Natural Rubber Latex Allergy

AAE Position Statement

About This Document
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Natural rubber latex (NRL) is manufactured from the sap of the Havea brasiliensis rubber tree. During the production of commercial latex, several chemicals are added. The proteins found in natural rubber or the chemicals in commercial latex can cause some individuals to have an allergic reaction to latex products.

Three types of reactions can occur with the use of natural rubber latex. Irritant contact dermatitis is the most common reaction to latex products. It is caused by the chemicals added to NRL during manufacturing. The chemicals directly injure the skin resulting in redness, swelling, dryness, itching, and burning. This reaction can also occur from the powder added to latex gloves. Irritant contact dermatitis is not a true allergy, and the symptoms typically disappear within several hours after removal of the stimulus. Allergic contact dermatitis is a delayed type of immunological response resulting from the chemicals used in the manufacturing of the latex product. These chemicals penetrate the skin resulting in an allergic reaction. Symptoms such as redness and swelling occur between 24–48 hours after exposure and can last for several days. This delayed type of allergic response accounts for approximately 80 percent of the true allergic reactions to latex. Latex allergy is an immediate hypersensitivity response to proteins found in natural rubber latex. The response begins within minutes of exposure to the allergen (protein) and can take the form of an urticaria (hives) if exposure is through the skin, or respiratory symptoms (wheezing, runny nose, sneezing) if the allergen is inhaled. In some cases, an anaphylactic reaction (facial swelling, difficulty in breathing, and a severe drop in blood pressure) may occur if the protein is introduced directly into the blood. This immediate type of hypersensitivity or true allergic reaction to NRL is most likely to be found in those individuals who have multiple allergies and are frequently exposed to NRL products. Because of a similarity of proteins, individuals allergic to latex may also be sensitive to foods such as chestnuts, bananas, kiwi fruit, and avocados. Patients should be informed of this potential cross allergenicity.

The incidence of hypersensitivity reactions to natural rubber latex has risen significantly since the late 1980s. The Food and Drug Administration attributes this rise to a ten-fold increase in the use of latex gloves. While only approximately 1–6 percent of the general population is allergic to latex, the prevalence in health care workers and others whose occupations involve exposure to rubber products is around 10 percent. Children and adolescents with spina bifida have an increased incidence because of their frequent exposure to latex products from birth. As a result of the chemical similarity between natural rubber and gutta-percha, the material used in filling the root canal, questions have arisen concerning its use in patients with a history of natural rubber latex allergy. To date, there's only one report of a supposed allergic reaction to gutta-percha. There is, however, no definitive proof that the patient had a true allergic reaction to the gutta-percha. In patients with a true immediate hypersensitivity to natural rubber latex, a consultation with the patient's allergist should be made prior to initiating the obturation phase of treatment. The contents of dental gutta-percha and the technique to be used should be discussed with the physician. Alternatives including non-gutta percha based obturation materials and in rare cases, extraction, may need to be considered. If the decision is made to use gutta percha, care should be taken to avoid extrusion into the periapical tissues to prevent possible allergic reaction.

A complete medical history and dental history should include identifying patients with a history of latex allergy or those at high risk for being allergic. Precautions must be taken to safely treat these patients. "Hypoallergenic" gloves and rubber dams in which the manufacturer has removed most of the allergy-causing chemicals can be substituted. If, however, the patient has an immediate type of allergy to the proteins found in natural latex, vinyl or nitrile rubber gloves and dams must be used. In addition, thought should be given to treating the patient as the first appointment in the day in order to minimize exposure to airborne particles of latex. Special latex-free rooms may be necessary for the most severe cases.

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