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**Literature search results**

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**Search details**

Breast cancer or cancer patient, surgical scars, reduction of scarring using a tattoo machine (without colour) referred to as dry needling dermabrasion.

**Resources searched**

MEDLINE; EMBASE; CINAHL

*Database search terms:* breast cancer; exp BREAST NEOPLASMS; “cancer of the breast”; “mammary carcinoma”; “breast carcinoma”; BRAC1; BRAC2; exp CICATRIX; surg*; scar*; “scar revision”; revision; reduc* dermabras*; exp DERMABRASION; “dry needl*”, tattoo*; TATTOOING; coloir; color; “collagen induction therapy”; CIT; “micro-needl*”; “micro needl*”; “medical skin needl*”; exp COSMETIC TECHNIQUES; cancer; carcinoma; neoplasms; exp NEOPLAMS; melanocyte*; MELANOCYTES; regenerate*; renew*; rejuvenat*; restor*; resurface*; micropigmentation; micro-pigmentation; “micro pigmentation”; “medical tattooing”; dermography

*Google search string:* (breast cancer or breast neoplasm) (surgery OR surgical) scar (revision OR reduction) (dermabrasion OR “dry needling”)

**Summary**

**Guidelines**

**Evidence based reviews**
Published research

1. Review of fractional photothermolysis: Treatment indications and efficacy

Author(s): Tierney E.P., Kouba D.J., Hanke C.W.

Citation: Dermatologic Surgery, October 2009, vol./is. 35/10(1445-1461), 1076-0512;1524-4725 (October 2009)

Publication Date: October 2009

Abstract: BACKGROUND Fractional photothermolysis (FP) is one of the most significant milestones in laser technology and resurfacing. METHODS Review of the Medline English literature and recent international conferences regarding FP technology, applications, and indications. RESULTS Successful conditions treated with nonablative FP reported in the literature include acne scarring; dyschromia and fine wrinkling of photoaging on the face, chest, neck, and hands; melasma; poikiloderma of Civatte; nevus of Ota; scars; minocycline hyperpigmentation; telangiectatic matting; residual hemangioma; granuloma annulare; colloid milium; and disseminated superficial actinic porokeratosis. An advance in 2007 was the introduction of ablative FP (AFP), which results in significantly greater improvement in skin laxity and textural abnormalities. Most recently, AFP has demonstrated significantly greater improvement than nonablative FP in reducing acne scarring and skin redundancy and laxity associated with photoaging. CONCLUSIONS Through the induction of microthermal zones of injury, FP technology stimulates a robust and rapid wound healing response resulting in improvement in a diversity of aesthetic, inflammatory, and preneoplastic skin disorders. Further investigation into the technology and diverse array of cutaneous conditions that can benefit from FP is highly needed. The authors have indicated no significant interest with commercial supporters. copyright 2009 by the American Society for Dermatologic Surgery, Inc.

Source: EMBASE

2. Recontouring, resurfacing, and scar revision in skin cancer reconstruction.

Author(s): Brenner MJ, Perro CA

Citation: Facial Plastic Surgery Clinics of North America, August 2009, vol./is. 17/3(469-487.e3), 1064-7406;1558-1926 (2009 Aug)

Publication Date: August 2009

Abstract: Residual disfigurement is a common problem for patients who have undergone skin cancer reconstruction. Restoring form and function in these patients is an artistic and technical endeavor. The efficacy of surgical scar revision, dermabrasion, chemical peels, and laser resurfacing is predicated upon the skin's innate ability to regenerate over time in response to mechanical, chemical, and thermal or ablative stresses. The patient and surgeon should be accepting of a process that is often gradual and may proceed in stages. Achieving proficiency with the secondary procedures for improving scars and local flaps may allow the motivated surgeon to mold an initially passable surgical result into an excellent one.

Source: MEDLINE

3. Advances in plasma skin regeneration

Author(s): Foster W.K., Moy R.L., Fincher E.F.

Citation: Journal of Cosmetic Dermatology, 2008, vol./is. 7/3(169-179), 1473-2130;1473-2165 (2008)

Publication Date: 2008

Abstract: Plasma skin regeneration (PSR) is a novel method of resurfacing that uses
plasma energy to create a thermal effect on the skin. PSR is different from lasers, light sources, and ablative lasers in that it is not chromophore dependent and does not vaporize tissue, but leaves a layer of intact, desiccated epidermis that acts as a natural biologic dressing and promotes wound healing and rapid recovery. Histological studies performed on plasma resurfacing patients have confirmed continued collagen production, reduction of elastosis, and progressive skin rejuvenation beyond 1 year after treatment. PSR has received US Food and Drug Administration 510 (k) clearance for treatment of rhytides of the body, superficial skin lesions, actinic keratoses, viral papillomata, and seborrheic keratoses. PSR also has beneficial effects in the treatment of other conditions including dyschromias, photoaging, skin laxity, and acne scars. The safety profile of PSR is excellent, and there have been no reports of demarcation lines in perioral, periorbital, or jawline areas, as can sometimes be observed following CO2 resurfacing. PSR is effective in improving facial and periorbital rhytides and can be used on nonfacial sites, including the hands, neck, and chest. Numerous treatment protocols with variable energy settings allow for individualized treatments and provide the operator with fine control over the degree of injury and length of subsequent recovery time. copyright 2008 Wiley Periodicals, Inc.

