

## Dental amalgam-time to move on

Dental amalgam is a safe, effective restorative material which has served tremendous purpose over a period of around 150 years.<sup>[1]</sup> However, given the anticipated consequences of the Minamata Convention, which will herald a global reduction and ultimate cessation in the production and use of mercury containing products,<sup>[2,3]</sup> the shift to minimal intervention dentistry, and the ever increasing strength of the evidence base in favour of the use of resin composites over dental amalgam in the restoration of posterior teeth,<sup>[4-6]</sup> it is time to move on. This is acknowledged, at least in part, by dental associations and organisations across the world supporting plans, stemming from the Minamata Convention, to 'phase down' the use of dental amalgam. Notwithstanding the prospect of diminishing availability and general acceptance of the use of mercury, and how this may negatively influence the attitudes of consumers, funders of oral healthcare services, and manufacturers and suppliers of dental amalgam products, the driver for change should be the substantial benefits to be gained by patients. The adoption of an evidence-based, minimal intervention approach to the use of tooth coloured restorative systems, in particular resin composites in the restoration of posterior teeth, together with the use of refurbishment and repair techniques to extend the longevity of restorations in clinical service,<sup>[7,8]</sup> will result in huge savings in tooth tissues, with the prospect of achieving the goal of giving many more patients 'teeth for life'. In encouraging the practice of minimal intervention dentistry in the restoration of posterior teeth, with resin composite being the preferred restorative material, it is acknowledged that further research and new developments are required in this rapidly expanding field of operative dentistry. Resin composite and associated adhesive systems are not perfect, and the procedures involved in providing effective, state of the art minimal intervention dentistry are both demanding and, to a certain degree, hampered by the limitations of the instrumentation and devices used presently in the placement of posterior composites. However, the pace of innovation and introduction of new developments in the field is ever increasing, with the prospect of many of the existing challenges being addressed sooner rather

than later. In the intervening time, when the countdown in the reduction of dental amalgam use will continue, possibly at an accelerating rate, the dental profession must embrace the modern approaches to restoration of posterior teeth and move on, primarily in the interests of patients. In looking back, dental amalgam will be viewed as a material ideally suited for general use in twenty century, mechanistic approaches to the management of irreversible, progressive dental caries in the occlusal and proximal surfaces of posterior teeth. The idea that it can be successfully applied in modern, twenty first century, biological approaches to the management of caries is considered to be flawed thinking. The time has therefore come, for those who continue to consider dental amalgam to be the material of choice for the restoration of posterior teeth, to move on to a modern (amalgam-free) approach to their provision of everyday operative dentistry. Those who have made this move would not go back to their former ways of restoring teeth, and would encourage colleagues to follow their lead. Implicit in moving to new ways of conserving teeth is the need to pay much greater attention to prevention and patient engagement in establishing and maintain good oral health. Whatever approach is used to restore teeth, it is doomed to fuel a destructive, downward spiral of 'drill and fill' dentistry, if it is not underpinned by effective arrangements to at least limit, if not prevent further disease. Restorations of any existing material do not cure dental caries.



**Nairn H. F. Wilson, Christopher D. Lynch<sup>1</sup>**

Professor of Dentistry, King's College London, London, <sup>1</sup>Reader Consultant in Restorative Dentistry, Cardiff University, Cardiff, UK

**Address for correspondence:**

Prof. Nairn H.F. Wilson,  
Professor of Dentistry, King's College London, London, UK.  
E-mail: nairn.wilson@kcl.ac.uk

## REFERENCES

1. Wilson NH, Dunne SM, Gainsford ID. Current materials and techniques for direct restorations in posterior teeth. Part 2: Resin composite systems. *Int Dent J* 1997;47:185-93.

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2. Lynch CD, Wilson NH. Managing the phase-down of amalgam (Part I): Educational and training issues. *Br Dent J* 2013;215:109-13.
3. Lynch CD, Wilson NH. Managing the phase-down of amalgam (Part II): Implications for practising arrangements and lessons from Norway. *Br Dent J* 2013;215:159-62.
4. Manhart J, Chen H, Hamm G, Hickel R. Review of the clinical survival of direct and indirect restorations in posterior teeth of the permanent dentition. *Oper Dent* 2004;29:481-508.
5. Opdam NJ, Bronkhorst EM, Loomans BA, Huysmans MC. 12-year survival of resin composite vs amalgam restorations. *J Dent Res* 2010;89:1063-7.
6. Pallesen U, van Dijken JW, Halcken J, Hallonsten AL, Höigaard R. Longevity of posterior resin composite restorations in permanent teeth in Public Dental Health Service: A prospective 8 years follow up. *J Dent* 2013;41:297-306.
7. Blum IR, Lynch CD, Wilson NH. Teaching of direct resin composite restoration repair in undergraduate dental schools in the United Kingdom and Ireland. *Eur J Dent Educ* 2012;16:e53-8.
8. Lynch CD, Blum IR, Frazier KB, Haisch L, Wilson NH. Repair or replacement of defective direct resin composite restorations: Contemporary teaching in US and Canadian dental schools. *J Am Dent Assoc* 2012;143:157-63.

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