

Safe and long-lasting restorations



Our patients want safe restorations that retain their function for as long as possible. Preventing recurrent caries and improved handling are the best approaches to optimize quality and safety of dental materials, a recent article from NIOM scientists concluded.



Fighting recurrent caries

Strategies for inhibiting recurrent caries include personal measures such as improved oral hygiene and diet, and making the tooth-restoration interface more resistant to bacterial attack. Dental materials incorporated with antibacterial components such as silver particles and quaternary ammonium methacrylate monomers reduce biofilm formation in laboratory studies. Although an antibacterial effect could increase longevity, the negative impact on the mechanical properties of the materials and the lack of high quality long-term clinical studies need to be addressed.

Handling and curing

Placing the composite in thin layers reduce the polymerization shrinkage and improves the rate of conversion. This results in better adaptation of the restoration also minimizing the risk for recurrent caries.

The depth of cure quoted in the instructions for use relies usually on the distance between the light tip and composite being 0 mm. This is rarely possible in a clinical situation and it has been suggested to cure twice the recommended curing time.

Furthermore, the restoration becomes safer in that less uncured monomers leach out into the oral cavity. Many of these methacrylate monomers may cause adverse effects, as they are known sensitizers and biologically active.

REFERENCE:

NIOM took part in the NOF symposium "Homage to 100 years of dental research in Scandinavia" at the IADR conference in Vienna in September 2017. The recently published article in the Centennial issue of European Journal of Oral Sciences is based on this presentation. Find it here: <http://dx.doi.org/10.1111/eos.12422>

Antibacterial dental materials for the fight against recurrent caries

Proper handling and curing increases safety and longevity

NIOM helps you stay ahead



NIOM's staff - scientists, engineers and our Nordic guest researchers - ensure that we keep you up-dated on dental biomaterials. In October and November, NIOM is present at the Dental Conventions in Norway, Iceland, Sweden and Finland.

You may sign up for our free newsletter and the next webinar. You may also submit questions related to dental biomaterials to our experienced staff who provides reliable answers.



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