Tattoos and Piercings in Female Adolescents and Young Adults

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ABSTRACT

This article covers body art in female adolescents and young adults, including tattoos, piercings, and intimate piercings. We review the epidemiology, definitions, motivations, proactive counseling, regulations, complications, and removal practices. Providers are likely to encounter and manage young women with tattoos and piercings and should be familiar with how to support young women before and after obtaining body art. Providers should be familiar with the treatment of the most frequent complications of body art in young women, which include allergic reactions and localized soft tissue infections. Finally, we review the techniques and indications for body art removal.
Key Words: Tattoos, Piercings, Genital

Introduction

Body modification has become increasingly popular among young women across the world. This review article will discuss body modifications including tattoos and piercings, with a focus on female intimate body piercings. Providers should be familiar with the major types of modification practices, their prevalence, motivations, risk of complications, and removal practices to provide holistic and supportive care for young women who pursue body art.

Case

An 18-year-old female patient came in 6 days after obtaining bilateral nipple piercings. She complained of redness, itching, and a few crusted vesicular lesions on the left nipple, which had appeared 3 days earlier. Physical exam showed mild erythema of the nipple with 3 miniscule discrete lesions with crusting. Differential diagnosis included infection or allergic reaction. PCR of the lesion was positive for HSV-1. She was managed successfully with topical acyclovir with complete resolution. The piercing hardware was never removed.

Epidemiology and Definitions

Recent reviews show the rate of 1 or more tattoos in adolescents aged 12-22 to be anywhere from 4% to 13% in industrialized countries, with numbers rising in adolescent females.[1] Evidence also shows that obtaining a tattoo before the age of 18 was associated with higher risk of nondisclosure to parents, higher chance of obtaining the tattoo in an unauthorized facility, and higher use of recreational drugs.[1] More recent reviews, however, indicate a declining strength of association between tattooing and risk behaviors.[2]

Piercing classification is on the basis of the body site and is generally categorized as visible vs nonvisible (intimate piercing). The rate of non-earlobe piercing in ages 12-22 is anywhere from 27% to 42%, with higher rates among adolescent girls.[3,4] Other studies of students with current piercings show a breakdown as follows: 53% high ear cartilage, 38% navel, 13% tongue, and 9% genital.[5,6] Most (greater than 80%) patients will obtain piercings in professional settings; however, minors are more likely to obtain piercings by unlicensed people.

There is an increasing prevalence of nontraditional types of piercings in youth.[2] These nontraditional types include pocketing, in which both ends of the piece of jewelry are embedded into the skin; gauging or stretching, in which the size of the piercing is gradually increased; and transdermal piercings, in which part of the jewelry is placed below the skin using an anchor with a screw. Further classification of intimate piercings for women includes non-genital (nipple, navel, or elsewhere) and genital piercings. Female genital piercing is classified as a type 4 form of genital mutilation by the World Health Organization and is technically prohibited in women under the age of 18 in many countries, although this topic remains controversial.[7,8] Examples of female genital piercings are reviewed in Table 1. Although the prevalence of genital piercings in women was noted to be lower than in men, intimate and genital piercings in women had a much higher rate of complications than nonintimate piercings.[9,10]

