

## Adhesive dentistry – direct or indirect?

There is one issue we've now faced for almost three decades of adhesive dentistry: The dogma that the crown is the ultimate instrument of high-class restorative dentistry. But today we would very much like to ask: Why should we make crowns on vital teeth? Or put another way – why should we completely remove oral and buccal enamel to prepare a shoulder in sound dentin to obtain retention for the restoration? Isn't microretention using appropriate adhesive techniques always preferable to macroretention generated by a bur with a circumferential speed of 150 miles per hour?

In many clinical cases all over the world, the operator chooses to go for a crown because s/he thinks that s/he otherwise cannot manage deep proximal margins, for instance. However, in times of accepted margin relocation or proximal box elevation (as an alternative to more invasive crown lengthening), this does not seem to be necessary anymore. Another reason may be the questionable overall retention of the restoration, but isn't etched enamel far more effective here? Again: Why should we remove etchable enamel?

It may be a completely different situation when dealing with endodontically treated teeth, because the loss of stability due to larger pre-existing defects and especially the weakening effect of access cavity preparations make it imperative to think about cusp replacement and circular ferrule designs. But all this is not the case in vital teeth. Moreover, although creating a huge pulp wound during the

preparation of sound dentin is manageable, it still represents a substantial risk for pulpal damage over time. How many crowned teeth have you seen in your life which were later endodontically treated? We have seen too many.

This is the reason why today in the west the ratio of direct:indirect is between 1:15 and 1:25. And when we restore indirectly, we choose bonded partial crowns<sup>2</sup> instead of crowns, not only in vital but also in endodontically treated teeth.<sup>1</sup> And what is the foundation and inevitable prerequisite for this? Successful adhesive dentistry, for the sake of maximal preservation of sound tooth hard tissues, not to mention the survival of the pulp. The younger the patient, the more important this is.



Roland Frankenberger



Bart Van Meerbeek

1. Frankenberger R, Zeilinger I, Krech M, Mörig G, Naumann M, Braun A, Krämer N, Roggendorf MJ. Stability of endodontically treated teeth with differently invasive restorations: Adhesive vs. non-adhesive cusp stabilization. *Dent Mater* 2015;31:1312–1320.
2. Politano G, Van Meerbeek B, Peumans M. Nonretentive bonded ceramic partial crowns: Concept and simplified protocol for long-lasting dental restorations. *J Adhes Dent* 2018;20:495–510.