

Approach to the jewelry aficionado

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Abstract

Children's and teens' frequent use of inexpensive "costume" jewelry exposes them to a variety of contact allergens. Greater use heightens the risk of developing allergic contact dermatitis, especially in the setting of body piercings. Several clinical pearls, prevention strategies, and avoidance alternatives are provided in this article to guide clinicians and patients in the management of jewelry-related allergic contact dermatitis.

KEYWORDS

allergy, contact dermatitis, quality of life

The frequent use of inexpensive or "costume" jewelry in children and teens increases their exposure to several contact allergens. An article by Silverberg presents the case of a child with atopic dermatitis who developed allergic contact dermatitis (ACD) after exposure to sensitizers in her costume jewelry.¹ Nickel and cobalt are the most common elicitors of ACD worldwide because of their ubiquitous presence in inexpensive "costume" jewelry, but Silverberg

highlights that costume jewelry also contains several other significant allergens¹ (Table 1).

Prolonged skin contact with metal is a common cause of nickel sensitization. Body piercings increase the risk of sensitization, particularly during the healing process.² A study by Ehrlich and colleagues found a positive correlation between the number of piercings and metal sensitization. The results showed a 4% metal sensitization rate

TABLE 1 Common sources of allergen exposures from jewelry

Source of exposure	Allergen
Metal earrings	Nickel, cobalt, chromium, gold thiosulfate
Ornate metal fittings (belt buckles, grommets)	Nickel
Woven necklaces, textile jewelry	Dispersed dyes, azo dyes, methylisothiazolinone
Rubber band bracelets, other rubber jewelry	Thiuram group, mercapto benzothiazole group, carbamates, p-phenylenediamine mix
Plastic jewelry	Methacrylate, isocyanate, latex
Wooden bracelets and necklaces	Wood

Adapted from Silverberg NB.¹

TABLE 2 Examples of nickel-free jewelry vendors

Nickel- and cobalt-free option	Source
Plastic	http://www.blomdahllusa.com/medplasear1.html ; https://www.delasco.com/pcat/3/Earrings/DaisyP/DaisyP/
Plastic posts to cover metal	http://www.wear-earrings-again.com/plastics.html
Surgical steel	https://www.etsy.com/shop/AshkalJewelry
Titanium	https://www.etsy.com/shop/Variya

in persons without piercings, versus a rate of 11.1% in individuals with a single piercing and 14.6% in those with multiple piercings.³ Correlating nickel hypersensitivity with earlobe piercing is more challenging than correlation with clip-on earring use, because reactions after earlobe piercings may be mistaken for infection. Without purulent drainage or a high index of suspicion for allergy, the two may not be easily distinguishable.⁴

In 1968, Watt and Bauman described a method that patients have used to manage these perceived "infections." They described a case of "flossing the hole" in which the patient used floss to keep the holes open until the inflammation subsided. "She learned that by removing the earrings and inserting dental floss (to keep the holes open) the drainage would subside, only to recur upon reinsertion of the rings."⁵ This practice continues six decades later in American teens (Personal Observation, SEJ). Woven thread inserted into the piercing has a greater potential than dental floss to harbor bacteria and increase the risk of infection at the pierced site.⁶

1 | AVOIDANCE AND PREVENTION PEARL

Not piercing is best practice. That said, if piercing is performed, using surgical grade steel or titanium jewelry is prudent.² The surgical steel should remain in place until the skin has healed (minimum of 6 weeks). Upon observation of an inflammatory response to piercings, the first step is to remove the associated adornment. Substitution with an alternative jewelry post assembly (plastic post, titanium, or surgical steel) may be attempted (Table 2). Patients are advised to avoid the "floss open" technique.

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