Source: EMBASE

4. Ablative laser resurfacing: high-energy pulsed carbon dioxide and erbium:yttrium-aluminum-garnet

Author(s): Riggs K., Keller M., Humphreys T.R.

Citation: Clinics in Dermatology, September 2007, vol./is. 25/5(462-473), 0738-081X (Sep 2007)

Publication Date: September 2007

Abstract: The development of the short-pulsed high-energy carbon dioxide laser in the mid 1990’s led to the emergence of laser skin resurfacing. Used in the continuous mode, the CO2 laser can cut and coagulate simultaneously. Used in the pulsed mode, the CO2 laser is a powerful tool for epidermal ablation in many different contexts both therapeutic and cosmetic. Both the CO2 and Erbium YAG lasers emit light in the infrared spectrum. Energy is preferentially absorbed by intracellular water creating rapid heating and vaporization of tissue. Because of the wavelength of the Er:YAG laser (2940nm) more closely approximates the absorption peak of water (3000nm) the target chromophore than the CO2 laser (10,600nm) nearly all of the energy is absorbed in the epidermis and papillary dermis yielding superficial ablation and less underlying thermal damage. The advantages, disadvantages, and applications of each type of laser resurfacing will be discussed. Despite proven efficacy, the public acceptance of laser resurfacing has declined with the emergence of new laser systems that cause dermal remodeling without ablating the overlying epidermis dramatically reducing recovery time. In the absence of blinded comparison studies, it remains unclear whether the clinical results of the newer 'nonablative' laser systems compare with their ablative predecessors. copyright 2007 Elsevier Inc. All rights reserved.

Source: EMBASE

5. Facial resurfacing for nonmelanoma skin cancer prophylaxis

Author(s): Hantash B.M., Stewart D.B., Cooper Z.A., Rehmus W.E., Koch R.J., Swetter S.M.

Citation: Archives of Dermatology, 2006, vol./is. 142/8(976-982), 0003-987X;0003-987X (2006)

Publication Date: 2006

Abstract: Objective: To determine the effect of facial skin resurfacing for treatment of actinic keratoses (AKs) and prophylaxis against new primary basal and squamous cell carcinomas in individuals with previous nonmelanoma skin cancer (NMSC) or severe photodamage. Design: Randomized, prospective 5-year trial. Setting: Dermatology and
otolaryngology clinics of a Veterans Affairs hospital. Patients: Thirty-four patients with a history of facial or scalp AKs or basal or squamous cell carcinoma were enrolled. Five of 7 eligible patients who declined study-related treatment were used as controls. Twenty-seven patients were randomized to 3 treatment arms; 3 patients were discontinued from the study. Interventions: Carbon dioxide laser resurfacing, 30% trichloroacetic acid peel, or 5% fluorouracil cream applied twice daily for 3 weeks. Main Outcome Measures: Reduction in the number of AKs was measured 3 months after treatment. The incidence of new NMSC in treated areas was assessed between January 1, 2001, and June 30, 2005. Times from baseline to diagnosis of first skin cancer were compared between the treatment and control groups. Results: Treatment with fluorouracil, trichloroacetic acid, or carbon dioxide laser resulted in an 83% to 92% reduction in AKs (P<.03), a lower incidence of NMSC compared with the control group (P<.001), and a trend toward longer time to development of new skin cancer compared with the control group (P=.07). However, no significant differences were noted among the treatment groups. Conclusion: All 3 modalities demonstrated benefit for AK reduction and skin cancer prophylaxis compared with controls and warrant further study in a larger trial. copyright2006 American Medical Association. All rights reserved.

Source: EMBASE

Full Text:

Available in fulltext at Highwire Press

6. Comparative treatment of giant congenital melanocytic nevi with curettage or Er:YAG laser ablation alone versus with cultured epithelial autografts

Author(s): Whang K.-K., Kim M.-J., Song W.-K., Cho S.

