



Ask the Experts

ENDODONTIC POSTS

Associate Editor

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QUESTION: Should post placement be considered a part of endodontic therapy?

DR. MARTIN TROPE*: The disease of interest to endodontics is apical periodontitis, and the clinical definition of endodontics is "the prevention or elimination of apical periodontitis." Bacteria within the root canal space of a *necrotic* pulp cause apical periodontitis. Teeth with *vital* pulps (even when irreversibly inflamed) are not infected; thus, the purpose of endodontic treatment on these teeth is to prevent apical periodontitis from developing.

When treating a vital or necrotic tooth, filling of the canal should take place only when the bacterial count is (preferably) zero or as close to zero as is feasible. Thus, the functions of the root canal filling are (1) to seal in remaining bacteria and (2) to prevent coronal leakage of bacteria into the filled canal. Post fabrication and place-

ment are part of endodontic treatment only if, in addition to its retentive contribution to the core, the post also contributes to the filling and sealing of the root canal space.

Traditional thought has been that a canal is sealed if 4 mm of gutta-percha remain apical to the post. Nothing could be further from the truth. In fact, we have irrefutable evidence that even 12 mm (the length of the average canal) of gutta-percha is a very poor seal. Thus, the dentist should not rely on gutta-percha to provide an adequate seal and must fabricate the post without infecting a previously bacteria-free canal. Also, the post itself should be fabricated and placed in such a way that it contributes to the seal.

I hope the logic presented above makes a reasonable argument that the post is definitely part of endodontic treatment.

There are new exciting materials that will further enhance the role of the post in endodontic success. A new filling material made of bonded thermoplastic resin and intended to replace gutta-percha

has recently been introduced. This material seals far better than does gutta-percha. Studies are under way to determine if 4 mm of this new material might be enough to seal the canal, as was previously (and incorrectly) thought to be the case for gutta-percha. In addition, a new system that combines the resin filling material and a fiber post is now available. This allows filling with a re-treatable apical segment and a coronal post segment immediately after root canal instrumentation, which minimizes the chances of contamination of the canal immediately after instrumentation.

SUGGESTED READING

1. Madison S, Wilcox LR. An evaluation of coronal microleakage in endodontically treated teeth. Part III. In vivo study. *J Endod* 1988; 14:455-458.
2. Ray HA, Trope M. Periapical status of endodontically treated teeth in relation to the technical quality of the root filling and the coronal restoration. *Int Endod J* 1995; 28:12-18.
3. Orstavik D, Pitt Ford TR, eds. *Essential endodontology: prevention and treatment of apical periodontitis*. Edinburgh: Blackwell Publishing, 1998.

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