

## Latex Allergies & Latex-Safe Protocol

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## LATEX ALLERGIES

The term "latex" can refer to synthetic or natural rubber. In dentistry and medicine, however, the use of the term latex generally is used to refer to products made from the milky fluid of the rubber tree *Hevea brasiliensis*.

Latex allergies are caused by continuous contact with natural rubber latex products. It is thought that the reason why so many individuals have developed this allergy in the last few years is a combination of factors. Among them are changes in the manufacturing process coupled with a massive increase in world-wide demand for latex gloves and condoms.

A natural rubber latex allergy can cause an apparently harmless reaction after exposure once, and escalate into a life-threatening allergic response after the individual is subsequently exposed. The key to preventing life-threatening exposure situations is awareness. Reactions to everyday latex items such as balloons, rubber gloves, and elastic may help a person to know that they are latex sensitive. Still, latex allergies often go unrecognized.

Because a variety of latex products fill the dental office, it is essential that dental health care professionals are aware of the warning signs, and keep a watchful eye for those signs in both their patients and themselves. As healthcare professionals increase their use of latex gloves and other latex products, they place themselves and their patients at a greater risk of developing a hypersensitivity to latex. Many people who have a life threatening anaphylactic reaction to latex used during a medical procedure have had a previous reaction to a latex product in a dental office (i.e. a dental dam).

### *TYPES OF LATEX REACTIONS*

Two main types of allergic reactions are associated with latex:

Type 4 Reactions – "contact dermatitis" are delayed reactions, thought to be caused by the chemicals that are added to the latex during processing. Reactions can take up to 2 days to develop.

Symptoms: swelling and redness of the skin, cracked, itchy and dry skin.

Type 1 Reactions – Appear to be caused by the proteins found in natural rubber latex. This is an immediate sensitivity, which generally takes place within seconds to minutes after exposure. In some cases these reactions can cause life-threatening anaphylaxis, an intense allergic reaction that leads to low blood pressure, cardiac arrhythmia, difficulty in breathing and even death.

Symptoms: hives, wheezing, runny nose, itchy eyes, tingling of the lips of tongue, swelling of the eyelids, light headedness and difficulty breathing.

### *HIGH RISK GROUPS*

Individuals in these groups have an above average risk of developing a sensitivity to latex, and should be watched very carefully for symptoms of a reaction: Spina bifida patients, atopic patients, latex industry workers, patients who have undergone multiple surgeries, and healthcare professionals (e.g. dentists, dental assistants, dental therapists, dental hygienists, surgeons, nurses).

### *COMMONLY USED NATURAL RUBBER LATEX PRODUCTS*

These everyday, household items contain latex and can commonly cause reactions in latex sensitive individuals:

Balloons, elastics, toys, infant pacifiers, condoms, goggles, diapers, basket balls, bowling balls, diaphragms, foam, rubber gloves, bathing caps, rubber backed rugs.

### *LATEX DENTAL MATERIALS*

These products are made from latex and when used, the patient and dental healthcare professional should be watched for reactions:

Gloves, tubing, rubber dams, stethoscope tubing, blood pressure cuffs, endodontic points, prophylaxis cups, nose pieces, bite blocks, rubber stoppers, gutta percha, ortho elastics.

### *DIAGNOSIS AND TREATMENT*

Those individuals who suspect a latex allergy should consult a doctor for diagnosis and advice. Patients and healthcare workers who appear to be allergic to latex should be referred to an allergist or immunologist for evaluation. The only known treatment is avoidance of latex products, but the following precautions should be taken:

- Wear a Medic Alert Bracelet.
- Learn to administer epinephrine (adrenaline).
- Prior to any doctor or dental appointments warn the office of your allergy.
- Consult your physician about allergy-reducing medications.
- Be aware that latex gloves are often used in food services and can transfer allergic proteins to food, causing allergic reactions.
- Keep in mind that sensitivity to latex is cumulative. Each time an individual is exposed, the worse their reaction will be.

### *WORKER'S RIGHTS/EMPLOYERS RESPONSIBILITIES RELATIVE TO LATEX ALLERGIES*

Latex allergies are becoming increasingly common and concerns are being raised about the rights of dental assistant who have latex allergies.

- Provide non-latex gloves to the worker with an allergy to latex.
- Develop a latex-safe work area for dental assistants with confirmed, severe latex allergies. Ensure, as far as possible that the allergic worker is not exposed to the latex ingredients that they are sensitive to (i.e. airborne powders released from latex gloves).
- Offer alternative work duties (i.e. reception) to dental assistants who have developed extreme sensitivities to latex (where their normal work duties involve necessary exposure to latex products – such as chairside work).
- The Saskatchewan Workers' Compensation Board will not replace lost wages due to a latex allergy. The board has ruled that dental assistant's skills are transferable, and therefore they can be expected to find employment in other areas where contact with latex is not a problem.

