

Controversy of silver amalgam as a restorative material

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Abstract

Silver amalgam contains mercury leading to concerns about the potential toxic effects of amalgam on the health of dental patients. The debate over the toxicity of silver amalgam restorations has divided the dental profession for over a century. The use of amalgam restorations for anterior teeth have been declining worldwide due to patient's safety concerns and preference for tooth colored restorations. Nevertheless, amalgam has served the dental profession for decades and benefited hundreds of millions of patients because of its longevity as a dental restorative material. Amalgam is still the World's most widely used restorative material for posterior teeth.

Key words: Esthetic resorations; Silver amalgam; Toxicity

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Core tip: This editorial highlights the importance of silver amalgam restoration in restorative dentistry.

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INTRODUCTION

The most widely used dental restorative material for posterior teeth is silver amalgam. Amalgam is naturally adhesive to teeth and is long-lasting, for these reasons Amalgam has served the dental profession for decades. Although there has been scientific and political efforts to stop Amalgam being used as a dental restorative material (Minamata Convention on Mercury, January 2013)^[1]. The continued use of Amalgam in dentistry is controversial since many people believe its use should be prohibited. However, attempts to completely replace Amalgam with composite resins and other dental materials has failed because no other materials can match Amalgam in terms of its low cost, ability to withstand wear and breakage, and its longevity as a restorative material. These are the properties which makes Amalgam the first choice of most of the Worlds dentists for posterior restorations. Silver amalgam has distinctive qualities which endears itself to the clinician. Considering its uniqueness as a substantial restorative material, compared to other commercially available tooth colored/esthetic materials, which can also be toxic^[2,3]. The advantages of amalgam must generally outweigh its dangers, because it is still widely used, even though some countries have prohibited its use in dentistry. Very few articles in the, scientific literature associate dental amalgam with toxic effects

or damage to the health of patients, therefore it seems over-reactive to prohibit the use of Amalgam for the restoration of teeth. Instead, researchers should be developing improved formulations of Amalgam to reduce its potential for toxicity and to improve its clinical performance.

Toxic materials are sometimes needed in dentistry. Sodium hypochlorite is extremely toxic^[4,5], but is the most widely used root canal irrigating solution in endodontics^[4,5]. Radiation used to take x-rays can be dangerous in high doses. Some wavelengths of light, such as ultraviolet light can cause damage to eyes, and can be linked to deleterious health effects like cancer, depressions, heart disease, etc^[6]. Despite the potential health risks, toxic materials and radiation are still commonly used in dentistry, because similar to Amalgam the risks can be managed to avoid causing harm to patients. This explains why even with so much controversy, that Amalgam is still the most widely used restorative material for posterior teeth.

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