The Hole Pretty Picture: Tattoos & Piercings

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Objectives

- Recognize the changing demographics and increasing prevalence of body art/modification
- Recognize and identify possible complications of tattoos and body piercing

History of Tattoos & Piercings

- Both have been around for centuries as forms of body modification
- In the past & present may be part of ritualistic or cultural practices
- Now worldwide mainstream trends

Who Gets Tattoos & Piercings?

- 2010 Pew Research Center study termed “Millennials” surveyed a nationally representative group of 2020 adults by phone
- Asked series of questions relevant to world view, technology & lifestyle, politics & policy, values & social issues
- When asked if you have or ever had a tattoo or a piercing?
  - 38% of 18-29 year olds and 30% of 30-45 year olds answered yes to a tattoo
  - 23% of 18-29 year olds and 9% of 29-45 year olds answered yes to a piercing (other than earlobe)

Who Gets Tattoos?

- Harris poll (survey of nationally representative public opinion) conducted in 2015 determined:
  - 29% of adults surveyed have at least 1 tattoo
  - 47% of Millennials (age 18-25) and 36% of Gen Xers (age 36-50) surveyed had at least 1 tattoo
  - 77% did not regret getting a tattoo
  - When asked "Having a tattoo makes me feel"
    - 33% of surveyed adults answered sexy, 32% attractive, and 27% rebellious

Tattoos & Body Piercing: Signs of Risk Taking?

- Youth risk behavior survey of adolescents (age 12-22) attempted to assess tattoos & body piercing as potential markers of risk taking behaviors
- Approximately 475 adolescents participated
- 13% had 1 or more tattoos
- 27% had 1 or more body piercings
- Tattooing and body piercing were both more common in females than males

Tattoos & Body Piercing: Signs of Risk Taking?

- Those adolescents with tattoos and/or body piercings were more likely to engage in risk taking behaviors than those without
  - Illegal drug use and sexual activity
- Investigators concluded that tattoos & piercings can alert practitioners to the possibility of risk taking behaviors in certain adolescents
  - May allow early preventative measures & counseling

Knowledge of Risks of Body Art

- 1600 Freshman in Italy were questioned regarding their knowledge of the risks of body piercing and tattoos
- 29% had at least 1 piercing or tattoo
- Mean age of first piercing was 15.3 years
- Mean age of first tattoo was 17.5 years
- 78% believed it was risky to undergo a piercing or tattoo
- 92% believed that piercing is not a permanent practice

Why Do People Get Tattoos & Piercings?

- Form of self expression/self identity
- Form of symbolism
- Group identification
- Aesthetic value
- Popular among celebrities, athletes & in the media

Effects of Tattoos & Piercings on Patient/Parent Confidence in Health Care Providers

- Recent study in Clinical Pediatrics investigated whether visible tattoos or piercings on a medical provider affects a patient's/parent's perception of the provider's capabilities
- Survey was performed at 2 public parks in Hawaii
  - Provided with a scripted clinical scenario and photographs of two simulated practitioners dressed similarly, but with or without visible tattoos or piercings (large ear, nose or both)
  - Participants were then asked to rate their clinical confidence of each practitioner on a 4 point scale
Effects of Tattoos & Piercings on Patient/Parent Confidence in Health Care Providers

- Participants, regardless of age, gender or location (rural vs urban)
  - Rated tattooed practitioners with lower confidence ratings
  - Reported greater degrees of distrust or providers with nose or a nose and large ear piercing
- Visible tattoos & piercings may adversely affect the clinical confidence ratings of health care providers

Tattoos

- The word *tattoo* is of Polynesian origin
  - Comes from the words *tatahou* & *tatau*
  - Ta means painting and *toua* means spirit
  - Practice was brought by European sailors to Western societies
- Tattooing is the insertion of pigment/dye into the upper & middle dermis through a needle
  - Dye remains trapped in the dermis
  - Professional artists utilize electric machines/devices

Amateur Tattoos

- Placed by persons themselves or by friends
- Less artistry or detail
- May use pen ink, charcoal, or ashes as pigment
- Higher risk of infections and complications
  - Often done in non-sterile conditions
- Kits and instructions of “home” tattoos are available online

