The 2013 Summary of Published Medical Journal Articles Involving Body Piercing, Modifications, & Tattooing

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List of 2013 Published Medical Articles on Body Art
published medical articles as of 12 23 13


Hald, M., et al. (2013). Severe occupational contact dermatitis caused by black rubber as a consequence of p-phenylenediamine allergy resulting from a temporary henna tattoo. Contact Dermatitis. 68(6).


- Rare case report of verruciform xanthoma of the earlobe at a piercing site in an immunocompromised patient

- Five “W’s”: what (the nature of body art) why (prevalence), whom (elementary and middle school children and their decision making), where (clinics, classrooms, parent teacher associations), and when (as early as possible) – and how (educational strategies and specific content)
- “The school nurse might be the first and only credible source of information the students receive related to body art in an education/health environment. Current emphasis is on the decision making leading up to the action, and the major purposes, rather than on the markings or jewelry associated with procurement.”

- Case report of 22-year old male with painful groin lymphadenopathy
- Histology revealed black pigment infiltration from a leg tattoo

- 68-year old female with permanent cosmetic procedure to eyelid seven years prior
- Surgical removal of mass post-failing medical therapy
- Negative for malignancy, but positive for tattoo granuloma

- Clitoral piercing accidently removed & tissue repaired with « medical super glue »

- “This high-energy Q-switched Nd:YAG laser with a continuously variable spot-size safely and effectively removes tattoos, with greater removal when using a larger spot-size.”

- Case report of previously healthy 24-year old male with dermatofibroma two months after black ink tattoo

- “Tattoo skin disease (characterized by irregular, grey, black or yellowish, stippled cutaneous lesions) caused by poxvirus infection is a potential health indicator potential health indicator for cetaceans.”
- Viral DNA evaluation of tattoo lesions from 1998-2008

- 31-year old man with tender/itchy areas on tattoo placed several months prior (only in purple ink areas)
- First case report of CO2 laser therapy for treatment of pseudoepitheliomatous hyperplasia

- With infrared photography, 56% of primary tattoos could be visualized to some extent & 39% of primary tattoos could be seen very well – 44% of primary designs could not be visualized


- “The Malian study did not show an association between HIV infection and hospitalization, transfusion, tattoo, or dental care.”


- Study of 1930 patients with chronic hepatitis C & 1941 hepatitis C negative patients
- “Among these individuals without traditional risk factors, HCV-positive patients remained significantly more likely to have a history of one or more tattoos…”
- “Tattooing is associated with HCV infection, even among those without traditional HCV risk factors such as intravenous drug use and blood transfusion prior to 1992.”


- 15-year old with “Diabetic type I” tattoo on arm
- “We propose that doctors should consider supporting young people requesting tattoos on medical grounds, and for maximum effectiveness, the medical fraternity should promote a recognised symbol and site for alert tattoos to allow rapid recognition and prompt treatment of emergencies.”


- “… some older inks have a high enough metallic content to allow them to be viewed on a radiograph, while infrared light can demonstrate latent ink still present in the skin after laser removal and can also be utilized to distinguish an original tattoo through a secondary “cover up” tattoo.”


- Review of Plaglis (lidocaine 7% & tetracaine 7%) use for laser dermatologic procedures including tattoo removal


- Case report of unusual case of pseudoepitheliomatous hyperplasia mimicking a well-differentiated squamous cell carcinoma, but restricted to the red part of a rose tattoo


- 74 cases of pediatric ingestion of rare-earth magnets
- “fake piercing” was the instigating factor in 19% of cases
- 46-year old male with septic shock from group A strep & MRSA post-five days of traditional Samoan tattooing
- “If a patient endorses desire or intent to have a tattoo, particularly a traditional style tattoo, then a primary care manager should take liberty to inform the patient of proper sanitation methods that the tufuga ta tatau should follow, and the Hawaiian medical community should strive to encourage our patients to seek medical treatment when they experience complications from the tatau process despite the cultural stigma that maybe associated with seeking help, as well as educating the patient population about the signs and symptoms of complications.”

