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### Guidelines

**National Institute for Health and Care Excellence (NICE)**

The ReCell Spray-On Skin system for treating skin loss, scarring and depigmentation after burn injury

NICE medical technologies guidance [MTG21] Published date: November 2014

### Cochrane Systematic Reviews

Updated Reviews – December 2014

Negative pressure wound therapy for partial-thickness burns

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Plastic surgery topics in UpToDate

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1. Title: A systematic review of single-stage augmentation-mastopexy.
Citation: Plastic & Reconstructive Surgery, November 2014, vol./is. 134/5(922-31), 0007-1226;1529-4242 (2014 Nov)
Author(s): Khavanin N, Jordan SW, Rambachan A, Kim JY
Language: English
Abstract: BACKGROUND: The safety of single-stage augmentation-mastopexy remains controversial given the dual purpose of increasing breast volume and decreasing the skin envelope. Currently, the literature is relatively sparse and heterogeneous. This systematic review considered complication profiles and pooled summary estimates in an attempt to guide surgical decision-making. METHODS: Multiple databases were queried for combined augmentation-mastopexy outcomes. Whenever possible, meta-analysis of complication rates was performed. RESULTS: Twenty-three studies met inclusion criteria. Average follow-up varied from 16 to 173 weeks, with a majority under 1 year. The pooled total complication rate was 13.1 percent (95 percent CI, 6.7 to 21.3 percent). The most common individual complication was recurrent ptosis, with an incidence of 5.2 percent (95 percent CI, 3.1 to 7.8 percent), followed by poor scarring (3.7 percent; 95 percent CI, 1.9 to 6.1 percent). The pooled incidences of capsular contracture and tissue-related asymmetry were 3.0 percent (95 percent CI, 1.4 to 5.0 percent) and 2.9 percent (95 percent CI, 1.2 to 5.4 percent), respectively. Infection, hematoma, and seroma were rare, with pooled incidences of less than 2 percent each. Three published studies reported data on patient satisfaction. The reoperation rate obtained from 13 studies was 10.7 percent (95 percent CI, 6.7 to 15.4 percent). CONCLUSIONS: This meta-analysis encompassed 4856 cases of simultaneous augmentation-mastopexy. Study heterogeneity was high because of
differences in surgical techniques, outcome definitions, and follow-up durations. This review suggests that with careful patient selection, pooled complication and reoperation rates for single-stage augmentation-mastopexy are acceptably low.

**Publication type:** Journal Article, Research Support, Non-U.S. Gov't  
**Source:** MEDLINE  
**Full text:** Available *Journal of reconstructive microsurgery* at Plastic and Reconstructive Surgery

**2.Title:** A systematic review of the management and outcome of toxic epidermal necrolysis treated in burns centres  
**Citation:** Burns, November 2014, vol./is. 40/7(1245-1254), 0305-4179;1879-1409 (01 Nov 2014)  
**Author(s):** Mahar P.D., Wasiak J., Hii B., Cleland H., Watters D.A., Gin D., Spinks A.B.  
**Language:** English  
**Abstract:** Introduction: Toxic epidermal necrolysis (TEN) is a rare condition characterised by mucocu-taneous exfoliation of greater than 30% total body surface area (%TBSA), increasingly being treated in burns centres. The rate of mortality varies significantly in the literature, with recent prospective studies in non-burns centres reporting percentage mortality of approximately 45%. We undertook a systematic review of published studies that included TEN patients treated specifically in burns centres to determine a cumulative mortality rate. Methods: Electronic searches of MEDLINE, EMBASE and The Cochrane Library (Issue 4, 2010) databases from 1966 onwards were used to identify English articles related to the treatment of TEN in burns centres. Results: The systematic literature search identified 20 studies which specifically described patients with TEN grater than 30% %TBSA. Treatment regimens varied amongst studies, as did mortality. The overall percentage mortality of the combined populations was 30%. Risk factors commonly described as associated with mortality included age, %TBSA and delay to definitive treatment. Conclusion: The review highlights the variation between principles of treatment and morbidity amongst burns centres. It offers a standard that burns centre can use to internationally compare their mortality rates. The review supports the ongoing reporting of outcomes in TEN patients with epidermal detachment greater than 30%.  
**Publication type:** Journal: Review  
**Source:** EMBASE

**3.Title:** Combined ipsilateral and contralateral second toe flaps for repair of finger degloving injury  
**Citation:** Microsurgery, October 2014, vol./is. 34/7(540-546), 0738-1085;1098-2752 (01 Oct 2014)  
**Author(s):** Zhang G., Ju J., Zhao Q., Li X., Jin G., Tang L., Hou R.  
**Language:** English  
**Abstract:** Purpose: The purpose of this report was to retrospectively review the results of treatment of degloving injury of the finger by use of combined ipsilateral second dorsal nail-skin flap and contralateral medial second toe flap. Methods: From 2010 to 2012, seven fingers in seven patients with complete degloving injuries from the level of middle or distal phalanx were reconstructed with combined ipsilateral second dorsal nail-skin flap and contralateral medial second toe flap. The injured fingers included the index finger in four cases, and middle finger in three cases. The nerves of both the flaps were sutured to the bilateral common digital nerves. The donor site of second toe flap was covered with a full-thickness skin graft. Results: All transferred flaps survived after surgery, and all postoperative courses were uneventful. During the follow-up period (mean of 15 months; ranging 6-20 months), the appearance of the reconstructed fingers was comparable with normal ones. The range of motion of the distal interphalangeal joint averaged 55 6 5.8 degrees. The two point discrimination of the pulp ranged from 8 to > 15 mm (average, 11.3 mm). All the patients were able to walk without difficulty. The MHQ score averaged 59 + 4.2 points and Maryland foot rating score averaged 92 + 4.2 points. Conclusion: The ipsilateral second toe dorsal nail-skin flap combined with contralateral medial second toe flap may provide an alternative for the reconstruction of completely degloved fingers at the middle and the distal phalangeal level, with satisfactory functional and cosmetic results.  
**Publication type:** Journal: Article  
**Source:** EMBASE

