

Gutta percha: the alternative

In his regular column of quick tips, Richard Mounce answers common and topical endodontics questions in a manner that gives the reader a clinical tip useful in everyday practice

What are the advantages and disadvantages of gutta percha? Is there something else I can use for endodontic obturation that overcomes the limitations of gutta percha? – Part 1

Gutta percha is the time-honoured standard for endodontic obturation because it exhibits a minimum toxicity and allergenic potential and is tolerated generally well by the body if extruded apically. The material is retreatable, can be heat-softened and compacted into the narrowing cross sectional diameters of the canal. Because zinc oxide is contained in commercial preparations of gutta percha the material has antibacterial characteristics. Gutta percha is available in two chemical forms (two different crystalline configurations), alpha and beta. While a discussion of these forms is beyond the scope of this column, both of these chemical forms of gutta percha shrink upon cooling with the alpha phase, gutta percha shrinking less than the beta. Shrinkage upon cooling necessitates compaction forces to be placed upon gutta percha as it cools in heat-softened obturation techniques such as the classic vertical compaction of warm gutta percha and the SystemB continuous wave of condensation using the SystemB heat source (SybronEndo, 00 31 33 453 6159). Gutta percha, until recently, has been the best material that dentistry has had for the obturation of root canal systems. The above advantages notwithstanding, it has possessed one significant shortcoming; it is, irrespective of the use of sealer, a poor insulator against coronal microleakage. Gutta percha, left exposed to salivary contamination for even short

periods of time, especially weeks to months, will allow the apical migration of bacteria in a coronal to apical direction. This underscores the importance of coronal seal after endodontic therapy, as well as the need to re-treat teeth that have been exposed to leakage for anything but a few days, so as not to entomb bacteria by restoring a tooth that contains a root canal which has been contaminated by previous leakage.

There is indeed an alternative now to gutta percha and some would say, including the author, a far better material for the obturation of root canal systems. Recently, Resilon Research LLC,

Endodontics made easy



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Richard Mounce DDS

(Madison, CT) introduced Resilon obturating points (a soft resin) and Resilon resin sealer which when used in combination with a self etch primer after smear layer removal (using for example SmearClear, SybronEndo, 00 31 33 4536159), allow creation of a solid 'monoblock' (a material that is contiguous from its resin tags in cleared dentinal tubules through the sealer to the core canal filler). The material not only fully obturates canal anatomy (especially through the compaction possible with warm obturation techniques); it diminishes coronal microleakage through bonding to the cleared dentinal tubules. Resilon is marketed as RealSeal (RS) (SybronEndo, 00 31 33 4536159) and Epiphany (Trycare, 01274 881044). This material represents a major advance in obturation technology that will be discussed in the next *Endodontics Made Easy*. I welcome your questions and feedback. ■

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