Stick and Poke Tattoo Kit

- Kit packaging is biodegradable. Must be 18 years to purchase. Costs $46
- Kit contains
  - 1/2 oz. Professional vegan tattoo ink
  - 2 Sterile tattooing needles
  - 2 Sanitary paper ink cups
  - 1 Packet vegan natural aftercare balm-Hustle Butter
  - 1 Sterile witch hazel wipe
  - 1 Medical gloves (nitrile, latex free)
  - 1 Large sterile bandaid
  - 2 Sterile alcohol wipes
  - 1 Medical surface covering
  - Instructions, hints, ideas http://stickandpoketattookit.com/

Complications of Tattoos

- Infections-range from superficial skin to severe systemic infection
  - Bacteria (Staph, Strep)
  - Fungi, virus, & mycobacteria
  - Hepatitis
  - HIV (no cases documented in professionally obtained tattoos)
  - Endocarditis
- Transient edema
- Lymphadenopathy
- Koebnerization of underlying skin disorders

Tattoo Infections

- 2012 outbreak of tattoo associated *Mycobacterium chelonae* skin infections from a single artist in Rochester, NY
  - Premixed grey ink was source of the infection
- Possible contamination occurred before distribution
- Nontuberculous mycobacterial infections can occur in tattoos
  - Pruritic red to purple papules and pustules develop within 1-2 weeks of procedure
- Need to consider an atypical infection if a rash within a new tattoo is not resolving with standard antibiotics
Hepatitis C Transmission

- Meta-analysis of the risk of hepatitis C infection from tattooing and piercing
- No definitive evidence for increased risk of hepatitis C infection when tattoos or piercings were performed in professional settings
- Risk of hepatitis C is significant when tattoos are applied in non-sterile high risk settings
  - High risk groups: prisoners

Complications of Tattoos

- Allergic inflammatory reaction to components of the dye/ink
  - Skin rashes can appear eczematous or papular
  - Phototoxicity-Yellow (cadmium sulfide)
  - Allergic granulomas- Red (mercuric sulfide)
  - Non-allergic granulomas- Black (cobalt)
- Bleeding
- Scarring
- Tattoo pigment diffusion (blowout)
- Possible burning sensation during MRI

Adverse Tattoo Reactions

- Recent published survey regarding tattoo reactions from 300 randomly selected tattooed individuals in NYC Central Park
- 10% reported experiencing adverse reactions
  - 4% acute reaction (few days to 4 months)
    - Pain, infection, itching, swelling, prolonged scabbing
  - 6% chronic reaction (lasting >4 months)
    - Itching, scaly, raised/swollen
    - 44% of chronic reactions were to red ink
    - 36% of chronic reactions were to black ink
- Determined tattoo reactions are common

Tattoo Ink or Pigment

- FDA considers tattoo inks to be cosmetics therefore they do not regulate them as they do medications or medical devices
- ? Carcinogenicity or other risks of systemic toxicity of tattoo inks or dyes
- Traditional colored inks may contain metal (iron salts & carbon)
- Dyes have started to be used in tattooing to provide wider variety of color and to decrease exposure/use of metals
  - These dyes are also used for printer ink and for paint colorants
  - Mainly organic containing azo or polycyclic pigments, but there may still be metal contaminants within the dyes

Think Before you Ink!

- FDA recently published consumer update regarding tattoo risks (including unclear safety of tattoo dye) and questions to consider before getting a tattoo
  http://www.fda.gov/downloads/ForConsumers/ConsumerUpdates/UCM143401.pdf

What To Look For When Getting A Tattoo?

- Experienced professional artists who are licensed to practice in their state
  - Follow state and/or local laws
  - Portfolio
  - Reputable licensed studio
  - Membership in body art professional association
    - Alliance for Professional Tattooists (APF)
- Consent forms
  - Questions about medical history and infections
  - Need of antibiotic prophylaxis
  - Describes risks of procedure
  - Requires identification
  - Parental consent often required for minors < 18
Tattooing & Body Piercing State Laws, Statutes & Regulations

- Website provides information about individual state laws regarding body art
- Most states have laws addressing some aspect of body art
  - Kansas and Missouri both require parental consent under 18
  - Nevada is the only state that has no regulations

What To Look For When Getting A Tattoo?

