

# Understanding the Impacts of Amalgam and Dental Wastewater

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**R**ecently, there has been an increasing level of attention given to the sources, environmental behavior, and impacts of mercury in the environment. Though the mercury contained in amalgams is not a major source of mercury release to the environment, the dental profession has been under both public and regulatory scrutiny on the issue of amalgam and dental wastewater.

For dental practitioners, these public sentiments and regulations may be disconcerting, but the realities are that it is important for the practitioners to understand these issues and various options to address these concerns. This edition will address the following issues:

Why has dental amalgam become a wastewater issue? What is the environmental impact of dental amalgam in wastewater? What are the specific concerns regarding our situation here in California? In the first two articles, Thomas Barron and ENVIRON report on both the anthropogenic and natural sources of mercury and its effect on the environment. Of particular interest is

ENVIRON's assessment of the impact of mercury contributed due to amalgam use in California and its effect on publicly owned treatment works.

What are the toxicologic concerns regarding mercury? Kao et al. reviews the toxicology of mercury and its impact on health and environment.

Don't environmental regulations have to be based on sound science? Teresa Pichay reviews the regulatory responsibilities for various governmental organizations and the premise by which regulations are developed. This article will provide important insight as to how the interpretations and implementations of environmental laws will impact our dental practices.

Is there anything dental practitioners can do to prepare for possible regulatory activities? Are Best Management Practices (BMP) and amalgam separator approaches effective? And if mandated, are they easy to implement? In the articles by Amy Knepshield Condrin and Mark Stone, the two most popular approaches toward addressing mercury in dental wastewater are reviewed. Ms. Condrin reviews the CDA- and ADA-

recommended BMP protocols and discusses practical strategies for how practices should manage dental amalgam waste. In both articles by Condrin and Stone, the use of amalgam separators to reduce the amount of mercury reaching wastewater treatment plans is discussed.

Lastly, if the use of dental amalgam will result in more regulatory mandates, are there any restorative alternatives? Will they work just as well in function and durability? Drs. J.R. Mackert and Michael Wahl address these issues. In an evidence-based discussion, the evaluation of dental amalgams as compared to the various restorative alternatives is reviewed. This article will provide the restorative practitioners a scientific base for discussing the clinical implication in using alternative restorative materials.

As the practice of dentistry becomes more complicated, regulatory and public pressure requires that dental practitioners become more versed on controversial topics. This issue will provide the readership a sound fundamental background on the issue of amalgam and dental wastewater. **CDA**