Surgical Periodontics: Resective Procedures

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Instructions for Use

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- Non-Surgical Periodontal Therapy
- Provisional Splinting
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Coverage Rationale

Gingivectomy/Gingivoplasty

Gingivectomy/Gingivoplasty is indicated for the following:

- Elimination of suprabony pockets, exceeding 3mm, if the pocket wall is fibrous and firm and there is an adequate zone of keratinized tissue
- Elimination of gingival enlargements/overgrowth
- Elimination of suprabony periodontal abscesses
- Exposure of soft tissue impacted teeth to aid in eruption
- To reestablish gingival contour following an episode of acute necrotizing ulcerative gingivitis
- To allow restorative access, including root surface caries

Gingivectomy/Gingivoplasty is not indicated for the following:

- When bone surgery is required for infrabony defects, or for the purpose of examining bone shape and morphology
- Situations in which the bottom of the pocket is apical to the mucogingival junction
- In areas with a shallow palatal vault or prominent external oblique ridge

Anatomical Crown Exposure

Anatomical Crown exposure is indicated in a periodontally healthy area for the following:

- To facilitate the restoration of subgingival caries
- To allow proper contour of restoration
- To allow management of a subgingivally fractured tooth

Flap Procedures

Gingival Flap and apically positioned Flap procedures are indicated for the following:

- The presence of moderate to deep probing depths
- Moderate/severe gingival enlargement or extensive areas of overgrowth
- Loss of attachment
- The need for increased access to root surface and/or alveolar bone when previous non-surgical attempts have been unsuccessful

- The diagnosis of a cracked tooth, fractured root or external root resorption when this cannot be accomplished by non-invasive methods
- To preserve keratinized tissue in conjunction with Osseous Surgery

Clinical Crown Lengthening – Hard Tissue

Clinical crown lengthening – hard tissue is indicated for the following:

- In an otherwise periodontally healthy area to allow a restorative procedure on a tooth with little to no crown exposure
- To allow preservation of the biological width for restorative procedures

Osseous Surgery

Osseous Surgery is indicated for the following:

- Patients with a diagnosis of moderate to advanced or Refractory periodontal disease
- When less invasive therapy (i.e., non-surgical periodontal therapy, Flap procedures) has failed to eliminate disease

Osseous Surgery is not indicated for teeth with a hopeless prognosis.

Mesial/Distal Wedge

A mesial/distal wedge procedure is indicated for the following:

- The presence of moderate to deep probing depths (greater than 5mm) on a surface adjacent to an edentulous/terminal tooth area
- The need for increased access to root surface and/or alveolar bone when previous non-surgical attempts have been unsuccessful on a surface adjacent to an edentulous/terminal tooth area
- The diagnosis of a cracked tooth, fractured root or external root resorption on a surface adjacent to an edentulous/terminal tooth area, when this cannot be accomplished by non-invasive methods

Resective Periodontal Surgical Procedures

Resective periodontal surgical procedures are not indicated for the following:

- Individuals with an uncontrolled underlying medical condition
- Individuals who have been non-compliant with non-surgical periodontal therapies
- For teeth with a hopeless prognosis

Exclusions

- Any Dental Procedure performed solely for cosmetic/aesthetic reasons
- Any Dental Procedure not directly associated with dental disease
- Procedures that are considered to be Experimental, Investigational or Unproven
- Dental Services that are not Necessary

Definitions

Anatomical Crown: That portion of tooth normally covered by, and including, enamel. (ADA)

Experimental, Investigational or Unproven Services: Medical, dental, surgical, diagnostic, or other health care services, technologies, supplies, treatments, procedures, drug therapies or devices that, are determined to be:

- Not approved by the U.S. Food and Drug Administration (FDA) to be lawfully marketed for the propose use and not identified in the American Hospital Formulary Service or the United States Pharmacopoeia Dispensing Information as appropriate for the proposed use; or
- Subject to review and approval by any institutional review board for the proposed use; or
- The subject of an ongoing clinical trial that meets the definition of a Phase 1, 2 or 3 clinical trial set forth in the FDA regulations, regardless of whether the trial is actually subject to FDA oversight; or
- Not demonstrated through prevailing peer–reviewed professional literature to be safe and effective for treating or diagnosing the condition or illness for which its use is proposed; or
- Pharmacological regimens not accepted by the American Dental Association (ADA) Council on Dental Therapeutics

