Subjective perceptions about scars have significant effects on the patient’s quality of life.

**Background:** Disfigurement, sometimes associated with scars, may cause anxiety, social avoidance, and decreased quality of life. Numerous studies have shown that the severity of these problems correlates poorly with objective measures of scar severity and type. A patient-reported measure of the subjective impact of scars does not exist and may offer considerable benefit.

**Objective:** To describe the process by which physicians and social scientists at the University of Manchester (United Kingdom) attempted to develop a Patient-Reported Impact of Scars Measure (PRISM) to fill this need.

**Design:** Topic and literature review, as well as a narrative description, of the concepts and methods employed to develop an outcomes instrument to measure the subjective impact of scars on patients.

**Methods:** The authors based their fundamental approach on information gleaned from patient interviews in the form of "patient quotes" that defined crucial dimensions of patient-perceived scar impact. Using a "needs-based" approach, the initial body of 567 quotes was reduced to 16 symptom and 34 quality-of-life items that appeared relevant and adequate to define the scar impact. These items were field tested for appropriateness and confirmed for consistency, validity, and statistical significance.

**Results:** After the initial concept, subsequent analysis, and validation, the authors judged their instrument appropriate and valid and have begun additional testing on larger groups.

**Conclusions:** The authors concluded that PRISM is the first scientifically rigorous, patient-reported, scar-specific measure of symptoms and quality of life. Furthermore, they judged it easily administered, consistent, valid, and reproducible. On that basis, they are proceeding with further validation of responsiveness and adaptability to other languages beyond English.

**Reviewer's Comments:** This is an interesting and informative paper that offers considerable information and insight regarding the process of outcomes measure development. To my disappointment, however, very little content of the PRISM product is included. With the exception of 5 phrases from the Symptom Scale and an additional 5 from the Quality of Life Scale, no other details of the measure's items and no specifics regarding its administration are offered. For the reader interested in the process, this is an excellent paper. If one is expecting to learn about the specific items patients judged important to scar interaction, I recommend waiting for the anticipated follow-on report on the details of PRISM. (Reviewer-Norman V. Godfrey, MD).

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Keywords: Scar Quality, Scar Impact, Outcomes Study

Print Tag: Refer to original journal article
Can Autologous Breast Reconstruction Be Successful After Failed Reconstruction?

Surgical Results, Aesthetic Outcome, and Patient Satisfaction After Microsurgical Autologous Breast Reconstruction Following Failed Implant Reconstruction.

Visser NJ, Damen THC, et al:

Plast Reconstr Surg 2010; 126 (July): 26-36

Patients who have failed implant breast reconstructions can have high levels of satisfaction with tertiary autologous free flap breast reconstruction.

Background: More women are undergoing conversion of implant breast reconstructions to autologous breast reconstructions because of complications with implants and improvements in autologous techniques.

Objective: To evaluate outcomes and satisfaction with tertiary autologous breast reconstruction.

Design: Retrospective study with questionnaire of a prospectively maintained database.

Methods: In a 6-year period, all women who underwent tertiary reconstruction by the authors were evaluated. Surgical data and minor and major complications were evaluated. Thirty-one patients were asked to complete a study-specific, standardized questionnaire. An expert panel of experienced plastic surgeons was asked to evaluate the aesthetic outcome of the reconstructions using standardized pre- and postoperative photographs.

Results: During the study period, 42 women underwent 61 tertiary microsurgical autologous breast reconstructions, including deep inferior epigastric artery perforator flaps (most commonly), transverse rectus abdominis musculocutaneous, and transverse musculocutaneous gracilis free flaps. Of these, 19% needed reoperation for complications, but there were no total flap losses. Nineteen patients (45%) had additional operations to improve the cosmetic outcome. Twenty-nine of 31 patients asked to complete the questionnaire did complete it. The most common reasons for patients opting to have implants replaced by an autologous reconstruction were physical discomfort caused by the implants (68%) and unhappiness with the aesthetic result of the implant reconstruction (64%). More than 80% of patients were satisfied with breast softness, volume, and shape. The patients reported the highest satisfaction with breast volume and shape. The expert panel had a lower mean satisfaction score than the patients, but the panel did note a significant improvement in breast volume, shape, and symmetry.

Conclusions: Microsurgical autologous breast reconstruction after implant reconstruction is feasible and can lead to improved aesthetic results and higher patient satisfaction.

Reviewer's Comments: Implant reconstructions are the most common breast reconstruction after mastectomy. But some patients are unhappy with the results after implant reconstruction. This study confirms the feasibility and success of autologous breast reconstruction after failed implant reconstruction. The study uses a variety of measures of outcomes, including surgical data, patient questionnaire, and expert panel aesthetic judgment. The number of patients evaluated is small, but the results of the various outcomes measures used support the authors' conclusions. The questionnaire was generated by the authors, but there is no evidence that it has been developed by standard health measurement guidelines. Use of such a questionnaire would make the study more scientifically sound. (Dr. Pusic, in a later article in the same journal, raises this point in detail). Not surprisingly, the plastic surgeons judged the results lower than the patients, but there were generally high satisfaction rates among the patients undergoing tertiary reconstruction. The authors state that a prospective study with preoperative and postoperative questionnaires is in progress and those results would give additional weight to the results of this study. (Reviewer-Christine Rohde, MD).

