

## Latex

[Non-Latex Dental Dams](#)

[Latex-Free Anesthetic Cartridges](#)

[Latex Paint Safety](#)

[Stamping Latex Allergy Questions on the AF Form 696](#)

[Treating a Latex-allergic Patient during Endodontic Therapy](#)

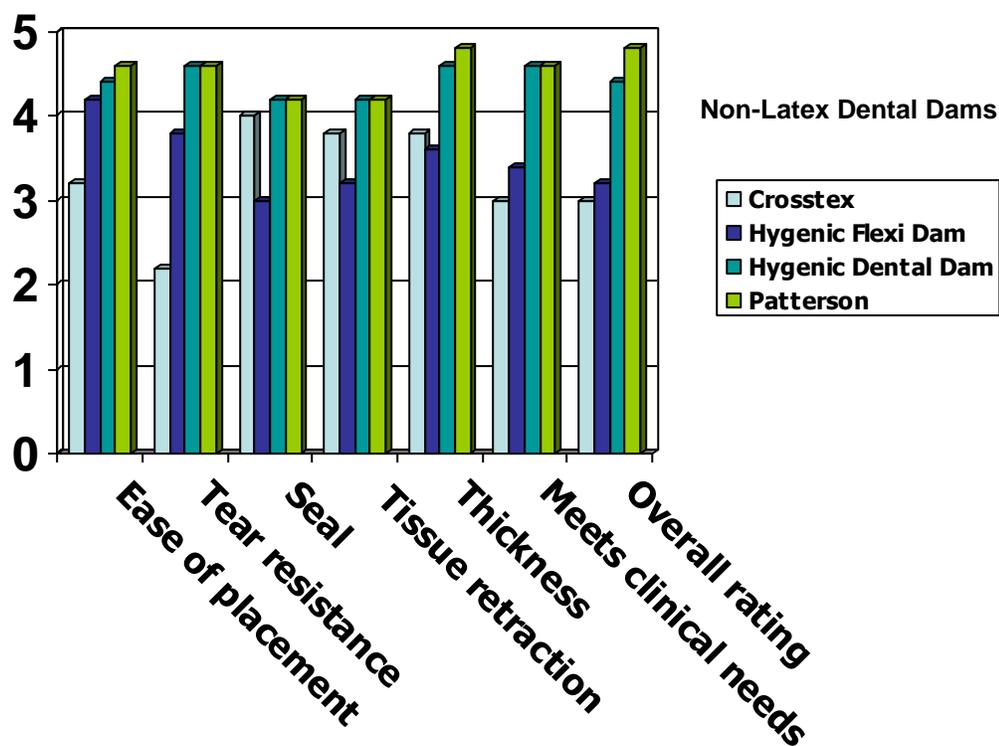
["Latex Free" or "Latex Safe"?](#)

### Non-Latex Dental Dams (11/09)

**Question:** Does DECS have any information about non-latex (latex-free) dental dams?

**Answer:** DECS recently completed a limited clinical-user evaluation on four brands of non-latex dental dams (Table 1). Twenty dentists (five for each brand of non-latex dental dam) evaluated the handling, clinical acceptability, ease of use, and effectiveness of the selected products. To organize the data for comparison purposes, numeric scores were assigned to the clinical evaluator responses (5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree). Averages for each question were obtained and the findings are summarized in Figure 1.

**Figure 1: Comparison of Four Non-Latex Dental Dams (n=5)**



All of the evaluators except one were currently using latex dental dams; the majority were using either a medium or heavy dam (Thin: 5%; Medium: 55%; Heavy: 35%; Extra Heavy: 5%). The non-latex dental dams used during this evaluation were only available in medium weight. One interesting finding was that two evaluators reported that the non-latex dental dams that they were evaluating (Hygenic® Flexi Dam® non latex and Patterson Dental Dam Non Latex) dissolved when using chloroform during an endodontic retreatment procedure. Currently there is nothing in the published literature documenting this and chloroform was not used by any evaluators using the Crosstex brand non-latex dental dam.

The results of this limited clinical-user evaluation show that the non-latex Hygenic® Dental Dam and Patterson Dental Dam were preferred by the clinical evaluators. Because of the small sample size a statistical analysis was not performed. As with any product, decisions regarding preference and use can be dependent upon the individual practitioner’s style and technique.