Citation: Dermatologic Surgery, December 2005, vol./is. 31/12(1660-1667), 1076-0512 (Dec 2005)

Publication Date: December 2005

Abstract: BACKGROUND. Treatment options for congenital melanocytic nevi (CMN) include complete surgical excision, dermabrasion, curettage, and laser therapy. Fresh cultured epithelial autograft (CEA) after curettage or erbium:yttrium-aluminum- garnet (Er:YAG) ablation presents a novel option in the management of large-sized or giant CMN. OBJECTIVE. The purpose of this study was to evaluate the outcome of CEA after curettage or Er:YAG ablation of CMN and to compare the safety, efficacy, and side-effect profile of CEA with the non-CEA group. METHODS. Ten patients with CMN were treated with curettage J (one patient), Er:YAG ablation (four patients), or both (five patients) followed by CEA, and eight patients were treated with curettage (two patients), Er:YAG ablation (one patient), or both (five patients) without CEA. All 18 patients were evaluated at week 16 after the operation with respect to pigmentation, erythema, hypertrophic scarring, textural change, granulation tissue formation, infection, and healing time. Global Assessment Scale scores were graded before and 16 weeks after the operation by physicians and patients. RESULTS. Reduced pigmentation in the treated areas was seen in both groups, but the time to complete healing was significantly shorter in the CEA than in the non-CEA group (p < .05). There was less hypertrophic scar formation and granulation tissue formation and fewer other side effects in the CEA group. CONCLUSION. In view of the favorable outcome of CEA combined with curettage or Er:YAG laser ablation in the treatment of giant CMN, CEA is a safe and effective novel treatment adjunct that accelerates healing, with fewer side effects. copyright 2005 by the American Society for Dermatologic Surgery, Inc.

Source: EMBASE

7. Comparative treatment of giant congenital melanocytic nevi with curettage or Er:YAG laser ablation alone versus with cultured epithelial autografts.
**Author(s):** Whang KK, Kim MJ, Song WK, Cho S

**Citation:** Dermatologic Surgery, December 2005, vol./is. 31/12(1660-7), 1076-0512;1076-0512 (2005 Dec)

**Publication Date:** December 2005

**Abstract:** BACKGROUND: Treatment options for congenital melanocytic nevi (CMN) include complete surgical excision, dermabrasion, curettage, and laser therapy. Fresh cultured epithelial autograft (CEA) after curettage or erbium:yttrium-aluminum-garnet (Er:YAG) ablation presents a novel option in the management of large-sized or giant CMN. OBJECTIVE: The purpose of this study was to evaluate the outcome of CEA after curettage or Er:YAG ablation of CMN and to compare the safety, efficacy, and side-effect profile of CEA with the non-CEA group. METHODS: Ten patients with CMN were treated with curettage (one patient), Er:YAG ablation (four patients), or both (five patients) followed by CEA, and eight patients were treated with curettage (two patients), Er:YAG ablation (one patient), or both (five patients) without CEA. All 18 patients were evaluated at week 16 after the operation with respect to pigmentation, erythema, hypertrophic scarring, textural change, granulation tissue formation, infection, and healing time. Global Assessment Scale scores were graded before and 16 weeks after the operation by physicians and patients. RESULTS: Reduced pigmentation in the treated areas was seen in both groups, but the time to complete healing was significantly shorter in the CEA than in the non-CEA group (p < .05). There was less hypertrophic scar formation and granulation tissue formation and fewer other side effects in the CEA group. CONCLUSION: In view of the favorable outcome of CEA combined with curettage or Er:YAG laser ablation in the treatment of giant CMN, CEA is a safe and effective novel treatment adjunct that accelerates healing, with fewer side effects.

**Source:** MEDLINE

**8. Scar revision.**

**Author(s):** Westine JG, Lopez MA, Thomas JR

**Citation:** Facial Plastic Surgery Clinics of North America, May 2005, vol./is. 13/2(325-31, vii), 1064-7406;1064-7406 (2005 May)

**Publication Date:** May 2005

**Abstract:** Classic techniques of scar revision in general are ablative and remain the gold standard, although newer nonablative laser therapies, such as the frequency-doubled neodymium:yttrium-aluminum-garnet laser, can help. Ablative therapies and techniques are examined.

**Source:** MEDLINE

**9. Secondary procedures in maxillofacial dermatology**

**Author(s):** Henderson J.M., Horswell B.B.

**Citation:** Oral and Maxillofacial Surgery Clinics of North America, May 2005, vol./is. 17/2 SPEC. ISS.(173-189), 1042-3699 (May 2005)

**Publication Date:** May 2005

**Abstract:** Secondary dermatologic procedures for revision of scar or re-excising a lesion must take into account many factors. A patient's health and habitus, local tissue characteristics and health, previous treatments to the area of concern, and location of the lesion are some factors that influence the outcome of secondary procedures. A thorough understanding of wound healing and how to intervene appropriately during healing, if necessary, is important for clinicians. It has become clear in the literature that proper preparation of the site through elimination of inflammatory conditions and increasing tissue integrity and health provide the foundation for satisfactory and predictable results.
Surgeons also must consider which surgical (eg, excision, flaps, dermabrasion) and nonsurgical (eg, resurfacing techniques, medications, dressings, pressure therapy) modalities optimally will correct the condition and continue to improve on its healing state through the postoperative period until tissue maturity. Copyright 2005 Elsevier Inc. All rights reserved.

Source: EMBASE

10. Overview of complications of nonsurgical facial rejuvenation procedures

Author(s): Sadick N.S.