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Keywords: Autologous Breast Reconstruction, Failed Implant Reconstruction, Outcome Studies

Print Tag: Refer to original journal article
Precisely planned and placed fat injections in the radiated postmastectomy patient reconstructed with tissue expanders/implants produce an improved aesthetic contour and decreases capsular contracture.

**Background:** Postmastectomy-radiated patients often are not candidates for tissue expander/implant reconstruction secondary to complications. The aesthetic outcome is often poor as compared to autologous reconstruction. The authors present their algorithm for reconstruction in such patients utilizing fat injections.

**Objective:** To determine whether injecting autologous fat improves aesthetic and functional outcomes in post-radiated unilateral mastectomy patients.

**Participants:** A total of 65 patients at least 1 year out from unilateral mastectomy, who did not show any signs of radiodermatitis or radionecrosis, were included.

**Methods:** The patient undergoes 3 separate operations. In the first procedure, placement of a tissue expander underneath the pectoralis major muscle is performed. In addition, abdominal fat is harvested and placed in 1-cc aliquots into the upper quadrants in the subcutaneous and intramuscular plane. Three months later, the expander is exchanged, and fat is again harvested and injected into the lower quadrants and around the prosthesis. One month later, the nipple-areola complex is reconstructed, and extra fat may be injected.

**Results:** In the first stage, the mean volume of fat injection was 150 ± 25 cc and in the second, 150 ± 30 cc. Only 6 cases needed additional fat in the third stage. After 6 months, satisfaction was measured on a scale of 1 (low) to 5 (high) combining the opinion of the patient, an independent surgeon, and a nurse, with a mean score of 4. No one had a Baker capsular contracture rate >1.

**Conclusions:** Fat injections in a 3-procedure approach in the unilateral mastectomy patient 1 year out from radiotherapy with normal appearing skin produces improved aesthetic results and prevents capsular contracture.

**Reviewer's Comments:** Breast cancer patients who undergo radiation present quite a challenge to the reconstructive surgeon, particularly when the patient decides on tissue expander/implant reconstruction. The authors present a novel approach to counter traditionally poor outcomes by using autologous fat injections in a series of 3 procedures. In this study, a total of approximately 300 cc of fat is used to achieve their results. The authors have discovered that their aesthetic outcomes are satisfactory, and they have no evidence of capsular contracture. I have several criticisms of this paper. One is that the follow-up for the patients was not very long, as the aesthetic satisfaction was judged after only 6 months. Also, patients with radionecrosis or radiodermatitis should have been included, if not as another group. Finally, the aesthetic outcomes were judged by a fairly rudimentary evaluation rather than a strict objective set of guidelines identifying each aesthetic element of the breast. Nonetheless, I believe the concept of placing angiogenic fat stem cells in a radiated field will improve outcomes, and I would consider using this technique. (Reviewer-Jerome D. Chao, MD).

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**Keywords:** Fat Grafting, Breast Reconstruction, Radiation Therapy

**Print Tag:** Refer to original journal article
Are Anatomic Contoured Implants Safe in Breast Augmentation?

Malrotation of the McGhan Style 510 Prosthesis.

Schots JMP, Fechner MR, et al:

Plast Reconstr Surg 2010; 126 (July): 261-265

A higher rate of malrotation may be seen when the Allergan 510 prosthesis is used for primary breast augmentation.

**Background:** The Allergan style 510 prosthesis is an anatomically shaped silicone gel implant that is approved for use in Europe but not yet in the United States. It features a dual gel combination with a standard cohesive gel in the posterior aspect of the implant and a high cohesive gel (less pliable) in the anterior aspect of the implant, which provides superior projection. The implant has a textured surface. The authors noticed a high rate of patient reported malrotation of the implants and chose to formally study the prevalence of malrotation in their patient population.

**Objective:** To determine the prevalence of all types of malposition of the Allergan style 510 prosthesis in a single center in the Netherlands.

**Design:** Retrospective review.

**Methods:** A medical records review of all breast augmentations performed using 510 implants by 3 surgeons at same center over a 2-year period was conducted. All surgeons used an inframammary incision with subglandular implant placement utilizing a precise pocket. The authors analyzed the number of patients with obvious implant malrotation (defined as occurrence of breast deformity during postoperative follow-up with lack of capsular contracture). Complications and demographic factors were studied as well.

**Results:** 73 procedures were performed (146 prostheses). Demographic factors, implant size, and side of placement were not significant factors leading to rotation, with the exception of age (age 44 years for rotation and age 39 years for nonrotation; \( P < 0.05 \)). Complications included infection (0.7%), pulmonary embolism (0.7%), capsular contracture (1.4%), and rotation (12 patients [8.2%]). No patients had bilateral malrotation. Five patients could be rotated back into position via external manipulation, but 7 patients required reoperation and capsulectomy.