**4.Title:** Defining fat necrosis in plastic surgery.  
**Citation:** Plastic & Reconstructive Surgery, December 2014, vol./is. 134/6(1202-12), 0007-1226;1529-4242 (2014 Dec)  
**Author(s):** Rao A, Saadeh PB  
**Language:** English  
**Abstract:** BACKGROUND: Fat necrosis is a well-known complication of free tissue transfer and fat grafting that is becoming increasingly reported in the literature. However, there is no clear consensus on how fat necrosis is defined
and classified in the plastic surgery literature. METHODS: A systematic review of the literature was performed using the PubMed database of the National Library of Medicine and National Institutes of Health and Google Scholar from January 1, 2003, to November 1, 2013. The keywords used in the search included "fat necrosis" and "plastic surgery." RESULTS: Sixty-nine articles were chosen that met the authors’ criteria and were included in this review. There was wide variation on the size requirements and postoperative timing when defining fat necrosis. In addition, the workup sought after clinical examination to confirm a diagnosis of fat necrosis varied, including radiographic studies, histopathologic examination, or a series of studies. CONCLUSIONS: Based on the articles reviewed in this article, a more uniform definition needs to exist that is clearly defined in all articles that report on fat necrosis. The authors suggest defining fat necrosis as a palpable, discrete, and persistent subcutaneous firmness found postoperatively that measures at least 1 cm during physical examination. Fat necrosis can be identified and confirmed by imaging and histopathology or through intraoperative findings. The authors provide a classification system for fat necrosis that can be used by clinicians to describe fat necrosis into varying grades of severity to ultimately help guide clinical decision-making.

**Publication type:** Journal Article  
**Source:** MEDLINE  
**Full text:** Available *Journal of reconstructive microsurgery* at Plastic and Reconstructive Surgery  
**Full text:** Available *Journal of reconstructive microsurgery* at Plastic and Reconstructive Surgery

6. Title: Do silver-based wound dressings reduce pain? A prospective study and review of the literature  
**Citation:** Burns, December 2014, vol./is. 40/5/1(540-547), 0305-4179;1879-1409 (01 Dec 2014)  
**Author(s):** Abboud E.C., Legare T.B., Settle J.C., Boubekri A.M., Barillo D.J., Marcet J.E., Sanchez J.E.  
**Language:** English  
**Abstract:** Silver-containing dressings are a mainstay in the management of burn injury and acute and chronic wounds. In addition to antimicrobial activity, there is anecdotal evidence that silver dressings may modulate or reduce wound pain. Pain is subjective and difficult to quantify, and most studies of silver-containing dressings evaluate pain as a secondary rather than a primary outcome. Nevertheless, a dressing with a proven ability to reduce pain independent of systemic analgesics would have great utility. In this study, we compared patient-reported pain levels in patients previously randomized to receiving silver-nylon dressings vs. conventional gauze dressings in a study of surgical site infection. Compared to gauze dressings, patients in the silver dressing group reported less pain between postoperative days 0 and 9 (p < 0.02). Post hoc analysis of analgesic use did not reach statistical significance between the groups. The study was completed with a literature review of the effect of silver on pain. Silver-based dressings may reduce wound pain by providing an occlusive barrier or by other as-yet undefined mechanisms. The role of silver in pain relief, however, cannot be definitively stated until well-designed prospective randomized studies evaluating pain as a primary endpoint are carried out.  
**Publication type:** Journal: Review  
**Source:** EMBASE

6. Title: Effect of obesity on outcomes of free autologous breast reconstruction: A meta-analysis  
**Citation:** Microsurgery, September 2014, vol./is. 34/6/1(484-497), 0738-1085;1098-2752 (September 2014)  
**Author(s):** Schaverien M.V., McCulley S.J.  
**Language:** English  
**Abstract:** Background The prevalence of obesity is rising in Western society. The aim of this meta-analysis was to evaluate the available evidence regarding the effect of obesity on outcomes of free autologous breast reconstruction. Methods Pubmed, Ovid MEDLINE, EMBASE, the Cochrane Database of Systematic Reviews, the Cochrane Central Register of Controlled Trials, and clinicaltrials.gov were searched. Obesity was defined as a BMI > 30. Comparable data from observational studies was combined for pooled analysis and quality assessment of observational studies was performed. Results Fourteen studies met the inclusion criteria (n = 6,043 patients). Pooled data analysis demonstrated significantly higher prevalences of overall complications, recipient site complications overall, donor site complications overall, donors site wound infection, donor site seroma, abdominal bulge/hernia, mastectomy skin flap necrosis, recipient site delayed wound healing, and partial flap failure, in obese (BMI > 30) compared with nonobese (BMI < 30) patients. A BMI of 40 was identified as a threshold at which the prevalence of complications became prohibitively high. No randomized-controlled trials were found and all studies had methodological weaknesses. Conclusions Complications in obese patients following free autologous breast reconstruction were higher than in their nonobese counterparts; however the majority of these complications were reported in the studies as being minor. Until better evidence is available this information will help when counseling patients. 2014 Crown Copyright. Microsurgery 34:484-497, 2014. 2014 Crown Copyright.  
**Publication type:** Journal: Review
7. Title: Effects of radiation therapy on postoperative complications and adverse events in patients with head and neck reconstruction with flaps
Citation: Microsurgery, October 2014, vol./is. 34/7(516-521), 0738-1085;1098-2752 (01 Oct 2014)
Author(s): Onoda S., Kimata Y., Sugiyama N., Onoda T., Mizukawa N.
Language: English
Abstract: Background: Radiation therapy is an essential treatment for head and neck cancer. However, the condition of the operative field is entirely altered after radiation therapy. This study aimed to examine the effects of preoperative radiation therapy on complications in patients who underwent head and neck reconstruction with flaps. Methods: We retrospectively reviewed 252 instances of head and neck reconstruction with flaps in 240 patients between October 2000 and May 2011 at Okayama University Hospital. Of the participants, 51 had preoperative radiation exposure (21.3%) and 189 had no radiation exposure (78.7%). Postoperative complications were divided into three categories: minor complications that healed with conservative medical treatment within 4 weeks without a need for surgery; major complications requiring reoperation within 1 week after surgery (reoperation); and major complications needing additional operation later than 1 week after surgery (additional operation). Results: Preoperative radiation therapy was only associated with major complications requiring reoperation later than 1 week after surgery (P < 0.001), open cervical wounds (P = 0.0030), and skin grafting for cervical skin necrosis (P = 0.0031) when compared to no radiation exposure. The results of flap failure were not significantly different between both groups (P = 0.3820). Conclusions: Minor complications and reoperation in the early postoperative period were not influenced by radiation exposure. The complications of radiation tend to be protracted and associated with additional operation later than 1 week after the initial surgery. It was thought that shortening of the duration of treatment was successful when we needed to perform early additional operations.
Publication type: Journal: Article
Source: EMBASE