Citation: Clinics in Plastic Surgery, 2001, vol./is. 28/1(163-176), 0094-1298 (2001)

Abstract: An in-depth understanding of potential adverse sequelae related to aesthetic facial rejuvenation and available management modalities, should such a complication occur, enables the aesthetic surgeon to reduce his or her complication profile and also minimize the results of such adverse sequelae, eventuating improved patient care and satisfaction.

Source: EMBASE

11. Immediate postoperative laser resurfacing improves second intention healing on the nose: 5-year experience

Author(s): Ammirati C.T., Cottingham T.J., Hruza G.J.

Citation: Dermatologic Surgery, 2001, vol./is. 27/2(147-152), 1076-0512 (2001)

Abstract: BACKGROUND. Mohs surgery defects on convex nasal surfaces do not reliably heal well by second intention. Prior to the availability of laser resurfacing we found that immediate postoperative dermabrasion improved the predicted outcome from second intention healing for these defects. OBJECTIVE. To determine the ability of immediate postoperative CO₂ and Er:YAG laser resurfacing to improve predicted healing by second intention. METHODS. Seventy-four patients with Mohs surgical defects on the nose underwent immediate postoperative resurfacing with either a scanned CO₂ or long-pulsed Er:YAG laser. Thirty patients had photographs of appropriate quality and follow-up for evaluation by a panel of nine objective physicians. RESULTS, All 74 patients were satisfied with their result and none have requested scar revision. Of the 30 patients evaluated by the panel, all were scored acceptable to excellent. CONCLUSION. Immediate laser resurfacing can improve the predicted outcome from second intention healing on the nose and should be considered for select patients.

Source: EMBASE

12. Review of cutaneous lasers and their applications

Author(s): Alster T.S., Bettencourt M.S.

Citation: Southern Medical Journal, September 1998, vol./is. 91/9(806-814), 0038-4348 (Sep 1998)

Abstract: Background. The use of lasers has assumed an increasingly important role in the treatment of a variety of cutaneous lesions over the past few decades. Because of their effectiveness, physicians from a variety of specialties have incorporated lasers into their practices. Unfortunately, widespread availability of lasers and the public’s fascination with their potential uses have created extraordinary, often unrealistic, expectations. Methods.
We review the laser systems most frequently used to treat skin conditions. Results. We discuss lasers with specificity for vascular malformations and pigmentary disorders as well as for tattoos and scars. Also, we review the latest techniques for cutaneous laser resurfacing with carbon dioxide and erbium:YAG lasers. Last, we briefly outline future uses of lasers and ongoing investigations, including laser treatment of leg veins and laser-assisted hair removal. Conclusions. Lasers, when properly used, offer clear advantages when compared with older, traditional approaches. Laser technology is clearly at its best when the characteristics of selectivity and specificity apply. Significant improvement and even elimination of many cutaneous lesions can now be accomplished with reduced risks to the patient when proper patient selection and laser treatment parameters are chosen.

Source: EMBASE


Author(s): Rompel R, Moser M, Petres J

Citation: Dermatology, 1997, vol./is. 194/3(261-7), 1018-8665;1018-8665 (1997)

Publication Date: 1997

Abstract: BACKGROUND: The indication for surgical treatment of congenital nevocellular nevi results from aesthetic-cosmetic consideration as well as from the increased risk of melanomatous transformation. OBJECTIVE: We evaluated the outcome after dermabrasion of congenital nevi of different sizes and treated at different ages. METHODS: 215 patients treated by dermabrasion during the years 1979-1995 were examined at a median interval of 24 months postoperatively. RESULTS: No postoperative development of malignant melanoma arising from the congenital nevus was seen in any of the patients during the time of follow-up. No serious long-term complications were seen. Hypertrophic scars were seen within parts of the operation field in 14.6%, but in those the cosmetic result was still satisfactory. Permanent reduction of pigmentation to 0-20% as compared with the preoperative status was achieved if treatment was performed within the newborn period. In case of large and giant nevi, permanent removal of pigmentation was better than in small or medium-sized nevi. CONCLUSION: Dermabrasion proved to be an adequate modality for removal of pigmentation in the therapy of large and giant congenital nevocellular nevi when assessed within 2 years following the procedure. Early treatment is crucial for permanent removal of pigmentation. Long-term effects remain to be adequately monitored.

