

Adhesion is the Key

Dear Readers,

When I was a student, I was taught the basic rules about caries “therapy”: extension for prevention and all the other rules for cavity preparations. Furthermore, we were instructed to remove ALL the decayed tissue, which meant that we excavated the diseased tissues until the dentin color became brighter (yellowish) and the surface became shiny and harder, hoping that our excavation ended in the zone of remineralization, which can be identified in histological preparations of carious teeth. The only exception to this rule was the pulpal or axial wall, where we were allowed to leave carious tissue behind. The rationale for this was to prevent pulp exposure. In these cases, we treated the dentin with calcium hydroxide.

Years later I moved to Berlin, where I met a more radical faculty. We agreed to not tolerate any carious dentin tissue under restorations and therefore excavated to the bitter end, which meant that pulps were exposed and we ended up performing a substantial amount of direct pulp capping in the student courses. When we evaluated our students’ work, we were penalized for our strategy with a high failure rate of the direct pulp cappings, which we associated with not strictly following the rule of placing the permanent restoration in the same session under rubber-dam. These facts forced us to adopt the philosophy described at the beginning of this editorial.

Since then, much more than 10 years have passed, and now working and living in Gainesville, Florida, I met Dr. Saulo Geraldeli and a group like myself who are strong proponents of minimally invasive dentistry. We became involved in extensive and engaged discussions about how diseased, carious tissue should be assessed, quantified, and removed, and started to realize that the literature contains many studies which indicate that leaving affected dentin prior to placement of restorations, along with a reasonable preventive strategy to manage the caries process, can actually be done.¹⁻⁸

However, all this can only work if the dentist is able to effectively, completely seal off the lesion in order to

stop all nutrient supply to the few bacteria left behind. Moreover, if chlorhexidine is applied to the affected dentin, one can expect that this will help to further eliminate bacteria. This makes it clear how important good adhesive materials and protocols are in such an approach, with the potential to save a lot of dental hard tissue. The evidence for such an approach is not yet very strong, since there are no prospective randomized clinical trials available, but all indicators point in the same direction. Based on adhesion, we may soon face another paradigm shift in dentistry!

Sincerely yours,



JF Roulet



S Geraldeli

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