Dental gloves and dams are in very close contact with peri-oral skin of patients during dental treatment and can cause allergic reactions in the skin or oral mucosa.<sup>1,2</sup> While much has been published on occupational reactions of health-care personnel (HCP) to latex gloves, several cases of reactions to latex dams have been published ranging from localized skin or mucosal reactions<sup>2,3</sup> to severe anaphylaxis.<sup>4</sup> When treating a latex-allergic or hypersensitive patient, non-latex treatment products, including a latex-free dental dam, must be used. Additionally, any latex items that cannot be removed from the treatment room should be covered.<sup>5,6</sup> [Click here](#) for more information.

Because of the role of glove powder in exposure to latex protein, the National Institute for Occupational Safety and Health (NIOSH) recommends that if latex gloves are chosen, HCP should be provided with reduced-protein, powder-free gloves.<sup>7</sup> Low protein latex dental dams are also available and although there is no formal recommendation, DHCP may want to consider using them to reduce patient exposure to latex allergens.

It is not mandatory to use non-latex dental dams for all patients. However, USAF dental clinics are required to provide a latex-safe environment for patients and dental health-care personnel with latex allergies and therefore, would need to have non-latex dental dams (and other non-latex treatment products/equipment) available to use when a patient presents with a latex allergy. This limited clinical evaluation should provide dental clinics with several options for non-latex dental dams. Government pricing and contact information for the non-latex dental dams used during the DECS evaluation are listed in Table 1.

**Table 1: Non-Latex Dental Dams Used During the DECS Evaluation**

Product* (Item Number)	Manufacturer/ Distributor	Quantity (sheets/box)	Price		Govt Cost/Unit <sup>†</sup> (\$)
			Suggested Retail <sup>†</sup>	Govt <sup>†</sup>	
<b>NON-LATEX Dental Dam</b>  (#19500)	Crosstex International 10 Ranick Road Hauppauge, NY 11788 (888) 276-7783 (631) 582-6777 (631) 582-1726 FAX <a href="http://www.crosstex.com">www.crosstex.com</a>	15	\$16.95	\$9.95	0.66
<b>Hygenic® Flexi Dam® non latex</b>  (#H09946)	Coltene/Whaledent Inc. 235 Ascot Parkway Cuyahoga Falls, OH 44223 (330) 916-8800 (330) 916-7077 FAX <a href="http://www.coltene.com">www.coltene.com</a>	30	\$39.00	\$21.45	0.72
<b>Hygenic® Dental Dam non latex</b>  (#H09105)	Coltene/Whaledent Inc. 235 Ascot Parkway Cuyahoga Falls, OH 44223 (330) 916-8800 (330) 916-7077 FAX <a href="http://www.coltene.com">www.coltene.com</a>	15	\$29.46	\$16.20	\$1.08
<b>Patterson Dental Dam Non Latex</b>  (#089-2307)	Patterson Dental 1031 Mendota Heights Rd St. Paul, MN 55120 (800) 873-7683 <a href="http://www.pattersondental.com">www.pattersondental.com</a>	15	\$17.25	\$15.15	\$1.01

\*6" x 6" dental dams were used during this evaluation.

<sup>†</sup> Prices may vary if purchased from a distributor or in quantities greater than one box.

**References**

1. Smart ER, Macleod RI, Lawrence CM. Allergic reactions to rubber gloves in dental patients: report of three cases. *British Dental Journal* 1992;172:445–447.
2. Kosti E, Lambrianidis T. Endodontic treatment in cases of allergic reaction to rubber dam. *J Endod* 2002;28:787–789.
3. Chin SM, Ferguson JW, Bajurnows T. Latex allergy in dentistry. Review and report of case presenting as a serious reaction to latex dental dam. *Aust Dent J* 2004;49:146–148.
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5. American Dental Association Council on Scientific Affairs. The dental team and latex hypersensitivity. *J Am Dent Assoc* 1999;130:257–264.
6. CDC. Guidelines for infection control in dental health-care settings – 2003. *MMWR* 2003; 52(No. RR-17):1–66.
7. CDC. National Institute for Occupational Safety and Health. NIOSH Alert: preventing allergic reactions to natural rubber latex in the workplace. Cincinnati, OH: US Department of Health and Human Services, Public Health Service, CDC, National Institute for Occupational Safety and Health, 1997.