- Licensed, clean facility
- Utilize sterile technique
  - Single use gloves
  - Sterile single use needles
  - Single use ink in disposable containers
  - Sterile equipment cleaned in autoclaves
  - Sharps containers & biohazard containers
  - Bloodborne pathogen training
- Provide aftercare instructions
  http://www.aad.org/skin-conditions/skin-health-tips/caring-for-tattooed-skin

Henna Tattoos

- Henna is a common natural dye
  - Used for temporary coloring of hands, feet, & hair
  - Pure henna (red) rarely causes allergic reactions
- Henna dye may be darkened to black by the addition of the chemical coloring agent PPD (para-phenylenediamine)
  - PPD can cause allergic contact dermatitis in individuals who get temporary “henna” tattoos
  - FDA announced the potential dangers of PPD within henna tattoos
  http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm343932.htm

Tattoo Removal Options

- Surgical excision
- Laser: expensive and results vary, but considered gold standard
  - Risks of scarring and dyspigmentation
  - Nonablative lasers
  - Q-switched lasers including alexandrite and Nd:YAG
- Unproven devices/methods of removal: ?safety
  - Cream removers (available online)
  - Trichloroacetic acid-causes chemical burn
  - Heat burn
  - Dermabrasion

History of Body Piercing

- Body piercing is the practice of puncturing or cutting a part of the human body creating an opening in which jewelry may be worn
- Ear & nose piercing has been practiced for centuries in many cultures
- Piercing of sites aside from the earlobe has become more popular over the past several decades in the US

Piercing Locations

- Ear (other than lobe-outer ear & tragus)
- Lip
- Tongue
- Nose
- Eyebrow
- Navel
- Nipple
- Genitals
Complications of Piercing

- Infections: superficial skin to systemic infection
  - Bacteria (staph, strep, pseudomonas-ear)
  - Viral (hepatitis & HIV)
  - Mycobacteria
  - Endocarditis
  - Tetanus
- Bleeding & swelling
- Allergic contact dermatitis (nickel most common)
- Poor cosmesis
- Foreign body reaction
- Scarring/Keloids
- Traumatic tearing

Ear
- Allergic reactions, infection, perichondritis, keloid, tears, embedded jewelry

Nose
- Infection, perichondritis, septal hematoma, jewelry aspiration

Navel
- Frictional irritation, infection, endocarditis

Nipples
- Infection, abscesses, endocarditis, breastfeeding impairment

Mouth
- Hematoma, tooth chipping, infection

Genitals
- Allergic reactions, compromise of barrier contraceptives, infection, frictional irritation, paraphimosis, urethral stricture

Piercing Related Infections

- Consider non-tuberculous mycobacterial infection when piercing related infections fail to respond to antibiotics effective against common bacterial pathogens
- Varied cutaneous presentations
  - Pustules, nodules, plaques and ulcers
- Must confirm diagnosis with tissue culture

Nickel Contact Dermatitis

- North American Contact Dermatitis Group looked at the association of body piercing and metal allergic contact sensitivity from 2007-2010
  - 23% of females and 7% males
- Individuals with nickel contact sensitivity were 2.5 times more likely to have at least 1 body piercing
- Nickel contact sensitivity rates increased with the number of piercings
- Nickel contact sensitivity is more common in young adults

What To Look For When Getting A Piercing?

- Experienced professional artists who are licensed to practice in their state
  - Follow state and/or local laws
  - Portfolios
  - Reputable licensed studio
  - Member of a professional association
  - Association of Professional Piercers
- Consent forms
  - Questions about medical history and infections
  - Describes risks of procedure
  - Requires identification
  - Parental consent often required for minors < 18

- Sterile technique
  - Gloves
  - Sterile hollow bore needles (avoid piercing guns)
  - Sterile equipment cleaned in autoclaves
  - Sharps containers & biohazard containers
  - Bloodborne pathogen training
- Use of appropriate metal jewelry
  - Niobium, titanium, or surgical grade stainless steel
What To Look For When Getting A Piercing?

- Aftercare instructions
  - Sterile saline soak 2-3 times per day
  - Avoid pools and hot tubs
  - No alcohol or hydrogen peroxide
  - Avoid trauma/friction or twisting of jewelry
  - Watch for significant pain, swelling, bleeding or discharge
  - Mouth and genital piercings usually have different aftercare regimens

Special Thanks To:

- Freaks on Broadway, Tattoo and Piercing Studio, Kansas City, MO

References


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References

- Kluger N. Tattoo complications and the risk of transmission of hepatitis C. J West Dir 2010;Jul 31 (epub).