

Children Toys As a Cause of Nickel Allergy Should Be Explored

To the Editor:

It was with great interest that I read the article by Hsu and Jacob.¹ Nickel allergy is prevalent in Western societies, as indicated by recent multicenter patch-test data^{2,3} and general population data.^{4,5} Despite the decrease of nickel allergy in ear-pierced Danish women following the 1990 Danish nickel regulation,⁶ nickel exposure (as well as allergy) remains prevalent, as illustrated by a Danish dimethylglyoxime (DMG) test study in which about 20% of investigated items gave positive results.⁷

A search for new sources of nickel exposure is of great importance when one tries to address and limit the nickel problem. As demonstrated by Hsu and Jacob, toys that release nickel in sufficient amounts may result in nickel allergy and dermatitis. A recent Italian study analyzed 52 toy makeup products and found that nickel was present at more than 5 parts per million (ppm) in 27% of these products.⁸ Basketter and colleagues investigated safe levels of nickel in consumer products and found that products should not contain more than 5 ppm of nickel and that the ultimate target level should be 1 ppm.^{9,10} I recently analyzed a mouth harmonica and other metallic musical instruments purchased in a toy store with the DMG test and found several positive reactions. The possibility has been raised that an incomplete skin barrier function in infants and young children may increase the penetration of chemicals.¹¹ Thus, toys as a source of nickel allergy should be carefully followed in the future, and further exposure studies ideally should be performed.

Acknowledgments

Financial disclosures of author and reviewer(s): None reported.

The author has no conflicts of interest to disclose.

Jacob Pontoppidan Thyssen, MD, PhD

National Allergy Research Centre

Department of Dermato-Allergology

Gentofte Hospital, University of Copenhagen, Denmark

References

1. Hsu JW, Jacob SE. Children's toys as potential sources of nickel exposure. *Dermatitis* 2009;20:349–50.
2. Rietschel RL, Fowler JF, Warshaw EM, et al. Detection of nickel sensitivity has increased in North American patch-test patients. *Dermatitis* 2008;19:16–9.
3. Uter W, Hegewald J, Aberer W, et al. The European standard series in 9 European countries, 2002/2003—first results of the European Surveillance System on Contact Allergies. *Contact Dermatitis* 2005; 53:136–45.
4. Thyssen JP, Linneberg A, Menne T, et al. The epidemiology of contact allergy in the general population—prevalence and main findings. *Contact Dermatitis* 2007;57:287–99.
5. Thyssen JP, Linneberg A, Menne T, et al. Contact allergy to allergens of the TRUE-test (panels 1 and 2) has decreased modestly in the general population. *Br J Dermatol* 2009;161:1124–9.
6. Thyssen JP, Johansen JD, Menne T, et al. Nickel allergy in Danish women before and after nickel regulation. *N Engl J Med* 2009;360: 2259–60.
7. Thyssen JP, Menne T, Johansen JD. Nickel release from inexpensive jewelry and hair clasps purchased in an EU country—are consumers sufficiently protected from nickel exposure? *Sci Total Environ* 2009; 407:5315–8.
8. Corazza M, Baldo F, Pagnoni A, et al. Measurement of nickel, cobalt and chromium in toy make-up by atomic absorption spectroscopy. *Acta Derm Venereol* 2009;89:130–3.
9. Basketter DA, Briatico-Vangosa G, Kaestner W, et al. Nickel, cobalt and chromium in consumer products: a role in allergic contact dermatitis? *Contact Dermatitis* 1993;28:15–25.
10. Basketter DA, Angelini G, Ingber A, et al. Nickel, chromium and cobalt in consumer products: revisiting safe levels in the new millennium. *Contact Dermatitis* 2003;49:1–7.
11. Hostynek JJ. Factors determining percutaneous metal absorption. *Food Chem Toxicol* 2003;41:327–45.

From the National Allergy Research Centre, Department of Dermato-Allergology, Gentofte Hospital, University of Copenhagen, Copenhagen, Denmark.

Reprints not available.

DECKER



DOI 10.2310/6620.2010.10020

© 2010 American Contact Dermatitis Society. All Rights Reserved.