The 2009 Summary of Published Medical Journal Articles Involving Body Piercing, Modification, & Tattooing

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- Random sample of 17 state prisons in Illinois
- 67% had tattoos and 60% had body piercings
- 19% of men & 8% of women got tattoos in prison
- “Inmates had a variety of reasons for getting body art, equipment was often shared, and cleansing agents were not readily available.”

- 21 year old male presented to plastic surgery clinic with embedding of piercing into the lower lip
- “In this patient, a stick that was too short in relation to the thickness of the lip was used.”
- “An unusual complication after lower lip piercing – embedding of a stud into the lip – and to determine why it occurred on the side of the mucous membrane and not from the side of the skin.”
- “The observations described confirm a higher susceptibility to mechanical pressure of the mucous membrane than of the skin. An increasing rate of complications after body piercing reflects a lack of medical knowledge in individuals performing such procedures.”
- Not stated in abstract where pierced (shop vs kiosk vs self)

- Survey of 968 people in Poland – 476 with a piercing & 492 with a permanent tattoo
- “Body piercing is significantly more popular among women while tattooing is more popular in men.”
- “The main reasons for body ornamenting in the Polish population are the desire to enhance one’s individuality and the need to increase sexual attractiveness.”

- 18 year olf male with necrotizing skin reaction 5-days after a permanent black tattoo
- Required intravenous antibiotics and topical corticosteroids
- Six weeks later he still had hyperpigmented skin, but no allergy to black tattoo pigments
- Reaction was secondary to infection
- Homeless persons checked for hepatitis B & C as well as risk factors at a health fair
- Primary risk factors among this group were jail time (100%), illegal drug injection (67%), tattoos (67%), ear/body piercing (67%)…

- Great summary of contact allergy causes and diagnosis

- “Queensland has enacted laws restricting access to cosmetic surgery by those under 18 years of age. Legislation in other Australian jurisdictions is narrower in scope, focusing on niche areas such as solarium use, tattoos, and body piercing. Even in those niche areas, there are inconsistencies of approach and now the unique Queensland cosmetic surgery restrictions further raise the prospects of “medical tourism” and highlight the difficulties of differing legislation throughout Australia. All implementations, however, face the same challenge: to balance protection of vulnerable children, respect for a young person’s autonomy, and due regard to parental consent.”

- “In a study of Brazilian surgical patients at one facility, only 0.6% had body piercings.”
- “An RN or nursing student instructed each patient on piercing removal, and piercings were removed by the patients before surgery.”

- “… data demonstrated that the commercial tattoo dye has a time-dependent effect on protein expression.”

- Study of 927 teenage students from private & state schools
- 3% had oral piercings with 66% of these being of the tongue
- 3 patients with lactation difficulties post-nipple piercing
- Patients reported and medically observed that their infants, when fed from the pierced breast, were extremely unsettled compared with feeding from the contralateral breast
- Many women have successfully breastfed with a nipple piercing, so it is likely that only a small percentage of women may encounter difficulties during lactation subsequent to the procedure

- Abdominal skin tattoos may be present at the site of proposed incisions for conventional surgery whereas laparoscopic port site placement can be adjusted to accommodate tattoo constraints
- 96 patients with tattoos surveyed to determine 1) how long ago they had their tattoo, 2) financial cost of the tattoo, 3) potential degree of distress caused by disruption of their tattoo (on a scale of 1-10)
- Surgeons were surveyed as to 1) whether they had encountered a patient with a tattoo at the site of a proposed incision, 2) did they avoid incising the tattoo during surgical intervention, and 3) had they received a complaint from a patient about tattoo distortion
- Female patients were more likely to be distressed and complain than men about tattoo disruption
- Significant inverse correlation between time from tattooing and distress
- 79% of surgeons had encountered tattoos as proposed incision sites, 61% had avoided making an incision through it, and 4% had received a complaint about tattoo disruption by a patient
- Tattoos should be avoided where possible by alternative port site placement

