

Delta Dental of Virginia Clinical Policy # 601
Subject

Placement of Dental Implants

Originating Department

Clinical Professional Services

Signature Authority

Dental Director

Type: New Replacement Revision Clarification

Date: 11/15/2009 **Revision Date:**
Preamble:

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 pertinent clinical areas, and other applicable information. DDVA reserves the right to revise these policies as new clinical information is available and we welcome submission of further relevant information.

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 subscribers 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.

History:

A dental implant is a biomedical device fabricated of an inert metallic alloy that is placed on or within osseous tissue (bone) of the maxilla or mandible (1). The therapeutic goal of dental implant bodies is to restore comfort, function and esthetics by acting as biomechanical support structures for tooth replacement devices (1). Dental implants are used to replace single or multiple missing teeth and can serve as anchoring abutments for tooth replacement prosthetic devices such as crowns, fixed partial dentures or complete removable dentures. The implant usually consists of more than one component - the actual implant body, which is integrated into the bone, and an implant abutment, which is attached to the implant body. The implant abutment device replaces the missing core of the tooth crown. The appropriate dental prosthesis is then attached to the implant abutment. Dental implants have been proven to be safe, effective and biocompatible (2) and the overall success rate of dental implants is more than 90% at 10 years post placement (3, 4, 5, 6, and 7). The long-term success rate of dental implants used as bridge abutments is at least comparable or superior to natural tooth supported fixed partial dentures (9,10,11,12)

The medical and oral health status of patients should be reviewed and considered

	<p>prior to placement of dental implants. Conditions and habits that may affect the successful placement of a dental implant include oral hygiene efficiency, history of smoking, bruxism, periodontal disease and radiation therapy, as well as other causative factors that may impair the healing response. In particular, patients who smoke should be cautioned not to smoke during the healing phase of dental implant body placement and should be advised that the long-term success of the dental implant is compromised by smoking (1, 6, 7, 8). A prior assessment should be made of the quality, quantity and contour of the soft tissue and osseous structures into which the implant body will be placed (1, 13). Additionally, vital anatomic structures within the bone, such as sinus cavities and the mandibular canal that houses the mandibular nerve, should be visualized and located using appropriate diagnostic tools.</p> <p>Dental implants may be placed in edentulous or toothless areas of the mandible or maxilla where teeth have been previously extracted or can be immediately placed into extraction sites at the time of tooth removal (1, 17). Immediate implant placement may help preserve the alveolar anatomy, decrease the timeline from extraction to final tooth replacement, and has been shown to have success rates comparable to delayed placement (14, 15, 16, 19). Immediate implant placement into extraction sites may be supplemented with the use of barrier membranes for guided tissue regeneration (14, 17, 18). The barrier membrane prohibits proliferation of gingival tissue into the extraction site, thus allowing blood vessels from the osseous walls to inhabit the space between the implant body and the surrounding bone. These blood vessels then act as a supporting matrix for bone regeneration (18, 20) increasing the success of osseo-integration of bone with the dental implant body. The most favorable circumstance for immediate dental implant body placement is following the atraumatic extraction of a restoratively hopeless tooth where the implant body is in close approximation with the osseous walls of the extraction site.</p> <p>Maintenance schedules may need to be modified to accommodate appropriate and timely evaluation of implants. Post-operative management should include periodic evaluation of oral hygiene status, presence of plaque and calculus accumulation, clinical and radiographic appearance of the implant and peri-implant tissue, functional and occlusal status, implant and prosthesis stability, stability of probing depths, and the presence or absence of periodontal pocket exudate or bleeding on probing (1, 21).</p>
<p>Policy:</p>	<p>DDVA Guidelines:</p> <ol style="list-style-type: none"> 1. Prior to implant placement, an evaluation of the functional occlusion of the entire dentition must be completed. 2. Diagnostic full mouth, panoramic, or other appropriate X-rays must be provided to document the status of the alveolar structure and all existing and missing teeth in both maxillary and mandibular arches. 3. Documentation of definitive periodontal treatment for remaining teeth related to any periodontal conditions must be provided. 4. In the absence of multiple missing teeth and active infection, single tooth replacement by a dental implant is appropriate regardless of the need for full crown coverage of the teeth adjacent to the implant site. 5. In the absence of multiple missing teeth, implant placement for a second molar tooth may be considered if a functional opposing molar is present. The molar opposing the implant must be periodontally sound and dependent on the proposed implant for prevention of passive eruption. 6. For a completely edentulous arch, replacement of teeth and restoration of the occlusion can be adequately restored with four dental implants. 7. A patient's sensitivity to denture restorative materials may be considered a