- 31 cases of nontuberculous mycobacterial infections associated with contaminated tattoo ink

- 75 patients, ages 7-62, in plastic surgery clinic for complications post ear-piercing
- Most common complications were post-traumatic tearing of earlobe & keloids
- “The fashion of body piercing is not safe… it is worth considering earlobe piercing in the modern definition of body piercing.”

- 40-year old male with granulatous reaction to red dye with skin necrosis

- 35-year old male with cutaneous lymphoid hyperplasia within red ink of a tattoo done two months prior

- Survey of 364 Brazilian college students regarding the use of underwear, body piercings, tattoos, hair removal, & sexual practices
- Only 1 reported having a genital piercing & none had tattoos

- Case reports of a 7 & 8 year old boys who developed lichen planus pemphigoides
- Cause in one was from a henna tattoo

- Use of temporary tattoos to simulate realistic dermatology encounters for medical students

- “Young men and young girls who had tattoos &/or wore piercings were more likely to report smoking behavior, earlier smoking behavior, and higher cigarette consumption per day.”

Volunteer women at a beach with temporary lower back tattoo vs. no lower back tattoo – Instructed to lay on stomach and read a book

1 – “The first experiment showed that more men approached the tattooed volunteers and that the mean latency of their approach was quicker.”

2 – “The second experiment showed that men estimated to have more chances to have a date and to have sex on the first date with tattooed volunteers.”


Reflectance confocal microscopy (RCM) is a non-invasive technique for real-time imaging the superficial layers of the skin

Brief description of possible use of RCM in dermatologist evaluation of tattoos

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22-year old male with contact dermatitis from black rubber

Had temporary tattoo as a kid – sensitized to PPD


Rare case report of a patient who developed a keloid after ear piercing (from TB)

First case report of this in the head/neck region


10 of 11 black inks tested had polycyclic aromatic hydrocarbon concentrations exceeding the European Council’s recommended level and all 11 exceeded the recommended level for benzo (a)pyrene


Case report of 48-year old female who died from streptococcal necrotizing myositis

Symptoms were allegedly related to her acquisition of new tattoo, where the tattoo process included injection of cremated ashes of a pet dog


Computer simulation of laser tattoo removal variables

Thermal fragmentation was found to be the dominant mechanism in pigment reduction when using a 6 nanoseconds pulse at 1,064nm.

The optimal temperature for later treatments is predicted to be higher than that required for the initial treatment session & a large spot diameter is optimal throughout laser therapy


“Keloid scars should be sent for histopathology in order to avoid missing potentially malignant conditions particulary those showing unusual features.”

“ Patients with a previous keloid or other risk factors should avoid unnecessary body piercing and elective cosmetic procedures.”
- Study of 73 people with clinical adverse reactions to tattoos
- “It is demonstrated for the first time that ultrasound, with histopathology as the comparative method, can quantify the severity of tattoo reactions and non-invasively diagnose the depth of the inflammatory process in the dermis…”

- Study of self-injurious behaviors and body modification practices in eating disorder patients
- 50% showed at least one form of self-injury and 50% reported at least one tattoo, piercing, or both
- « Patients reporting only body modifications showed more positive feelings toward their bodies, higher levels of self-esteem, less impulsivity, depression, and anxiety, and lower levels of social dysfunction than those reporting only self-injury or both self-injury and body modifications. »

- Brief letter history of picosecond lasers for tattoo removal, especially multicolored tattoos

- 484 people tested for hepatitis C – more common (10%) with history of tattoo or body piercing

- Overview of infectious & other issues associated with tattooing

- First to discuss the issues related to body art in patients with bleeding disorders

- “Ten (mainly periopathogenic) species were found at significantly higher levels on steel than polypropylene and/or PTFE piercings. Labial piercings made of stainless steel could promote the development of a pathogenic biofilm.”

- “For asian patients, the most common risk factors were blood transfusion and acupuncture or exposure to dirty needles… potential predictors for a positive anti-HCV test in Asians were acupuncture or exposure to dirty needles, body tattoo, and history of blood transfusion.”