Source: MEDLINE


Author(s): Snow SN, Stiff MA, Lambert DR

Citation: Journal of Dermatologic Surgery & Oncology, February 1994, vol./is. 20/2(120-6), 0148-0812;0148-0812 (1994 Feb)

Publication Date: February 1994

Abstract: BACKGROUND. Postoperative scars can be revised by a variety of techniques, including dermabrasion, laser, curettage, razor blade, and scalpel surgery. Most modern methods of scar revision provide good results but at the expense of time and economy. OBJECTIVE. We present our scalpel sculpting technique that uses the #15 scalpel blade to microshave and feather the skin edges to equalize differences in skin elevations caused by uneven healing. The superficial wounds then heal by second intention. METHODS. Sculpting techniques were used to revise side-to-side closures (grafts and flaps), trap-door elevations, standing tricones and hypertrophic scars. In addition, we used the sculpting technique to remove superficial blemishes such as actinic and seborrheic keratoses, skin tags, and other benign lesions. RESULTS. We have used scalpel sculpting techniques to revise scars and remove blemishes for more than 5 years. We have removed thousands of skin imperfections with very gratifying results. CONCLUSION. Scalpel sculpting techniques provide a simple, efficient method of scar revision and removal of superficial skin lesions. The technique reduces operative time and streamlines instrument reprocessing. Because
of its simplicity, there is a high degree of patient, nursing, and physician satisfaction.

Source: MEDLINE


Author(s): Abbes M, Boursault C, Conso D, Romeo E

Citation: Annales de Chirurgie Plastique et Esthetique, August 1992, vol./is. 37/4(394-401), 0294-1260;0294-1260 (1992 Aug)

Publication Date: August 1992

Abstract: Based on a series of 220 cases of reconstruction (63 cases) or correction (67 cases) of the nipple-areolar complex and various extramammary procedures (tattoo scar revision, lips, eyebrows, eyelashes) (90 cases), the authors present their 2-year experience of medical dermography in a cancer centre. Dermography allows breast reconstruction to be completed in a large number of patients who had initially refused to complete their reconstruction. This minimally aggressive outpatient technique which reconstitutes the areolo-nipple complex with sufficient quality, is now part of reconstruction protocols and is gradually replacing surgical techniques.

Source: MEDLINE

General medical tattooing results:

1. Acne scarring treatment using skin needling.

Author(s): Fabbrocini G, Fardella N, Monfrecola A, Proietti I, Innocenzi D

Citation: Clinical & Experimental Dermatology, December 2009, vol./is. 34/8(874-9), 0307-6938;1365-2230 (2009 Dec)

Publication Date: December 2009

Abstract: BACKGROUND: Acne is a common condition seen in up to 80% of people between 11 and 30 years of age and in up to 5% of older adults. In some patients, it can result in permanent scars that are surprisingly difficult to treat. A relatively new treatment, termed skin needling (needle dermabrasion), seems to be appropriate for the treatment of rolling scars in acne. AIM: To confirm the usefulness of skin needling in acne scarring treatment. METHODS: The present study was conducted from September 2007 to March 2008 at the Department of Systemic Pathology, University of Naples Federico II and the UOC Dermatology Unit, University of Rome La Sapienza. In total, 32 patients (20 female, 12 male patients; age range 17-45) with acne rolling scars were enrolled. Each patient was treated with a specific tool in two sessions. Using digital cameras, photos of all patients were taken to evaluate scar depth and, in five patients, silicone rubber was used to make a microrelief impression of the scars. The photographic data were analysed by using the sign test statistic (alpha < 0.05) and the data from the cutaneous casts were analysed by fast Fourier transformation (FFT). RESULTS: Analysis of the patient photographs, supported by the sign test and of the degree of irregularity of the surface microrelief, supported by FFT, showed that, after only two sessions, the severity grade of rolling scars in all patients was greatly reduced and there was an overall aesthetic improvement. No patient showed any visible signs of the procedure or hyperpigmentation. CONCLUSION: The present study confirms that skin needling has an immediate effect in improving acne rolling scars and has advantages over other procedures.

Source: MEDLINE
2. **A pilot randomized control trial of scar repigmentation with UV light and dry tattooing.**

**Author(s):** Brandt MG, Moore CC, Conlin AE, Stein JD, Doyle PC

**Citation:** Otolaryngology - Head & Neck Surgery, December 2008, vol./is. 139/6(769-74), 0194-5998;0194-5998 (2008 Dec)

**Publication Date:** December 2008

**Abstract:** OBJECTIVE: This study assessed the utility of focused scar injury with an ink-free tattooing technique combined with UV light exposure for the treatment of hypopigmented cervicofacial scars. STUDY DESIGN: Pilot prospective, randomized, control trial. SUBJECTS: Individuals with long-standing hypopigmented cervicofacial scars. METHODS: Twenty individuals randomly underwent UVA light exposure with or without dry tattooing. Scars were evaluated pretreatment and at seven-months post-treatment. Outcome measures included observer and patient subjective assessment of the scar, and objective evaluation of the erythema and melanin content of the scar and the surrounding skin. RESULTS: The tattoo group demonstrated statistically significant improvement in the subjective evaluation of their scars. Scar melanin content reached equivalence with the surrounding skin. Observer and patient subjective global ratings support the use of dry tattooing. CONCLUSIONS: Dry-tattooing followed by UV light exposure may provide a safe and effective means for the treatment of hypopigmented scars.

