



## Dental Practitioners' Awareness of Dental Amalgam Controversy

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Awareness among dental practitioners regarding the dental amalgam controversy has grown due to heightened concerns about mercury's toxicity and environmental impact. For over 150 years, dental amalgam, a combination of mercury and other metals, has been valued for its durability and affordability. However, the release of mercury through cremation and improper disposal has raised significant health and environmental concerns. One of the most notable international responses to address these concerns is the Minamata Convention on Mercury [1], which advocates for reducing mercury use across various sectors, including dentistry [2]. The Convention stresses the need for global awareness and action to lessen mercury's environmental effects, particularly in dentistry, where amalgam is extensively utilized [3].

### Scientific debate

Health organizations, such as the FDI World Dental Federation [4], maintain that dental amalgam remains a cost-effective and long-lasting option in regions where modern alternatives, like resin composites, may not be feasible due to financial limitations. Nonetheless, the WHO and FDI acknowledge the need to advance research into mercury-free alternatives [4], reflecting a crucial tension. While amalgam has demonstrated clinical efficacy, mercury's environmental risks necessitate a global phase-down [5]. Studies, such as those by P. EK Strand and K. Bjorkman [6], emphasize the importance of promoting alternatives and enhancing waste management in dental practices to minimize

mercury's environmental impact. Similarly, research by S. Mackey et al. [7] highlights the long-term environmental consequences of dental amalgam.

### Policy actions

Governments and dental organizations have played a key role in raising awareness. For example, FDI noted that developing nations require substantial infrastructure improvements to ensure a safe transition to mercury-free materials [8]. In Senegal, educational campaigns and legislative measures are underway to reduce amalgam use, though the material remains prevalent due to its affordability and accessibility [5].

### Conclusion

The increasing awareness surrounding the dental amalgam controversy underscores a complex interplay between public health needs, environmental concerns, and the availability of alternative materials. While amalgam remains crucial in resource-limited settings, global initiatives are focusing on reducing mercury use through research, policy reforms, and better waste management practices.

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