

Points on Piercing
Presented by:
Betsy Reynolds, RDH, MS

History Lesson

Aztecs and Mayans of Central America and Haida, Kwakwaka'wakw and Tlingit tribes of the Pacific Northwest practiced tongue piercing in ritual form

Tongue was pierced to "appease the gods"

In some cases it was done to alter consciousness so shaman or priest could communicate with the gods

Body piercing has been practiced in almost every society as far back as it is possible to trace

Generally piercings have been confined to the ears, nose and mouth with notable exceptions

An observer of today's fashion for facial piercings might think that only the young and extrovert or those interested in extreme sexual behavior get pierced

Indeed, body piercings have been generally associated with punk rockers, bikers and prison inmates

'The popularity of piercing has spread to the middle-class. In fact, I see more people in the 60 to 70-year-old age group choosing to be pierced.'--Dr. Jack Ward, former medical liaison for the APP

TEEN ALERT

Teens are especially vulnerable to infections and complications because they are most likely to try to perform body modification on themselves

THE REASONS?????

- Teens need parental consent to be pierced
- They resort to using and sharing unsterile instruments
- Inappropriate jewelry that has not been adequately sterilized is often used

Let's Party!

In the July/August 2002 issue of SALLY magazine, an article entitled 'Too Cool for School' gave details for hosting a Piercing Party

"If extra piercing is a desire of yours, use 24K Gold Plated Sterilized Gold Star Piercing Earrings from Studex to get the job done."

Universal Ear Piercing Instrument

"Cleanse the customer's ears with MediSept™ Ear Care Solution...[or] ALCOHOL may be used."

Taking care of your Universal Ear Piercing Instrument: "Before and after each piercing, thoroughly cleanse the entire area of the clasp retainer by wiping with a cotton ball or swab moistened with MediSept™ Ear Care Solution or ALCOHOL."

Advise from Health Canada: 'Ear piercing is done with a sterile needle or a gun that has a disposable sterile cartridge to hold the studs'--Health Canada; accessed 9/20/09

Wanting more than just another earring???? "Accent other body parts with sassy rings and outrageous gauges for your tongue, belly button, eyebrow or ears from Fierce Pierce."

"If you are piercing in the cartilage area of the ear special care must be taken during both the piercing and the after-piercing care."

Keloid scarring can form as late as a year after injury

The only warning???? "Minors: Make sure you have your parent's permission."

In a recent article in Newsweek, it was reported that after getting their ear cartilages pierced at a mall kiosk, seven Oregon teens developed abscesses (some requiring reconstructive surgery)

Bacteria was not only cultured from the piercing gun but also from the bottle of disinfectant used to 'sterilize' the piercing studs

Headliners: Ladies' Home Journal published 'Rules for Handling Teen Body Art'

The Rules:

- Don't overreact
- Present the 'long view'
- Delay, delay, delay
- Compromise

Headliners: Mom Sentenced for Ignoring Child’s Infection; Boston AP as reported in the Idaho Statesman; 10/25/06

A mother whose 13-year-old daughter nearly died from an infection caused by a bellybutton piercing was sentenced to 2½ years in prison for failing to seek medical attention for several weeks as the child got sicker

Prosecutors said Deborah Robinson watched as her daughter dropped from 115 pounds to 75 pounds and became incontinent and weak from an infection that began after she reinserted a belly ring she had removed months earlier

The mother could have been sentenced to 5 years for ‘wantonly or recklessly permitting substantial bodily injury to a child under 14’—however, the child wrote a letter to the judge pleading for leniency

Hundreds of common piercings today; many involving the head and neck region

A popular fad that requires unique clinical protocol

Notable Quote: “Finding a piercing-friendly doctor is less difficult than finding a piercing knowledgeable doctor.”

Another Notable Quote: “Remove tongue jewelry when eating or sleeping and... when visiting the [dentist], come without jewelry!”--David M. Shafer, D.M.D.; Oral and Maxillofacial Surgery University of Connecticut

Many people are apprehensive to visit a health care specialist in case of a problem for fear of disapproval
Currently, the piercing industry as a whole is NOT heavily regulated

“It is illegal to deny public accommodation to someone based on HIV infection (in the U.S.)”

