

Tooth Jewelry in an 8 Year Old Child: Case Report

R. Constance Wiener, DMD

Introduction

Body modifications are becoming very common. They include tattooing, piercing, scarification, compression, implants and the permanent application of jewelry.¹ Some of these body modifications, such as the piercing of the earlobe for aesthetic purposes, have been accepted in many cultures for millennia.^{1,2} In some societies, body modifications were common with rites of passage, membership, religious devotion or special social classes (shamans, royalty, etc.).¹ In general, body modification was considered against societal norms, shocking, provocative and unattractive until the mid-1980s, when fashion designers, such as Vivienne Westwood and Jean Paul Gaultier took body modifications and punk styles and introduced them as avant-garde fashion statements.¹ Currently, 13% of the U.S. population have a body modification.¹ Many people in mainstream America, from teenagers to older adults, have perioral/oral body modifications. Health care professionals must be aware of cultural preferences and the implications in patient care from complications and hazards to the ability to quickly unfasten body jewelry in an urgent situation.³ Health care professionals must also educate their patients that in emergency situations requiring a defibrillator, there is no time to unfasten body jewelry and tissue is often torn to remove the adornment.

Tooth adornment dates to the 9th century Mayan culture where teeth were embellished with jade and turquoise, but current trends in tooth jewelry include the addition of gold, jewels or crowns that appear similar to stainless steel crowns (previously considered non-aesthetic).⁴ Teeth are also adorned with grills – plates worn over the teeth that are made of gold or base metal and often covered with real or fashion jewels.⁵ Adolescents know how to find grills, from jewelers, to internet sources, to do-it-yourself kits, while not necessarily having the knowledge about tooth and gingival tissue damage.⁵

Abstract

Purpose: The number of perioral/oral body modifications has been increasing over the previous 30 years. The dental impact upon adults and adolescents has been documented previously. The purpose of this case study was to report the dental impact of a child's self-reported tooth decoration. The study is a case report of an 8-year old child who reported for dental care with discomfort in the mandibular left second primary molar. She embedded a stick-on rhinestone stud into the tooth for aesthetics. It fractured the tooth and led to its loss. Anticipatory guidance about perioral/oral body modification risks to children, as well as to adolescents and adults, should be included in the discussion of interventions that influence oral wellness.

Keywords: perioral/oral jewelry, body modifications, tooth jewelry

This study supports the NDHRA priority area, **Health Promotion/Disease Prevention:** Identify optimal time periods for interventions that influence pathology, function and oral wellness.

Thirteen states regulate tattooing and 6 states regulate piercing.¹ Body modifications are often self-administered or are done by friends. In one study of adolescents, 22% of teens with piercings and 18% with tattoos self-performed the procedures or had them done by a friend or relative.⁶ In the same study, 10% of the piercings and tattoos were done with unsterile needles, 46% of the tattoos were done in a tattoo parlor and 36% were done at a tattoo party.⁶ Medical complications to perioral/oral body modifications occur. Local infections occur in 10 to 30% of piercings.¹ Body modifications may have systemic bacterial infections (such as tetanus, tuberculosis, streptococcal endocarditis, etc.).^{2,6-8} They are also associated with viral infections (such as hepatitis, HSV, Epstein-Barr and HIV) and fungal infections (Candida).^{2,6-8} Autoimmune reactions can occur with body modifications, including edema, allergies (nickel in particular), inflammation, tissue overgrowth, sarcoid-like foreign body reactions, epidermal cysts (from penetration of epidermal cells into the dermis during piercing), cellulitis of the submandibular, sublingual and submental facial spaces (Ludwig's angina).^{2,6-8} Additionally they have been associated with speech impairment, swallowed/aspirated jewelry, fractured teeth, gingival recession and embedded jewels.^{2,6-8} Contact dermatitis to

nickel is common and may have symptoms ranging from a rash to asthma. Contact sensitivity to gold may result in lymphocytoma, or granulomatous responses. And silver may leech and form silver salts (localized argyria).⁸

Children and adolescents may consider the wearing of perioral/oral jewelry as a way to emulate a role model (generally an actress or singer), as an extension of body ornamentation and/or as a means to be part of a particular group.⁹ This article describes an unusual case of a child's self-application of oral jewelry.