8. Title: Epidermal healing in burns: autologous keratinocyte transplantation as a standard procedure: update and perspective.
Citation: Plastic and Reconstructive Surgery - Global Open, September 2014, vol./is. 2/9(e218), 2169-7574;2169-7574 (2014 Sep)
Author(s): Mcheik JN, Barrault C, Levard G, Morel F, Bernard FX, Lecron JC
Language: English
Abstract: BACKGROUND: Treatment of burned patients is a tricky clinical problem not only because of the extent of the physiologic abnormalities but also because of the limited area of normal skin available.METHODS: Literature indexed in the National Center (PubMed) has been reviewed using combinations of key words (burns, children, skin graft, tissue engineering, and keratinocyte grafts). Articles investigating the association between burns and graft therapeutic modalities have been considered. Further literature has been obtained by analysis of references listed in reviewed articles.RESULTS: Severe burns are conventionally treated with split-thickness skin autografts. However, there are usually not enough skin donor sites. For years, the question of how covering the wound surface became one of the major challenges in clinical research area and several procedures were proposed. The microskin graft is one of the oldest methods to cover extensive burns. This technique of skin expansion is efficient, but results remain inconsistent. An alternative is to graft cultured human epidermal keratinocytes. However, because of several complications and labor-intensive process of preparing grafts, the initial optimism for cultured epithelial autograft has gradually declined. In an effort to solve these drawbacks, isolated epithelial cells from selecting donor site were introduced in skin transplantation.CONCLUSIONS: Cell suspensions transplanted directly to the wound is an attractive process, removing the need for attachment to a membrane before transfer and avoiding one potential source of inefficiency. Choosing an optimal donor site containing cells with high proliferative capacity is essential for graft success in burns.
Publication type: Journal Article, Review
Source: MEDLINE
Full text: Available Ovid at Plastic and Reconstructive Surgery - Global Open

9. Title: Flexor tendon repairs: Techniques, eponyms, and evidence
Citation: Journal of Hand Surgery, September 2014, vol./is. 39/9(1846-1853), 0363-5023;1531-6564 (September 2014)
Author(s): Chauhan A., Palmer B.A., Merrell G.A.
Language: English
Abstract: The evolution in surgical technique and suture technology has provided an abundance of options for flexor tendon repairs. Multiple biomechanical studies have attempted to identify the best surgical technique based on suture properties, technical modifications, and repair configurations. However, the burgeoning amount of research on flexor tendon repairs has made it difficult to follow, and no gold standard has been determined for the optimal repair algorithm. Therefore, it seems that repairs are usually chosen based on a combination of familiarity from training, popularity, and technical difficulty. We will discuss the advantages, disadvantages, and technical aspects of some of the most common core flexor tendon repairs in the literature. We will also highlight the nomenclature carried through the years, drawings of the repairs referred to by that nomenclature, and the data that support those repairs. 2014 by the American Society for Surgery of the Hand. All rights reserved.

Publication type: Journal: Review
Source: EMBASE

Full text: Available The Journal of hand surgery at Journal of Hand Surgery, The

10. Title: Head and neck melanoma
Citation: The Surgical clinics of North America, October 2014, vol./is. 94/5(1091-1113, ix), 1558-3171 (Oct 2014)
Author(s): Cheriyan J., Wernberg J., Urquhart A.
Language: English
Abstract: Wide local excision is the mainstay in the treatment of the primary lesion with consideration given to specific anatomic constraints in head and neck melanoma. Sentinel lymph node biopsy is considered in all lesions with ulceration, mitoses greater than or equal to 1/mm(2), stageIB or higher, and in all high-risk nonmetastatic melanoma. Reconstructive strategy must be considered in multidisciplinary teams with reconstructive surgeons for large head and neck defects. Copyright 2014 Elsevier Inc. All rights reserved.

Publication type: Journal: Review
Source: EMBASE

11. Title: Lessons from 28 cases of reconstruction by lenticular island pedicle flap at a single institution
Citation: Journal of Dermatology, October 2014, vol./is. 41/(101), 0385-2407 (October 2014)
Author(s): Hata H.
Language: English
Abstract: Background: Lenticular island pedicle flap (LIPF) has been reported to be one of the most useful techniques for reconstructing middle-cheek skin defects. Although LIPF is used around the world on a daily basis, no reports have examined a large number of LIPF cases at a single institution. Materials and methods: A total of 28 cases of reconstruction by LIPF at the Hokkaido University Hospital from 2005 to 2013 were analyzed in terms of various outcomes. When we determined that LIPF was indicated for a patient, multiple dermatologic surgeons including the author confirmed that the defect would not be able to be closed primarily. We examined the tumor type, location, area of defect and presence/absence of antithrombotic treatment and complications, including transient circulatory impairment, damage to facial nerves and eyelid ectropion. Results: In terms of complications, no damage to the facial nerve was found in any cases, nor was there ectropion of the eyelid. Nine patients were found to have transiently impaired circulation. This complication was statistically more frequent in the patients without anti-thrombotic treatment than in the patients with anti-thrombotic treatment (0/8 vs. 10/20, P=0.0292; Fisher’s exact test). Conclusion: In our study, we were able to reconstruct various defects safely and smoothly, and we never experienced a severe or irreversible complication. This indicates that LIPF can be safely performed even in patients under anti-thrombotic treatment. When we reconstruct a relatively large defect of the medial and lower eyelid area and the cheekbone area, we should consider LIPF as a first-choice procedure.