Formed the cornerstone for more effective infection control protocols

Many piercers continue to seek regulatory control by state and national organizations to ensure compliance with universal precautions

Association of Professional Piercers (“APP”) drafted guidelines and recommendations for their members

What is APP?

The Association of Professional Piercers is an international nonprofit association dedicated to the dissemination of vital health and safety information related to body piercing to piercers, health care providers and the general public

Not everyone can become a member

Criteria is strict and ongoing monitoring is required (monthly spore test documentation is required for membership)

Members must have current CPR, First Aid and Bloodborne Pathogens Training certification

Association for Professional Piercers (“APP”)

Reach them at:

www.safepiercing.org

Healing Process

KEY: Piercings heal by forming EPITHELIAL CELLS along the inside of the piercing; creates a “tunnel” along the inside of the piercing

Process generally takes 6-8 weeks

After epithelial layer has formed, the piercing constricts around the jewelry

The epithelial layer can easily be torn or dislodged; care must be taken to lubricate and cleanse appropriately

Once epithelial layer forms, it takes approximately 6 months to two years to toughen and strengthen

As piercing becomes more cohesive, the entrance will round inwards (like a donut hole) and piercing will become more flexible and relaxed around the jewelry

Removing jewelry for any length of time while a piercing is healing increases risk of shrinkage or closure
Changing jewelry during healing requires a “continuous approach”

Irritations and Infections

KEY: Redness, swelling and inflammation during the first week is not unusual

Prolonged irritation may indicate:

- Mild infection
- Sensitivity to metal or aftercare product
- Pressure or stress irritation to piercing

Red, cracked piercings may result from:

- Over-cleaning the piercing
- Failure to rinse piercing after cleaning
- Using antiseptic that is over-drying

Sensitivity to aftercare products may exhibit:

- Extreme itching
- Burning upon application
- Rash or hives in area

If ALLERGY is suspected:

- Discontinue use of soap
- Irrigate area thoroughly with water
- May need physician consult

Prolonged Healing

Most frequent causes of PROLONGED HEALING:

- Piercing at inappropriate depth or angle
- Piercing area changes in shape with movement
- Wearing inappropriate jewelry
- Friction or pressure
- Scratched or underpolished jewelry
- Injury to piercing
- Chemical irritation
- Migration or rejection
- Metal sensitivity***

Piercing characteristics:

- Continuous discharge (more than one year)
- Entrance to piercing remains ragged
- Epithelial layer will form but it may be weak and easily dislodged

Infections

KEY: Infections are NOT inherent to piercing and should be treated seriously!!!

Symptoms of Infection:

- Yellow / green discharge
- Pain
- Redness
- Inflammation
- Bleeding
- Swelling

KEY: Jewelry should be LEFT IN PLACE if infection develops to avoid abscess formation

To encourage drainage:

- Apply hot compress
- Soak piercing jewelry in hot salt water
- Disinfect soaking tub
- Separate tubs for separate jewelry (example: dixie cups)
- Compress cloths should be disposed of or washed in bleach solution
- Compresses can be heated in microwave

OTC antibiotic ointments are NOT to be used for punctures

KEY: Untreated localized infection can quickly develop into CELLULITIS or SYSTEMIC INFECTION

Symptoms of CELLULITIS:

- Red streaks on the skin
- Lymph node enlargement
- Fever
- Chills
- Orange-peel skin texture
- Cardinal signs of inflammation

Symptoms of SYSTEMIC INFECTION:

- Fever
- Chills
- Joint Aches

KEY: Systemic infections can be LIFE-THREATENING; often requires oral and IV antibiotics

Abandoned Piercings

Whether a piercing completely closes depends on how old the piercing is and the gauge of the jewelry

KEY: If piercing does NOT close, it will collect debris leading to possible cyst formation

To prevent accumulation, insertions of tapers or jewelry periodically will facilitate cleansing

If the entrances of the piercing have started to round inwards, permanent dimple-like scars often result
Interior of the piercing may form a scar which can be felt as a knot or raised line under the skin (usually resolves over time)

Scar Formation

Wound infection increases the risk of unsightly scar formation, as do genetics (family history) and hormone changes during puberty and pregnancy