## LATEX SAFE PROTOCOL

The adoption of standard infection control precautions has caused an increase in the incidence of latex allergies. These latex allergic reactions can be life-threatening. The incidence of latex hypersensitivity increases with repeated exposure to latex. Recognizing that a latex-free dental clinic is virtually impossible given the large number of products containing latex, the goal of each dental practice should be to limit the latex exposure of clients and staff.

1. Minimize exposure to latex by using non-latex disposable gloves, utility gloves and dental dam.
2. When possible, buy latex free products.
3. Refer clients and students with a suspected latex allergy for latex allergy testing.
4. Use Ultracaine local anesthetic if local anesthesia is indicated.

### *IDENTIFICATION OF CLIENTS AT RISK*

Through health history questionnaire, clients at risk for allergic reactions to latex can be identified. The following are considered to be at risk:

1. Clients who have experienced rash, itching, swelling, nose or eye irritation, or shortness of breath after contact with any latex product (gloves, rubber dam, condoms, erasers, balloons).
2. Clients with spina bifida, congenital urological conditions, eczema, banana, chestnut or avocado allergies.
3. Clients with frequent or prolonged hospital treatment or multiple surgeries.
4. Clients with frequent occupational exposure to latex products.

### *CONFIRMATION OF ALLERGY*

Clients with suspected allergies should be referred for testing and diagnosis. Until a definitive diagnosis is made, treatment should be performed using Latex Allergy Protocols.

For clients with confirmed allergies, the Latex Allergy Protocol must be followed.

### *PRECAUTIONS FOR THE LATEX SENSITIVE EMPLOYEE*

1. Refer the employee to their physician for allergy testing to confirm if they are experiencing a latex sensitivity or a chemical contact dermatitis.
2. Create a latex reduced work environment
  - a) Ensure thorough hand rinsing techniques and proper infection control protocol are followed to minimize a contact dermatitis
  - b) Diminish future reactions by not wearing gloves for longer than needed periods of time

- c) Ensure good and frequent housekeeping practices exist to remove latex containing dust from the workplace (upholstery, carpets, ventilation ducts and plenums)
  - d) Change filters and vacuum bags frequently in latex contaminated areas
  - e) Provide low protein, powder-free gloves to employees. Be aware that hypoallergenic latex gloves do not reduce the risk of latex allergy but may reduce reactions to chemical additives
  - f) Inform employees to avoid using oil-based hand creams or lotions (jojoba, some aloe vera, palm oil, coconut oil, lanolin, petrolatum products, etc) unless they have been shown to reduce latex related problems and do not degrade the molecular structure of the latex and synthetic glove material. Glycerine and most water soluble based hand products are acceptable.
3. Once an employee has a confirmed latex allergy diagnosis, the employer has an obligation to modify the work environment, within reasonable limits, to minimize the employee's future exposure to the allergen. Modifications to the work environment might include any or all of the following:
- a) Initiating the above steps
  - b) Providing alternative gloves that are free of the offending chemical or allergen
  - c) Providing glove liners under the latex gloves, if latex gloves cannot be avoided
  - d) Reassigning the employee to areas where no latex gloves are used (if possible)
  - e) Having injectable epinephrine on hand
  - f) Investigating alternative causative agents in the work such as soaps, detergents, preservatives, colorants and disinfectants

*PRECAUTIONS FOR THE LATEX SENSITIVE PATIENT*

The best precaution is to avoid exposing the patient to natural latex products.

1. Take a thorough medical history
2. Refer the patient to see their physician for latex sensitivity testing
3. Ensure the patient's chart indicates "latex sensitivity"
4. A medical emergency kit with non latex airway bags, mask, bandages and tape should be available
5. Place visible signs indicating "latex sensitive" in the operatory area
6. Schedule latex sensitive patients as the first patient of the day in order to minimize their exposure to airborne latex particles
7. Use non-latex devices (gloves, dams, etc)
8. Medication vials often contain rubber plugs. The rubber plug may need to be removed prior to inserting the needle in the bottle. Ampoules are a safer choice.
9. Glass syringes are preferred over plastic or pre-filled or single use syringes since the plunger may contain rubber.
10. Some Blood pressure cuffs, stethoscope tubing and dental chair coverings often contain natural rubber products. Simply covering the articles with cloth can minimize latex exposure.
11. If a reaction does occur, discontinue treatment immediately and observe the patient for at least 20 minutes. Medical intervention may be needed.

