

Current clinical approaches for adhesive luting of CAD-CAM block restorations

Digital technology is indispensable in today's dental practice. The first digital revolution occurred several years ago with the introduction of CAD-CAM technology for the production of semi-direct (chair side) and indirect (via dental lab) restorations. Currently, most CAD-CAM systems are based on 'subtractive' manufacturing processes, where restorations are milled out of industrially manufactured blocks.

Various types of ceramic, resin-based composite and polymer-infiltrated ceramic CAD-CAM blocks are today available for chair-side partial and full crown restorations.

This lecture will address the different clinical approaches for (adhesive) luting of CAD-CAM block restorations, thereby focusing on both the cement-tooth as the cement-restoration interface. Inevitably, one may expect that 'additive' manufacturing processes or so-called '3D printing' will soon find more applications in restorative dentistry.



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Dr Van Meerbeek obtained his DDS degree in 1988, and funded by a PhD fellowship of the Research Foundation of Flanders (FWO) his PhD in 1993, both at University of Leuven in Belgium. Appointed as Postdoctoral Researcher by FWO, he continued his research activity at KU Leuven for the next six years.

In parallel with his research track, he obtained the degree of Specialist in Adhesive Restorative Dentistry in 1994. In 1995, he became Assistant Professor at KU Leuven and since then teaches Biomaterial Sciences at the Dental School. In 1998, he was promoted to Associate Professor ('Hoofddocent'). From 2000 to 2010, he was appointed as Research Professor at KU Leuven. He then founded the BIOMAT – Biomaterials Research Group at KU Leuven, and is currently the head of BIOMAT. In 2002 and 2005, he was promoted to respectively Professor and Full Professor. In parallel with his university appointment, he has been appointed at the University Hospitals Leuven as Adjunct Section Head since 2004; he became Section Head in 2009.

His research work has been published in more than 370 national and international peer-reviewed journals and has been honored with many awards.

So far, he has served as supervisor (promoter) of 9 completed PhD's and as co-supervisor of 11 PhD's. Since 2003, he is holder of the Toshio Nakao Chair for Adhesive Dentistry and since 2015 of the Kuraray Noritake Dental Funds for promoting research in Adhesive Dentistry, both at KU Leuven.

He was President of the Pan-European-Federation of IADR (IADR/PEF) in 2006-2007 and he is currently Secretary of CED-IADR. Since 2004, he is Editor-in-Chief of the Journal of Adhesive Dentistry.