Keloid Scars:

- Hard, raised, bulky formations of collagenous scar tissue
- Often spread with continued irritation
- Cartilage piercings often heal with keloid-like formation

Hypertrophic Scars:

- Fleeshy
- Stay within bounds of injury
- Tissue protrusion at piercing entrance
- Generally reabsorbed when piercing heals or irritation is removed

KEY: Cannot treat scars without eliminating cause of irritation

Piercing Migration and Rejection

Indicated by the piercing becoming narrower and more shallow

Dimple often forms where piercing was originally placed

A piercing which is migrating quickly will form scabs

As piercing rejects the jewelry, it may become visible through the skin

KEY: The more a piercing deviates from PERPENDICULAR, the greater the tension between the jewelry and the tissue

Jewelry that is too thin is more easily rejected

Wearing jewelry that is too heavy in a new piercing may cause the piercing to migrate or reject

Metal Sensitivities

Many metal sensitivities can be attributed specifically to NICKEL SENSITIVITY

Unfortunately, some piercees use inferior jewelry that contains too much nickel or other irritating alloy resulting in "metal allergy"

While surgical grade stainless steel contains nickel, little is released (unlike other grades of stainless steel)

Specifically **316L**VM F-138 Stainless Steel

Some people are sensitive to the alloys present in KARAT GOLD (ie. nickel, silver, zinc and copper)

Only SOLID 14K or 18K white or yellow gold should be used

White gold alloyed with PALLADIUM (instead of nickel) is less likely to cause sensitivity

Niobium and Titanium are also very biocompatible

Specifically, **Ti6Al4V** ELI titanium

Dense, low-porosity plastic such as Tygon or PTFE can be utilized in jewelry

The flexibility of this material allows the jewelry to bend and move with the motion of the body minimizing tension and stretching of the piercing

KEY: Tygon will stiffen and slowly break down over time which will increase porosity

It is suggested that Tygon be changed a MINIMUM of every two months

Headliners: Biocompatibility of nickel tested in dental alloys

Patch testing reveals that nickel is the most common metal allergen

The dental team provides vital link in formulating a differential diagnosis of allergenic biomaterials that elicit symptoms in patients intraorally as well as on unrelated areas of the body--Source: Wiltshire WA et al; Quintessence Int, 1996

700 adolescents between the ages of 14 and 18 were studied in 1996

Nickel allergy was found significantly more often in female adolescents (30%) than males (3%)

None of the girls who were treated with fixed orthodontic appliances before ear piercing showed hypersensitivity to nickel

However, 35% of the girls who had experienced ear piercing before the onset of orthodontic treatment were sensitive to nickel

Researchers believe that the results indicate that treatment with nickel-containing metallic orthodontic appliances BEFORE sensitization to nickel (ear piercing) may have REDUCED the frequency of nickel hypersensitivity--Kerosuo et al, 1996

In the hygiene setting: Health histories should include documentation of patient's sensitivity to metals

To test for nickel content:

HybriVet Systems, Inc.

17 Erie Drive

Natick, MA 01760

Tel: 1-800-262-5323

Jewelry to Avoid

- **Gold-Filled or Gold-Plated**

Only a thin layer of gold is actually used—underneath is an inferior metal (nickel or aluminum)

The plating process is often achieved utilizing a cyanide bath (not suitable for body contact)

- **Silver**

Even pure silver is not appropriate for use in body piercings—it reacts with the sulfur in the body and oxidizes (tarnishes)

Earlobe piercings are less reactive

- **Aluminum**

Resembles niobium but it is not suitably inert or biocompatible for use in the body

Symptoms of metal sensitivity:

- Rapid rejection of the jewelry
- Redness / inflammation
- Itching
- Colorless discharge

In addition to localized dermatitis, the opening to the piercing will appear significantly LARGER than the size of the jewelry

Granulation tissue will be visible

KEY: Even though the piercing appears highly inflamed, the piercee may feel virtually NO DISCOMFORT

Appropriate jewelry has no:

- Nicks
- Scratches
- Burrs
- Irregular surfaces

Safety pins and other household objects are NOT put into piercings by professional body piercers