Furcation: The anatomic area of a multirooted tooth where the roots diverge. A furcation involvement refers to loss of periodontal support in a furcation (ADA, 2016). The Glickman Classification of Tooth Furcation Grading (Sims, 2015):

- Grade I:
  - Incipient
  - Just barely detectable with examination hand instruments
  - No horizontal component of the furcation is evident on probing
- Grade II:
  - Early bone loss
  - Examination hand instrument goes partially into the furcation, but not all the way through
  - Furcation may be grade II on both sides of the tooth, but are not connected
- Grade III:
  - Advanced bone loss
  - Examination hand instrument goes all the way through furcation, to other side of tooth
  - Furcation is through-and-through
- Grade IV:
  - Through-and-through, plus furcation is clinically visible due to gingival recession

Gingivectomy: The excision or removal of gingiva. (ADA)

Gingivoplasty: Surgical procedure to reshape gingiva. (ADA)

McGuire Classification of Tooth Prognosis (Levi 2016):

- Good: Teeth with adequate periodontal support where the etiologic factors can be controlled, including systemic factors
- Fair: No more than 25% attachment loss with Grade 1 furcation invasion which can be maintained. Plaque control and systemic factors can be maintained
- Poor: As much as 50% bone loss with Grade II furcation invasions, poor crown: root ratio; Mobility greater than Miller Class I; systemic factors; poor patient participation in treatment
- Questionable: Teeth with greater than 50% attachment loss; Grade II or III furcation involvements; the tooth is not easily maintained either with professional hygiene or by the patient
- Hopeless: Inadequate attachment to support the tooth; Class III or IV furcation involvement; Miller Class III Mobility; the tooth cannot be maintained with adequate plaque control by the clinician or by the patient.

Mobility: The movement of a tooth in its socket resulting from an applied force. (AAP) Miller Index of Tooth Mobility (Harpenau 2013):

- Class 0: Normal physiologic tooth movement
- Class I: First distinguishable signs of movement beyond normal
- Class II: Tooth movement up to 1mm in any direction
- Class III: Tooth can be moved more than 1mm in any direction and/or the tooth can be depressed into the socket

Necessary: Dental Services and supplies which are determined through case-by-case assessments of care based on accepted dental practices to be appropriate; and

- Needed to meet your basic dental needs; and
- Rendered in the most cost-efficient manner and type of setting appropriate for the delivery of the dental service; and
- Consistent in type, frequency and duration of treatment with scientifically based guidelines of national clinical, research, or health care coverage organizations or governmental agencies that are accepted; and
- Consistent with the diagnosis of the condition; and
- Required for reasons other than the convenience of you or your dental provider; and
- Demonstrated through prevailing peer-reviewed dental literature to be either:
  - Safe and effective for treating or diagnosing the condition or sickness for which its use is proposed; or
  - Safe with promising efficacy:
    - For treating a life threatening dental disease or condition; and
    - In a clinically controlled research setting; and
    - Using a specific research protocol that meets standards equivalent to those defined by the national institutes of Health

Osseous Surgery: Procedures to modify bone support altered by periodontal disease, either by reshaping the alveolar process to achieve physiologic form without the removal of alveolar supporting, or by the removal of some alveolar bone, thus changing the position of the crestal bone relative to the tooth root. (See: Ostectomy; Osteoplasty) (AAP)

Periodontal Flap: A section of the gingiva and/or the mucosa surgically separated from the underlying tissues to provide visibility and access to the bone and root surface. (Essentials of Clinical Periodontology & Periodontics)

Quadrant: One of the four equal sections into which the dental arches can be divided; begins at the midline of the arch and extends distally to the last tooth. (ADA)

Refractory Periodontitis: A condition in which one or more forms of periodontitis are unresponsive to treatment despite excellent patient compliance and delivery of periodontal therapy that ordinarily is successful in arresting the progression of periodontitis. (AAP)