Gloves	
Latex Gloves	<ul style="list-style-type: none"> <li>• Use vinyl, nitrile, neoprene, polymer gloves</li> <li>• Allerderm (800-365-6868) - Nitrile, vinyl</li> <li>• Kimberly Clark (800-524-3577) - Safeskin</li> <li>• Ammex (800-274-7354) - Nitrile, vinyl</li> <li>• Ansell (800-321-9752) - Dermaprene, Allergard</li> <li>• ECI Medical Technologies (800-668-5289) - Elastyfree, Elastylite</li> <li>• Medline (800-633-5463) - Maxxim Sensicare, Tru-Touch</li> </ul>

	<ul style="list-style-type: none"> <li>• Best (800-241-0323) - N-DEX nitrile, RealFeel Vinyl</li> <li>• Regent (800-843-8497) - Neotech, Skinsense</li> <li>• Smart Practice (800-522-0800) - QualiTouch nitrile, Vinylite vinyl</li> <li>• Microflex (800-876-6866) - FreeForm, Supreno</li> <li>• Top Quality Mfg. Inc. (800-483-8559)</li> </ul>
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Dental Products	
Anesthetic Cartridges	<ul style="list-style-type: none"> <li>• Septodont, Inc (800-872-8305)- latex-free dental cartridges</li> <li>• Use glass ampule-based anesthetics with latex-free syringe.</li> </ul>
Bitewing Tabs	<ul style="list-style-type: none"> <li>• Paper loops</li> <li>• Crosstex International (888-276-7783)</li> </ul>
Dental Dam	<ul style="list-style-type: none"> <li>• Hygenic (800-321-2135)</li> <li>• Patterson (800-873-7683)</li> </ul>
Home Care Products Toothbrush Handles Irrigation Tips Gum Stimulators	<ul style="list-style-type: none"> <li>• Colgate (800-226-5428)</li> <li>• Crest (800-543-2577)</li> <li>• Butler (800-528-8537)</li> <li>• Oral-B (800-566-7252)</li> <li>• Teledyne Water Pik (800-525-2020)</li> <li>• Johnson &amp; Johnson (800-526-3967)</li> </ul>
Impression Material	<ul style="list-style-type: none"> <li>• Parkell (800-243-7446) - Blu-Mousse</li> <li>• GC America (800-323-7063) - Exaflex</li> <li>• Alginate, Impergum</li> </ul>
Instrument Bands	<ul style="list-style-type: none"> <li>• Dux Dental (800-833-8267) - Code Rings</li> </ul>
Model Former (Rubber Base) Mixing Bowls	<ul style="list-style-type: none"> <li>• Hygenic (800-321-2135)</li> </ul>
Orthodontic Elastics	<ul style="list-style-type: none"> <li>• Use ligature wire ties</li> <li>• GAC (800-645-5530)</li> <li>• 3M Unitek - Alastik</li> <li>• Glenroe Technologies (800-237-4060) - Nonlatex elastics</li> </ul>
Polishing Points/Wheels Prophy Cups	<ul style="list-style-type: none"> <li>• Young Dental (800-325-1881) disposable prophy cups and angles</li> <li>• Dentamerica (626-912-1388) - disposable</li> <li>• Dentsply (800-877-0020) - Nupro disposable</li> <li>• Sultan Dental (800-238-6739) - Upgrade disposable</li> <li>• Butler (888-777-3101) - disposable</li> </ul>

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|  | <ul style="list-style-type: none"><li>• Prophy brushes</li></ul> |
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#### Laboratory Cases

Advise the laboratory of the latex-allergy status of your patient when sending the case out, but be aware that materials returned from a dental laboratory may have been handled with latex gloves. Wash all prosthetics and appliances thoroughly with soap and water before insertion in a latex-allergic patient.

#### All Dental Materials

To prevent the transfer of latex allergens onto nonlatex products, DO NOT handle products while wearing latex gloves or with unwashed hands after wearing latex gloves. DO NOT store nonlatex products with natural rubber latex products. DO NOT leave dental materials and instruments exposed to airborne allergens and latex glove powder if they are to be used on a latex-allergic patient.

### *LATEX WEBSITES THAT PROVIDE GREAT REFERENCE MATERIALS*

#### Dealing with Latex Allergies at Work

[www.worksafefbc.com/pubs/brochures/howto/latex/asp](http://www.worksafefbc.com/pubs/brochures/howto/latex/asp)

#### Latex Allergy Links

[www.latexallergylink.tripod.com](http://www.latexallergylink.tripod.com)

#### ALERT – American Latex Allergy Association

[www.execpc.com/~alert](http://www.execpc.com/~alert)

#### Anaphylaxis – Latex Allergy

[www.user.globalnet.co.uk/~aair/latex.htm](http://www.user.globalnet.co.uk/~aair/latex.htm)