**Conclusions:** The rate of 8.2% malrotation in this population is higher than previously published rates of malrotation for other anatomic implants (0% to 5%), and the authors have discontinued use of the 510 implant for primary augmentation mammoplasty.

**Reviewer's Comments:** Although the 510 implant is far from approval in the United States, the 410, which has a similar shape, may soon be on the market. The results of this study draw attention to the fact that pocket development should be approached vary carefully with use of anatomic implants, although it is likely that the first round of usage of 410s will be for breast reconstruction in which implants are placed submuscularly and thus may rotate less. It is unclear what the cause of this malrotation is, and further studies are warranted. (Reviewer—Robert T. Grant, MD).

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Keywords: Breast Augmentation, Anatomic Implants, Malrotation, Revision, Allergan 510

Print Tag: Refer to original journal article
Radiation therapy following autogenous tissue reconstruction can result in high complication and reoperation rates.

**Background:** In appropriately selected patients, postmastectomy radiation therapy has been shown to significantly decrease locoregional disease recurrence. Furthermore, radiation provides a survival benefit to women with node-positive disease. However, radiation therapy also has a negative effect on breast reconstruction outcomes.

**Objective:** To assess the impact of radiation on patients undergoing microsurgical autologous tissue breast reconstruction and to identify patient and treatment factors that affect the reconstruction results.

**Design:** Retrospective medical record analysis.

**Participants:** All patients underwent postmastectomy breast reconstruction between 1999 and 2008 at the University of Rochester Medical Center.

**Methods:** The authors reviewed the records of 76 patients who underwent microsurgical breast reconstruction for primary breast cancer prior to receiving radiation therapy. Patient demographics, comorbidities, operative details, adjuvant therapy, and surgical outcomes were all examined. All measured complications occurred after radiation therapy.

**Results:** Among the 76 reconstructions, there were 60 free transverse rectus abdominis musculocutaneous (TRAM) flaps, 3 gracilis flaps, 4 superior gluteal artery perforator flaps, 3 deep inferior epigastric perforator flaps, and 6 superficial inferior epigastric artery flaps. Complications occurred in 53 (70%) of the 76 studied patients; 36 patients (47%) underwent reoperation for their postirradiation complications. Specific complications included fat necrosis in 9 patients (12%), parenchymal fibrosis in 13 patients (17%), tissue envelope retraction in 12 patients (16%), and hypertrophic scarring in 19 patients (25%). In addition, 8 patients (11%) reported excessive pain, and physician and/or patient dissatisfaction occurred in 13 patients (17%). Parenchymal complications, including fat necrosis and parenchymal fibrosis, had a statistically significant relation to smoking ($P=0.03$), type II diabetes mellitus ($P=0.02$), and age ($P=0.02$). Neoadjuvant chemotherapy was found to increase complication rates ($P=0.04$), especially skin changes ($P=0.01$).

**Conclusions:** The authors concluded that although autologous reconstruction followed by radiation therapy can result in successful outcomes and satisfied patients, it is important that patients be aware of the complication risks, particularly patients who smoke, have type II diabetes, or undergo neoadjuvant chemotherapy.

**Reviewer’s Comments:** This is a clear, well written, and informative paper that reminds us that even patients who undergo microsurgical autologous breast reconstructions have high complication and reoperation rates following radiation therapy. Thus, while we often encourage patients to undergo autologous reconstruction when we know they will have radiation following reconstruction, it is important to let these patients know that complication and reoperation rates are still significant. Another option that can therefore be discussed with these patients is delayed autogenous reconstruction to be performed following radiation therapy. However, I have found that when I do discuss this option for delayed reconstruction with my patients, they frequently say they prefer to have just 1 major surgery, and prefer the immediate reconstruction, even with the increased risk of complications. (Reviewer-Jeffrey A. Ascherman, MD).

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Keywords: Autogenous Tissue Breast Reconstruction, Radiation Tx, Microsurgery

Print Tag: Refer to original journal article
Drains Are Becoming Thing of the Past in Abdominoplasty


Rosen AD:

Plast Reconstr Surg 2010; 125 (March): 1024-1027

New suture technology combined with newer techniques may eliminate drains in cosmetic abdominoplasty.

**Background:** The use of barbed sutures is becoming more popular. This article evaluates one surgeon's results in abdominoplasty utilizing the Quill barbed suture and progressive tension technique.

**Objective:** To compare operative times, closure costs, and safety of the Quill suture to standard suture in abdominoplasty patients.