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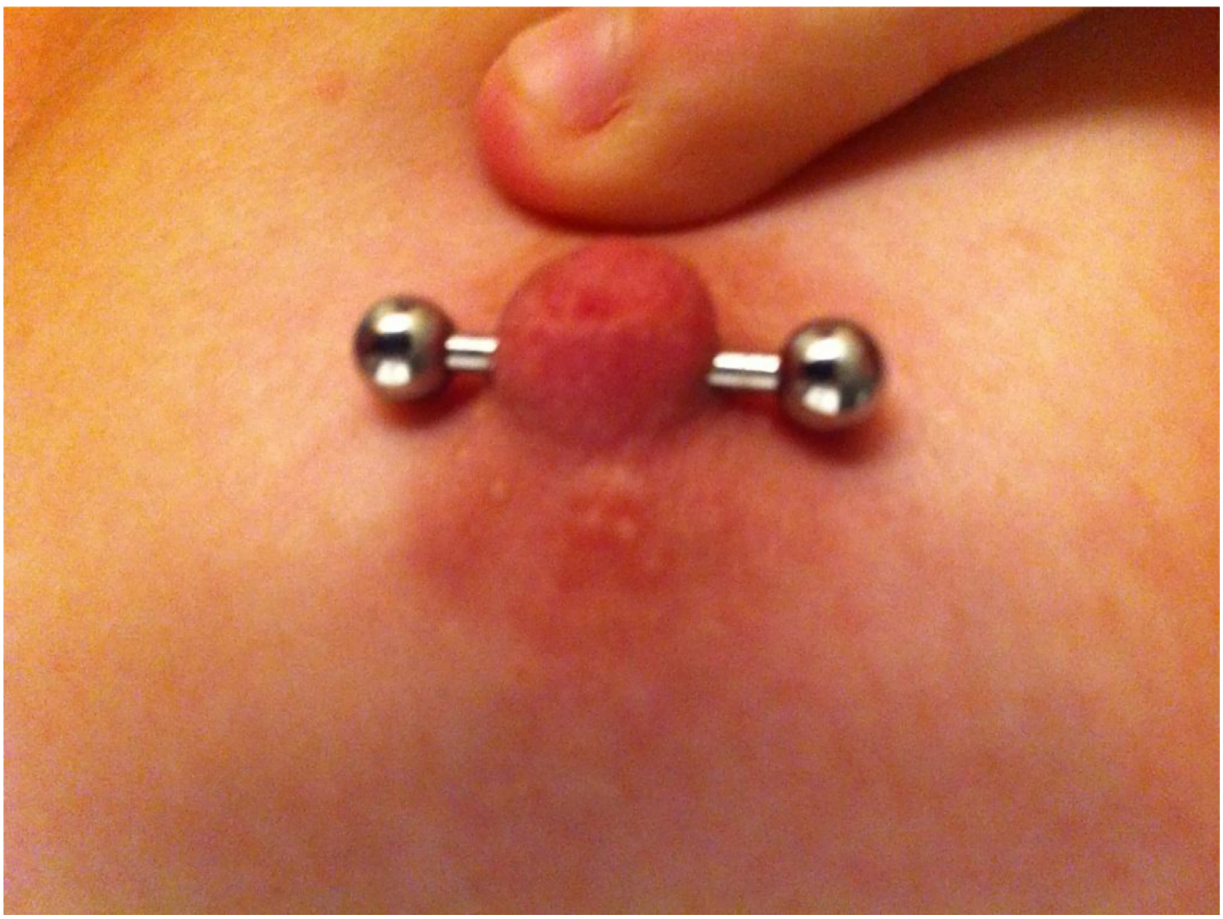
Motivations and Proactive Counseling for Tattoos and Piercings

Understanding and appreciating an individual's motivation to pursue body art or modification is important for health care providers to provide holistic, supportive, and nonjudgmental care. Broad motivation for pursuing body art can be multifactorial, including embellishment, individuality, personal narratives, endurance, group affiliation, fashion, resistance, spirituality/culture, addictions, sexual desire/gratification, or no specific reason at all.[11,12] Motivations can vary for pursuing body art; for example, women seeking genital piercing cite sexual self-expression (79%), improved sexual pleasure (77%), and uniqueness (71%) as major motivational factors.[9] Individuals who obtain piercings will usually contemplate their decision for several months in advance and those obtaining intimate body piercings perhaps even longer.[11,13]