Publication type: Journal: Conference Abstract
Source: EMBASE

12. Title: Mohs micrographic surgery for dermatofibrosarcoma protuberans (DFSP): a single-centre series of 76 patients treated by frozen-section Mohs micrographic surgery with a review of the literature
Citation: Journal of plastic, reconstructive & aesthetic surgery: JPRAS, October 2014, vol./is. 67/10(1315-1321), 1878-0539 (Oct 2014)
Author(s): Loghd M.S., Varma S., Rajpara S.M., Al-Rawi H., Perks G., Perkins W.
Language: English
Abstract: Dermatofibrosarcoma protuberans (DFSP) is a rare low-grade sarcoma that typically presents with local invasion but rarely metastasises. Surgical excision remains the first-line treatment for DFSP. There are no randomised controlled or prospective studies comparing wide local excision (WLE) with Mohs micrographic surgery (MMS), but available evidence from the retrospective studies and case series available has consistently shown higher
recurrence rates for standard surgery and WLE than for MMS. Combined recurrence rates of data within the last 20 years for WLE have been reported at 7.3% compared with 1.1% for MMS. Our aim was to review the clinical details and recurrence rates of DFSP cases treated with frozen-section MMS in our centre between 1996 and February 2013. The relevant data were collected from the case notes. It involved 76 patients with nine of these patients lost to follow-up. In the remaining 67 (67/76) cases, the recurrence rate was 1.5% during the mean follow-up period of 50 months (2-132). This is comparable to recurrence rates for the MMS in the literature [20,21]. Our series is the largest series for frozen-section MMS reported to date. Based on these findings and the current literature evidence, we advocate MMS as the treatment of choice for DFSP in all locations. Crown Copyright 2014. Published by Elsevier Ltd. All rights reserved.

Publication type: Journal: Review
Source: EMBASE
Full text: Available JOURNAL OF PLASTIC, RECONSTRUCTIVE & AESTHETIC SURGERY (formerly BRITISH JOURNAL OF PLASTIC SURGERY) at Journal of Plastic, Reconstructive and Aesthetic Surgery

13.Title: Multifactorial approaches for correction of the drooping tip of a long nose in East Asians.
Citation: Archives of Plastic Surgery, November 2014, vol./is. 41/6(630-7), 2234-6163;2234-6163 (2014 Nov)
Author(s): Park SG, Jeong H, Ye CH
Language: English
Abstract: A long nose with a drooping tip is a major aesthetic problem. It creates a negative and aged appearance and looks worse when smiling. In order to rectify this problem, the underlying anatomical causes should be understood and corrected simultaneously to optimize surgical outcomes. The causes of a drooping tip of a long nose are generally classified into two mechanisms. Static causes usually result from malposition and incorrect innate shape of the nasal structure: the nasal septum, upper and lower lateral cartilages, and the ligaments in between. The dynamic causes result from the facial expression muscles, the depressor septi nasi muscle, and the levator labii superioris alaeque nasi muscle. The depressor septi nasi depresses the nasal tip and the levator labii superioris alaeque nasi pulls the alar base upwards. Many surgical methods have been introduced, but partial approaches to correct such deformities generally do not satisfy East Asians, making the problem more challenging to surgeons. Typically, East Asians have thick nasal tip soft tissue and skin, and a depressed columella and alar bases. The authors suggest that multifactorial approaches to static and dynamic factors along with ancillary causes should be considered for correcting the drooping tip of the long noses of East Asians.

Publication type: Journal Article, Review
Source: MEDLINE

14.Title: Objective breast volume, shape and surface area assessment: a systematic review of breast measurement methods.
Citation: Aesthetic Plastic Surgery, December 2014, vol./is. 38/6(1116-30), 0364-216X;1432-5241 (2014 Dec)
Author(s): Xi W, Perdanasarri AT, Ong Y, Han S, Min P, Su W, Feng S, Pacchioni L, Zhang YX, Lazzeri D
Language: English
Abstract: BACKGROUND: There are many methods of measuring the breast and their clinical applications are well described in the literature. However, there has been no attempt to compare these various methods to allow the user to have a broad overview of the subject. The authors have attempted to summarise all the available methods to measure the breast in this article to provide a useful reference for all.METHODS: A comprehensive literature search of PubMed was performed, and the resulting articles were screened and reviewed. The data regarding the methods' mechanism, reliability, time and cost were evaluated and compared.RESULTS: A total of 74 articles dating from 1970 to 2013 were included in this study. All of the methods can be classified into those that measure (1) volume, (2) shape and (3) surface area. Each category consists of several methods that work through different mechanisms and they vary in their reliability and feasibility. Based on their mechanism, the volume measurement methods were further grouped into the natural shape methods, the stereological method, the geometrical methods and the mathematical modelling method.CONCLUSIONS: More objective breast evaluation can be achieved if all three dimensions (volume, shape and surface area) are considered. In the volume measurements, 3D modelling and the MRI are the most reliable tools. Linear measurement (geometry) and mathematical modelling are less accurate but are more economical. In the shape measurements, besides the traditional linear measurement, 3D methods that can deliver colour-coded maps and Swanson's 2D photographic measurement system are capable of depicting and tracking breast shape changes after surgery. Although the surface area metric has not been used extensively, it has potential in clinical and research applications.LEVEL OF EVIDENCE IV: This journal requires that authors assign a level
of evidence to each article. For a full description of these Evidence-Based Medicine ratings, please refer to the Table of Contents or the online Instructions to Authors www.springer.com/00266.