**Participants:** 24 patients undergoing cosmetic abdominoplasty.

**Methods:** 12 patients were treated in the standard fashion with nonbarbed sutures and drains. Fascial plication was performed using 0 polydiaxanone sutures (PDS), the progressive tension suture used was a 2-0 PDS, and then an Insorb was used for the deep dermal layer, followed by 4-0 Monocryl for subcuticular skin closure. The remaining 12 patients had barbed absorbable sutures placed in the skin without dermal staples or drains. Fascial plication was performed using 2, 0, or 2-0 PDS, progressive tension with 0 or 2-0 PDS, and skin closure with either PDS and/or Monoderm in either 2-0 or 3-0.

**Results:** The 2 groups were equal in baseline characteristics. The operating room times for the barbed group were on average 15 minutes shorter in comparison, resulting in decreased operative costs. A similar number of sutures were placed in both groups. One significant complication in the barbed group involved an infected hematoma, but this patient was the only one who had concomitant flap liposuction and Lovenox. In the standard group, there was 1 small seroma.

**Conclusions:** The use of progressive tension suture eliminates the need for drains. By utilizing new suture technology, the operative time was decreased, and a knotless technique is incorporated. This author believes that seroma rates are equal with either technique, but the elimination of drains utilizing the barbed suture technique is advantageous.

**Reviewer's Comments:** The use of barbed sutures has become an increasingly popular choice among plastic surgeons as evidenced by the multiple options in sutures by competing companies. Concomitant with this new technology has been the evolution of closure techniques for abdominoplasty, most notably the progressive tension technique. Multiple studies have shown that this technique allows for the elimination of drains or decreased time of drain use, but requires extraoperative time due to the placement of multiple knots. The author is to be commended for mitigating both of these issues by utilizing the Quill barbed suture, showing decreased operative times and a knotless technique. In addition, the rates of complications are similar. One limitation of this study is that the sample size of 24 patients is small. In addition, not every plastic surgeon utilizes the same closure technique as the author even on the "standard" patients and, therefore, the applicability to all plastic surgeons is limited. Nonetheless, the use of the barbed suture as well as the progressive tension technique holds promise for eliminating the use of drains and speeding operative times in cosmetic abdominoplasty. (Reviewer-Jerome D. Chao, MD).

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Keywords: Barbed Suture, Abdominoplasty, Drains, Seroma

Print Tag: Refer to original journal article
The incision for alar flare reduction must stay just above the alar/cheek junction to preserve its natural curve.

**Background:** Alar width, flare, height, and conformation are among the important features of nasal attractiveness. Understanding the anatomy and the procedures for alar correction is fundamental to optimal execution of rhinoplasty.

**Objective:** In addition to reviewing many alar surgical principles and techniques, the authors attempt to measure the impact of alar incisional scars on nasal appearance. This paper answers the questions of what alar procedure is indicated for a given condition and how such a procedure should be performed.

**Design:** Topic and limited literature review. In addition, this paper offers a retrospective photographic review of 47 patients whose rhinoplasty procedures included alar soft-tissue alterations. The patients' photographs were analyzed for the nature of the aesthetic changes and the quality of the scars.

**Methods:** Details of surgical technique are reviewed. The quality of the resulting excision scars was rated subjectively (by nonmedical reviewers) on a linear scale from 0 (not visible) to 4 (severely visible.) Described surgical techniques were: (1) internal alar base reduction, a wedge-shaped excision of nostril sill, widest at the sill edge, and performed to narrow the nostril circumference without narrowing the alar width; (2) external alar base reduction, a wedge-shaped excision of the nostril sill, widest at the nasal/lip junction, and performed to narrow the alar width without narrowing the nostril circumference; (3) combined internal and external alar base reduction, which is performed to narrow alar width and nostril circumference; (4) alar flare reduction, a vertical excision of alar base tissue from around the alar base circumference to reduce tip-to-alar base dimension and straighten the flared alar margin; and (5) alar hooding resection, which is a linear excision along the alar margin to lift the caudal margin of the ala.

**Results:** In 100 consecutive rhinoplasties, 47 patients underwent some form of alar soft-tissue modification. Alar base reduction was performed in 46, alar flare reduction in 16, and alar hooding reduction in 2. The average scar quality was rated at 0.5 to 0.7.

**Conclusions:** The authors concluded that when properly selected and performed, alar soft-tissue modifications are an important component of rhinoplasty in approximately 50% of their patient population. They further observed that the quality of the resulting incision scars was high as rated by neutral observers.

**Reviewer’s Comments:** As a study, this paper offers very little useful information. As a review of surgical concepts and technical details, however, it has merit. All rhinoplasty surgeons will encounter patients with alar soft-tissue deformities. This paper offers a helpful review of the considerations relevant to surgical decisions and procedures for their correction. Read it! (Reviewer–Norman V. Godfrey, MD).

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Keywords: Alar Base Reduction, Alar Flare Reduction, Alar Hooding

Print Tag: Refer to original journal article
Background: Harmonious relationships of nasal features create an aesthetically pleasing nose. Tip projection relative to bridge height is among the most important of those relationships. Yet, rhinoplasty procedures inevitably disrupt some natural tip supporting structures. Surgeons must know when and how to restore tip support in rhinoplasty.