Remedy

Changing to an appropriate bio-compatible, Tygon or PTFE jewelry

Oftentimes, within 8-12 months biocompatible metal jewelry can replace Tygon permanently

Care of Piercings

Because the process of healing a piercing is unlike that of healing a typical wound, no antiseptic products have been designed or FDA accepted specifically for piercing aftercare

Chloroxylenol (PCMX):

- Broad spectrum (microbes, fungus, yeast)
- Safe for long-term use
- Designed for frequent hand washing and wound care
- Not widely available

Name brands of PCMX soaps:

- Satin Antimicrobial Skin Cleanser
- Provon Medicated Lotion Soap

KEY: Emerging as MOST APPROPRIATE product for piercing aftercare

Triclosan:

Soaps contain 0.2% to 0.5% triclosan

Brands include:

- Clearasil
- Dial Liquid
- Almay Hypo-Care
- Softsoap

KEY: Most orange colored brands can be overly drying; low pH, deodorant-free and moisturizing soaps are preferred

Headliners: Tainted by Cleanser: Antimicrobial Agent Persists in Sludge; ScienceNews; 5/6/06

While it only takes a few seconds to wash your hands, the soap that rinses down the drain can contaminate the environment for years to come, according to new studies by Rolf Halden, PhD, PE, an assistant professor of Environmental Health Sciences, and Johns Hopkins University (Baltimore) graduate student Daniel H. Paull

For decades now, many soaps and cleaning products have contained a germicidal toxic chemical called 3,4,4'-trichlorocarbanilide, or triclocarban

Although nearly 1 million pounds of triclocarban are produced each year for incorporation into personal care products such as antibacterial soaps, no one has really studied how much of the chemical is detectable in the environment

Halden recently published in Environmental Science & Technology the first two peer-reviewed environmental studies on triclocarban in the United States

About 76% of triclocarban exits sewage treatment plants as a component of the sludge that is often used as a farm fertilizer

'If a consumer goes to the supermarket and buys a bar of soap, three-quarters of the active ingredient could end up in agriculture because the sludge is being recycled' --Halden

Scientists have not yet determined whether triclocarban degrades or accumulates in soils and plants (which may then migrate into the food chain)

Another 3% of triclocarban exits sewage treatment facilities as a liquid that is released directly into streams or other bodies of water

His conclusion: The overlooked pollutant is contaminating water resources nationwide

Results suggest that triclocarban was present in 60% of the surface waters investigated

The finding puts triclocarban in the top 10 most frequently detected contaminants—among 96 organic wastewater pollutants

Saline Solution:

May be used to irrigate and cleanse piercing site

A fine-grain, non-iodized salt is recommended

Epsom salts or saline solutions containing enzymes or cleansers should be avoided

Ideally sea salt in a concentration of 1/4 teaspoon for 8 ounces warm water

H2Ocean rinses and aftercare sprays utilize pH stable saline solutions incorporating lysozyme and xylitol

For more info: www.h2ocean.com

Other Care Options

Essential Oils:

Patch testing encouraged

Essential versus perfume oils

Use diluted and sparingly

Lavender and Tea Tree Oil are frequently suggested

Oils should be stored and handled responsibly

- Avoid contamination
- Air tight container required
- Avoid light and heat exposure

Headliners: Healing Powers of Emu Oil Being Explored

Over 4,000 years ago, the Australian Aborigines began using Emu oil for healing and pain relief

After a hunt, they would wrap their elders in the skin of the Emu bird to lessen their aches

Headliners: Australia Says ‘Sorry’ to Aborigines for Mistreatment; Tim Johnson; Sydney, Australia; as reported in The New York Times; 2/13/08

Prime Minister Kevin Rudd opened a new chapter in Australia’s tortured relations with its indigenous peoples with a comprehensive and moving apology for past wrongs and a call for bipartisan action to improve the lives of Australia’s Aborigines and Torres Strait Islanders

Mr. Rudd’s apology was particularly addressed to the so-called Stolen Generations, the tens of thousands of indigenous children who were removed, sometimes forcibly, from their families in a policy of assimilation that only ended in the 1970s

Back to the Emu Oil...

