

What is 'bonded' endodontic obturation and what is its primary advantage over gutta percha? – Part 2

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

As mentioned in the last edition of 'Endodontics made easy' (23 September issue), it is now possible to bond a sealer and soft resin core material into cleared dentinal tubules of the root canal system and create a 'monoblock' of obturating material, which is contiguous from its resin tags in cleared dentinal tubules through sealer to the core canal filler. This core material and sealer is called Resilon. Resilon is marketed under the brand names RealSeal (RS) (SybronEndo, 00 31 33 4536159) and Epiphany (EP) (Trycare, 01274 881044). RS/EP is a thermoplastic synthetic resin material based on the polymers of polyester and contains a difunctional methacrylate resin, bioactive glass and radio

opaque fillers. The sealer contains UDMA, PEGDMA, EBPDMA and BisGMA resins, silane-treated barium borosilicate glasses, barium sulfate, silica, calcium hydroxide, bismuth oxychloride with amines, peroxide, photo initiator, stabilisers and pigment. The primer is an acidic monomer solution in water. RS/EP is non toxic, FDA (Food and Drug Administration in the USA) approved and non-mutagenic. RS/EP is radiopaque and the sealer is resorbable. The material is used exactly like gutta percha (for example, it can be heat softened in System B obturation with the System B heat source (SybronEndo, 00 31 33 4536159) and/or laterally condensed) and comes in cones of standard tip sizes and tapers. RS/EP can be dissolved with solvents

(most notably chloroform) and retreated.

The significant limitation of gutta percha is that it does not prevent the migration of bacteria along its length if exposed to microbial contamination for any appreciable length of time (weeks to months especially). This limitation is largely overcome by RS/EP as the root canal system can now be sealed (with optimal technique) along the entire length of the canal (from orifice to apex) preventing microbial migration. This has substantial benefit to both the patient and doctor. If the patient does not get a coronal restoration as needed, a key reason (coronal microleakage) for endodontic failure has been eliminated or dramatically reduced through the bonding of the root canal filling potentially along the entire length of the canal. The material was studied and compared recently (Shipper G et al, *Journal of Endod*, May 2004, 30(5):342-347) to gutta percha and it was found that RS/EP showed minimal leakage which was statistically significant compared to gutta percha. In essence, RS/EP endodontic obturating material can significantly diminish microleakage, a property not possessed by gutta percha. In the author's opinion, this material is a massive step forward for endodontics on a par with the advent of the surgical operating microscope, rotary nickel titanium files, ultrasonics and warm gutta percha techniques and will be discussed further in the next several 'Endodontics made easy' columns. I welcome your questions and feedback. ■

Endodontics made easy



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