Objective: To define the relative strength and long-term clinical effectiveness of various tip support techniques.

Methods: The authors compared the physical strength of various tip support techniques with a cadaver study that measured the deformation of nasal tips as a function of applied force. In addition, they performed a retrospective photographic review of rhinoplasty patients to compare the performance of various techniques over the longer term postoperatively. Five cadavers were subjected to tensometer study to determine tip deformation as a function of applied force. In each, measurements were taken in the preoperative state, following soft-tissue elevation by open technique, and following tip support restoration with tip suture, columellar strut, caudal septal extension graft, and tongue-and-groove alar/septal suture. Photographs of 40 clinical cases were retrospectively reviewed to measure tip projection at 3 months and at 1 year postoperatively. Tip projection was compared with the tip support methods selected at operation.

Results: Several important findings were included. (1) Soft-tissue elevation decreased tip support in all cadavers compared to preoperatively. (2) Tip sutures with incision closure and columellar struts improved tip support but not to the level of preoperative strength. (3) Only septal extension grafts and tongue-and-groove suture of ala to septum enhanced tip strength beyond the preoperative state. (4) All clinical photos demonstrated decreased tip projection at 1 year as compared to 3 months (swelling?). (5) The photos demonstrated no difference in tip projection maintenance among the various techniques of tip support used.

Conclusions: The authors concluded that there were objective differences in the strength of tip support offered by various surgical maneuvers. In addition, they suggested that when properly selected for the clinical setting, each of the different maneuvers yielded satisfactory aesthetic results.

Reviewer's Comments: Control of tip projection is an important element of every rhinoplasty. The cadaver study offered in this paper, though small, is a credible and helpful demonstration of the strengths of various maneuvers. The clinical study only demonstrates that an experienced surgeon (the senior author) can typically select an appropriate technique of tip support. This is a worthwhile review. (Reviewer-Norman V. Godfrey, MD).

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Keywords: Tip Projection, Tip Support, Columellar Strut, Septal Extension Graft

Print Tag: Refer to original journal article
Facelift Patients Still Satisfied Years Later

The Measure of Face-Lift Patient Satisfaction: The Owsley Facelift Satisfaction Survey With a Long-Term Follow-Up Study.

Friel MT, Shaw RE, et al:

Plast Reconstr Surg 2010; 126 (July): 245-257

Patients who undergo facelifts generally have high levels of satisfaction in the short and long term.

**Background:** Patient satisfaction is the most important measure of success in aesthetic surgery. Long-term patient satisfaction with face-lift surgery has not been adequately studied.

**Objective:** To assess the levels of patient satisfaction after face-lift surgery performed by a single surgeon 10 to 15 years after surgery.

**Design:** Retrospective questionnaire.

**Methods:** From 1994 to 1999, 394 consecutive patients had face-lifts performed by the senior author (Dr. John Q. Owsley). The authors were able to contact 37% of these patients, and 89 patients returned the survey. The survey was designed to address the same issues from multiple viewpoints, including self-assessment of improvement in appearance, personal satisfaction, and feedback from other observers. Queries about surgical complications and disappointment with the operation were included. Five different anatomical areas of the face and neck were assessed.

**Results:** Surveys were sent to 131 patients with a 68% response rate (89 patients). There were 85 women and 4 men. The average and median time since surgery was 12.6 years. Of the patient surveys, 97.8% recalled their facial appearance as being "very good" or "beyond expectation" in the first year after surgery, and 96.6% had high satisfaction with the appearance of their faces. At 1 year after surgery and at the current time, patients rated the appearance of the jaw line as having the highest improvement and the nasolabial fold as having the lowest improvement; 68.5% of patients had "very good" or "beyond expectations" improvement at the time of follow-up, and 31% of patients had disappointment in some aspect of the facelift.

**Conclusions:** Facelift patients have a high degree of satisfaction at short- and long-term follow-up.

**Reviewer's Comments:** It is becoming increasingly recognized that patient-reported outcomes are an important measure of success in plastic surgery. Dr. Owsley has created a very detailed survey regarding patient satisfaction, focusing on an early time period and a late time period. His work demonstrates high satisfaction in the short and long term. However, recall bias is a significant limitation of this study. Many of the questions ask about patients’ results 1 year after surgery, but the survey was done 10 to 15 years after surgery. Dr. Pusic has an interesting discussion that highlights the limitations of the methodology in this study. This discussion should be required reading because it details what we need to do in quality-of-life and patient-reported outcome studies to make our work as scientifically sound as possible. The quality of plastic surgery research has been gradually improving, and her work pushes plastic surgeons to continue to raise the quality level. (Reviewer-Christine Rohde, MD).

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Keywords: Facelift, Outcome Studies, Patient Survey

Print Tag: Refer to original journal article
Background: Patient satisfaction with plastic surgery is fundamentally subjective. The psychological state and personality traits of the patient significantly influence satisfaction and perception of outcome. In that context, one potentially important factor is the patients' pessimism/optimism score.