- 10-year old child with irritant contact dermatitis from black henna tattoo
- But not related to PPD allergy
- Woman with discoloration of nose post-removal of nose jewelry – Successfully removed with repeated laser treatments
- “If low quality niobium with numerous impurities is used, the traditionally hypoallergenic metal has the potential to cause allergies, hypersensitivity reactions, and in this case, permanent tattooing.”

- Review of most common causes of ink retention following tattoo removal treatment with recommendations on how to best address this situation

- Internet survey in German-speaking countries about laser tattoo removal and associated side effects (157 respondents)
- “Motivations for laser tattoo removal were mainly considering the tattoo as youthful folly (29%), esthetic reasons (28%), and 6% indicated medical problems.”
- “Our results show that from the patients’ point of view there is an important rate of side effects occurring after laser tattoo removal. Appropriate pretreatment counseling with regard to realistic expectations, possible side effects, and the application of test spots is mandatory to ensure patient satisfaction.”

- “We have to admit that currently the medical literature is non-existent on this particular topic, and physicians, as well as patients, are usually inspired by their own opinion on the matter or by the information collected on the internet.”
- “Several, but hopefully rare, cases of severe bleeding after piercing in patients with no inherited bleeding disorders (IBD) plead for avoiding body piercing in IBD patients”
- “To my point of view, it remains debatable to systematically exclude tattooing to such patients.”
- Suggest discussion with tattoo artist/piercer & physician prior to undergoing body art

- In patients who are immunocompromised, “we strongly discourage piercing, irrespective of its location and even if it is performed by an expert in an established licensed studio.”
- “’Body piercing should be contraindicated, while tattooing can be possible according to the situation.”

- First case report of tattoo blow-out in an arm
- “tattoo blow-out is most likely an underestimated acute complication of tattooing. Physicians should be aware of this complication in order to reassure patients and choose adequate Q-switched laser therapy.”
- “The patient does not always perceive the risk of maintaining the jewelry, while the physician may overstate the necessity of its removal. However, our observation supports such necessity before the end of pregnancy, especially if tissue begins to stretch.”
- “As soon as the first consultation, the parturient should be warned of the potential risks and know that she may have to remove her piercing within the next upcoming months. Fortunately, various retainers, such as intravenous catheter, can be placed to keep the hole open, if the parturient fears for a premature closing of the piercing hole… Such “issue” may appear trivial for some readers. However, the remaining scar may be disabling from an aesthetic point of view for any young woman, where as it could be avoided simply and easily.”

- “For the past 70 years, sarcoidal granulomas on tattoos and permanent makeup have also been documented. Granulomatous and sarcoidal tattoo reactions may be the first and sometimes only cutaneous manifestation of systemic sarcoidosis.”
- Overview of diagnosis, management, and pathophysiology related to sarcoidal reactions and tattoos

- “Obtaining a biopsy can be helpful in determining further investigations, for example allergy testing or a search for systemic involvement in cases of tattoo sarcoidosis.”

- “The results confirm that both women and men with body decoration assess the attractiveness of different parts of their bodies higher (regardless whether the decoration is located there or not) than people without tattoos and body piercing.”

- Survey of 3,391 adults in Brazil about prevalence & risk factors for hepatitis C
  - 16% of those surveyed had a tattoo & 7% had a piercing
  - “… the recognition of risk factors for hepatitis C enables proper screening of possible carriers of the hepatitis C virus, thus enabling a reduction in virus shedding. However, being only possible if health services are prepared to deal with hepatitis C virus, through education and public awareness.”

- Brief summary of nose piercings throughout history
  - “Nose rings may soon become as common place as earrings; therefore, piercers and consumers should be educated about proper technique, hygienic precautions, and potential risks. More general information on piercing practices can be found on the Association of Professional Piercers website.”

- Study of 126 military personnel with at least one tattoo
  - 57% acquired their tattoo(s) before being deployed
  - Most common tattoo listed a person’s name
  - No regret of tattoos and rarely acquired tattoos under influence of drugs or alcohol
  - “… this seems to suggest that military tattoos are a well-accepted means of self-expression.”
- “A very short educational intervention benefits keloid-prone individuals by improving knowledge about keloid prevention and treatment and by discouraging them from obtaining piercings and tattoos.”

