Nickel and Body Piercing

Nickel Stewardship

Ear and body piercing is a popular choice in today’s society whether it is for fashion or cultural reasons. Choosing the right material for piercing operations and pierced jewellery is an important factor in ensuring the enjoyment of body piercing amongst both females and males.

Nickel has long-been recognised as an element that when in direct contact with the skin for prolonged periods of time can cause an allergic reaction. Studies of the prevalence of nickel sensitivity generally show that 10-15% of women and 1-2% of men are allergic to nickel. The high incidence of nickel allergy among females has had a strong association with ear piercing. As men have increased their use of piercing, so has the incidence of nickel allergy.

This advisory note seeks to provide information to manufacturers, retailers of piercing equipment, businesses offering ear and body piercing services, and consumers about the importance of selecting the right material for piercing procedures and body jewellery.

Assessing the risk

Two critical factors should be taken into account when assessing and managing the risks associated with nickel allergy contact dermatitis. Firstly, the ability and rate at which a material surface releases nickel when exposed to sweat; and secondly, the nature of the contact with the skin.

The level of risk therefore depends on a number of factors – pattern of article use, the environment in which the pierced jewellery article is worn (e.g., whether the jewellery is exposed to a healing wound), and the degree of susceptibility of the individual to nickel dermatitis.

To minimise the risk of contact dermatitis, it is important that appropriate materials be used when ears or any other parts of the body are pierced. This is especially important with ‘studs’ placed in the wounds until healing is completed.

There are a number of materials suitable for body piercing of which the most commonly used are Type 304L or 316L stainless steels. These are resistant to corrosion and there are test data that show very low nickel release in conditions that will be encountered in piercing procedures and in the wearing of body jewellery for long periods of time.

Recommendations

For manufacturers of body piercing equipment:

In manufacturing piercing equipment, comply with the EU Nickel Directive [94/27/EC, as amended]. The EU Directive requires that the rate of nickel release not exceed 0.2 micrograms per square centimeter per week for jewellery that are inserted into the human body or come in contact with the wound during the time the wound caused by the piercing is healing. Types 304L and 316L are examples of common materials that would meet these requirements. Surgical stainless steels would also meet these requirements.

Also comply with the EU Nickel Directive in manufacturing jewellery articles for use once pierced wounds have been healed. The EU Directive requires that the rate of nickel release for jewellery that comes into direct and prolonged skin contact not exceed 0.5 micrograms per square centimetre per week.
For providers of body piercing services:
Check that your piercing equipment, including the studs, are an appropriate grade of stainless steel. Refer to the product literature from the manufacturer of your equipment for information on the materials used.

Advise consumers to select pierced jewellery articles for wear, once initial pierced wounds have healed, that comply with the EU Directive.

For consumers:
If performing the piercing yourself or at home, check that your piercing equipment is an appropriate grade of stainless steel. If having the piercing performed in a shop or doctor’s office, ask the practitioner about the materials present in the piercing equipment.

When purchasing items like rings, bars, studs, and other objects for body wear, inform yourself of the materials used. If you are unsure whether a jewellery article for a piercing would be legal for sale in the European Union, ask whether there is nickel in the surface that will be in contact with the skin and, if so, whether it has been covered by a durable protective coating. Note that in inexpensive jewellery, gold plating will be very thin and soft and may not provide effective or long-lasting protection from the underlying nickel.

If a salesperson of non-precious pierced jewellery is not able to confirm whether an article would be legal for sale in the European Union, it becomes a question of judgement as to whether the article should be purchased and worn. If the article is likely to be worn either by yourself or a person known to be allergic to nickel then the appropriate response will probably be ‘no’.

Nickel Institute policy and practice
As part of the Nickel Stewardship programme, the Nickel Institute proactively engages with relevant associations such as the Council for Responsible Jewellery Practices, and with retailers such as Wal-Mart, to educate and communicate information about the general topic of nickel allergic contact dermatitis.

Much research and peer review work has been undertaken in collaboration with the industry about the general topic of nickel allergic contact dermatitis. Current work includes the investigation of alternative nickel surface formulations that would pass the EU Nickel Directive standard for nickel release while preserving the aesthetic look of nickel.

The Nickel Institute participates in CEN (the European standards organisation) work on the standards associated with the implementation of the Nickel Directive. The Nickel Dermal Advisory Panel (NDAP) is an international group of dermatologists that advise the Nickel Institute on matters of dermal research and clinical practice.

The Nickel Institute will work with any individual, industry sector, dermatological association or government agency to increase knowledge, improve practices or educate consumers. The Nickel Institute supports the use of regulation similar to that that exists in the European Union to reduce direct and prolonged skin contact with high nickel release materials in consumer goods.

Useful reference information
Further detailed information is contained in ‘Nickel Allergic Contact Dermatitis - Statement of Position of the Member Companies of the Nickel Institute’ and ‘Nickel Allergic Contact Dermatitis – Basic Science Paper’, available on our website www.nickelinstitute.org.

If you have any questions or inquiries regarding the use of nickel in the manufacture of jewellery or consumer items, please direct them to Peter Cutler at: pcutler@nickelinstitute.org.

www.nickelinstitute.org
Last updated in June 2009