Objective: To evaluate the role of the patients' baseline optimism/pessimism score on patient satisfaction with plastic surgery.

Design: The study was prospective in nature and included all patients who presented to the Center for Facial Cosmetic Surgery at the University of Michigan in the calendar year 2007.

Participants: The demographic characteristics of the patients, their score on an optimism/pessimism scale, and their preoperative and postoperative satisfaction with the feature at issue were assessed and correlated. In addition, physician satisfaction with the procedures and their results was evaluated.

Methods: Preoperative patients who agreed to participate were given a demographic questionnaire, a Life Orientation Test-Revised (LOT-R) to evaluate optimism/pessimism, and a relevant Facial Plastic Surgery Outcomes Questionnaire (FPSOQ). Six months' postoperatively, participants completed additional LOT-R optimism/pessimism questionnaires and FPSOQs. Statistical analysis of the data obtained was performed with SPSS software. Appropriate descriptive statistics and P values for confidence levels were applied.

Results: 51 patients were enrolled and completed all the necessary preoperative and postoperative evaluations. Of note, 39% of patients reported a history of depression, and 20% were on medication for depression at the time of surgery. Preoperative and postoperative optimism/pessimism scores, as obtained from the LOT-R questionnaire, were not significantly different. By contrast, postoperative satisfaction, as measured by the FPSOQ, was universally increased. Higher satisfaction scores correlated with increasing patient age and with a history of treatment for depression. Somewhat surprisingly, overall satisfaction did not correlate with overall optimism. However, the smaller group of most highly satisfied patients had the highest optimism scores. Satisfaction scores from the patients correlated well with satisfaction scores from the surgeons, but the surgeons' satisfaction scores were consistently lower than those of the patients.

Conclusions: For the patient population studied, more optimistic patients were no more or less likely to be satisfied with facial plastic surgery than more pessimistic patients. The authors were surprised to note that patients with a history of medical treatment for depression were significantly more satisfied with their surgery.

Reviewer's Comments: This study is interesting but lightweight. As the authors readily acknowledged, the number of participants was small and the voluntary nature of the study meant a significant selection bias could exist. In addition, the surprise finding of greater satisfaction among patients treated for depression is suspect because the nature of that diagnosis and its treatment was not further corroborated beyond the self-reported use of anti-depressant medication. (Reviewer-Norman V. Godfrey, MD).

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Keywords: Plastic Surgery, Patient Satisfaction, Depression

Print Tag: Refer to original journal article
Folded flaps in autologous breast reconstruction may be helpful to improve breast mound projection and to cover large areas of skin loss or irradiation.

**Background:** Transverse rectus abdominis musculocutaneous (TRAM) flaps and latissimus dorsi myocutaneous flaps have been well established as reconstructive options for patients with mastectomies. However, patients who require significant projection or those with large areas of skin loss due to radial resections, prior flap loss, irradiation, and complications may benefit from a novel reconstructive technique.

**Objective:** To describe the authors' experience with such a technique—the folded flap—used in patients with a large skin deficit or significant projection need.

**Design:** Retrospective review.

**Methods:** The senior author's folded flap cases over the past 6 years were analyzed according to indication, average skin defect, and volume. Detailed case descriptions and pictorials were used to illustrate the technique of folded flap reconstruction.

**Results:** 3 folded TRAM flaps and 4 folded latissimus flaps were presented, ranging in follow-up from 2 to 72 months. The average skin defect in folded TRAM flaps was 335 cm² versus 227.5 cm² for latissimus flaps. Photographs representing a boomerang-shaped folded latissimus flap and a double-pedicled cone-shaped folded TRAM flap were presented as illustrations. Projection for all cases was deemed to be satisfactory, with cone-shaped postoperative results noted.

**Conclusions:** Folded flaps are a novel technique that offers coverage of large skin defects, as well as improved projection, bulk, and a cone-shaped contour. For patients with radial resections, irradiation, prior flap loss, or large skin requirements due to skin loss from any etiology, folded flaps may be considered a valuable reconstructive option.

**Reviewer's Comments:** This paper presents the technique of folded TRAM and latissimus flaps in breast reconstruction for patients with large skin defects and significant projection requirements. The authors present a total of 7 successful cases (3 TRAM, 4 latissimus flaps), with beautiful projection and contour demonstrated in postoperative photographs. Charanek et al have previously described rectus muscle folded flaps. This current paper builds on previous discussions and demonstrates a valuable new reconstructive technique for patients with significant coverage and projection requirements. (Reviewer—Robert T. Grant, MD).

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Keywords: Breast Reconstruction, TRAM Flaps, Latissimus Dorsi Flaps, Folded Flap

Print Tag: Refer to original journal article
Fatty laminae and perforating septa of the dorsal hand may be relevant in hand rejuvenation.