**Publication type:** Journal Article  
**Source:** MEDLINE

**15. Title:** Oxandrolone use in adult burn patients. systematic review and meta-analysis  
**Citation:** Acta Cirurgica Brasileira, 2014, vol./is. 29/(68-76), 0102-8650;1678-2674 (2014)  
**Author(s):** Real D.S.S., Reis R.P., Piccolo M.S., Okamoto R.H., Gragnani A., Ferreira L.M.  
**Language:** English  
**Abstract:** PURPOSE: This study is a systematic literature review and meta-analysis concerning the use of a testosterone synthetic analog, oxandrolone, and its use in severe adult burns. METHODS: Randomized prospective clinical studies, in English, Portuguese or Spanish, were sought on the following databases: MEDLINE, COCHRANE, EMBASE and LILACS. There was no restriction in relation to the publication date. RESULTS: This search produced 24 studies on MEDLINE and twelve articles were presented on the COCHRANE database. Sixteen were excluded due to the title not being related to this search or by including children. Of the eighth residual studies, after adaptation to the inclusion criteria, only four were selected. After analyzing the results, two were discarded since they did not present adequate patient characterization and the facts on these articles were analyzed differently from the others, hindering the meta-analysis. CONCLUSION: The analysis of the available data demonstrated significant benefits (p<0.05) considering lesser loss of corporal mass, lesser nitrogen loss, and shorter donor area healing time, when Oxandrolone was used, comparatively with the control group (placebo or not).

**Publication type:** Journal: Article  
**Source:** EMBASE

**16. Title:** Postburn contractures of the hand  
**Citation:** Journal of Hand Surgery, September 2014, vol./is. 39/9(1869-1876), 0363-5023;1531-6564 (September 2014)  
**Author(s):** Fufa D.T., Chuang S.-S., Yang J.-Y.  
**Language:** English  
**Abstract:** Several functionally limiting sequelae can follow deep thermal injury to the hand. Despite appropriate initial management, contractures are common. Whereas acute burn care is often managed by multidisciplinary, specialized burn units, postburn contractures may be referred to hand surgeons, who should be familiar with the patterns of burn contracture and nonsurgical and operative options to improve function and expected outcomes. The most common and functionally limiting sequelae are contractures of the webspace, hand, and digits. Webspace contractures and postburn syndactyly are managed with scar excision and local soft tissue rearrangement or skin grafting. The burn claw hand presents as extension contracture of the metacarpophalangeal joints and flexion contractures of the proximal interphalangeal joints. The mainstays of management of these contractures include complete surgical excision of scar tissue and resurfacing of the resultant soft tissue defect, most commonly with full-thickness skin grafts. If scar contracture release results in major exposure of the tendons or joints, distant tissue transfer may be required. Early motion and rehabilitative modalities are essential to prevent initial contracture formation and recontracture after surgical release. 2014 by the American Society for Surgery of the Hand. All rights reserved.

**Publication type:** Journal: Review  
**Source:** EMBASE  
**Full text:** Available The Journal of hand surgery at Journal of Hand Surgery, The

**17. Title:** Pretibial lacerations: Experience from a lower limb trauma centre and systematic review.  
**Citation:** Journal of Plastic, Reconstructive & Aesthetic Surgery: JPRAS, December 2014, vol./is. 67/12(1694-702), 1748-6815;1878-0539 (2014 Dec)  
**Author(s):** Glass GE, Jain A  
**Language:** English  
**Abstract:** BACKGROUND: Pretibial lacerations are an important and neglected problem among the elderly. Poor management leads to prolonged hospitalisation and terminal decline. This study summarises our experience and evidence from the literature to ascertain an evidence-based rationale for referral and management. METHODS: Our data were obtained from review of a prospectively gathered database. Additionally, Pubmed, Embase, Medline, and the Cochrane Database of Systematic Reviews were searched through July 2013, with eligible studies evaluated using standard methodology. RESULTS: Seventy-three pretibial lacerations in 73 patients (63 females) were identified. Mean age was 78 ± 14, 1SD. Sixty patients were managed operatively with a mean length of stay of 11 + 7 days, 1SD
18. Title: Proliferation of keratinocytes induced by adipose-derived stem cells on a chitosan scaffold and its role in wound healing, a review.

Citation: Archives of Plastic Surgery, September 2014, vol./is. 41/5(452-7), 2234-6163;2234-6163 (2014 Sep)

Author(s): Gomathsanyak S, Halim AS, Yaacob NS

Language: English

Abstract: In the field of tissue engineering and reconstruction, the development of efficient biomaterial is in high demand to achieve uncomplicated wound healing. Chronic wounds and excessive scarring are the major complications of tissue repair and, as this inadequate healing continues to increase, novel therapies and treatments for dysfunctional skin repair and reconstruction are important. This paper reviews the various aspects of the complications related to wound healing and focuses on chitosan because of its unique function in accelerating wound healing. The proliferation of keratinocytes is essential for wound closure, and adipose-derived stem cells play a significant role in wound healing. Thus, chitosan in combination with keratinocytes and adipose-derived stem cells may act as a vehicle for delivering cells, which would increase the proliferation of keratinocytes and help complete recovery from injuries.

