

## Body Modification Gone Wrong

Rachel Chin MD

### Introduction

- Body modification popularity has skyrocketed in the last 10 years.
- 20% of college students have 1 or more tattoos and or piercing of a body part, other than the earlobes.
- Regulation is only at the state or county level. Most tattoo or piercing artists are unlicensed and have learned via an informal apprenticeship and do not have formal training in anatomy, infection control or universal precautions.
- 18 states have laws ending to regulate piercing; several others already have specific regulations.

### The Risks: Infection

- Reports of Hepatitis B & C, HIV, *Pseudomonas*, staphylococci, MRSA, tetanus & TB infection.
- Greatest risk: those with artificial heart valves, prostheses, DM

### The Risks: Keloid Formation

- May be associated with any body modification procedure
- Surgical removal of keloid often results in another overgrowth of scar tissue
- More prominent in African-American population.

### Tattooing:

- The permanent marking of small amounts of colored pigment directly into the skin.
- Although there are professional artists who use aseptic techniques and materials, tattoos may also be made by any dye and needle-like device.
- Possible to have an allergic reaction to red and yellow dyes, anytime after the inking.
- Can result in burns during MRI because tattoo pigments may contain heavy metals and iron. Burning sensation and intense pain are due to oscillations of the gradients or radiofrequency induced electrical currents. Heating raises intracellular water temperature in the skin, resulting in a burn.
- Increased photosensitivity in the areas of inking is also common.

### Piercing

- Can be on earlobe, eyebrow, nasal septum, nasal ala, tongue, nipple, navel
- Genital piercings: clitoris, head of penis, underside of penile shaft, scrotum
- A wide variety of body piercing jewelry is worn:
  - Barbells, j-bars, captive bead rings
- The ear is the most frequent area of infection. Piercings in largely avascular cartilage – poor healing and more serious infection.
- Superficial infection - warm compress, topical antibx ointment, oral antibx

- Ciprofloxacin is the drug of choice for auricular perichondritis because of effectiveness against *Pseudomonas*.
- Infection can lead to abscess requiring a surgical incision and drainage.
- Allergic reaction: ornaments made of nickel are often the cause
  - Replace with ornament made of titanium or niobium
- Acute reaction: SQ epinephrine 1:1000, benedryl, H2 blocker

#### Tongue Piercings:

- Trigeminal neuralgia: extreme facial pain related to repeated firing of the 5<sup>th</sup> cranial nerve.
  - Pain may stop when the piercing stud is removed.
- Bacterial endocarditis:
  - Even after the site has healed, the area may be colonized with bacteria which may evolve into endocarditis.
  - Have a high index of suspicion for any patient with oral jewelry who presents with signs and symptoms of systemic infection.
  - Increased potential with tongue slitting related to the increased surface area of open healing tissue.
- Ludwig's Angina: rapidly spreading cellulitis
  - Requires rapid airway protection, IV antibx, surgical management of any abscesses.
- Excessive bleeding: as the tongue is a muscle, cutting and piercing can lead to excessive bleeding and edema.
- Other complications include: salivary flow, gingival injury or recession, speech difficulties, cracked or broken teeth, aspiration of oral jewelry.
- Piercings can be torn. Earlobe is most common.
  - Lacerations may be sutured as any laceration. Check tetanus status.

#### Genital Piercing:

- Male piercings:
  - Prince Albert (PA): one of the most common male genital piercings
  - Ampallang: Derived from the Dyaks in Borneo. A male rite of passage is celebrated with the placement of the Palang ("cross bar") horizontally through the head of the penis above the urethra.
  - Apadravya: from the Kama Sutra. Vertical placement of a bar through the penis and the urethra.
  - Frenum: underside of the penis, through the surface tissue, not through the shaft itself. It is placed so that a large ring or frenum loop could be worn through the piercing around the head.
  - Hafada/Scrotum: a surface piercing located anywhere on the skin of the scrotum.
  - Dydoe: piercing through the rim of the glans.
- Problems with Male piercing:
  - Paraphimosis: urological emergency of the foreskin, once pulled back behind the glans penis, cannot be brought down to its original position.

- Occurs only in uncircumcised or partly circumcised males.
  - Results from piercing with a penile ring into the glans.
  - Delayed treatment can result in tissue ischemia and may eventually cause gangrene or autoamputation of the distal penis.
  - May require a nerve block before reduction and injection of Hyaluronidase to dissipate edematous fluid.
- Urethral tears: do not place a Foley catheter because it may complete a tear, until urology evaluation is completed. May require a suprapubic catheter.
- Female Piercings
  - Horizontal & Vertical Hood
  - Triangle Piercing: a horizontal piercing behind the nerve bundle of the clitoris, at the base of the hood tissue.
  - Keloid scarring has been seen in clitoral piercings.
  - Increased risk for STD's

### Scarification

- Originated in Africa and New Guinea as part of rituals that involve scarring the body with intricate designs.
- Common techniques:
  - Branding: burning a pattern into the skin, using an electrocautery knife
  - Scarring: using a scalpel to remove the outer layer of tissue
  - May also be done via a chemical burn, tattoo gun (without ink),
- The outcome of the design is based solely on how well the body scars.
- The practice is legal in California, but regulations for shops vary by county or city.
- Resultant wound will likely be a combination of a 2<sup>nd</sup> and 3<sup>rd</sup> degree burn.
- Burn Treatment:
  - For circumferential burns: check neurovascular status
  - Consider transfer to a specialty burn center. Check tetanus status.
  - For mild burns: cold compresses, Silvadene cream, covered dressing

### Pearling:

- The practice seems to have been fairly common across world cultures; pearling is seen as a form of body modification.
- Also known by its technical term, genital beading, is usually done by professional body piercers.
- Procedures are relatively safe with risks and healing much like a subdermal implant in any other part of the body.
- Migration is very common, during and after healing. Rejection is rare, but can occur. A wide variety of inert implant materials can be used for these implants: Teflon, silicon, surgical steel or titanium are commonly used.
- Genital ribs are a form of genital beading whereby rods, rather than beads, are implanted, giving the appearance of a ribbed penis.

### Patient Education for Body Modification

- Pregnancy: avoid new piercing as body changes may alter the fit of jewelry and piercing size
  - Nipple rings: may cause mastitis, galactorrhea and damaged milk ducts. Jewelry may also obstruct breast feeding.
  - Genital piercing: increase the risks of severe lacerations during labor and delivery.
- Genital Piercing: remind patient of need for condom use with any sexual contact, but be aware that condoms may be torn by body jewelry.

### Considering Body Modification?

- Select a reputable practitioner, who carries a certification from either the Association of Professional Piercers (APP) or the Alliance of Professional Tattooist (APT).
- Ensure that all tools are sterilely packaged and new bottles of ink are used.
- Don't get a modification when drunk!
- Carefully consider your design choice.

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