**Source:** MEDLINE

3. **Percutaneous collagen induction: minimally invasive skin rejuvenation without risk of hyperpigmentation-fact or fiction?**

**Author(s):** Aust MC, Reimers K, Repenning C, Stahl F, Jahn S, Guggenheim M, Schwaiger N, Gohritz A, Vogt PM

**Citation:** Plastic & Reconstructive Surgery, November 2008, vol./is. 122/5(1553-63), 0007-1226;1529-4242 (2008 Nov)

**Publication Date:** November 2008

**Abstract:** BACKGROUND: Photoaging is generally treated by ablative procedures that injure the epidermis and basal membrane and lead to fibrosis of the papillary dermis. Damaging the epidermis significantly can cause potential adverse effects such as dyspigmentation. It was recently shown in clinical trials that percutaneous collagen induction therapy is an alternative for safely treating wrinkles and scars and for smoothening the skin without the risk of dyspigmentation. METHODS: The purpose of this study was to increase current knowledge regarding whether percutaneous collagen induction therapy presents an effective means for skin rejuvenation without risk of dyspigmentation, as the authors' clinical data suggested. Fifty-six rats were assigned to three groups: group A (n = 24), percutaneous collagen induction therapy plus skin care; group B (n = 24), skin care; and group C (n = 8) controls. The authors evaluated the effect of percutaneous collagen induction therapy on the epidermis, melanocytes, and the pigmentation markers interleukin-10 and melanocyte-stimulating hormone. RESULTS: Percutaneous collagen induction therapy left the epidermis intact without any damage to the stratum corneum, any other layers of the epidermis, or the basal membrane. No signs of dermabrasive reduction of epidermal thickness were evident 24 hours after the procedure. The number of melanocytes neither increased nor decreased in any of the groups. DNA microarray experiments demonstrated that interleukin-10 was increased in percutaneous collagen induction therapy-treated skin after 2 weeks. Concerning the MC1R (melanocyte-stimulating hormone) gene, gene expression microarray analysis indicated a faint down-regulation both 24 hours and 2 weeks after percutaneous collagen induction therapy. CONCLUSION: Percutaneous collagen induction therapy offers a modality with which to rejuvenate and improve skin appearance and quality without risk of dyspigmentation.
Combating photoaging with percutaneous collagen induction.

Author(s): Fernandes D, Signorini M

Citation: Clinics in Dermatology, March 2008, vol./is. 26/2(192-9), 0738-081X;0738-081X (2008 Mar-Apr)

Publication Date: March 2008

Abstract: Medical clinicians are used to being consulted by patients who want to restore their youthful appearance. Although structural changes to the face and body may be achieved with surgery, for example, face lifts, the impression of youth also relies heavily on young-looking skin. It is desirable to have thicker and tighter skin to properly fulfill the desire for youth. Percutaneous collagen induction offers an antiaging effect to improve the appearance of old skin. It allows us to improve our patients’ skin from the inside outward as well as from the surface. Experience has shown that percutaneous collagen induction works optimally when combined with a scientific skin care program to restore a youthful appearance. In addition, the same technique has proven to be very effective in minimizing acne scars and burn scars by removing scar collagen and replacing it with normal collagen. Consequently, scar contractures and depressed scars are improved. With the introduction of percutaneous collagen induction therapy in 1997, a simple and fast method was developed with regard to safely treating wrinkles and scars and producing lasting smoothness. As opposed to ablative laser treatments, the epidermis remains intact and is not damaged. For this reason, the operation can be safely repeated if needed, and it can be also applicable to regions where laser treatments or deep peelings cannot be done.

Source: MEDLINE

4. The treatment of burn scar-induced contracture with the pinhole method and collagen induction therapy: a case report.

Author(s): Cho SB, Lee SJ, Kang JM, Kim YK, Kim TY, Kim DH

Citation: Journal of the European Academy of Dermatology & Venereology, April 2008, vol./is. 22/4(513-4), 0926-9959;1468-3083 (2008 Apr)

Publication Date: April 2008

Source: MEDLINE

5. Percutaneous collagen induction therapy: an alternative treatment for scars, wrinkles, and skin laxity.

Author(s): Aust MC, Fernandes D, Kolokythas P, Kaplan HM, Vogt PM

Citation: Plastic & Reconstructive Surgery, April 2008, vol./is. 121/4(1421-9), 0007-1226;1529-4242 (2008 Apr)