**Background:** Structural fat grafts and injectable fillers have been used in the volumetric rejuvenation of the dorsal hand. Understanding the anatomical superstructure of the subcutaneous tissue of the dorsal hand may inform the aesthetics of such rejuvenation procedures. However, precise anatomical considerations of the dorsal hand have not been reported in the plastic surgery literature.

**Objective:** Cadaveric and living hands were evaluated in order to draw conclusions regarding dorsal hand anatomy.

**Methods:** Histological analysis of stained samples from 10 cadaveric hands was performed. Doppler ultrasound of 8 living hands was then performed to further elucidate the lamination of dorsal hand fat. Finally, lead oxide injection of 8 fresh cadaveric hands was used to examine the vascularity of perforating septa.

**Results:** Histologic analysis demonstrated that the dorsal hand contains 3 fatty laminae separated by thin fascia: the deepest containing extensor tendons, the intermediate containing large dorsal veins and sensory nerves, and the superficial without structural components. These results were confirmed by Doppler ultrasound. Doppler ultrasound and lead oxide injection analysis demonstrated that 8 to 10 perforating vessels run orthogonal to the 3 laminae to perfuse each of them.

**Conclusions:** The dorsal hand contains 3 subcutaneous fatty laminae and 8 to 10 perforating vessels.

**Reviewer's Comments:** This article is an anatomic study of cadaveric and living hands, intended to elucidate the subcutaneous tissue of the dorsal hand. It demonstrates that the dorsal hand contains 3 subcutaneous fatty laminae and 8 to 10 perpendicularly oriented perforating vessels. The major relevance of this article is for volumetric rejuvenation of aging hands with injectable fillers and fat grafts. Although no specific patient-oriented recommendations are made, understanding these anatomical relationships may potentially improve the consistency and aesthetics of dorsal hand rejuvenation in older patients. (Reviewer-Robert T. Grant, MD).

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Keywords: Dorsal Hand, Anatomy, Fat Graft, Injectable Fillers

Print Tag: Refer to original journal article
Airway management, blood salvage and replacement, DVT prophylaxis, and appropriate timing of procedures may decrease morbidity and mortality of craniofacial procedures.

**Background:** Morbidity and mortality for elective intracranial and subcranial operations to correct anomalies of the skull and face is of major importance for patients, families, and plastic surgeons in medical decision making and risk reduction.

**Objective:** Although the first analysis of craniofacial complications was published 30 years ago, a large-scale analysis of craniofacial morbidity and mortality has not been published in the plastic surgery literature in recent times.

**Methods:** A comprehensive retrospective review of 2 medical centers, Dallas and Seattle, was performed to capture complications in craniofacial surgery occurring between 1990 and 2008. In addition, an Internet-based survey was sent to all North American craniofacial centers. Data from both of these means were combined and analyzed.

**Results:** Combined data from the medical center review and the survey yielded a total of 8101 craniofacial procedures between 1990 and 2008. Of these procedures, 7328 were intracranial and 773 were subcranial. The major morbidity rate of aggregated data was <0.1%, while the mortality rate of aggregated data was 0.1%. For intracranial procedures, 8 deaths were reported, 4 of which were due to exsanguination. For subcranial procedures, 1 death was reported, which was due to airway compromise. A comparison of the earliest published review of complications to the current data set revealed a statistically significant reduction in complications.

**Conclusions:** Morbidity and mortality for craniofacial procedures has decreased since 1990 compared to the earliest published data of this type. Increased attention to airway management, blood salvage, deep venous thrombosis (DVT) prophylaxis, and operative timing may further improve the safety of intracranial and subcranial reconstructions.

**Reviewer's Comments:** This article is a large-scale analysis of the complications of craniofacial surgery in North America. Although the overall rates of morbidity and mortality are low, and indeed have decreased over the past 30 years, subgroup analysis of complications suggests potential ways to make these operations safer. Specifically, increased emphasis on protocols and management strategies for airway management, blood salvage, DVT prophylaxis, and operative timing may further improve the safety of intracranial and subcranial reconstructions. (Reviewer-Robert T. Grant, MD).

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Keywords: Craniofacial Surgery, Morbidity, Mortality, Pediatrics

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The Abbe flap is a versatile method for reconstructing secondary bilateral cleft lip deformities.

**Background:** Repair of bilateral cleft lips may result in suboptimal outcomes. Long-term complications include vermillion deficiency (“whistle deformity”), poor color match, wide flat philtrum, absent philtral landmarks, and scar contracture. Revisions require full-thickness tissue to reconstruct the skin, orbicularis oris musculature, and vermillion.

**Objective:** To present the Abbe flap as a successful reconstructive option, accomplishing the aforementioned goals, in patients who require revision of bilateral cleft lip repairs.

**Methods:** Operating room video footage of the authors’ bilateral cleft lip revision cases was reviewed. The Abbe flap technique was evaluated and described. An instructional video of technique was created using video footage from 2 operations.

**Results:** The Abbe flap successfully addresses revision of bilateral cleft lip deformities, as reviewed in these cases from Texas.

