



Clinical technique and biomaterials selection

Because the use of many biomaterials is technique-sensitive, mastering a certain procedure can be time consuming for practi-

tioners. Once a satisfactory outcome is accomplished on a predictable basis, dentists tend to get emotionally attached to certain clinical techniques without understanding that while their preferred approach and materials are valid and well-documented, other alternatives can work just as well.

Take, for example, the use of bases and liners as a foundation for direct or indirect restorations. Bases and liners are used with the intention that they create a homogeneous preparation outline, decrease sensitivity with palliative materials, and protect deep tooth structure from thermally conducting materials. While this approach is well-documented, there are also enough data to establish a treatment philosophy that precludes the use of bases and liners. If one truly understands the concept of hybrid layer formation during bonding procedures, one can accept that the establishment of such layer will provide the proper protection in deep areas. Since preparation design is less of an issue in direct bonded restorations, so too is the homogeneity of the preparation outline. It is a personal choice, and those two approaches seem to coexist.

Another clinical example is the selection of an elastomeric material for a final impression. The two most popular are vinyl polysiloxane and poly-ether-based materials, and the popularity of each is seemingly market related. One is dominant on one continent; the other is popular on another continent. While their chemistry is completely different, the selection between these types of materials should be based on personal preference of working properties, ease of clinical delivery and manipulation, and previous clinical experience. Both types of materials have some unique advantages/disadvantages, but from an accuracy standpoint, both yield excellent final impressions.

The previous examples demonstrate that as long as the performance of one's selected biomaterials can be supported within a given context, completely different treatment approaches can yield an acceptable outcome.

The third example becomes a bit more controversial and so must be examined putting one's emotions aside. The use of zinc oxide-eugenol (ZOE) provisional cements for a definitive bonded indirect restoration has been the subject of quite a few studies. While some have demonstrated that the use of these provisional cements may compromise the bond integrity of the definitive restoration, others have demonstrated no such effect. While I personally do not use ZOE provisional cements, I can accept and respect the data that validate the opposite approach for a definitive bonded indirect restoration.

When clinicians establish a treatment philosophy based on the selection of certain biomaterials, they can become extremely defensive and behave as though any treatment alternative is presented with the intention of denouncing their preferred approach. One should be critical only when a scientific basis for alternative approaches is lacking. Unfortunately, many such examples also exist: restorative material selection based on the alleged bioincompatibility of alternative materials without acceptable data; impression techniques that were not properly tested for their accuracy—the list goes on. When scientific data on materials and techniques are lacking, one has every right to be defensive and critical, and to denounce them for one's well-proven approach.

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