- 21-year old female with a spinal shaped tattoo on the lumbar spine noted in labor & delivery
- Suggests informed consent of patient, “skin nick” prior to needle insertion to minimize tattoo ink introduction into the spinal canal, & possible paramedian approach for anesthesia

- In August of 2005, the Canadian Blood Services decreased the deferral period for tattooing and ear or body piercing from 12 to 6 months
- Shortening of the deferral period reduced deferrals by 20% for tattoo & 32% for piercing
- No measurable adverse effect on safety
- Dermatologists have advocated that PPD in black henna tattoos be regulated in the United States particularly for children.
- The North American Contact Dermatitis Group consistently ranks nickel as the most frequent allergen causing positive patch test reactions

- Viral hepatitis is a common problem in the incarcerated population…and a number of risk factors for viral hepatitis are particularly common and infer higher risk among inmates, including injection drug use, high-risk sexual activity, and tattoos

- Increasing awareness of the rising rates of sensitization through the implementation of nickel limiting legislation will be a major step in reducing the number of children affected

- Case of preterm labor caused by Eikenella corrodens choriomnionitis at 26 weeks gestation
- “The patient and her partner had tongue piercings and had daily mutual oral intercourse. Hematogenous spread from repeated trauma to the tongue piercing and ascending vaginal infection are possible routes for E. corrodens intra-amniotic infection.”

- 21 year-old female presents to the ER post-calf branding by a “local tattoo artist” due to her concerns that the area was not healing & becoming increasingly painful
- Followed up with burn team for further care on an outpatient basis

- 9-year-old boy with allergic contact dermatitis due to temporary henna tattooing
- Treatment with topical steroids and oral antihistamines resulted in clearing of the lesion with discrete residual hypopigmentation

- Keloid formation often can be prevented if anticipated with immediate silicone elastomer sheeting, taping to reduce skin tension, or corticosteroid injections
- Surgical removal has a high recurrence risk unless combined with other standard therapies
- Mixed evidence for benefits of over-the-counter herb-based creams & little evidence that vitamin E is helpful


- “Publications reporting cases of bacterial endocarditis after piercing and tattooing are increasing. These cases are probably overestimated by the publications, whereas millions of people are tattooed and pierced around the world and congenital heart diseases concern approximately 1% o the general population. However, this rare, but severe complication, deserve an active prevention not only directed towards patients and cardiologists, but also toward the overall population and the professionals.”


- Temporary tattoos used to simulate various medical conditions for medical students and residents


- “Skin piercings continue to be a growing socially accepted phenomenon. The nursing profession needs to modify and increase its knowledge in order to adequately respond to this new situation.”

Lehman, E., et al. (2009, November 11). Bloodborne pathogen risk reduction activities in the body piercing and tattooing industry. American Journal of Infection Control. 12 shops (piercing &/or tattooing) in PA & TX were assessed for compliance with 5 administrative & 10 infection control standards for reducing exposure to bloodborne pathogens

- “All shops demonstrated compliance with infection control standards, but not with administrative standards, such as maintaining an exposure control plan, offering hepatitis B vaccine, and training staff.”
- “Without notable enforcement, regulation at national, state, or local levels does not affect compliance. In this study, the factor most closely associated with compliance with administrative regulations was the artist’s membership in a professional body art association.”
- Study of 1158 patients with chronic hepatitis C
- “The most common hepatitis C transmission routes were intravenous drug use and tattoos in younger patients and surgery or long or multiple hospitalizations in older patients.”
- “Today, the main routes of hepatitis C transmission are intravenous drug use and tattoos.”

- Nickel is the most common allergen detected in patch-tested patients
- “Ear piercing is an important risk for nickel sensitization… as the popularity of body piercings increases in both sexes, the rate of nickel allergy will also likely increase.”

- “We must differentiate between complications that are independent of the site of piercing, and specific complications, which are closely related to the body area pierced.”
- “The rate of complications after performing piercings or tattoos depends on the experience of the artist, the hygiene techniques applied, and the post-procedural care by the customer.”