Case Report

Preparation of this report was approved by the Aberdeen Area IRB/Research and Publication Committee of the Indian Health Service. An 8-year-old girl presented complaining of a broken tooth with a pain level 3/10 on a numeric visual analog rating scale for pain. She was in discomfort, with the tooth having "bothered" her for 3 days. She had not missed school or had difficulty eating before she presented. She did not exhibit any lethargy, or present with any extra-oral swelling. Her parent stated he thought she "had a small cavity" and he wanted to have her evaluated. She had no significant medical considerations. Aside from the tooth in question, the limited problem-focused evaluation revealed no additional significant oral findings. The tooth that was bothering her was the mandibular left second primary molar. Clinically, there was no intra-oral swelling or obvious caries. A vertical fracture line was visible along the mesial marginal ridge, and a similar vertical fracture line was visible along the distal marginal ridge, separating the tooth into buccal and lingual segments. While examining the tooth, we noted what appeared to be an unusual, glistening, water-filled appearance inside the tooth. Radiographically, the tooth was definitely fractured, and non-restorable.

The mandibular left second primary molar was extracted without complications. The parent received post-operative instructions for the care of the extraction site and no pain medications or antibiotics were prescribed. Healing was uneventful and the child was scheduled for space maintenance.

The extracted tooth was examined and found to have a rhinestone stud embedded inside (Figure 1). It was the rhinestone which created the reflected, water-filled appearance and was the cause of the tooth fracture. When questioned, the patient explained she had stick-on rhinestone studs that were used to embellish her clothes and books and she placed one in her tooth to make it look pretty. There was no indication of self-inflicted injury. She said

Figure 1: Extracted mandibular left second primary molar with embedded rhinestone



that she did not remember when she placed it. She had not told her parents that she did so. The rhinestone stud, placed into a deep central groove, had been forced deep into the tooth. Over some period of time, it fractured the tooth and was imbedded within the tooth.

Discussion

Sociologically, there are many reasons for perioral/oral body modification: fashion, for daring, personal statements and peer pressure/declaring allegiance.^{1,6} There are also masochistic, sadistic, exhibitionistic or narcissistic reasons.^{1,6} Health care providers should assess if the motivation was self-destructive and requires referral/intervention.⁶ Body modification and risk-taking behavior in adolescents are often related. Adolescents with piercings at locations other than the ears were 4.5 times more likely to report a history of sexual intercourse, and 3 times as likely to report tobacco or marijuana use in the last month.¹⁰ They are also 2.5 times as likely to report school truancy or running away from home during the last year, and are 2.5 to 3 times as likely to report suicidal ideation and action during the year.¹⁰ As the popularity of body modification increases, dental professionals need to be aware that younger and younger children are also influenced by the trend. Children are introduced to body art with face painting, stick-on jewelry, and commercial rub-on temporary tattoos. Face painting is usually done by adults as a form of entertainment at parties or street fairs.⁹ Children, wanting a permanent body modification, generally do not have consent or access to a capable provider. They have improvised with needles, straight pins, paper clips, pens, pencils, charcoal, soot, mascara, carbon, soldering irons in boiling oil, heated coat hangers or, as in this case report, a stick-on rhinestone stud into a tooth.⁹

The American Academy of Pediatric Dentistry and the American Dental Association recognize the need to educate the public on the health implications of perioral/oral modifications and strongly oppose such practices due to the associated potential for pathological conditions and sequelae.^{6,11} Body modification is often an impulsive decision¹² made under peer pressure and the influence of alcohol or drugs.⁶ Dental professionals have frequent contacts with pediatric patients. They should discuss decision-making, including risk-taking behaviors.⁴ Dental professionals should ascertain the feelings that their pediatric patients have about perioral/oral body modifications. Information should be provided on the child or adolescent's level of understanding.

It should include the complications and hazards of body modification as well as the possible negative perceptions that the child, adolescent, or others may have in the future about the body modifications. Many people who paid good money to get a body modification also pay good money for its removal.¹³ Education is a primary method to intercept or prevent risky behavior, and dental professionals have a major role in providing guidance about perioral/oral body modification.⁴

R. Constance Wiener, DMD is an assistant professor in the Department of Dental Practice and Rural Health at West Virginia University.

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