
Fool-proof Adhesives?

More than 50 years ago, when dental adhesives were first invented (Hagger O. Swiss Patent 278 946, British Patent 687,299.1951), the driving force was to avoid the marginal openings and subsequent leakage of restorations incident to all restorative materials known at that time. With today's knowledge, it is clear why the first dental adhesive, Sevriton Bond, did not function according to its expectations. The polymerization shrinkage of the PMMA-based restorative material Sevriton was so high it destroyed any bond right away. Today, after a long road of improvements, we have very powerful dental adhesives that are highly sophisticated yet still seem quite easy to apply.

The IADR annual meeting is a good indicator of the current trends in research and development. At this year's meeting, the self-etching adhesives were the favorite, most-researched products. In fact, their application is so easy that one might think adhesive techniques have become ubiquitous - a normal, routine procedure. They have completely displaced the traditional cement liners and bases. This ease of application may tempt the user to forget that he/she is using an adhesive, which still requires careful indication and precise and meticulous application, since difficult substrates and

small deviations from flawless application techniques may result in decidedly inferior performance, as was shown in many presentations.

Dental adhesives have become excellent, as have resin-based restorative materials. In research laboratories, some materials that show virtually no polymerization shrinkage are in their final stages of development, so we may expect them to hit the market soon. Does this mean we can now abandon these still technique-sensitive and thus operator-sensitive adhesives? I don't think so. Restorations are one thing, but the benefits of reliable adhesion far exceed the mere sealing of margins. Bonded bridges and partial dentures, veneers, bonded crowns, and inlays will help to provide better, tooth-friendlier service to our patients in the future as well. Therefore, we still need to keep improving adhesive technology towards simpler and more reliable products. Even if dentists are no fools, a fool-proof adhesive would be a great thing to have!



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