

SADA position statement: Dental amalgam

Dental amalgam is composed of liquid mercury and a powder of silver, tin and copper, which are mixed together to form an alloy. It has been successfully used as a dental filling material for over 150 years to restore teeth broken down by decay.¹ Its ease of use, durability and cost effectiveness resulted in dental amalgam being the material of choice across the world and currently it reigns supreme in developing countries. Research on alternative material has over the years been encouraged and is on-going.¹ Whilst alternative dental restorative materials are available, these have, however, proven to be more costly and so technique sensitive that considerable increases in the cost of oral healthcare have resulted.

There has been significant controversy regarding the use of dental amalgam and various schools of thought have in fact advocated that the material be banned. This is related to the fact that amalgam contains small amounts of mercury, which is mostly released during placement and removal. The best available scientific evidence has shown that these low levels of mercury vapour are not a cause for concern, nor has a link to adverse health effects been proven, despite the accusations levelled by some opponents.^{1,2} Any adverse reactions that do occur have been shown to be limited to localised contact reactions in a minority of individuals with a sensitivity to mercury, or to other components of amalgam.

Such local effects include amalgam tattoos, oral lichenoid reactions and erythematous lesions on the mucosa and tongue, are due to abrasion by rough surfaces of the restoration, whatever the material.³ Any dental restoration not properly placed, finished and polished could evoke such an effect. These adverse mucosal reactions usually resolve on the removal of the restorative material and do not require further treatment.³

The advocacy to ban dental amalgam as a dental restorative material, is considered to be unsubstantiated and unwarranted, as a link to systemic adverse effects has not been established nor scientifically proven.¹ Furthermore, developing countries such as South Africa would face an additional challenge posed by the lack of comparable alternative restorative materials.

Nevertheless, the Association recognises the import of the UN treaty on mercury resulting in 2013 from the Minamata Convention,⁴ which recommended to Dentistry a two phase approach to protect the environment from mercury contamination by firstly, the prevention of dental caries and secondly, by the safe disposal of waste amalgam. SADA therefore recommends that oral health practitioners should commit to the effort to reduce/phase down the use of dental amalgam, and more specifically, to minimise exposure to mercury.⁵ Composites, glass ionomer cements and ceramic alternatives should preferably be used, especially in occlusal cavities and deciduous teeth. SADA further recommends that oral health practitioners should protect the environment from mercury contamination by employing best practices when placing and/or removing dental amalgams, including:^{5,6}

1. pre-capsulated dental amalgam-ISO 24 234
2. chair-side systems to trap scrap amalgam

3. vacuum pump filters and
4. amalgam separators-ISO 11 143.

Consequently, the oral health team will need education and training on how to:

1. Offer oral health education and promotion to the public to ensure better oral healthcare outcomes.
2. Adopt best practices to reduce amalgam waste and ensure that any such waste is disposed of safely.
3. Store waste amalgam safely for collection and recycling.

SADA supports the call for a gradual/phased reduction in the use of dental amalgam as a restorative material. Furthermore, SADA recognises and supports the need for more research on suitable alternative restorative materials which would favourably compare to dental amalgam.

References

1. FDI policy statement. WHO Consensus Statement on Dental Amalgam. 2007. URL: <http://www.fdiworlddental.org/media/11351/Safety-of-dental-amalgam-2007.pdf>
2. Lombard R, Du Preez, Oberholzer TG. Review: Teaching approaches in the South African dental schools: direct restorative. SADJ 2009;64(1): 16-20.
3. McCullough MJ, Tyas MJ. Local adverse effects of amalgam restorations. Int Dent J 2008; 58(1):3-9.
4. United States Environmental Protection Agency. Minamata Convention on Mercury. 2013. URL: <http://www.epa.gov/international/toxics/mercury/minamata.html>
5. American Public Health Association. Dental Amalgam-Preserving a Proven Dental Material. 2013. URL: <http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1442>
6. American Dental Association. Statement on Dental Amalgam. 2009. URL: <http://www.ada.org/1741.aspx>

Approved by the Board of Directors, 30th August 2014.

SADA Annual General Meeting (AGM)



Notice is hereby given that the Annual General Meeting (AGM) of The South African Dental Association (SADA) NPC will be held on

**Thursday 12 March 2015 at 18:00
Sunnyside Park Hotel, Parktown,
Johannesburg**

Agenda for the meeting will be posted on the SADA website.

SADA is your Association and your voice counts.