Publication Date: April 2008

Abstract: BACKGROUND: Skin laxity, rhytides, and photoaging are generally treated by ablative procedures that injure or destroy the epidermis and its basement membrane, at least in the beginning, and subsequently lead to fibrosis of the papillary dermis. The ideal treatment would be to preserve the epidermis and promote normal collagen and elastin formation in the dermis. Percutaneous collagen induction takes us closer to this ideal. METHODS: The authors performed
a retrospective analysis of 480 patients in South Africa and Germany with fine wrinkles, lax skin, scarring, and stretch marks treated with percutaneous collagen induction using the Medical Roll-CIT to produce tighter, smoother skin. Most patients had only one treatment, but some have had as many as four treatments. Patients were prepared with topical vitamin A and C cosmetic creams for a minimum of 4 weeks preoperatively. RESULTS: On average, patients in Germany rated their improvement between 60 and 80 percent better than before the treatment. Histologic examination was carried out in 20 patients and showed a considerable increase in collagen and elastin deposition at 6 months postoperatively. The epidermis demonstrated 40 percent thickening of stratum spinosum and normal rete ridges at 1 year postoperatively. CONCLUSIONS: Percutaneous collagen induction was started in 1997 and has proved to be a simple and fast method for safely treating wrinkles and scars. As opposed to ablative laser treatments, the epidermis remains intact and is not damaged. For this reason, the procedure can be repeated safely and is also suited to regions where laser treatments and deep peels cannot be performed.

Source: MEDLINE

Full Text:

Available in fulltext at Ovid

11. Needle dermabrasion.

Author(s): Camirand A, Doucet J

Citation: Aesthetic Plastic Surgery, January 1997, vol./is. 21/1(48-51), 0364-216X;0364-216X (1997 Jan-Feb)

Publication Date: January 1997

Abstract: In this article we describe a technique of needle dermabrasion (tattoo without pigment) used to improve achromic, hypertrophic, and unsightly scars. It is simple, safe (no complications), and it gives us consistently good results.

Source: MEDLINE


Author(s): Guyuron B, Vaughan C

Citation: Plastic & Reconstructive Surgery, March 1995, vol./is. 95/3(575-9), 0032-1052;0007-1226 (1995 Mar)

Publication Date: March 1995

Abstract: Scars are apparent, in part, as a result of the loss of cutaneous pigments. This disfigurement can be concealed successfully with medical-grade tattooing. This treatment was evaluated on 39 scars in 18 patients. The procedure was performed under local anesthesia on an outpatient basis, unless carried out in conjunction with other procedures. The medical-grade tattooing dye was selected during the initial consultation to match the skin color in a natural light ambiance. An electric tattooing machine was used to implant the medical-grade dye in the dermis. Successful concealment of the depigmented scars was achieved subsequent to the first procedure in all but 4 patients. Two of the 4 patients exhibited inadequate camouflage of scars, and 2 were judged to have excess pigmentation following treatment. Both these conditions required revision.

Source: MEDLINE
Skin-sparing mastectomy with immediate breast reconstruction: the MD Anderson …

SE Singletary - Annals of Surgical Oncology, 1996 - Springer
... 2. A: Tumor biopsy scar and nipple-areolar complex were ellipsed within a Z-shaped ... not interfere with TRAM flap viability or cosmetic results in patients with high risk breast cancer. ...

Becker H. The use of intradermal tattoo to enhance the final result of nipple-areola reconstruction ...

Immediate breast reconstruction after mastectomy for cancer

bgu.ac.il [PDF]
Lancashire Teaching Hospitals
CM Malata, SA McIntosh, AD … - British Journal of …, 2000 - ingentaconnect.com
... Furthermore, reconstruction did not significantly increase the risk of local recurrence, second breast cancer or second primary … a large contralateral breast); and (e) concomitant bene…
cial reduction of excess abdominal tissue (‘tummy tuck’) and the highly favourable donor site scar. ...

Breast reconstruction following mastectomy

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... Retrospective studies do not show an association of breast implants and connective tissue diseases or breast cancer. ... A capsule is a firm, fibrous scar CAC ancer JC lin 1 9 9 5 ; 4 5 : 2 8 9 - 3 0 4 Vol. 45 No. 5 September/october 1995 293 Fig. ...

Breast reconstruction-past achievements, current status and future goals

M Wickman - ... Journal of Plastic and Reconstructive Surgery …, 1995 - informahealthcare.com
... In 1975, Rees described an intradermal tattoo for areola reconstruction with a pre-tattooed skin graft … old woman who has had primary breast reconstructions of both breasts for bilateral breast cancer. ... The TRAM flap provides a lot of tissue and gives an acceptable donor scar. ...


prsjournal.org [HTML]
Various techniques of nipple reconstruction ensued, allowing use of transferred tissue and scar to form a nipple prominence. Conservative Management of Breast Cancer. Becker H. The use of intradermal tattoo to enhance the final result of nipple-areola reconstruction.


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One-stage immediate breast and nipple-areolar reconstruction with autologous tissue.

DA Hudson, DM Dent, D Lazarus. Annals of plastic surgery, 2000. In addition, the scars on both breasts are similar, the areolae are similar. Immediate reconstruction: oncologic risks and aesthetic results in patients with early stage breast cancer. Nipple and areola reconstruction.


Nipple and areola reconstruction.

HA Hutcheson, J Bostwick. Plastic Surgical Nursing, 1989. A patient is shown after a left modified radical mastectomy for breast cancer. The use of intradermal tattoo allows the use of a variety of nonpigmented donor sites. ... is similar to the natural areola.

Technical modifications for on-site nipple-areola reconstruction.