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

CDT Code	Description
D4210	Gingivectomy or gingivoplasty – four or more contiguous teeth or tooth bounded spaces per quadrant
D4211	Gingivectomy or gingivoplasty – one to three contiguous teeth or tooth bounded spaces per quadrant
D4212	Gingivectomy or gingivoplasty to allow access for restorative procedure, per tooth
D4230	Anatomical crown exposure – four or more contiguous teeth or bounded tooth spaces per quadrant
D4231	Anatomical crown exposure one to three teeth or bounded tooth spaces per quadrant
D4240	Gingival flap procedure, including root planing – four or more contiguous teeth or tooth bounded spaces per quadrant
D4241	Gingival flap procedure, including root planing – one to three contiguous teeth or tooth bounded spaces per quadrant
D4245	Apically positioned flap
D4249	Clinical crown lengthening – hard tissue
D4260	Osseous surgery (including flap entry and closure) – four or more contiguous teeth or tooth bounded spaces per quadrant
D4261	Osseous surgery (including flap entry and closure) – one to three contiguous teeth or tooth bounded spaces per quadrant
D4274	Mesial/distal wedge procedure, single tooth (when not performed in conjunction with surgical procedures in the same anatomical area)
D4999	Unspecified periodontal procedure, by report

Description of Services

The American Academy of Periodontology (AAP) guidelines stress that periodontal health should be achieved in the least invasive and cost effective manner. Using non-surgical periodontal therapy, many individuals can be treated and maintained without the need for surgical intervention. However, surgical procedures may be required when periodontal health cannot be achieved or maintained non-surgically, and may be performed by electrosurgery, lasers or surgical scalpels. Resective

periodontal surgery procedures are indicated to eliminate pockets and recontour osseous bone. They may also be indicated when there is a need to expose or lengthen the clinical crown for the completion of restorative procedures.

Clinical Evidence

Serino et al. (2001) performed a clinical trial to determine the initial outcome of non-surgical and surgical periodontal therapy in subjects with advanced disease, as well as the incidence of recurrent disease during 12 years of maintenance following active therapy. There were 64 subjects included in the trial, and all showed signs of generalized gingival inflammation, had a minimum of 12 non-molar teeth with deep pockets (6mm or greater) and with 6mm or greater alveolar bone loss. They were randomly assigned to 2 treatment groups; one surgical (SU) and one non-surgical (SRP). After therapy, all subjects were enrolled in a maintenance care program and were provided with meticulous supportive periodontal therapy and maintenance 3-4 times per year. At these maintenance appointments, sites that bled on gentle probing and had probing depths greater than or equal to 5 mm were treated with subgingival instrumentation. Comprehensive re-examinations were performed after 1, 3, 5 and 13 years of maintenance therapy. It was observed that that surgical therapy was more effective than non-surgical scaling and root planing in reducing the overall mean probing pocket depth and in eliminating deep pockets, and that more non-surgical subjects exhibited signs of advanced disease progression in the 1-3 year period following active therapy than the subjects initially treated surgically. The authors concluded that in subjects with advanced periodontal disease, surgical therapy provides better short and long-term periodontal pocket reduction and may lead to fewer subjects requiring additional adjunctive therapy.

Heitz-Mayfield et al. (2002) conducted a systemic review of the evidence of effectiveness of surgical vs. non-surgical therapy for the treatment of chronic periodontal disease. Sources included the National Library of Medicine computerized bibliographic database MEDLINE, and the Cochrane Oral Health Group (COHG) Specialist Trials Register. The primary outcome measures evaluated were gain in clinical attachment level (CAL) and reduction in probing pocket depth (PPD). Meta-analysis evaluation of these studies indicated that 12 months following treatment, surgical therapy resulted in 0.6 mm more PPD reduction than non-surgical therapy in pockets 6 mm or greater. The authors concluded that both scaling and root planing alone and scaling and root planing combined with flap procedure are effective methods for the treatment of chronic periodontitis in terms of attachment level gain and reduction in gingival inflammation. In the treatment of pocket depths greater than 6 mm, open flap debridement results in greater PPD reduction and clinical attachment gain.