- “Pinna perichondritis was more likely to result from chondaral than lobe piercings. The majority of the cases were caused by Pseudomonas.”
- Moral of the story – icky ear post piercing – treat specifically for pseudomonas

- Survey of 7,376 high school students about hepatitis B knowledge
- 29-40% of students were aware that acupuncture, body piercing, and tattooing are high-risk practices

- A study of two quadriplegic patients with tongue piercings used to perform typing on a computer

- Very positive review of photoguide to body piercing removals

- Case report of woman with calcification-like changes on mammography resembling cancer, but was from tattoo pigment deposition in an axillary lymph node

- 5 patient study – one patient involved edema and infection of the lips with herpes simplex involvement after an illegal cosmetic tattoo operation
- “LED-LLLT was easy and pain-free to apply, and was well-tolerated by all patients.”

- “… only ear piercing before the Danish nickel regulation was associated with adult nickel allergy.”

- Case report detailing use of topical tranexamic acid (TXA) to stop bleeding from a nipple piercing in a young man with hemophilia

- Case report of 79-year old male with malignant melanoma arising in a tattoo that he had for 60 years on his arm
- “This case underscores the need for careful examination of tattoos to insure that the dysplastic or malignant pigmented lesions are not overlooked. We also discuss the possibility of a pathogenic relationship between malignant melanoma and tattoos.”
- Overview of medical issues with tattooing & piercing
- “Evidence suggests that when persons with tattoos or piercings have health concerns, most return to the parlor or the internet for health information and nonjudgemental care rather than health professionals. This has to change. Careful assessment and nonjudgemental education and discussion with the clinical nurse specialist can help reduce the risks associated with these body art choices. In addition, the clinical nurse specialist should keep abreast of the literature.”

- Survey of 595 college students
- 21% had tattoos, 33% had lifetime piercings, & 3% had intimate piercings
- “When quantifying their body art amounts, well-being similar to that of individuals with no body art was present in those with one tattoo and less than four piercings. Individuals with four or more tattoos, seven or more piercings, and/or intimate piercings described high risk behaviors and emotional distress. Education, monitoring, and non-profiling should continue as body art is only “skin deep.”

- Previously healthy 19-year old female with mycobacterium infection around finger dermal piercing (post swimming in public pool)
- “We recommend a high level of suspicion for atypical mycobacterial infections in a piercing resistant to other therapies.”

- Case 1 – 25-year old female with tongue piercing done by piercer, infected tongue piercing 1 week post-piercing
- Case 2 – 21-year old male with lip piercing (labret) done 6 months prior to dental eval revealing gingival recession
- Summary of other complications related to oral piercings

- First report of sparing phenomenon of purpuric lesions over tattooed skin

- Tattoo ink related mycobacterial infections are increasingly reported, even in Western Switzerland

- “Pigmented lesions in decorative tattoos cause diagnostic difficulties at a clinical and dermoscopic level. In cases of laser removal of tattoos, hidden suspicious nevi may be revealed gradually…

- “… first case of a malignant melanoma that developed on a preexisting nevus within a tattoo during and between the phases of laser removal.”

- “Our case emphasizes the diagnostic problems of pigmented lesions within tattoos. For safety reasons, tattoos should never be placed on pigmented lesions; if they are, the tattoos should not undergo laser treatment. We suggest an excision before starting laser tattoo removal. Dermoscopic assessments on a regular basis during the period of tattoo removal are recommended.”


- 33-year old female with epilation of leg hair & developed burned area within tattooed area


- 21-year old male who “purchased a piercing needle and stud at a local piercing shop. The patient believed the items were sterilized before purchase.”
- Self pierced lower lip @ home
- Developed tetanus 10-days post-piercing


- Case reports of 2 lichenoid reactions from red ink and 1 case of sarcoideal reaction to green ink


- Significant improvement with combination therapy (removal in 1.7 vs. 6 sittings)


- “Maybe I am old fashioned, but I think the dress and appearance of health care providers should demonstrate professionalism and support a serious and sacred pact with our patients. By dressing and appearing professionally, we validate the significance of the relationship, acknowledging that we are not their barista, but a person to whom the patient entrusts their most private thoughts and concerns.”