Publication type: Journal Article, Review

Source: MEDLINE

19. Title: Recent developments in the use of intralesional injections keloid treatment.

Citation: Archives of Plastic Surgery, November 2014, vol./is. 41/6(620-9), 2234-6163;2234-6163 (2014 Nov)


Language: English

Abstract: Keloid scars are often considered aesthetically unattractive and frustrating problems that occur following injuries. They cause functional and cosmetic deformities, displeasure, itching, pain, and psychological stress and possibly affect joint movement. The combination of these factors ultimately results in a compromised quality of life and diminished functional performance. Various methods have been implemented to improve keloid scars using both surgical and non-surgical approaches. However, it has proven to be a challenge to identify a universal treatment that can deliver optimal results for all types of scars. Through a PubMed search, we explored most of the literature that is available about the intralesional injection treatment of hypertrophic scars and keloids and highlights both current (corticosteroid, 5-fluorouracil, bleomycin, interferon, cryotherapy and verapamil) and future treatments (interleukin-10 and botulinum toxin type A). The reference lists of retrieved articles were also analysed. Information was gathered about the mechanism of each injection treatment, its benefits and associated adverse reactions, and possible strategies to address adverse reactions to provide reliable guidelines for determining the optimal treatment for particular types of keloid scars. This article will benefit practitioners by outlining evidence-based treatment strategies using intralesional injections for patients with hypertrophic scars and keloids.

Publication type: Journal Article, Review

Source: MEDLINE

20. Title: Repair of intermediate-size nasal defects: A working algorithm

Citation: JAMA Otolaryngology - Head and Neck Surgery, November 2014, vol./is. 140/11(1027-1033), 2168-6181 (01 Nov 2014)
CONCLUSIONS AND RELEVANCE There is a paucity of literature on the subject of reconstruction of intermediate-size nasal defects. This algorithm is derived from our practice and offers the surgeon specific reconstructive options for consideration when facing nasal defects of 1.5 to 2.5 cm. The algorithm is based on subunits.IMPORTANCE "Large" nasal defects are typically classified as larger than 1.5 cm. Within that group, however, there is a subset of patients with smaller nasal defects (1.5-2.5 cm) who are treated differently. This study examines the different methods that we have used in the reconstruction of such "intermediate-size" nasal defects.OBJECTIVE To review the treatment and outcomes of patients who have undergone reconstruction of intermediate-size nasal defects and to share our empirical algorithm.DESIGN, SETTING, AND PARTICIPANTS This was a retrospective review at an academic university practice of all patients who had undergone reconstruction of intermediate-size (1.5-2.5 cm) nasal defects from January 1, 1999, to September 1, 2013. From these data, a working algorithm was derived. INTERVENTIONS Nasal reconstruction of intermediate-size nasal defects. MAIN OUTCOMES AND MEASURES Method of reconstruction was correlated with site and size of defects. Postoperative complications were reviewed. RESULTS A total of 315 patients with nasal defects measuring 1.5 to 2.5 cm were identified. Of these, 199 patients (63.2%) had a defect in a single subunit, and 116 (37.8%) had involvement of a combination of subunits. Ninety-seven patients (30.8%) had local flaps, 94 patients (29.8%) had forehead flaps, 51 patients (16.2%) had full-thickness skin grafts (FTSG), 40 (12.7%) had composite grafts, and 33 (10.5%) had melolabial flaps. The defects were categorized according to subunit locations. There was a pattern of reconstruction for each defect according to their site, size, and depth. Alar defects were mainly repaired with melolabial flaps (25 of 85 patients [29.4%]), or by composite grafts (24 of 85 patients [28.2%]). Nasal tip defects were mainly repaired using local flaps (28 of 69 patients [40.5%]), FTSG (19 of 69 patients [27.5%]), and forehead flaps (19 of 69 patients [27.5%]). The reconstruction of choice in dorsal and sidewall defects were local flaps and forehead flaps. There were 28 wound-related complications, such as pincushioning, dehiscence, and infection (incidence rate, 8.9%), and 4 cases of postoperative nasal obstruction (1.3%).

Publication type: Journal: Review
Source: EMBASE

21. Title: Silver-based dressings for the reduction of surgical site infection: Review of current experience and recommendation for future studies
Citation: Burns, December 2014, vol./is. 40/S1(S30-S39), 0305-4179;1879-1409 (01 Dec 2014)
Author(s): Abboud E.C., Settle J.C., Legare T.B., Marcet J.E., Barillo D.J., Sanchez J.E.
Language: English
Abstract: Surgical site infections (SSIs) are the most common hospital acquired infection in surgical patients, occurring in approximately 300,000-500,000 patients a year. SSIs occur across all surgical specialties, but have increased importance in abdominal, colorectal, obstetrical, gynecological, cardiac, vascular, neurological, transplant, and orthopedic procedures where either the inherent risk is elevated or the consequence of an infection would be severe. Current prevention guidelines reduce, but do not completely eliminate, the occurrence of SSIs. We have found the use of silver-nylon wound dressings to significantly reduce the risk SSI associated with colorectal surgery. In this review, we examine the incidence of SSI in high-risk groups, and identify procedures where silver dressings, and other silver products, have been evaluated for the prevention of SSI. Silver-nylon dressings are a useful adjunct in the prevention of SSI in colorectal surgery, neurological surgery, spinal surgery, and certain cardiovascular and orthopedic procedures. Gynecologic, obstetric, breast, transplant, neck, and bariatric procedures, and surgery in obese and diabetic patients, represent other areas where patients are at increased risk of SSI, but in which silver dressings have not been adequately evaluated yet. Recommendation is made for large prospective studies of silver dressings in these populations.
Publication type: Journal: Review
Source: EMBASE

22. Title: The design and engineering of the MemoryShape breast implant.
Citation: Plastic & Reconstructive Surgery, September 2014, vol./is. 134/3 Suppl(10S-5S), 0007-1226;1529-4242 (2014 Sep)
Author(s): Calobrace MB
Language: English
Abstract: SUMMARY: The recent approval of MemoryShape implant by the Food and Drug Administration introduces a novel implant available to the surgeon for cosmetic and reconstructive breast surgery. These implants are unique due to the texture of the shell, the anatomic shape and dimensions, the degree of cross-linking of the gel, and
relative form stability. The cross-linking, form stability, and cohesiveness of these implants provide surgeons with an innovative tool to more closely create a natural breast in both shape and youthful firmness. A review of the MemoryShape design and engineering will provide a foundation for understanding how these unique features may affect the performance and ultimate outcome when utilizing these devices. A review of the clinical implications of these design features highlights differences as compared with the more familiar MemoryGel round implants, as well as to other shaped form stable devices currently available in the United States.