[Return to Top](#)

**Latex-Free Anesthetic Cartridges (1/06)**

**Question:** Are latex-free anesthetic cartridges available for use when treating a latex-allergic patient?

**Answer:** Until recently, all local anesthetic cartridges contained latex in the stopper and/or the diaphragm. Even though there were no reports of studies or cases in which a documented allergy was due to the latex component of the dental anesthetic cartridge, it was recommended to avoid the use of latex-containing products if treating a patient with a latex allergy (e.g., using a single-use glass ampule of local anesthesia and injecting with a latex-free syringe). Septodont recently introduced the first full line of dental local anesthetic products with 100% latex-free enclosures. The table below lists several products available from Septodont. For additional information on latex-free anesthetic cartridges, contact Septodont at (800) 872-8305, (302) 328-5653 FAX, or [www.septodontusa.com](http://www.septodontusa.com).



Brand Name	Active Ingredient(s)
Septocaine®	4% Articaine hydrochloride with 1:100,000 epinephrine
Lignospan® Standard	2% Lidocaine hydrochloride and 1:100,000 epinephrine
Lignospan® Forte	2% Lidocaine hydrochloride and 1:50,000 epinephrine
Scandonest® Plain	3% Mepivacaine hydrochloride
Scandonest® 2% L	2% Mepivacaine hydrochloride and 1:20,000 levonordefrin

[Return to Top](#)

**Latex Paint Safety (10/04)**

**Question:** We are in the process of repainting our dental clinic. Can we use latex paint in our “latex-safe” operatory?

**Answer:** According to the American Academy of Allergy Asthma and Immunology and the American Latex Allergy Association, most latex paints are not a problem since they do not contain natural latex. The type of latex found in latex paint is synthetic and is not the same type of latex (i.e., natural rubber latex) commonly found in consumer products or medical and dental supplies.



### Selected References

- American Academy of Allergy Asthma and Immunology. Tips to Remember: Latex Allergy. Available at: <http://www.aaaai.org/patients/publicedmat/tips/latexallergy.stm> . Accessed August 2011.
- American Dental Association. Oral Health Topics: Allergy to Latex Rubber. Available at: [www.ada.org/2523.aspx?currentTab=2](http://www.ada.org/2523.aspx?currentTab=2). Accessed August 2011.
- American Latex Allergy Association. Frequently Asked Questions: Does latex paint contain natural rubber latex (NRL)? Available at: [www.latexallergyresources.org/topics/FaqDetail.cfm?FaqID=18](http://www.latexallergyresources.org/topics/FaqDetail.cfm?FaqID=18). Accessed August 2011.

[Return to Top](#)

### Stamping Latex Allergy Questions on the AF Form 696 (Originally published in the Jan 1999 issue of InCONTROL)

**Question:** Our dental clinic is considering stamping the AF Form 696 (health history) with the question "Are you allergic to latex?" Is this a good practice?

**Answer:** This suggestion is similar to the one posted in SGDetails 98-2 regarding the medication Fen-Phen. The response to this question is the same. The medical-legal consultant does not recommend the practice of targeting a specific medication or allergy. The rationale is the potential legal liability if a provider singles out a specific drug, or allergy, but fails to ask about others. AF Form 696 addresses the issue of allergies, and it is the patient's responsibility to accurately answer all questions. I would recommend that all providers ask a question like "Do you have any problems or have you had any reactions to latex products?" Based on the response, the provider can further question the patient to focus on specific individual conditions. If the provider is suspicious, a referral to the appropriate Primary Care Manager is indicated. If the patient has a documented latex allergy, this should be documented in the remarks section of the AF Form 696. If the response is negative, document the remarks section with a statement such as "Patient denies latex sensitivity." AF Form 696 is not meant to be a comprehensive history but is meant to guide the provider during the initial interview. It is the responsibility of the provider to conduct a complete medical/dental history during the initial patient encounter and to provide appropriate referral when indicated.

[Return to Top](#)

### Treating a Latex-allergic Patient during Endodontic Therapy (Updated 7/08: Originally published in the Jan 2001 issue of InControl)

**Question:** How should a latex-allergic patient be treated when endodontic therapy is indicated?

**Answer:** In patients with a true immediate hypersensitivity to natural rubber latex, the dentist should consult with the patient's allergist prior to treatment. The physician, patient, and dentist should all be involved in any decisions made concerning the dental materials and techniques used in performing the endodontic treatment. With proper precautions, a patient with a history of latex allergy can safely receive endodontic treatment to save a tooth which might otherwise be lost.