**Conclusions:** Bilateral cleft lip repair outcomes can be limited by poor anatomic union of orbicularis muscle, scarring, and hypoplastic prolabial tissue. Use of the Abbe flap as a delayed revision technique can address these concerns successfully, with good aesthetic and functional results.

**Reviewer’s Comments:** The basic sequential approach to the Abbe flap is: (1) rotation of a pedicled flap from the lower lip into a defect created in the central upper lip; (2) pedicled flap neovascularization for 2 to 3 weeks; and (3) division of the flap. The authors describe in a clear, concise fashion their pearls for operative technique in the Abbe flap. Special attention is given to setup and marking, elevation of the flap off of 1 of the inferior labial vessels, creating a defect for insetting the flap in the central upper lip, and inset and closure of the pedicled flap by anchoring it to the nasal spine. (Reviewer-Robert T. Grant, MD).

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**Keywords:** Cleft Lip, Abbe Flap, Secondary Deformity, Revision

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In patients with transsphenoidal encephalocele, staged correction improves both function and appearance.

**Background:** Incomplete closure of the cranial base can result in transsphenoidal encephaloceles, wherein the meninges, cerebrospinal fluid (CSF), brain matter, or some combination of these, forms cystic herniations. Transsphenoidal encephaloceles are associated with midface anomalies, problems with brain development, and aberrations of the endocrine system.

**Objective:** To discuss an approach to staged operative repair that is mindful of avoiding complications such as recurrent meningitis and progressive neurologic decline.

**Design:** Retrospective review.

**Participants/Methods:** 4 patients with symptomatic transsphenoidal encephaloceles who underwent staged operative repair (intracranial and transpalatal cyst correction, facial bipartition, and cleft palate repair) were studied. Data on perioperative complications, recurrence, interdacyron distance comparison, speech, and development were aggregated and analyzed.

**Results:** All 4 of the patients studied had successful staged repairs, with no recurrence of meningitis, CSF leakage, or encephalocele relapse reported. All of the patients also experienced alleviation of headaches and aesthetic improvement. Interdacyron distance was improved, with a mean 22-mm reduction (56%), according to CT analysis. Mean speech scores improved after cleft palate repair and speech therapy to 1.4 (borderline competent), despite initial postoperative declines. Developmental tests demonstrated normal global memory and attention skill evaluations in 3 of the 4 patients; the fourth had deficiencies in preoperative evaluations as well.

**Conclusions:** Staged correction of transsphenoidal encephaloceles improves not only facial morphology, but also functional symptoms such as recurrent meningitis, CSF leakage, encephalocele relapse, speech, and development.

**Reviewer’s Comments:** This article is a case series of 4 patients with transsphenoidal encephaloceles who underwent staged operative repairs with extremely successful outcomes. Not only do the authors demonstrate improved morphology and aesthetics with interdacyron distance, but they also demonstrate improvement in symptoms such as meningitis, headaches, and relapse of encephaloceles. Data for speech and development shows that these are not worsened, and are perhaps improved by this approach. Although the case series is small for this rare cystic herniation syndrome, with only 4 patients, it is a compelling presentation of a staged successful approach. (Reviewer-Robert T. Grant, MD).

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Keywords: Transsphenoidal Encephaloceles, Operative Technique, Staged Repair

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Background: Dorsal rectangular flaps are the most commonly used method for correction of syndactyly of the toes. Although they successfully reconstruct the deep interdigital space, postoperative pigmentation and scarring are often unaesthetic.

Objective: To describe the use of a plantar rectangular flap for syndactyly of the toes that allows both adequate coverage and inconspicuous postoperative pigmentation.

Methods: A plantar-based rectangular flap was designed in combination with a dorsal-based small triangular flap and a zigzag skin incision line for a series of patients with toe syndactyly. The reconstructed interdigital space was inset with the plantar rectangular flap and sutured to the dorsal triangular flap; full-thickness skin grafts were used for coverage of the inner sides of the separated toes.

Results: The described method was performed on 18 syndactylies of the toes of 12 patients. Postoperative results were cosmetically and functionally successful, with minimal scarring and deep interdigital web spaces.

Conclusions: Plantar rectangular flaps used to reconstruct syndactyly of the toes offer significant aesthetic advantages over more traditional techniques. Not only are skin grafts and scar lines hidden from the more visible dorsal surface of the toes and feet, but they also allow creation of a deep, natural-looking interdigital space.

Reviewer’s Comments: The authors describe a novel plantar-based rectangular flap for correction of syndactyly of the toes. Not only is the operative technique elegant and geometrical, but photographic results are extremely aesthetic. It should be noted that despite its success for toes, this technique is not appropriate for syndactyly of the fingers. This is because the small dorsal triangular flap is not steeply angled enough to cover the large interdigital space of the fingers. (Reviewer-Robert T. Grant, MD).

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Keywords: Syndactyly, Toe, Rectangular Flap, Dorsal Flap, Plantar Flap

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