

**Delta Dental of Virginia Clinical Policy # 402**
**Subject**

Mucogingival Surgery and Soft Tissue Grafting

**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:**

The term Mucogingival Surgery was proposed by Friedman in 1957 to indicate any surgery designed to preserve and maintain attached gingiva, to remove the muscle attachment, and to increase the depth of the oral vestibule. Abnormal mucogingival conditions include deviations from the normal anatomic relationship between the attachment of the gingival margin and the cemento-enamel junction of the affected tooth, or of the gingival margin and the mucogingival junction. Factors predisposing mucogingival problems include tooth malposition, underlying alveolar bone dehiscences, thin marginal soft tissue, trauma, frenum (muscle) attachments, iatrogenic influences of restorative, orthodontic or periodontal treatment and localized inflammatory problems secondary to plaque accumulation, viral eruption and recurrent aphthous ulceration.

Mucogingival conditions that may require corrective surgery include progressive gingival recession or loss with concomitant root exposure, absence or reduced amounts of keratinized attached gingiva, periodontal pocket depth probing extending beyond the mucogingival junction, high active frenum attachments and inadequate vestibular depth. Other clinical conditions which may influence the need for treatment include chronic marginal inflammation and root sensitivity.

	<p>It should be noted that many studies showing root exposure associated with gingival recession may not be a progressive pathologic process and the decision for surgical intervention cannot be made solely on the basis of the presence or absence of “adequate” or “inadequate” amounts of keratinized attached gingiva. Further, it is well documented that in the presence of good oral hygiene and routine prophylactic maintenance most areas of recession remain stable over long periods of time. (1,2,3,4,5,6,7,8,9)</p> <p>The therapeutic goal of surgical treatment is the re-establishment as nearly as possible of the normal tooth to mucogingival relationship. Specific goals of surgery include reestablishment of an increased zone of attached gingiva, elimination of high active frenum or muscle attachment, root coverage, and where indicated, extension of oral vestibular depth. Surgical procedures include pedicle soft tissue grafts, free gingival grafts, subepithelial connective tissue grafts and soft tissue allografts.</p> <p>Risk factors for unsuccessful treatment of mucogingival defects include:</p> <ol style="list-style-type: none"> <li>1. Smoking (1,2,3)</li> <li>2. Use of smokeless tobacco (10)</li> <li>3. Poor oral hygiene</li> <li>4. Unacceptable anatomic features such as shallow vestibular height associated with the zygomatic arch or the buccal shelf</li> </ol> <p>Evaluation of abnormal mucogingival conditions should include:</p> <ol style="list-style-type: none"> <li>1. A medical history to identify systemic problems or medications that may affect treatment</li> <li>2. A dental history and oral examination which may identify local, factual or iatrogenic factors affecting treatment</li> </ol> <p>The American Academy of Periodontology recommends evaluation of the following factors prior to treatment of mucogingival defects (13):</p> <ol style="list-style-type: none"> <li>1. Gingival recession of 2mm or more with inadequate keratinized tissue. Inadequate keratinized tissue is defined as &lt;2mm in width of which is less than 1mm of attached gingival</li> <li>2. Less than 1mm of attached gingival</li> <li>3. Root abrasion</li> <li>4. Class V caries or defective restorations</li> <li>5. Aberrant frenum attachments</li> <li>6. Inability to maintain the marginal tissue in periodontal health (minimal probing depth with no bleeding or inflammation)</li> <li>7. Planned, current or completed orthodontic treatment</li> <li>8. Need for restorative care of the tooth</li> <li>9. Progression of recession</li> <li>10. Root sensitivity</li> <li>11. Age of the patient</li> <li>12. Presence of periodontitis</li> <li>13. Abnormal tooth position relative to the alveolar ridge</li> </ol>
<p><b>Policy:</b></p>	<p>DDVA Guidelines:</p> <p>The following must be specifically documented prior to mucogingival surgery:</p> <ol style="list-style-type: none"> <li>1. Measurements of recession in mm's (CEJ to gingival margin)</li> <li>2. Measurements of attached gingival in mm's</li> <li>3. Periodontal pocket depth probing measurements in mm's</li> <li>4. Notation on the presence of high active frenum attachments</li> <li>5. Number of teeth affected</li> </ol>

	6. History of progressive recession within <b>twelve</b> months prior to treatment 7. Photographic documentation, if possible, of areas demonstrating recession
<b>Code(s):</b>	D4270 – Pedicle soft tissue graft procedure D4271 – Free soft tissue graft procedure (including donor site surgery) D4273 – Subepithelial connective tissue graft procedures, per tooth D4275 – Soft tissue allograft D4276 – Combined connective tissue and double pedicle graft, per tooth
<b>References:</b>	<ol style="list-style-type: none"> <li>1. Dorfman HS, Kennedy JE, Bird WC. Longitudinal evaluation of free autogenous gingival grafts. J Clin Perio 1980;7: 316.</li> <li>2. Dorfman HS, Kennedy JE, Bird WC. Longitudinal evaluation of free autogenous gingival grafts. A four year report. J Perio 1982;53:349-352.</li> <li>3. Tennenbaum H. A clinical study comparing width of attached gingiva and the prevalence of gingival recession. J Clin Perio 1982;9:86-92.</li> <li>4. Kennedy JE, Bird WC, et al. A longitudinal evaluation of varying widths of attached gingiva. J Clin Perio 1985;12:667-675.</li> <li>5. Schoo WH and van der Velden, U. Marginal soft tissue recession with and without attached gingiva. J Perio Res 1985;20:209-211.</li> <li>6. Wennstrom JL. Lack of association between width of attached gingiva and development of soft tissue recession. A 5-year longitudinal study. J Clin Perio 1987;14:181-184.</li> <li>7. Proceedings of the World Workshop in Clinical Periodontics: Gingival augmentation/mucogingival surgery. Amer Acad Perio 1989;VII-1 to VII-21.</li> <li>8. Freedman AL, Salkin LM, et al. A 10-year longitudinal study of untreated mucogingival defects. J Perio 1992;63:71-72.</li> <li>9. Freedman AL, Green K, et al. An 18-year longitudinal study of untreated mucogingival defects. J Perio 1999;70:1174-1176.</li> <li>10. Gray JL. When not to perform root coverage procedures. J Perio 2000;71:1048-1050.</li> <li>11. Trombelli L, Scabbia A. Healing response of gingival recession defects following guided tissue regeneration in smokers and non-smokers. J Clin Perio 1997;24:529-533.</li> <li>12. Miller, PD. Root coverage with the free gingival graft. Factors associated with incomplete coverage. J Perio 1987;58:674-681.</li> <li>13. American Academy of Periodontology. Consensus Statement on Mucogingival Conditions. May 2009.</li> <li>14. American Dental Association. <i>Current Dental Terminology</i>. CDT 2009-2010. (© ADA 2008).</li> </ol>