

Bisphenol-A in Dental Restorative and Preventive Materials

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Bisphenol-A (BPA) which is present in many consumer products has attracted considerable attention in both public and scientific communities due to potential adverse health effects. BPA as such is not a component of any dental material. It should not be used during the manufacturing process of resin-based products for fillings, fissure sealants, luting, and core build-up materials as well as bonding agents for orthodontic brackets and bands. Nevertheless, the products may contain a minimum residue of BPA as a result of the manufacturing process.

Patients with some types of resin-based dental restorative and preventive materials could be exposed to minute amounts of BPA which occurs primarily during the first 24 hours after placement of a restoration. The potential release of BPA from the dust derived from finishing, polishing and removal of composite is under investigation. The potential influence of BPA released from dental materials depends on a number of factors, e.g. the type and magnitude of their biological effects in humans, and the sensitivity and validity of the analytical methods for determination of BPA in different body fluids. The risk assessment of BPA in dentistry should therefore be based on relevant, yet to be determined, biological endpoints and the relevance of data from animal experiments has to be determined.

Statement

- The utility of composite resin materials for both restoring dental health and preventing caries is well established.
- The scientific literature assessing the exposure and release of BPA from resin-based dental restorative and preventive materials, as well as its potential oral and systemic effects, is limited.
- Further research on exposure and release of BPA from certain resin-based dental restorative and preventive materials and the relevant clinical implications is strongly recommended including how BPA is absorbed and cleared by the body.
- FDI will continue to review the available scientific data and update this statement in order to encourage dentists to remain updated on the progress of scientific research and the implications for clinical care.
- FDI recognizes the environmental concerns about BPA and strongly discourages the use of BPA in the manufacture of dental materials.
- The FDI mission includes fostering programmes and initiatives to raise awareness of the importance of prevention of dental caries thereby reducing the need for dental restorative materials.

References

- American Dental Association Council on Scientific Affairs Statement on Bisphenol A and Dental Materials. <http://www.ada.org/1766.aspx> accessed October 2013
- FDI review of the scientific evidences on Bisphenol-A in dental restorative materials. <http://www.fdiworldental.org/publications/statements/bpa-review-scientif...> accessed September 2013.