

How clean must a cavity be?

In 2004, a scientific review paper entitled “How clean must a cavity be before restoration?” was published in *Caries Research* by Dr. Edwina Kidd. So already 15 years ago, a new idea about caries excavation was established, contradicting everything we had previously learned about the importance of aggressive caries removal. For several decades, caries excavation was the holy grail of conservative dentistry in many dental schools; we are witnesses. But today, for the sake of pulp vitality, different concepts are to be followed.

However, today we would like to make another point regarding the term “clean”. For us, a clean cavity primarily means one not contaminated by any fluid in the cavity. There is a wide variety of contaminants, from water, oil, saliva, sulcus fluid and blood to rare things like lipstick or face moisturizer. Beside excavation strategies and contamination scenarios, cavity disinfection may also impair bonding quality and durability. On the other hand, the disinfectant CHX is often used not only for disinfection but also for inhibition of MMPs, which it does without being detrimental to the bond. A third group of contaminating substances are temporary cements when cavities are restored indirectly.

Regarding the latter, reports show a clear negative effect even when these cements were thoroughly removed but with the wrong agents.

It has been repeatedly shown that any kind of cavity contamination will most likely undermine good results of meticulously performed adhesive dentistry. Although this does not automatically mean that rubber-dam is the only way to guarantee contamination-free adhesive dentistry, it does make it much easier for every dentist. This may be briefly illustrated by contemplating the following: Take all adhesive restorations worldwide that were made under rubber-dam isolation, and compare them with all adhesive restorations made without rubber-dam. Any questions?



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