

Occupational Allergens (1/05)

Hamann CP, Rodgers PA, Sullivan KM. Occupational allergens in dentistry. *Curr Opin Allergy Clin Immunol* 2004;4:403–409.

Dental health-care personnel (DHCP) and their physicians frequently do not recognize, accurately diagnose or appropriately manage occupational allergies. Dental allergen identification, diagnostics and practical avoidance strategies are summarized in this review. Methacrylates in bonding agents and resins; natural rubber latex (NRL) proteins in latex gloves; accelerators and antidegradants in natural and synthetic rubber gloves; and glutaraldehyde in disinfectants are the predominant allergens in dentistry. Reactions range from cell-mediated contact allergy to urticaria and occupational asthma. **Despite recent advances in allergen characterization and increased awareness of selected allergens, treatment of occupational allergies can be improved. Better information and improved cooperation between dental workers and their clinicians is needed.**



DIS Comment: In addition to providing an excellent review of common occupational allergens in dentistry, the article also discusses strategies to successful allergy management. The article emphasizes that any DHCP experiencing occupationally-related dermatitis or allergy symptoms needs to obtain a definitive diagnosis by a qualified healthcare professional (e.g., dermatologist, allergist) to determine the specific etiology and appropriate treatment, as well as work restrictions and accommodations where applicable. Once diagnosed, DHCP must manage occupational allergies effectively. As with any allergy, reducing exposure and avoiding the allergen are primary. Anyone who is allergic to latex will need to take precautions at work and outside the workplace as latex is used in a variety of other common products in addition to gloves. DHCP with type IV contact allergy to methacrylates must avoid contact with dental bonding agents. The authors of the article recommend developing “no-touch” techniques and selecting products that prevent contact as being essential, however gloves that would adequately protect DHCP from these agents are not very flexible and can interfere with performing common dental tasks. Furthermore, given the diverse selection of dental materials on the market, DHCP should consult glove manufacturers regarding the chemical compatibility of glove materials. DHCP with type I NRL allergy must wear nonlatex gloves (e.g., nitrile, neoprene, butadiene, synthetic polyisoprene, polyvinyl chloride, polyurethane, styrene-based copolymers). Also, because the NRL proteins are attached to glove powder, dental practices must eliminate or minimize the use of powdered latex gloves to reduce environmental NRL allergen loads. Numerous studies have shown that work areas where only powder-free, low-allergen latex gloves are used demonstrate low or undetectable amounts of latex allergy-causing proteins¹⁻⁴ and fewer symptoms among health-care personnel related to natural rubber latex allergy. If DHCP have a type IV allergy to thiurams or carbamates they should select gloves made of polyvinyl chloride, polyurethane, or styrene-based copolymers.

Selected References

1. Tarlo SM, Sussman G, Contala A, Swanson MC. Control of airborne latex by use of powder-free latex gloves. *J Allergy Clin Immunol* 1994;93:985–989.
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4. Baur X. Measurement of airborne latex allergens. *Methods* 2002;27:59–62.