- “… in the absence of any concomitant infection, chronic nipple piercing is not associated with hyperprolactinemia.”
- “Staff who work in facilities such as healthcare, dentistry, drug treatment, and tattoo/body piercing are likely to encounter people with hepatitis C virus (HCV) and be privy to their HCV status. The purpose of this paper is to assess staff comfort with varying levels of intimacy (i.e. social distance) with people who have HCV.”
- “We discuss how the findings have implications for people employed in these fields, as they point to the need to dispel myths and reduce fear among staff working in facilities that may serve persons with HCV.”

- 33-year old male with masses at the urethral meatus and difficulty urinating
- 2 frenulum into urethra piercings
- HPV infection found – “Genital piercing may have facilitated spread of the human papillomavirus into the urethra.”

- 23-year old male with allergic contact dermatitis and panniculitis one-week after professional tattoo on knee

- “Although tattooing is an ancient practice, its increasing popularity and social acceptance, variability of tattoo ink composition, sporadic reports of novel tattoo reactions and advances in the field of tattoo removal techniques make it a topic of immense interest among dermatologists and pathologists alike.”
- “Since effective legislation governing the tattoo industry is largely lacking in most regions of the world, it is important to recognize the range of tattoo-related complications from a dermatopathological perspective.”
- “Awareness of the range of inflammatory tattoo reactions is crucial as some of these patterns of inflammation can be associated with systemic disorders and others may serve as important clues for an underlying infective condition.”

- Nine-month old girl who had ears pierced by pediatrician at three-months of age & developed keloids
- “Given the difficulty in treating keloids, pediatricians need to be aware of the risk of keloid formation and, at a minimum, should obtain a thorough family history of keloid disorder, especially from African American and Asian children, before performing ear-piercing procedures.”

- “Split ear lobule is a problem encountered by many Indian women because of wearing heavy ear ornaments for long durations… more than the split lobule, it is the repair that is a cause concern for the women as it restrains them from wearing ear ornament for a considerable period of time post repair.”
- Piercing ear lobes with an IV catheter & immediately threading larger jewelry into place

- 16-year old male with 18-months of itchy growths within professionally applied tattoo
- Diagnosed with keloid-like pseudolymphomatous tattoo reaction
- CO2 ablative fractional resurfacing to remove cosmetic tattoos in rat models
- 4 rats had excellent responses & 8 had good responses

- Excellent review of tattoo related complications
- Three categories: 1) Allergic, lichenoid or granulomatous reactions 2) infections 3) tumors
- “The most important issue, the possible role of tattoo ink in the formation of tumors, is unclear so far. The review retrospectively considers the medical reports of the past 20 years (1991-2011). In view of the latency period for carcinogenesis, this time span should be correlated to the tattooing practice in the decades prior to this period. Tattooing has become increasingly popular in this period and the chemistry of tattoo inks has changed. The results may change within the next 20 years… in light of these results, in particular those regarding colored inks, we urgently recommend the regulation of tattoo inks that leads to application of inks that do not contain hazardous substances.”

- Case report of unusual case of a necrobiotic granulomatous reaction to a tattoo showing both necrobiosis lipoidica and early granuloma annulare

- 26-year old female with henna tattoo on hand placed three days prior
- Desired removal prior to returning to work
- First case report of laser removal of henna tattoo

- 30 year old woman, 9 weeks post-partum, otherwise healthy
- Palpable breast lump with negative mammography, but abnormal chest CT scan
- Deposits of black tattoo pigment in axillary lymph nodes from tattoos on back

- “Nickel & cobalt allergy may be involved in intrinsic atopic dermatitis. Given that metals are excreted through sweat, intrinsic atopic dermatitis might be exaggerated by high metal-containing sweat.”

- Survey of 259 patients, 119 students, & 99 physicians regarding male & female physician pictures
- “regarding male professionals, all three groups reported high degree of discomfort for the use of shorts and Bermuda shorts, multiple rings, facial piercing, sandals, extravagant hair color, long hair, and earrings. For females, high levels of discomfort were reported to shorts, blouses exposing the belly, facial piercing, multiple rings, extravagant hair color, and heavy makeup.”