BW Chang, S Slezak, N. Goldberg. Annals of Plastic Surgery, 1992. The technique is that it avoids the morbid-ity and donor-site scarring associated with a...
Becker H: The use of intradermal tattoo to enhance the ... who had undergone bilateral transverse rectus abdominis musculocutaneous flap reconstruction for breast cancer.

RJ Spence - Annals of plastic surgery, 1992 - journals.lww.com
... This makes nipple loss from breast cancer, subsequent mastectomy, and desire for reconstruction virtually unknown ... a labium minora graft for the areola, and later tried introducing scar tissue under the ... 7. Becker H. The use of intradermal tattoo to enhance the final result of nipple ...

Nipple reconstruction with Cv flap using dermofat graft
prsjournal.org [HTML]
SR Eo, SS Kim, AL Da Lio - Annals of plastic surgery, 2007 - journals.lww.com
... In our patient population, all patients had history of breast cancer ablation and were reconstructed with either ... method of nipple reconstruction using a spiral flap made of residual scar tissue. ...
Nipple-areolar reconstruction with intradermal tattoo and double-opposing pennant flaps ...

[PDF] Nipple-Areola Complex Reconstruction after Postmastectomy Breast ...
ndmctsgh.edu.tw [PDF]
... This novel badge flap with intradermal tattoo is a simple and reliable flap for nipple areola reconstruction; it gives patient good psychological support and a very good aesthetic result with inconspicuous donor scar. Key words: badge flap, breast cancer, breast reconstruction ...

Cryopreserved Autologous Nipple-Areola Complex Transfer to the Reconstructed ...
prsjournal.org [HTML]
Online York Hospital Library
JW Little - Plastic and Reconstructive Surgery, 2003 - journals.lww.com
... The reason the original policy was rejected was because breast cancer cells were found in ... a focus between the onlay grafting of cyropreserved integument versus intradermal tattoo by imbedded earth ... with nonspecialized skin (from along the mastectomy or other scar) that will ...

Breast reconstruction with a latissimus dorsi flap in a patient who had had her ...
T Reimer, A Stachs, H Terpe, B ... - Scandinavian Journal of ..., 2008 - informahealthcare.com
... Other risk factors for secondary breast cancer have not been established. ... skin island on the back
was drawn into a horizontal position so that the scar would be ... The right nipple areolar complex was reconstructed in February 2005 using an intradermal tattoo and a nipple graft ...

Breast Reconstruction Using the Inferior Gluteus Free Flap

HA Hutcheson, F Nahai, J Bostwick III - Plastic Surgical Nursing, 1991 - journals.lww.com ... that breast reconstruction is a normal and relative- ly safe component in the overall treat-
ment and rehabilitation for breast cancer. ... The scar is acceptable in the buttock crease. ... The use of intradermal tattoo to achieve coloring eliminates the need for using pigmented donor skin. ...

Modified autogenous latissimus breast reconstruction and the box top nipple

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Online York Hospital Library
MA Horn, V Cimino, J Angelats - Plastic and Reconstructive ..., 2000 - journals.lww.com ... skin paddle to lie in the fat roll skin crease, which markedly improves the donor-site scar (Fig. ... worrisome lumpy areas can result from fat necrosis of the TRAM, causing unnecessary fear of breast cancer recurrence. ... Intradermal tattoo as an adjunct to nipple-areola reconstruction. ...

Radioguided sentinel lymph node biopsy in patients with malignant ...

gehealthcare.com [PDF]
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G Mariani, M Gipponi, L Moresco, G Villa, ... - Journal of ..., 2004 - accessories.euro.gehealthcare.com ... with highest activity (counts/sec) is identified and topographically correlated with the intradermal tattoo that has been ... or to excise a wider skin margin around the previous surgical scar (if this ... A major difference in the case of melanoma versus breast cancer concerns the role of ...

Radioguided Sentinel Lymph Node Biopsy in Malignant Cutaneous Melanoma*

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Online York Hospital Library
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Nipple Areola Reconstruction

JW Tyrone, A Losken, TR Hester - Breast disease, 2002 - IOS Press
... the final hurdle in a long and arduous reconstructive process for women with breast cancer. ...
The donor sites are closed primarily leaving a linear scar, the V flaps are wrapped ...
Intradermal tattoo as an adjunct to nipple-areolar reconstruction, Plast Reconstr Surg 83 (1989), 907.
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K Yoshimura, S Wakita, K Sato, N Kaji, ... - ... Journal of Plastic ..., 2005 - informahealthcare.com
... considerably to the cosmetic results in terms of natural contour and minimal scarring [23,24]. ...
breasts, and those in which breast cancer has been treated early with a skin-sparing mastectomy,
the ... Surg 1972;50: 350Á/3. [2] Becker H. The use of intradermal tattoo to enhance the ...
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KC Shestak, DA Medalie, SL ... - ... high risk for breast cancer, 2000 - books.google.com
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