Hayakawa et al. (2012) conducted a retrospective study with the aim of investigating the outcome of surgical periodontal therapy during the period of April 2010 through March 2012 at the General Dentistry, Tokyo Dental College Suidobashi Hospital. The main focus is to compare open flap debridement and regenerative treatment modalities. Following initial periodontal therapy, 17 clinicians performed a total of 138 periodontal surgeries in 80 patients with moderate to advanced periodontitis. Open Flap Debridement was the most commonly performed surgery (74%), followed by 29 regenerative procedures, 7 cases of periodontal plastic surgery, and no cases of guided tissue regeneration. Clinical parameters (probing depth, bleeding on probing and clinical attachment levels) were reduced following initial therapy for all cases, with surgical intervention reducing them further. There was a significant gain in clinical attachment level when regenerative therapy was performed on areas with an initial probing depth greater than 8 mm. The authors concluded that while initial non-surgical therapy improves clinical parameters, open flap debridement surgery results in significantly higher gain in clinical attachment level for probing depths over 6 mm, with periodontal regeneration surgery providing higher gain in areas with probing depths exceeding 8mm.

Levy et al. (2002) conducted an investigational study to examine the clinical and microbiologic effects of apically repositioned flap surgery. (This study was intended to extend the findings of a previous study that evaluated the effect of apically repositioned flap surgery on clinical parameters and the composition of the subgingival microbiota at 3 months posttherapy). Eighteen patients with chronic periodontitis received initial preparation (IP) including scaling and root planing followed 3 months later by apically repositioned flap surgery at sites with pocket depth greater than 4 mm. All subjects had at least 20 teeth and at least eight sites with pockets greater than 4 mm and eight sites with attachment loss greater than 3 mm. Subjects were monitored clinically and microbiologically at baseline, 3 months after IP, and at 3, 6, 9, and 12 months post-surgery. Clinical assessments of plaque accumulation, gingival redness, suppuration, bleeding on probing, pocket depth, and attachment level were made at six sites per tooth and the presence and levels of 40 subgingival groups of organisms were determined using checkerboard DNA-DNA hybridization. Significant reductions were seen in mean pocket depth, bacterial colonization and percentage of sites exhibiting gingival redness and bleeding on probing in sites that received IP only and in sites receiving IP followed by surgery. Mean attachment level increased significantly for both sets of sites, but the increase was greater at the surgically treated sites. The study indicated that there were beneficial changes in most clinical parameters

accompanied by clear reductions in the post pathogenic organisms associated with periodontal disease. One of the most important aspects of this study was the further improvement at sites that received IP only, once periodontal surgery had been completed at the deeper periodontal pockets. The reduction in pocket depth by surgical means and the associated decrease in reservoirs of periodontal pathogens may be important in achieving sustained periodontal stability. Thus, periodontal surgery appears to be an important part of the armamentarium to control periodontal infections. This study supported and extended the findings of the previous study, and described changes not only at sites receiving apically repositioned flap surgery, but also at sites in the same mouth that received IP only. While the major beneficial clinical and microbiologic effect was observed at 3 months after surgery, these beneficial effects were sustained for at least 1 year and conceivably longer.

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Policy History/Revision Information

Date	Summary of Changes
04/01/2021	**Coverage Rationale** • Removed language addressing coverage limitations; refer to the member specific benefit plan document(s) **Supporting Information** • Updated *References* section to reflect the most current information • Archived previous policy version DCP013.08

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This Dental Clinical Policy provides assistance in interpreting UnitedHealthcare standard dental benefit plans. When deciding coverage, the member specific benefit plan document must be referenced as the terms of the member specific benefit plan may differ from the standard dental plan. In the event of a conflict, the member specific benefit plan document governs. Before using this policy, please check the member specific benefit plan document and any applicable federal or state mandates. UnitedHealthcare reserves the right to modify its Policies and Guidelines as necessary. This Dental Clinical Policy is provided for informational purposes. It does not constitute medical advice.