

**Delta Dental of Virginia Clinical Policy # 201**

<b>Subject</b> Post and Core Placement	<b>Originating Department</b> Clinical Professional Services
	<b>Signature Authority</b> Dental Director

**Type:**       New                       Replacement                       Revision                       Clarification

**Date:**            11/09/2009                      **Revision Date:**            11/15/2011

<b>Preamble:</b>	<p>The Clinical Policy Bulletin is an expression of Delta Dental of Virginia's (DDVA) determination regarding whether certain services or supplies are medically or dentally necessary. DDVA bases its conclusions on a review of currently available clinical literature. This includes, but is not limited to, clinical outcome studies published in the peer-reviewed medical and dental literature, regulatory status of the technology, evidence-based guidelines of public health and health research agencies, evidence-based guidelines and positions of leading national health professional organizations, views of physicians and dentists practicing in relevant clinical areas, and other relevant factors. DDVA reserves the right to revise these policies as new clinical information is available and we welcome submission of further relevant information.</p> <p>A group may define covered dental services under their dental plan, as well as those services that may be subject to dollar caps or other limits. The plan documents outline covered benefits, exclusions and limitations. DDVA advises dentists and enrollees to consult the plan documents to determine if there are exclusions or other benefit limitations applicable to the service request. The conclusion that a particular service is medically or dentally necessary does not constitute an indication or warranty that the service requested is a covered benefit payable by DDVA. Some plans exclude coverage for services that DDVA considers either medically or dentally necessary. When there is a discrepancy between DDVA's clinical policy and the group's plan documents, DDVA is to defer to the group's plan documents as to whether the dental service is a covered benefit. In addition, if state or federal regulations mandate coverage then DDVA will adhere to the applicable regulatory requirement.</p>
<b>History:</b>	<p>Placement of a post and core is indicated when the remaining coronal structure of an endodontically treated tooth is insufficient to provide adequate retention for a full crown restoration(1). The purpose of the post component, which may be made from various materials and either custom fabricated or prefabricated, is primarily to retain the core over which the full crown is to be placed. The post and core may also be fabricated as a single unit utilizing one material type. Research has shown that, contrary to traditional thought, endodontically treated teeth are not more brittle than untreated teeth(1,2,3), and no difference in moisture content between treated and untreated teeth has been found(4). Proper endodontic treatment and loss of vitality affect the tooth only to a limited extent, and tooth strength is diminished in proportion to the loss of coronal tooth structure due to caries and restorative procedures(5). Research has also shown that a post is not a strength enhancing device and may be a factor in weakening the root and causing subsequent root fracture(6,7,8,9,10,11,12). Consequently, posts should only be used when there is a requirement for increased retention of the final restoration. Studies have also</p>

	<p>shown that a post is not necessary in an endodontically treated anterior tooth with minimal loss of tooth structure(1,7,9,10,12,14). An anterior tooth with a conservative endodontic approach can often be successfully restored with a bonded restoration in the access cavity(1,10,13,14). If full crown coverage for an anterior tooth is deemed necessary due to loss of structure from fracture, extensive caries, or large restorations the tooth may require a post to enhance resistance to functional forces(8,10,12,13).</p>
<p><b>Policy:</b></p>	<p>DDVA treatment guidelines for placement of a post and core:</p> <ol style="list-style-type: none"> <li>1. A tooth must have insufficient tooth structure to support a cast restoration. A tooth must have radiographic evidence of 50 percent or more of tooth structure missing or evidence of cuspal fracture. In the absence of sufficient radiographic evidence, an appropriate narrative report must be submitted documenting the need for the procedure.</li> <li>2. For placement of a post and core, in addition to a full crown, a tooth must exhibit successfully completed endodontic treatment.</li> <li>3. Documentation of completed endodontic therapy must include a diagnostic radiograph.</li> <li>4. Placement of a post and core will be considered only for an endodontically treated tooth for which full crown coverage is indicated and treatment planned. A post and core is not indicated for a tooth with an intact or conservatively restored clinical crown.</li> <li>5. As a post and core is a retentive device for a full crown, the procedure will not be considered for a tooth with an intact, functional full crown restoration that is not planned treatment for replacement.</li> <li>6. Additional amalgam or composite restorations performed on the same tooth on date of service as post and core placement will not be considered.</li> <li>7. Post and core/core buildup restorations have a five year replacement limitation.</li> </ol>
<p><b>Codes(15):</b></p>	<p>D2952 – Post and core in addition to crown, indirectly fabricated  D2954 – Prefabricated post and core in addition to crown  D6970 – Post and core in addition to fixed partial denture retainer, indirectly fabricated  D6972 – Prefabricated post and core in addition to fixed partial denture retainer, indirectly fabricated (8)</p>
<p><b>References:</b></p>	<ol style="list-style-type: none"> <li>1. Slutzky-Goldberg I, Slutzky H, Gorfil C and Smidt A. Restoration of endodontically treated teeth. Review and treatment recommendations. Int J Dent 2009;Article ID 150251, 9 pp.</li> <li>2. Sedgley CM and Messer HH. Are endodontically treated teeth more brittle? J Endod 1992;18:332-335.</li> <li>3. Huang TJ, Schilder H and Nathanson D. Effects of moisture content and endodontic treatment on some mechanical properties of human dentin. J Endod 1992;18:209-215.</li> <li>4. Papa J, Cain C and Messer HH. Moisture content of vital vs endodontically treated teeth. Endod Dent Traumat 1994; 10:91-93.</li> </ol>

5. Dietschi D, Duc O, et al. Biomechanical considerations for the restoration of endodontically treated teeth: a systematic review of the literature – part 1: composition and micro- and macrostructure alterations. *Quin Int* 2007;38:733-743.
6. Smidt A and Venezia E. Techniques for immediate core buildup of endodontically treated teeth. *Quin Int* 2003;34:258-268.
7. ENDODONTICS. Fall/Winter 1995. Restoring endodontically treated teeth. American Association of Endodontists. 211 E Chicago Ave. Chicago Ill.
8. Cheung W. A review of the management of endodontically treated teeth: Post, core, and the final restoration. *J Amer Dent Assoc* 2005;136:611-619.
9. Guzy GE and Nicholls JI. In vitro comparison of intact endodontically treated teeth with and without endo-post reinforcement. *J Prosth Dent* 1979;42:39-44.
10. Trope M, Maltz DO and Tronstad L. Resistance to fracture of Endodontically treated teeth. *Endo Dent Traumatol* 1985;1:108-111
11. Morgano SM, Restoration of pulpless teeth: application of traditional Principles in present and future contexts. *J Prosth Dent*;75:375-380.
12. Heydecke G, Butz F and Strub JR. Fracture strength and survival rate of endodontically treated maxillary incisors with approximal cavities after restoration with different post and core systems: an in-vitro study. *J Dent* 2001; 29:427-433.
13. Sorensen JA and Martinoff JT. Intracoronal reinforcement and coronal coverage: a study of endodontically treated teeth. *J Prosth Dent* 1984;51:780-784.
14. Pontius O and Hutter JW. Survival rate on fracture strength of incisors restored with different post and core systems and endodontically treated incisors without coronoradicular reinforcement. *J Endod*;28:710-715.
15. American Dental Association. *Current Dental Terminology. CDT 2011-2012*;18,56 (©ADA 2010).