FDI POLICY STATEMENT

Bisphenol A in Dentistry

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CONTEXT

Bisphenol A (BPA) is a synthetic compound used in many consumer and industrial products and has drawn public concern for its potential endocrine-disrupting effects. In dentistry, BPA is not intentionally added to materials but may occur in trace amounts through certain monomers derived from BPA, such as bisphenol A-glycidyl methacrylate (Bis-GMA), bisphenol A dimethacrylate (Bis-DMA) and ethoxylated bisphenol A dimethacrylate (Bis-EMA), which are used in some resin-based dental materials including some fissure sealant, adhesive, filling, luting, core build-up, and computer-aided design/computer-aided manufacturing (CAD/CAM) materials. Patients could be exposed to minute amounts of BPA occurring primarily during the first 24 hours after intraoral placement of a material. Lower-level exposure can also occur through the breakdown of some materials over time. Other factors influencing the amount of BPA exposure include the quality of polymerization of the material as well as intraoral pH, temperature, and mechanical conditions.

SCOPE

BPA is a component of monomers in a variety of materials used in oral health care. Its use is becoming more regulated in certain countries and jurisdictions. This policy aims to provide recommendations for minimizing exposure to BPA, reducing or eliminating its presence when providing oral health care, and supports transparent communication regarding material safety for all populations.

DEFINITIONS

Bisphenol A: a synthetic organic compound used by various industries in resin materials[1].

Endocrine disruptor: a natural or man-made chemical that mimics, blocks, or interferes with hormones linked to adverse reproductive, developmental and immune issues.

PRINCIPLES

BPA is a known endocrine disruptor[2] that can be present in trace amounts in some dental materials. Health-based guidance values are under review and vary by jurisdiction, although the precautionary principle would support the ideal of eliminating exposure for all populations.

Precaution and Proportionality

Efforts to minimize unnecessary exposure to substances of concern, including Bisphenol A, should be guided by scientific evidence and applied proportionately, recognizing that resin-based materials are currently essential to oral health care.

Patient Safety and Trust

Patient safety and transparent communication regarding certain components of dental materials and their associated risks are essential for maintaining the confidence of oral health professionals and the public.

Sustainability and Innovation

The development of materials intended to eliminate BPA exposure should also advance environmental responsibility in alignment with Vision 2030 and UN Sustainable Development Goals.

POLICY

FDI urges all stakeholders – including regulators, manufacturers, researchers, and oral health professionals – to work collaboratively towards eventual elimination of BPA exposure from dental materials and enhanced patient education through:

- considering that BPA is an endocrine disruptor and that human exposure limits at low levels continue to be evaluated.
- recognizing the current importance of resin-based materials in providing oral health care while promoting their safe and responsible use.
- ensuring maximum polymerization of intraoral materials is achieved through various methods including the appropriate use of intraoral curing lights.
- ensuring maximum polymerization of CAD/CAM materials, especially for printed resins.
- supporting research that pursues the development, affordability, and adoption of alternative materials that do not contain BPA or related compounds.
- encouraging community-based programmes and initiatives focused on the prevention of dental caries to reduce the need for the use of intraoral resin-based materials.
- managing patient consent through transparent communication regarding potential BPA exposure from materials.

KEYWORDS

Bisphenol A, dental materials, resin

DISCLAIMER

This policy statement reflects the best available evidence at the time of writing. It is intended to guide policy across diverse contexts and should be adapted to prevailing cultural and socio-economic conditions.

REFERENCES

1. Tichy A, Srolerova T, Schwendicke F. Release of Bisphenol A from Dental Materials: Risks and Future Perspectives. *J Dent Res*. 2025;104(10):1051-1060. doi: 10.1177/00220345251337728. PMID: 40524375; PMCID: PMC12301515.
2. Kavlock RJ, Daston GP, DeRosa C, Fenner-Crisp P, Gray LE, Kaattari S, Lucier G, Luster M, Mac MJ, Maczka C, Miller R, Moore J, Rolland R, Scott G, Sheehan DM, Sinks T, Tilson HA. Research needs for the risk assessment of health and environmental effects of endocrine disruptors: a report of the U.S. EPA-sponsored workshop. *Environ Health Perspect*. 1996 Aug;104 Suppl 4(Suppl 4):715-40. doi: 10.1289/ehp.96104s4715. PMID: 8880000; PMCID: PMC1469675.
3. Lopes-Rocha L, Ribeiro-Gonçalves L, Henriques B, Özcan M, Tiritan ME, Souza JCM. An integrative review on the toxicity of Bisphenol A (BPA) released from resin composites used in dentistry. *J Biomed Mater Res B Appl Biomater.* 2021 Nov;109(11):1942-1952. doi: 10.1002/jbm.b.34843. PMID: 33834604.