The following guidelines should be followed when providing endodontic treatment to a latex-allergic patient. First, schedule the treatment for the first appointment of the day so that the room is as free as possible from airborne allergens. Naturally, the treatment room should be set-up properly with latex-free equipment and materials (e.g., non-latex gloves and rubber dam must be used).

As a result of the chemical similarity between natural rubber and gutta-percha, questions have arisen concerning its use in obturating root canals in patients with a history of allergy to natural rubber latex. To date, there has been 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.

Kleier and Shibilski (J Endod 1999;25:825–828) note that there is no automatic cross-reactivity with gutta-percha in patients allergic to latex. Gutta-percha and the natural rubber latex found in gloves and rubber

dams are significantly different. Gutta-percha is derived from a different tree than natural rubber latex, but is a member of the same botanical family. Gutta-percha occurs naturally as 1,4-polyisoprene and is harder, more brittle, and less elastic than natural rubber. Modern gutta-percha contains only about 20% of the natural product. This difference in chemical make-up and manufacturing between natural rubber latex and gutta-percha results in minimal cross-reactivity.

If a patient were allergic to gutta-percha, what obturation material should be used? Theoretically, if gutta-percha could be completely confined within the root canal space and encased in sealer, no antigen would be present to react with the body's immune system. However, practical considerations have to take precedence over theoretical concerns when patient safety is involved. Other obturation materials, such as silver points and pastes can be used; however clinicians should discuss their disadvantages (compared to gutta-percha) with patients prior to treatment.

[Return to Top](#)

**"Latex Free" or "Latex Safe"?** (Originally published in the May 2003 issue of InCONTROL)

**Question:** Is it necessary to have a designated "latex-free" dental operatory to treat latex allergic patients?

**Answer:** Dental providers need to prevent latex exposure when treating latex-allergic patients. Persons with a latex allergy should not have direct contact with latex-containing materials and should be treated in a "**latex-safe**" environment. A dental operatory should be identified for treatment of latex-allergic patients, preferably closest to the entrance of the clinic. All latex-containing products should be identified and then removed (or covered if removal is not physically possible) from the operatory **before** patient treatment. Individuals also may be allergic to the chemicals used in the manufacturing of natural rubber latex gloves, as well as metals, plastics or other materials used in the provision of dental care. A thorough health history and appropriate avoidance of contact with potential allergens can minimize the possibility of adverse reactions. Considerations in providing safe treatment for patients with possible or documented latex allergy include (but are not limited to) the following:

- Screen all patients for latex allergy (e.g., health history, medical consultation when latex allergy is suspected).
- Educate all dental health-care personnel on the different types of reactions to latex (i.e., irritant contact dermatitis, allergic contact dermatitis, and latex allergy) and the risks that these pose for patient and staff.
- Consider sources of latex other than gloves. Dental patients with latex allergy histories may be at risk from a variety of dental products including, but not limited to, prophylaxis cups, rubber dams, and orthodontic elastics.
- Use only non-latex containing materials in the treatment environment as alternatives. Ensure a latex-safe environment or one in which no personnel use latex gloves and no patient contact occurs with other latex devices, materials, and products.
- Remove all latex-containing products from the patient's vicinity. Adequately cover/isolate any latex containing devices that cannot be removed from the treatment environment.
- Be aware that latent allergens in the ambient air can cause respiratory and/or anaphylactic symptoms in people with latex hypersensitivity. Therefore, it may be advisable to schedule patients with latex allergy as the first appointment of the day to minimize inadvertent exposure to airborne latex particles.
- Frequently clean all working areas contaminated with latex powder/dust.
- Frequently change ventilation filters and vacuum bags used in latex-contaminated areas.
- Have latex-free kits (e.g., dental treatment and emergency) available at all times.
- Be aware that allergic reactions can be provoked from indirect contact as well as direct contact (e.g., being touched by someone who has worn latex gloves). Hand hygiene, therefore, is essential.
- Communicate latex allergy (e.g., verbal instructions, written protocols, posted signage) to other personnel to prevent them from bringing latex containing materials into the treatment area.
- If latex-related complications occur during or after the procedure, manage the reaction and seek emergency assistance as indicated. Follow current medical emergency response recommendations for management of anaphylaxis.

## References

- American Dental Association Council on Scientific Affairs. The dental team and latex hypersensitivity. J Am Dent Assoc 1999;130:257–264.
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[Return to Top](#)