Herpes Simplex Virus Infection of Nipple Ring

Providers can be in a unique position to offer support and counseling for adolescents and youth before and after obtaining body art.[2] Providers can offer anticipatory advice before body art placement by reviewing motivations and discussing the benefit of certified facilities, maintaining a sterile technique, aftercare instructions, and potential complications. A list of resources for patients and providers is reviewed in Table 2. Although most patients seek aftercare advice from the artist, providers can also serve as a nonjudgmental and supportive resource for information on aftercare or complications from body art.[8,9] It is important for providers to be aware that sex traffickers might mark victims with tattoos. Tattoo recognition is a critical factor in identifying trafficked victims and setting them on a pathway to freedom.[14]

Regulations

Individual states have regulated tattooing for decades to address public health concerns. As of 2012, 41 states each have at least 1 statute in place regulating tattooing. The remaining 9 states delegate authority to local-level and individual jurisdictions within those states. Even with these regulations, 72% of states do not effectively regulate sanitation, training and licensing, and infection control. Training and licensing were the least consistently regulated topics. At least 45 states have laws prohibiting minors from getting tattoos.[2] Unfortunately, there is no clear data on how often minors obtain tattoos or piercings at unregulated establishments. Thirty-eight states have laws that prohibit both body piercing and tattooing on minors without parental permission. Each state varies in its legislation of body piercing and tattooing.[15] It has been a challenge for states to keep pace with the new body art forms. Almost every state has laws addressing some aspect of body art. Penalties for violators are fines, prison time, or both; most of these laws define the violator as the person who performed the tattoo or piercing.

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Table 1
Types of Female Genital Piercings

Type of female genital piercing	Description	Complications
Christina or Venus piercing	Vertical piercing through clitoris with emergence on mons pubis	Long healing time High risk of tearing
Clitoral hood piercing	Vertical or horizontal piercing through clitoral hood	
Clitoral piercing	Vertical or horizontal piercing through the clitoris	Can be painful; clitoral avulsion Can lead to decreased sensation
Labial piercing	Single or multiple piercings of the labia	Labial tearing
Isabella piercing	Piercing through clitoral shaft ending just above the urethra	Urethral meatus irritation; decreased sensation
Fourchette or fork	Piercing through the flap of the skin at the back of the vulva	Infection
Nefertiti piercing	Piercing starting at mons pubis ending above the clitoris	
Princess Albertina	Urethral piercing with exit between urethra and vagina	Risk of more urinary tract infections
Triangle piercing	Horizontal piercing of the clitoris extending to the inner labia	Clitoral avulsion

Table 2
Resources for Patients and Providers about Tattoos and Piercings

Resource	Website
Association of Professional Piercers	www.safepiercing.org
US National Library of Medicine Piercing and Tattoos	https://medlineplus.gov/piercingandtattoos.html
Genital Piercing Aftercare	https://www.cieh.org/media/1977/tattoo-toolkit_part-c_05-genital-piercing-female-aftercare.pdf
Alliance of Professional Tattooists	www.safe-tattoos.com
US Food and Drug Administration Think before you ink: Are tattoos safe	https://www.fda.gov/consumers/consumer-updates/think-you-ink-are-tattoos-safe
US Food and Drug Administration Tattoo Removal: Options and Results	https://www.fda.gov/consumers/consumer-updates/tattoo-removal-options-and-results
Regulations for Tattooing and Piercing	https://www.ncsl.org/research/health/tattooing-and-body-piercing.aspx#statelaws

Complications

Localized soft tissue skin infections are the most common complications of both tattoos and piercings, although no data support the relative incidence of this phenomenon. Soft tissue infections with tattoos usually occur within a few weeks of placement and can result from contaminated ink or equipment, insufficient sterile technique, or itching with subsequent contamination of the wound. Infections have been documented with *Staphylococcus aureus*, *Streptococcus pyogenes*, *Mycobacterium chelonae, M haemophilum*, *M abscessus*, and other bacteria.[16] Human papillomavirus, herpes simplex virus activation, and *Molluscum contagiosum* have all been documented within recently placed tattoos.[16] For suspected localized tattoo infections, we recommend obtaining a wound culture when possible and initiating topical and/or systemic antibiotic treatment as appropriate.[16] Localized skin or cartilage infections are among the most common infectious complications of piercings. *Staphylococcus aureus* and *Pseudomonas aeruginosa*are the most frequently isolated infections.[17] For suspected localized infections from piercings, we recommend obtaining a wound culture, discontinuing aftercare solutions, removing the hardware, and beginning empirical antimicrobial therapy.[17]

