



Position Statement on Nickel Sensitivity (Approval by the Board of Directors: August 22, 2015)

The American Academy of Dermatology (AAD) recommends public awareness and education of nickel sensitivity as a widespread public health concern. Nickel is one of the most common preventable causes of allergic contact dermatitis. Allergic contact dermatitis is a common cause of both pediatric and adult skin diseases including occupational skin disease. The AAD is committed to reducing nickel allergy by limiting exposure and by promoting public education.

Nickel prevalence in North America has risen significantly since the mid-1980s. The North American Contact Dermatitis Group reported that nickel sensitization rates increased from 15.5% in 2009-2010 to 18.5% in 2011-2012.¹ In 2008 Nickel was named the “Allergen of the Year” by the American Contact Dermatitis Society. Alarming, estimates suggest that 11 million children in the United States are affected with nickel allergy.²

Nickel can be found in common consumer products, such as jewelry (especially earrings), keys, jean buttons/studs, infant clothing snaps, and children’s toys. A consumer with prolonged skin exposure to this metal may develop intensely itchy rashes that persist. For many patients, allergy to nickel causes skin disease leading to disfigurement, sleep deprivation, and increased utilization of medical care including physician visits and prescription drugs. Nickel allergic consumers with repeated contact may experience a continuous dermatitis on critical body areas, which may be disabling and which may also generalize to extensive surfaces of the body. Estimates suggest that contact dermatitis, which includes nickel sensitization, accounts for approximately \$1.918 billion and affects nearly 72.29 million people³.

The AAD supports using both the safest and most appropriate materials in consumer products for many reasons, including avoidance of adverse health effects. If the use involves direct and prolonged contact with the skin, including body piercings, then only appropriate materials should be used to avoid nickel allergic contact dermatitis. It is the amount of nickel released from an article, not the fact that the article contains nickel, which determines the potential for causing nickel allergic contact dermatitis.

The European standard EN1811 measures the potential amount of nickel release under the conditions of direct and prolonged contact with the skin. Articles such as those used for earrings in children should not release more than 0.2 µg Ni/cm²/week (by EN1811 testing) to prevent children from becoming allergic to nickel or having a dermatitis reaction if they are already allergic to nickel. This nickel release rate is from the parts of earrings that are in contact with the skin and within the pierced part of the ear. Because it is the rate of release of nickel (and not nickel content itself) that is important and relevant in determining whether there is a risk for nickel allergic contact dermatitis, articles may contain nickel but not cause a dermatitis reaction. For example, high-quality “surgical” stainless steel (SS 316L), which contains 10-15% nickel and does not

release nickel more than 0.2 µg Ni/cm²/week (using EN1811 test), is therefore regarded as appropriate for use in articles in direct and prolonged contact with the skin.

References

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- ⁴ Johansen, J., Menné, T., Christophersen, J., Kaaber, K. and Veien, N. (2000), Changes in the pattern of sensitization to common contact allergens in Denmark between 1985–86 and 1997–98, with a special view to the effect of preventive strategies. *British Journal of Dermatology*, 142: 490–495.
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- ⁵ Goldenberg, A., Vassantachart, J., Lin, E., Lampel, H., and Jacob, S. (2015), Nickel Allergy in US Adults – A 53-Year Review of Indexed Cases. *Dermatitis*, Epub ahead of print.
- ⁶ Thyssen JP. Nickel and cobalt allergy before and after nickel regulation--evaluation of a public health intervention. *Contact Dermatitis*. 2011 Sep;65 Suppl 1:1-68. doi: 10.1111/j.1600-0536.2011.01957.x. PMID: 21777241
- ⁷ Jensen, P., Hamann, D., Hamman, C., Jellesen, M., Jacob, S., Thyssen, JP. Nickel and Cobalt Release From Children's Toys Purchased in Denmark and the United States. *Dermatitis*. Vol 25, No 6, November/December 2014.

This statement reflects the best available data at the time the report was prepared. However, results of future studies may require alteration of the conclusions or recommendations in this report.

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