Not until the mid-1800s, did Emu oil begin to be used outside of Australia and New Zealand

European explorers extolling its virtues, returned to their native countries bearing the oil as a gift

In the mid-1980s, ranchers in the U.S. began to raise Emus for their meat and bi-products

By the mid-1990s, Emu oil began being used by athletic trainers in professional football and basketball, and by burn centers worldwide to heal skin tissue and reduce scarring

Today Emu oil is regulated by the American Emu Association to guarantee quality

Emu Oil naturally contains:

- Myristic 0.8%
- Palmitic 21.5%
- Palmitoleic 4.8%
- Steric 10.9%
- Oleic 45.6%
- Linoleic 13.9%
- Linolenic 0.6%

And it’s not just for piercings...

- Arthritis
- Sports Injuries
- Psoriasis
- Earaches
- Carpel Tunnel
- Sunburns
- Bug Bites

For More Info:

Emulate Natural Care

6568 W. Autumnwood Street

Boise, Idaho 83714

(208)-854-1067

TOLL FREE: 888-854-1067

Chlorhexidine Gluconate:

Not for prolonged use

Not to be used full strength

Benzalkonium Chloride and Benzethonium Chloride:

Not for prolonged use

Diluting decreases effectiveness

Some solutions contain alcohol and lidocaine

Brand names include:

- Bactine
- No More Ouchies
- Pierced Ear Care Solution
- Sensitive Ears Solution

Povidone Iodine:

Contraindicated for puncture wounds

Long-term use may cause cell lysis and skin discoloration

KEY: Povidone iodine is often used to disinfect the area prior to piercing; single-use disposable swabs or wipes are recommended to avoid contamination

Isopropyl Alcohol:

VERY drying

Limited antiseptic effectiveness

Still commonly used as an antiseptic

Hydrogen Peroxide:

Limited antiseptic effectiveness

Toxic to human fibroblasts (inhibits collagen synthesis and formation of granulation tissue)

Medicated Ointments:

Do not clean the piercing of discharge or dirt

Contraindicated for puncture wounds

Not for prolonged use (one week maximum)

Does not allow for oxygen circulation

Aftercare Protocol

Hands should be thoroughly washed with antimicrobial soap prior to touching piercing or jewelry

Washcloths and sponges should be avoided for cleaning piercings

Piercing should be dried thoroughly after cleansing (bacteria thrive in moist environments)

Cleaning piercing TWICE daily while healing is advisable (overcleaning can irritate)

After healing process, cleaning the piercing ONCE daily is adequate

The shower often provides the best place to adequately lather and rinse piercings

Special Procedures for Oral Piercings

Cleaning Alert!!! Use of too many different products should be avoided

One cleaning solution in combination with sea salt rinses is advised

Overuse of antimicrobials can upset oral pH and deplete normal flora resulting in CANDIDA ALBICANS infection (“oral thrush”)

Rinsing with mild saline solution after eating and drinking anything but water is recommended

Mouthrinses with high alcohol content quickly dry out the mucosal surface; dilute alcohol-based rinses by 50% with distilled water

Or, better yet: Use of non-alcohol mouthrinses—many effective formulations on the market

During the first 24-48 hours post-piercing, the tongue swells to almost TWICE its size

Application of ice helps relieve swelling and minimizes post-op bleeding

NSAIDs may be used to reduce swelling and pain but aspirin should be avoided

Time to play: Guess the Most Common Reason for Poisonings in the UK

ANSWER: Acetaminophen (it has been a leading source of poisoning for years and is the source of 50% of acute poison-related hospital admissions)

One reason for these alarming statistics is a widespread perception of nontoxicity

An example: A 17-year old high school student took 20 tablets of 500 mg acetaminophen over a 3-hour period for a migraine—and died from multiple organ failure

Once the swelling has gone down (usually after two weeks), the piercee MUST downsize their jewelry to minimize trauma to the teeth and oral cavity
If piercing does not clot or continually bleeds after 48 hours, the piercer might have perforated a blood vessel; medical attention is highly encouraged
Piercee should get a new toothbrush
Smoking in general should be discouraged (especially chewing tobacco)
Contact with cosmetics, lotions, perfumes or hairspray should be avoided

Orofacial Piercings: Specific Sites and Special Considerations

KEY: Heal times will vary tremendously between piercees

Earlobe

Heals quickly
Rings are easier to clean than studs
Most piercers do not perform piercings larger than 10 to 8 gauge
Clinical Caution!!! Dermal punches are being used to create an initially large piercing in earlobe and ear cartilages; HIGHLY DISCOURAGED!!

