

### [Adverse Reactions to Resin-Based Direct Filling Materials](#) [1]

September, 2006    Shenzhen    China

September, 2009    Singapore    Singapore

Resin-based materials are used extensively in restorative and preventive dentistry. Because they do not completely polymerize, unreacted monomers can leach out of resin matrices with potential adverse effects for patients. The amount of leachable components is typically greater for uncured resins.

On rare occasions, individual patients have experienced skin or mucosal reactions to resin-based materials, including anaphylactoid or lichenoid reactions and other allergic responses. However, in most reported adverse reactions, the symptoms subsided on removal of the restorations, sealants or appliances containing resin-based materials.

Dental health professionals could be exposed to resin monomer via inhalation or skin contact with monomers. Adverse effects from direct contact with uncured resins could result in dermatologic reactions such as dermatitis or eczema. Latex and vinyl gloves are permeable to the monomers in resin-based materials and thus do not provide sufficient barrier protection.

### Statement

Because monomers in resin-based materials could result in skin or mucosal reactions in patients and dermatologic reactions in dental health professionals, FDI recommends:

- dentists be aware that resin-based materials may potentially cause adverse reactions in patients;
- resin-based materials should be adequately cured according to manufacturer's directions;
- dental health professionals use instruments to handle and place resin-based materials and avoid skin contact with uncured resins; and
- dental health professionals be aware that latex and vinyl gloves are not effective barriers to resin monomers.

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### Further reading

- Fan PL, Meyer DM. Adverse Reactions to Resin-based Direct Filling Materials. *Int Dent J* - In press 2007.
- Hensten-Pettersen A. Skin and mucosal reaction associated with dental materials. *Eur J Oral Sci* 1998 106: 707-712.
- Hensten-Pettersen A, Jacobsen N. The role of biomaterials as occupational hazards in dentistry. *Int Dent J* 1990 40: 159-166.

[Science Committee](#) [2] **Classification:** [Adverse reactions](#) [3]

[Dental materials](#) [4]

[Filling materials](#) [5]

[Monomers](#) [6]

[Resin](#) [7]

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### Links

[1] <https://www.fdiworlddental.org/resources/policy-statements-and-resolutions/adverse-reactions-to-resin-based->

direct-filling

[2] <https://www.fdiworlddental.org/standing-committees/science-committee>

[3] <https://www.fdiworlddental.org/policy-statement-classification/adverse-reactions>

[4] <https://www.fdiworlddental.org/policy-statement-classification/dental-materials>

[5] <https://www.fdiworlddental.org/policy-statement-classification/filling-materials>

[6] <https://www.fdiworlddental.org/policy-statement-classification/monomers>

[7] <https://www.fdiworlddental.org/policy-statement-classification/resin>