Systemic infections associated with body art are much less common. Hepatitis B and C can be transmitted during the piercing or tattooing process, particularly in unregulated establishments.[18] Infective endocarditis is an extremely rare complication of both tattoos and piercings.[19] Sepsis from various types of bacteria is also a rare but possible complication of both recent tattooing and piercings. HIV transmission is possible, although no cases have been documented.

Skin reactions and trauma are among the most common complications of both tattoos and piercings.[16,20] Localized noninfectious reactions to tattoos include simple eczematous reaction, plaque-like thickening, hyperkeratotic inflammation, papulonodular reaction, or ulcero-necrotic inflammation.[16] For simple eczematous reactions, a short course of topical steroids is appropriate; however, for nodular and necrotic inflammation, referral for biopsy might be necessary. Keloid formation after tattoos is a potential risk, and removal can be challenging and expensive.[2] General noninfectious complications from body piercing include hematomas, allergic dermatitis from nickel, and keloid formation.[20] Many of these complications can be mitigated by removing the hardware; however, keloid formation can occur independently of whether the hardware is removed. Oral piercings are among the most common sites for complications including dental injuries, gingival recession, speech difficulty, eating problems, and hypersali-

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vation.[20] Another common complication of piercing is the possibility of tearing, which can occur in the ear, nose, mouth, nipple, and navel.[20]

Female genital piercings have a particularly higher rate of complications, somewhere between 30% and 50%.[9] These complications include irritation, coital pain, loss of sensation, keloid formation, and tearing or trauma to the genital area.[21] Other complications include higher rate of urinary tract infections for piercings such as the Albertina, which is in the urethra. The female fourchette piercing has a higher rate of associated coital pain and a higher rate of soft tissue infections.[9,10] Both male and female genital piercings can affect the ability to use barrier protection.[9]

Removal practices

Providers are likely to face discussions about tattoo removal options. Providers should be familiar with motivations, goals, and realistic expectations of tattoo removal practices. It is estimated that 10%-20% of individuals will consider tattoo removal.[22] Common reasons for tattoo removal include stigma, young age when the tattoo was obtained, occupational concerns, and lifestyle changes.[22,23] The gold standard for tattoo removal is laser treatment by dermatologists over multiple sessions.[24] Advances in laser frequencies and administration protocols have dramatically increased success with this treatment option.[24] However, patients should be counseled that complete removal might not be achievable, it is expensive and insurance might not cover the laser treatment, scarring is possible, and the ink remains in the skin despite not being visible. For those individuals who are not candidates for laser tattoo removal, other techniques could be considered, including surgical excision, dermabrasion, or salabrasion, although all of these techniques seem to be less effective.[25]

There might be several indications to remove piercings temporarily before procedures such as urinary catheterization, radiography, surgeries, electrocautery, childbirth, breastfeeding, or infection.[10,26] Common techniques providers can use to maintain the patency of the piercing tract during these brief removals include using suture material or intravenous catheters.[26,27] Removal of piercings might not be necessary for pelvic exams or simple urologic procedures. Temporary removal should be considered for genital piercings during vaginal delivery and for oral/nasal piercings during general anesthesia.[10,28] The most important point for providers is that they consider the type of piercing and understand the recommended removal technique while recognizing that surgical excision might be required in some cases, such as clitoral piercings and transdermal piercings.[9,29]

Conclusion

Providers should recognize that there is an increase in tattoos and piercings in female adolescents and young adults. Many young people turn to their providers with questions and concerns. Providers should be aware of regulations, risks, and complications and should keep current on treatment options while serving as a nonjudgmental resource for help. It is recommended that adolescents speak with their parents, guardians, or other responsible adults before having tattoos or piercings placed.

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