**Publication type:** Journal Article, Review  
**Source:** MEDLINE  
**Full text:** Available *Journal of reconstructive microsurgery* at *Plastic and Reconstructive Surgery*

### 23. Title: The outcome of free tissue transfers in patients with hematological diseases: 20-Year experiences in single microsurgical center  
**Citation:** Microsurgery, October 2014, vol./is. 34/7(505-510), 0738-1085;1098-2752 (01 Oct 2014)  
**Author(s):** Lin P.-Y., Cabrera R., Chew K.-Y., Kuo Y.-R.  
**Language:** English  
**Abstract:** Background: Free tissue transfers performed in patients with hematological diseases represent significant challenges for micro-surgeons. There are rare literatures that address the outcome in these patients. Therefore, we collected our database, analyzed the outcome, reliability, and related-management of microsurgical technique in the patients with hematological diseases. Methods: A retrospective chart review of 20 patients with hematological disorders who received free tissue transfers during 20-years period in a single microsurgical center was done. Eleven patients who received head and neck reconstruction were found to have hyperfibrinogenemia. Seven patients with reactive thrombocytosis after trauma, and two patients with leukemia had soft tissue defects in the upper and lower extremities. Twentysix flaps were used for free tissue transfers. Intra-operatively all patients received intravenous 5,000 Ud of heparin post immediate reperfusion. Anti-coagulant medication such as Dextran-40 or prostaglandin-E1 (PGE1) was given postoperatively. Results: Twenty-three of the 26 free flaps survived without vascular compromise. Intra-operatively all patients received intravenous 5,000 Ud of heparin post immediate reperfusion, and anti-coagulant medication such as Dextran-40 or prostaglandin-E1 was given to the patients postoperatively. The three failed cases were found in patients with hyperfibrinogenemia and needed further reconstruction with another flap. The overall success rate was 88.5% (23/26). Conclusions: Hematologic disorder is not a predicted factor of free flap failure. The key factors for success flap survival in patients with hematologic disorders include preoperative knowledge of the medical condition and monitoring potential post-operative complications, aggressive hematologist consultations, and meticulous non-traumatic surgical Anastomosis.

**Publication type:** Journal: Review  
**Source:** EMBASE

### 24. Title: Up-to-date approach to manage keloids and hypertrophic scars: A useful guide  
**Citation:** Burns, November 2014, vol./is. 40/7(1255-1266), 0305-4179;1879-1409 (01 Nov 2014)  
**Author(s):** Arno A.I., Gauglitz G.G., Barret J.P., Jeschke M.G.  
**Language:** English  
**Abstract:** Keloids and hypertrophic scars occur anywhere from 30 to 90% of patients, and are characterized by pathologically excessive dermal fibrosis and aberrant wound healing. Both entities have different clinical and histochemical characteristics, and unfortunately still represent a great challenge for clinicians due to lack of efficacious treatments. Current advances in molecular biology and genetics reveal new preventive and therapeutical options which represent a hope to manage this highly prevalent, chronic and disabling problem, with long-term beneficial outcomes and improvement of quality of life. While we wait for these translational clinical products to be marketed, however, it is imperative to know the basics of the currently existing wide array of strategies to deal with excessive scars: from the classical corticotherapy, to the most recent botulinum toxin and lasers. The main aim of this review paper is to offer a useful up-to-date guideline to prevent and treat keloids and hypertrophic scars.

**Publication type:** Journal: Review  
**Source:** EMBASE

### 25. Title: Use of a distal ulnar artery perforator-based bilobed free flap for repairing complex digital defects  
**Citation:** Journal of Hand Surgery, November 2014, vol./is. 39/11(2235-2242), 0363-5023;1531-6564 (01 Nov 2014)  
**Author(s):** Zheng D.-W., Li Z.-C., Sun F., Shi R.-J., Shou K.-S.  
**Language:** English  
**Abstract:** Purpose To retrospectively evaluate the effectiveness and safety of using a distal ulnar artery perforator
Use of autologous fat grafting for reconstruction postmastectomy and breast conserving surgery: A systematic review and meta-analysis of oncological outcomes

Abstract: There is growing interest in the potential of autologous fat grafting (AFG) for breast reconstruction. However, concerns remain regarding its effectiveness, safety and interference with mammography. We received input from breast cancer patients at all stages of the review. METHODS: A protocol was published a priori. All studies investigating AFG for women undergoing reconstruction post mastectomy or breast conserving surgery for treatment of breast cancer, in any language were considered. We assessed six domains; oncological, clinical, aesthetic/functional, patient reported, process and radiological. 15 electronic databases were searched to June 2013; grey literature searches were also performed. Two independent reviewers assessed eligibility of articles and performed data extraction. RESULTS: 31 studies were included (3,521 patients). Current studies show a high degree of patient and surgeon satisfaction at medium term follow up of 14.8 months with an average of 1.9 sessions. Fat necrosis is the commonest reported complication at 4.4% (the majority were Grade I Clavien-Dindo and managed conservatively). Other harms include the anxiety caused by the need for further radiological investigation through interval mammograms (11.5%) and the need for biopsy (2.5%) to exclude malignancy. The weighted mean recurrence rate was 4.4% at a median of 18.3 months. Random effects Meta-analysis showed no significant difference (p=0.10). CONCLUSIONS: AFG is a potentially useful tool within the armamentarium of those performing breast reconstruction. The need for long-term follow up is underscored by this review. High quality research is required to demonstrate long-term oncological ramifications and to determine the potential for AFG as a total breast reconstruction method.

