restrained by or allowed to poke through the AlloDerm inferiorly? (Reviewer-Robert T. Grant, MD).

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Keywords: Breast Reconstruction With Tissue Expanders, Breast Implants, Low-Height Expanders

Print Tag: Refer to original journal article
Surgical Technique Enhances Second-Stage Ear Reconstruction

A New Method for the Second-Stage Auricular Projection of the Nagata Method: Ultra-Delicate Split-Thickness Skin Graft in Continuity With Full-Thickness Skin.

Chen Z-C, Goh RCV, et al:


In staged auricular reconstruction, it is important to ensure that the temporoparietal fascial flap covers the lateral margin of the helical rim as the skin in this location is thin and prone to vascular compromise and skin necrosis.

Background: Staged auricular reconstruction utilizing autogenous costal cartilage is considered the standard of care in ear reconstruction for microtia. Initially, the ear is fabricated using a cartilage framework, which is implanted under a skin pocket. During the second stage, the ear is projected through an incision parallel to the helical rim, and a fascial flap is raised to cover the cartilage to increase vascularity, preventing skin necrosis and wound breakdown. During the projection phase, a separate skin graft is inset over the new postauricular sulcus.

Objective: To describe a new technique in which the previously described separate skin graft is morphed into an ultra-delicate split-thickness skin graft, which is in continuity with the full-thickness skin over the anterior aspect of the ear.

Design: Retrospective review.

Methods: Over a 2-year period, the authors evaluated this new technique in 30 patients. Patients were followed up for at least 1 year.

Results: No distinctive complications were observed compared to those seen with a separate skin graft.

Conclusions: The authors noted consistently pleasing results from the method with increased satisfaction among patients and the surgical team.

Reviewer's Comments: This is an interesting technique paper that makes sense. It minimizes scarring on the auricle by placing the incision further away, decreasing the stigmata of auricular reconstruction. Furthermore, the dimension of the skin cover required can be designed with more precision. The greatest negative is the increase in operative time (40 minutes) necessary to harvest the skin graft. Although the authors believe this allows for increased surgical precision and control of the thickness of the skin graft, it may be difficult initially to learn how to perform this aspect of the procedure as the thickness of the graft has to be continually adjusted and is done freehand. (Reviewer—Robert T. Grant, MD).

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Keywords: Ear Reconstruction, Head & Neck Deformities

Print Tag: Refer to original journal article
Molecular imbalances of multiple regulatory proteins in the soft tissue of the massive weight loss wound milieu likely contribute to poor surgical outcomes.

**Background:** Body contouring surgeries for massive weight loss patients are fraught with wound-healing complications. Complication rates in body contouring surgery range from 31% to 66%.

**Objective:** To better understand the poor wound healing in this population, the authors performed a comparative analysis of the healing milieu by searching the literature for patient populations with increased rates of wound complications.

**Design:** Literature review.

**Methods:** PubMed and Ovid databases for papers published between January 1985 and January 2009 were searched for the following keywords: wound healing, obesity, cancer, burn, transplant, and body contouring. From these studies, serum and wound levels of multiple factors, including matrix metalloproteinases (MMPs) and cytokines, were assessed. Sixty-five studies were reviewed, and wound-healing complication rates were identified for cancer (45.8%), burn (30.4%), post-transplant (36%), and obese (43%) populations.

**Results:** MMP levels were elevated in cancer (4-fold increase in MMP-2), burn (20- to 30-fold increase in MMP-9), transplant (1.4-fold increase in MMP-2), and obese/chronic (79-fold increase) populations. Alterations in the levels of the regulatory proteins can lead to prolonged matrix degradation, up-regulation of inflammatory mediators, and decreased growth factors, all of which delay the wound-healing process.

**Conclusions:** The etiology of complications after body contouring surgery is multifactorial. Examination of wound regulatory proteins such as transforming growth factor-β, vascular endothelial growth factor, and MMP may help elucidate the healing difficulties observed by clinicians on a daily basis.

**Reviewer's Comments:** It's no surprise to plastic surgeons that patients undergoing body contouring procedures following massive weight loss surgery face up to a 66% complication rate. These complications include wound dehiscence, seroma, cellulitis, necrosis, and hematoma. The authors developed an interesting hypothesis comparing the wound milieu of massive weight loss patients to those with other disorders that result in poor wound healing. From their review of the literature, they concluded that the insufficiently opposed proteolytic MMPs are responsible for excessive degradation. Although this is an interesting theory, it is likely only a small part of the cause. We still must consider wound tension, ischemia, malnutrition, and patient comorbidities. It is a significant generalization to compare massive weight loss patients to those with malignancies, burns, and immunosuppression. The outcome of doing so is interesting but may be an oversimplification. In this review paper, the authors lay the groundwork for future studies on the microenvironment of this challenging group of patients. Further examination of the wound healing milieu in massive weight loss patients is important to the growing field of those performing post-bariatric body contouring. In the end, the goal is to simply identify quantifiable factors that complicate wound healing so that we may decrease postoperative issues. (Reviewer-Robert T. Grant, MD).

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**Keywords:** Body Contouring, Massive Weight Loss, Wound Healing, Milieu, Factors, Regulation

**Print Tag:** Refer to original journal article
Donald Herron Young, a Canadian surgeon who worked in England, published the concept of external oblique relaxing incisions for repair of epigastric hernias in 1961.

**Background:** The type of abdominal hernia repair known as components separation was described by Ramirez et al in 1990. It has enjoyed widespread popularity since that time. The authors who described this technique made no proprietary claims, however; they also did not discuss the history of abdominal hernia repair. In most circles, Ramirez and colleagues have been credited with the development of the procedure.

**Objective:** In this article, Halvorson works to place components separation in historical perspective, giving credit to Donald Herron Young, a Canada native, who studied and worked as a surgeon in England for most of his life.

**Design:** Historical review.

**Methods:** In 1916, Charles Gibson, working at the First Cornell Division of the New York Hospital, described a technique for plastic repair of the abdominal wall involving relaxing incisions in the lateral anterior rectus sheath. C.F. Dixon modified this technique 10 years later to release the anterior rectus sheath 0.5 cm from its medial border and construct a turn-over flap. It was not until 1961 that Donald Herron Young published the concept of external oblique relaxing incisions for repair of epigastric hernias in 1961. The majority of his patients had undergone cholecystectomies or gastrectomies.

**Results:** With 43 patients in 2 published series, Young's recurrence rate was only 16%, comparable to today's outcomes. Postoperative infection was associated with failure of repair.

**Conclusions:** The technique of components separation relies on sound anatomical principles and has enjoyed a high reproducible clinical success for generations.

**Reviewer's Comments:** This well-written commentary helps to piece together the history of the concept of components separation. Beginning in the early 20th century, following the advent of anesthesia and the subsequent increase in size of celiotomy incisions, abdominal wall hernias became an issue surgeons needed to and could address. In recent decades, patients are living longer and have more significant loss of abdominal domain. Ramirez et al's addition of undermining the exterior oblique muscle allows treatment of a greater-sized defect than the epigastric hernias treated by Young and previous surgeons. This article interestingly traces the surgical technique through the plastics litterature. It is a good demonstration of how plastic surgeons often "reinvent the wheel" with the description of "novel techniques." (Reviewer-Robert T. Grant, MD).

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Keywords: Abdominal Wall Hernia, Components Separation, Donald Herron Young, Abdominal Wall Fascial Relaxing Incision

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