Workshop on

Mercury-Free Dentistry

March 30, 2025 | Chandigarh

Toxics Link

for a toxics-free world

Welcome and Introduction

The meeting commenced with a welcome address by **Dr S. P. Singh**, President, Indian Dental Association (IDA) Chandigarh and Head, Oral Health Sciences Centre (OHSC), PGIMER. He emphasised on IDA Chandigarh's ongoing efforts to phase down the use of mercury amalgam, highlighting the urgency of transitioning towards safer, environmentally responsible dental practices. Dr Singh stressed that a collective, sustained movement within the dental community is critical for achieving a mercury-free future.

Session Highlights

Session 1: Minamata Convention and the Need for Mercury Phase-Out

Speaker: Mr Satish Sinha, Associate Director, Toxics Link

Mr Sinha provided an overview of mercury's widespread usage and its neurotoxic effects on human health, referencing the infamous Minamata disaster and other Indian incidents such as the Kodaikanal mercury contamination case and mercury poisoning from skin-lightening creams in Pune.
He outlined India's obligations under the Minamata Convention and highlighted key sectors—such as Indian Railways and Defence—that have successfully phased out mercury usage.

Particular attention was drawn to:

- **High indoor mercury concentrations** in dental clinics, leading to increased exposure among dentists and staff.
- **Lack of mercury waste management systems** in India, leading to environmental contamination.
- **Need for curriculum reform** to eliminate mercury-based training from dental education.

Mr Sinha stressed the importance of continued advocacy, collaboration, and systemic changes to ensure complete phase-out by 2025.

Session 2: Mercury-Free Dentistry: Challenges and Opportunities

Speaker: Dr. Arpit Gupta, Additional Professor, Oral Health Sciences Centre, PGIMER Chandigarh

Dr. Gupta elaborated on the environmental fate of mercury discharged from dental clinics, presenting documentary evidence and referencing a study by the American Dental Association, which attributes nearly 50% of mercury in wastewater systems to dental amalgam.

Key concerns raised included:

- **Affordability issues** driving lower- and middle-income patients to prefer "silver fillings" (amalgam).
- **Persistent availability of amalgam stock** in warehouses in Haryana and Chandigarh.

- **Financial burden** of installing mercury filtration traps (costing Rs 8–10 lakh per dental chair).

Dr Gupta advocated for strengthening **IEC campaigns** in local languages to improve public awareness. He also supported proposals for **mandatory registration of dental clinics** under the Establishment Act for better monitoring and regulation.

Session 3: Clinical Experience with Mercury-Free Alternatives

Speaker: Dr Puneet Jindal, Senior Dental Practitioner and Endodontist

Dr Jindal shared his clinical experience of having exclusively used mercury-free materials since the start of his career. He emphasised that **effective, safe, and durable alternatives** to amalgam are available, such as:

- **Bioactive restorative materials** (Bioactiva – Pulpdent)
- **Cention N** (Ivoclar Vivadent)
- **Giomer** (Shofu)

Despite amalgam's perceived durability, Dr Jindal encouraged the dental fraternity to embrace newer, more biocompatible materials and to actively counsel patients on safer options.

Session 4: Systemic Gaps in Mercury-Free Transition

Speaker: Dr Amandeep Kaur, Assistant Professor, PGIMER Sangrur Satellite Centre

Dr Kaur presented critical data highlighting systemic challenges:

- **Underestimation of mercury exposure risks** among both professionals and the public.
- **Financial infeasibility of infrastructure upgrades** (e.g., mercury separators) in smaller clinics.
- **Poor adherence to maintenance protocols** for safe handling and disposal of mercury waste.
- **Weak information dissemination** from global frameworks down to rural dental practitioners.

She stressed the need for a **multi-level strategy**, combining education, regulatory enforcement, and financial support to facilitate a smooth transition.

Key Outcomes and Way Forward

The workshop identified clear priorities for driving the transition to mercury-free dentistry in India:

- **Curriculum Reform:** Participants unanimously emphasised the urgent need to update the national dental education syllabus. Modern, mercury-free restorative techniques should replace traditional amalgam-based training to align with international best practices.

- **Revival of National Leadership:** Support was expressed for reviving the national committee on mercury-free dentistry to guide regulatory changes, with Dr. S.P. Singh offering to champion the cause at the national level.
- **Strengthening Public Awareness:** The group stressed the need for targeted awareness campaigns, using local languages and culturally appropriate communication materials, to educate communities—particularly in lower-income groups—on the risks of mercury and the benefits of alternatives.
- **Environmental Sustainability in Dental Practice:** Broader environmental impacts were discussed, including the significant plastic waste generated in clinics. Participants agreed that eco-friendly practices should be integrated into the overall strategy for sustainable dentistry.

Conclusion

The meeting reflected a shared vision among dental professionals, environmental experts, and policymakers to move towards a mercury-free and environmentally-sustainable dental sector. It reinforced the urgent need for systemic reforms, educational updates, infrastructure support, and stronger regulatory frameworks. With committed leadership and collaborative action, the goal of achieving mercury-free dentistry in India appears within reach.

A request for a formal declaration on mercury-free dentistry was shared during the meeting, which received unanimous support from the dentists present. Dr Arpit Gupta confirmed that the Indian Dental Association (IDA) executive committee will discuss it and will provide feedback on the next steps.