	<p>qualification for implant placement. This condition must be documented by a physician's report, a copy of the laboratory analysis of the allergy, and a letter of necessity from the dental provider.</p> <p>8. Periodontal surgical procedures such as, but not limited to, gingival flaps, gingival contouring, bone grafting, soft tissue grafting, and guided tissue regeneration are performed to repair periodontal defects of natural teeth only.</p> <p>9. A patient's inability to wear a removable appliance due to severe alveolar ridge atrophy may be considered a qualification for implant placement. This condition must be documented by a letter of dental necessity from the treating provider and supported by appropriate radiographic evidence.</p>
Code(s):	<p>D6010 – Surgical placement of implant body: endosteal implant D6012 – Surgical placement of interim implant body for transitional prosthesis: endosteal implant D6040 – Surgical placement: eosteal implant D6050 – Surgical placement: transosteal implant</p>
References:	<ol style="list-style-type: none"> 1. American Academy of Periodontology. Parameter on placement and management of the dental implant. J Perio 2000;71(5 supplement):870-872. 2. Esquivel-Upshaw J. Dental implants. In: Anusavice KJ, ed. Phillips science of dental materials. 11th ed. Saunders;2003:759-780 3. Lekholm U, Grondahl K and Jemt T. Out come of oral implant treatment in partially edentulous jaws followed 20 years in clinical function. Clin Implant Dent Relat Res 2006;8:178-186. 4. Romeo E, Chiapasco M, et al. Long-term clinical effectiveness of oral implants in the treatment of partial edentulism: seven-year life table analysis of a prospective stud with ITI dental implants system used for single-tooth restorations. Clin Oral Implant Res 2002;13:133-143. 5. Lekholm U, Gunne J, et al. Survival of the Branemark implant in partially edentulous jaws: a 10-year prospective multicenter study. Int J Oral Maxillofac Implants 1999;14:639-645. 6. DeLuca S, Habsha E and Zarb GA. The effect of smoking on osseointegrated dental implants. Part I: Implant survival. Int J Prosthodont 2006;19:491-498. 7. Zarb GA. Immediate and early implant loading protocols: a literature review of clinical studies. J Prosthet Dent 2005;94:242-258. 8. Elsubeihi E and Zarb GA. Implant prosthodontics in medically challenged patients: the University of Toronto experience. J Can Dent Assoc2002;68:103-108. 9. Johnson PF. Treatment considerations of fixed prosthetic restorations of the compromised dentition vs alternate fixed implant-supported options. J Calif Dent Assoc 2003;20: 10. Parein AM, Eckert SE, et al. Implant reconstruction in the posterior mandible: a long-term retrospective study. J Prosthet Dent 1997;78:34-42. 11. Naert I, Koutsikakis G, et al. Biologic outcomes of single-implant restorations as tooth replacements: a long-term follow-up study. Clin Implant Dent Relat Res 2000;2:209-218. 12. Wyatt CC and Zarb GA. Treatment outcomes of patients with implant-supported fixed partial prostheses. Int J Oral Maxillofac Implants 1998;13:204-211. 13. Leblebicioglu B, Rawal S and Mariotti A. A review of the functional and esthetic requirements for dental implants. J Amer Dent Assoc 2007;138:321-329. 14. Becker W, Dahlin C, et al. The use of e-PTFE barrier membranes for bone promotion around titanium implants placed into extraction sockets: A prospective multi-center study. Int J Oral Maxillofac Implants1994;9:31-40.

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