- 33 year-old female with repeat C-section who had a lumbar tattoo placed several years prior
- This case describes a circumstance in which the presence of body art was useful in identifying the midline and avoiding multiple attempts at spinal placement. Fortunately, the design was symmetric, as tattoo artists make great efforts to place a symmetric lumbar tattoo squarely aligned with the midline of the back, to ensure proper appearance.
- Awareness of trends in popular culture and the techniques of tattoo artists to apply their work in a symmetric fashion can assist the anesthesiologist in midline assessment despite unclear physical landmarks
- Oral and nasal piercing is of significant concern because of the risks of swallowing and aspiration. Consequently, patients should be advised to remove piercing before anesthesia. Emergency situations are especially risky and anaesthesiologists should be aware of the piercing removal techniques…
- Epidurals should not be denied to parturients with lumbar tattooing. However, it seems still prudent to avoid direct tattoo puncture or when unavoidable, to nick the skin the prior to inserting the needle through the tattoo.
- The risk of airway and/or digestive tract aspiration, bleeding, trauma or oedema far outweigh the benefits of maintaining physical appearance or redoing the body piercing in case of tract closure.

- 382 patients with a history of IV drug abuse
- Neither prison, nor community-applied tattoos predicted HCV or HBV exposure

- 47 year-old healthy female with no history of skin cancer developed squamous cell carcinoma shortly after permanent makeup procedure

- “Non-removable navel jewelry can increase the measured bone density of the underlying vertebra.”
- “We suggest the optimal method of correcting for small artifacts is to erase the area under the artifact.”

- “This paper begins by outlining the regulatory problems that scarification poses. It then goes on to argue that although there is a reasonable case for permitting competent adults to make use of scarification, the practice should not be made available to minors.”
- Lay people in Kenya surveyed about how long HIV survives in blood and how to clean skin-piercing instruments
- Only 21% thought that HIV could survive more than an hour in dry conditions
- Only 24% thought that HIV could survive more than a week in wet conditions
- Barbers or other service providers often cleaned instruments by wiping with alcohol or bleach, a practice which does not reliably inactivate HIV
- “People we interviewed, at risk from blood-borne HIV, did not know enough to protect themselves.”

- Case of allergic contact dermatitis from pure henna that is also used for the relief of rheumatic pain

- Sample of 150 adult hemodialysis patients – 30 were Hep C positive & 120 were Hep C negative
- “… age, blood transfusions prior to 1992, tattooing practices, and illegal drug use were associated with hepatitis C status.”

- Case of bacterial endocarditis following repeated tattooing in a patient with known valvular heart disease
- “This case highlights the importance of education of patients with structural heart disease to the potential risks of such procedures, particularly at a time when endocarditis prophylaxis protocols are being revised.”

- 8 subjects with mid-line tongue barbell piercings
- All participants reported having problems with speech immediately after placement for up to 1 ½ months
- Scores assigned to reading with the piercing in place compared with reading with the piercing removed were not significantly different
- Individuals considering obtaining a tongue piercing should expect some impact on speech, which is not permanent
- Study of 50 patients with lateral lower lip piercings
- The use of lateral lower lip piercings enhances gingival recession and reduces the amounts of keratinized and attached gingival
- Cracks/tooth fractures on 20% of piercing side vs. 4% of controls

- Report on 12 patients who had improper laser removal of tattoos resulting in hypopigmentation and scar formation at the treatment site

- 25-year-old male with myoclonic epilepsy with ragged red fibers (MERRF) syndrome who tattooed the diagnosis on his arm “both out of frustration at how few people had heard of it and as a way of accepting that his condition was a part of who he was.”

- 115 non-pierced vs. 86 tongue pierced individuals
- 20% positive for Candida if tongue pierced vs. 9% if not pierced

- 12 patients with tongue piercings at dentists office for check ups
- Tongue piercings had been in place between 2 & 8 years
- “It became obvious that the longer a tongue piercing had been in place, the more pronounced was the shift from bacteria with a moderate periodontopathogenic potential to bacteria with a high periodontopathogenic potential.”