Use of integra artificial dermis to reduce donor site morbidity after pedicle flaps in hand surgery

Purpose: To assess the results obtained with Integra artificial dermis to cover donor site following the harvesting of pedicle flaps for hand reconstruction. METHODS: Between April 2010 and August 2013, 11 patients (8 men and 3 women; mean age, 37 y) were treated with Integra Dermal Regeneration Template (Integra LifeSciences, Inc., Plainsboro, NY) to cover donor defects after raising pedicle flaps for hand and finger reconstruction: radial forearm flap (4 cases), ulnar artery perforator flap (2 cases), and heterodigital island flap (5 cases). After neodermis formation the silicone layer of the artificial dermis was removed (on average after 22 days) and a split- or full-thickness epidermal autograft placed. RESULTS: No infections, hematoma, or bleeding were recorded during the entire phase in which the artificial skin was applied. Two patients experienced a partial skin graft loss. Median follow-up was 20 months, and results included an average Vancouver Scar Scale rating of 2.7 and an average DASH score of 39. There were no cases of graft adherence to the underlying tendons or muscles. CONCLUSIONS: Favorable cosmetic and functional outcomes were obtained using a dermal regeneration template for the treatment of donor site defects. Despite the drawback of an additional surgical procedure (secondary skin graft), the use of this artificial skin
produced soft-tissue augmentation and graft-skin quality, reducing donor site morbidity. Type of study/level of evidence Therapeutic IV.

**Publication type:** Journal: Article  
**Source:** EMBASE  
**Full text:** Available *The Journal of hand surgery* at *Journal of Hand Surgery, The*

**28. Title:** Vacuum-assisted closure device as a split-thickness skin graft bolster in the burn population  
**Citation:** Journal of Burn Care and Research, 2014, vol./is. 35/5(e338-e342), 1559-047X;1559-0488 (2014)  
**Author(s):** Waltzman J.T., Bell D.E.  
**Language:** English  
**Abstract:** The vacuum-assisted closure device (VAC) is associated with improved wound healing outcomes. Its use as a bolster device to secure a split-thickness skin graft has been previously demonstrated; however, there is little published evidence demonstrating its benefits specifically in the burn population. With use of the VAC becoming more commonplace, its effect on skin graft take and overall time to healing in burn patients deserves further investigation. Retrospective review of burn registry database at a high-volume level I trauma center and regional burn center during a 16-month period was performed. Patients who had a third-degree burn injury requiring a split-thickness skin graft and who received a VAC bolster were included. Data points included age, sex, burn mechanism, burn location, grafted area in square centimeters, need for repeat grafting, percent graft take, and time to complete reepithelialization. Sixty-seven patients were included in the study with a total of 88 skin graft sites secured with a VAC. Age ranged from <1 year to 84 years (average 41 years). The average grafted area was 367 + 545 cm2. The three most common were the leg, thigh, and arm (28, 15, and 12%, respectively). Average percent graft take was 99.5 + 1.5%. Notably, no patients returned to the operating room for repeat grafting. The average time to complete reepithelialization was 16 + 7 days. The VAC is a highly reliable and reproducible method to bolster a split-thickness skin graft in the burn population. The observed rate of zero return to the operating room for repeat grafting was especially encouraging. Its ability to conform to contours of the body and cover large surface areas makes it especially useful in securing a graft. This method of bolstering results in decreased repeat grafting and minimal graft loss, thus decreasing morbidity compared with conventional bolster dressings.

**Publication type:** Journal: Review  
**Source:** EMBASE  
**Full text:** Available *Ovid* at *Journal of Burn Care and Research*  
**Full text:** Available *Ovid* at *Journal of Burn Care and Research*

**29. Title:** Vascular anatomy of the deep inferior epigastric artery perforator flap: a systematic review.  
**Citation:** Plastic & Reconstructive Surgery, November 2014, vol./is. 134/5(810e-e342), 0007-1226;1529-4242 (2014 Nov)  
**Author(s):** Ireton JE, Lakhiani C, Saint-Cyr M  
**Language:** English  
**Abstract:** BACKGROUND: The deep inferior epigastric artery perforator ( DIEP) flap is one of the most commonly used perforator flaps for reconstruction. The anatomy of the flap varies considerably between patients and even within patients. The authors conducted a comprehensive review to fully describe the vascular anatomy of the DIEP flap.METHODS: The authors performed MEDLINE, Ovid, and PubMed searches for articles published between 1993 and 2012 on the vascular anatomy of the DIEP flap. Abstracts were screened first, then entire articles, followed by manual reference check. A total of 60 relevant articles were identified and reviewed in their entirety. The authors synthesized all descriptions of DIEP flap vascular anatomy.RESULTS: The perforators originating from the deep inferior epigastric artery can be categorized as musculocutaneous or extramuscular. Musculocutaneous perforators are the most common (33 to 100 percent), followed by extramuscular (0 to 67.6 percent). Of the musculocutaneous perforators, a short intramuscular course (<4 cm) is most common (61 to 80 percent), followed by a long intramuscular course (>4 cm; 9 to 26 percent) and a perpendicular course (3 to 26 percent). Two subfascial patterns have been described, with direct fascial penetration more common than a subfascial course. The two extramuscular perforator types, paramedian (<46.4 percent) and tendinous (<67.6 percent), are the most desirable for dissection.CONCLUSIONS: The vascular anatomy of the DIEP flap shows significant variability. Despite this, several patterns of musculocutaneous and extramuscular-type perforators have been found. A greater understanding of these patterns will improve knowledge of the anatomical variation and will enhance the use of evidence-based perforator selection.

**Publication type:** Journal Article  
**Source:** MEDLINE  
**Full text:** Available *Journal of reconstructive microsurgery* at *Plastic and Reconstructive Surgery*
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