Ear Cartilage

Involve several layers of different types of tissue which heal at different rates and by different processes
Greater tendency to scar
Tragus piercings may distort panoramic films

Eyebrow

Damage to underlying nerves makes placement critical
Shallow insertion on the outermost part of the eyebrow will avoid SUPRAORBITAL NERVE

Bridge or Nasion

Made through tissues over the bridge of the nose
High incidence of migration and rejection
Not recommended
Clinical Alert!!!! An infection can lead to CAVERNOUS SINUS THROMBOSIS which can be life-threatening

Lip and Labret

Vermillion border should be avoided
Labret jewelry can lead to gingival recession, abrasion of enamel and bone loss
Fishtail labrets are designed to reduce recession (must be placed at MGJ)

Marilyn or Chrome Crawford

Made above upper lip
Placement must be carefully checked to avoid FACIAL ARTERY

Check

Considered very dangerous because of proximity to Facial VAN and the Parotid Duct

Scrumper / Lip Frenulum

Upper or lower frenum piercing
Prone to rejection
Gingival recession and enamel abrasion are common

Uvula

VERY dangerous piercing due to aspiration possibilities
Difficult to perform due to gagging reflex
Uvula Piercing Tale of Near Horror: A 20-year old patient of dentists Sheila Price and Maurice Lewis of Morgantown, West Virginia had a “gag-a-matic” experience
This patient had both a tongue and uvula piercing
The hoop in the man’s uvula came undone and fell into his throat
The Good News: Fortunately, he swallowed the jewelry instead of aspirating it
The Really Bad News: Search continues for jewelry

Tongue

Very popular piercing
Most commonly placed in the center of the tongue to minimize neural and vessel damage
Not known to affect taste
Should be as perpendicular as possible

Headliners: Teen's tongue piercing linked to pain; As reported by Carla K. Johnson; AP writer; Seattle Post-Intelligencer; 10/17/06

In an October 2006 issue of JAMA, a case of TNA associated with a tongue piercing was reported in an Italian teenager

In this newly reported case, the young teen's mouth jewelry apparently irritated the trigeminal nerve (most likely the lingual nerve) causing TNA symptoms of stabbing, electrical shocks lasting 10-30 seconds occurring 20-30 times daily

After trying pain medications, the cure proved to be simple indeed—2 days after removing the tongue piercing, her symptoms disappeared

'Certainly this was an isolated case, an extremely rare complication of this kind of piercing.' --Dr. Marcelo Galarza; neurosurgeon; Villa Maria Cecilia Hospital; Ravenna, Italy

Should be placed to ANTERIOR frenum

Frenectomy may be needed

Chipped or cracked teeth are common

Plastic or acrylic balls will reduce risk of chipping but may break

Internally threaded jewelry allows for easier insertion and removal

Barbells with one fixed ball should be avoided

If indentation on tongue forms, barbell may be too short

When Jewelry Must Be Removed

Growing popularity of body piercing increases the likelihood that a clinician will have to remove piercing jewelry in emergency situations

British researchers recently found that only 6% of emergency personnel were able to open three of the most common types of jewelry--Journal of Accident and Emergency Medicine; 2/00

Studies show that it should be RARELY necessary to incise tissue

In an unconscious patient, extreme care must be taken when removing intraoral jewelry (accidental aspiration)

Clinical Protocol for the Pierced Dental Patient

Radiographs should include routine periapicals (especially maxillary and mandibular anterior regions)

When severe bone loss is apparent, consider bone grafting therapy IF the patient is willing to give up the piercing

Avoid use of prophylactic jet and prophylactic paste during the first two years post-piercing

Have patient demonstrate how to remove jewelry--be sure hands are clean!

Carefully check for chips and cracking--especially on the incisal and lingual surfaces

Special Cases

THANK YOU!