

NON-SURGICAL PERIODONTAL THERAPY

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Related Dental Policies
<ul style="list-style-type: none"> • Full Mouth Debridement • Surgical Periodontics: Mucogingival Procedures • Surgical Periodontics: Regenerative Procedures • Surgical Periodontics: Resective Procedures

INSTRUCTIONS FOR USE

This Dental Coverage Policy provides assistance in interpreting UnitedHealthcare dental benefit plans. When deciding coverage, the member specific benefit plan document must be referenced. The terms of the member specific benefit plan document [e.g., Certificate of Coverage (COC), Schedule of Benefits (SOB), and/or Summary Plan Description (SPD)] may differ greatly from the standard benefit plan upon which this Dental Coverage Policy is based. In the event of a conflict, the member specific benefit plan document supersedes this Dental Coverage Policy. All reviewers must first identify member eligibility, any federal or state regulatory requirements, and the member specific benefit plan coverage prior to use of this Dental Coverage Policy. Other Clinical Policies and Coverage Guidelines may apply. UnitedHealthcare reserves the right, in its sole discretion, to modify its Policies and Guidelines as necessary. This Dental Coverage Policy is provided for informational purposes. It does not constitute medical advice.

BENEFIT CONSIDERATIONS

Before using this policy, please check the member specific benefit plan document and any federal or state mandates, if applicable.

Essential Health Benefits for Individual and Small Group

For plan years beginning on or after January 1, 2014, the Affordable Care Act of 2010 (ACA) requires fully insured non-grandfathered individual and small group health plans (inside and outside of Exchanges) to provide coverage for Pediatric Dental Essential Health Benefits ("EHBs"). Large group plans (both self-funded and fully insured), and small group ASO plans, are not subject to the requirement to offer coverage for Pediatric Dental EHBs. However, if such plans choose to provide coverage for benefits which are deemed Pediatric Dental EHBs, the ACA requires all dollar limits on those benefits to be removed on all Grandfathered and Non-Grandfathered plans. The determination of which benefits constitute Pediatric Dental EHBs is made on a state by state basis. As such, when using this policy, it is important to refer to the member specific benefit plan document to determine benefit coverage.

COVERAGE RATIONALE

Scaling and Root Planing

Scaling and Root Planing is indicated for any of the following:

- Localized or generalized mild or moderate chronic periodontal disease which is the loss of clinical attachment due to destruction of the periodontal ligament and loss of the adjacent supporting bone, resulting in periodontal probing depths up to 6 mm with clinical attachment loss of up to 4 mm. Radiographic evidence of bone loss is likely, and tooth mobility may be present. In molars, Furcation involvement should not to exceed Class 1.
- Localized or generalized severe periodontal disease which is the loss of clinical attachment due to destruction of the periodontal ligament and loss of the adjacent supporting bone, resulting in periodontal probing depths greater than 6 mm with attachment loss greater than 4 mm. Radiographic evidence of bone loss and tooth mobility are most likely present.
- Chronic refractory mild or moderate periodontal disease which is characterized by patients who demonstrate additional attachment loss despite being longitudinally monitored with Periodontal Maintenance.

- Periodontal abscess which is characterized by localized swelling and/or increased probing depth and loss of periodontal attachment.

Scaling and Root Planing is not indicated for the following:

- In the absence of diagnosed periodontal disease
- For the removal of heavy deposits of calculus and plaque
- Gingivitis defined as inflammation of the gingival tissue without loss of attachment (bone and tissue)
- As a sole treatment for chronic periodontitis with advanced loss of support demonstrated by pockets greater than 6 millimeters with CAL greater than 4 millimeters, and radiographic bone loss (mobility may or may not be present)
- As a sole treatment for refractory chronic, aggressive or advanced periodontal diseases

Localized Delivery of Antimicrobial Agents

Localized Delivery of Antimicrobial Agents is indicated as an adjunct to Scaling and Root Planing in cases of refractory disease and/or residual disease with probing depths greater than or equal to 5 millimeters with inflammation still present following conventional therapies.

Localized Delivery of Antimicrobial Agents is not indicated for the following:

- When definitive therapy, including periodontal Scaling and Root Planing (SRP) procedures, have not been performed
- On the same day, or immediately following SRP, before adequate healing has been allowed to take place

Periodontal Maintenance

Periodontal Maintenance is indicated for the following:

- To maintain the results of surgical and non-surgical periodontal treatment, and prevent recurrent disease
- As an extension of active periodontal therapy at selected intervals

Periodontal Maintenance is not indicated for the following:

- No history of Scaling and Root Planing (SRP) or surgical procedures
- Gingivitis – Defined as inflammation of the gingival tissue without loss of attachment (bone and tissue)

Scaling in Presence of Generalized Moderate or Severe Gingival Inflammation – Full Mouth

Scaling in presence of generalized moderate or severe gingival inflammation is indicated for the removal of plaque, calculus and stains from supra- and sub-gingival tooth surfaces when there is generalized moderate or severe gingival inflammation in the absence of periodontitis.

It is indicated for patients who have swollen, inflamed gingiva, generalized suprabony pockets, and moderate to severe bleeding on probing.

Gingival Irrigation per Quadrant

Gingival Irrigation per Quadrant is unproven.

There is limited evidence to support the efficacy of a single episode or multiple in office irrigation appointments. The available studies show the greatest limitation of irrigation as an adjunctive therapy is that the antimicrobials are quickly eliminated and have no sustained effect.

DEFINITIONS

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

Gingival Irrigation Per Quadrant: Irrigation of gingival pockets with a medicinal agent. Not to be used to report use of mouth rinses or non-invasive chemical debridement. (ADA, 2016)

Localized Delivery of Antimicrobial Agents: FDA approved subgingival delivery devices containing antimicrobial medication(s) that are inserted into periodontal pockets to suppress the pathogenic microbiota. These devices slowly release the pharmacological agents so they can remain at the intended site of action in a therapeutic concentration for a sufficient length of time. (ADA, 2016)

Periodontal Maintenance: This procedure is instituted following periodontal therapy and continues at varying intervals, determined by the clinical evaluation of the dentist, for the life of the dentition or any implant replacements. It includes removal of the bacterial plaque and calculus from supragingival and subgingival regions, site specific Scaling and Root Planing where indicated and polishing the teeth. If new or recurring periodontal disease appears, additional diagnostic and treatment procedures must be considered. (ADA, 2016)

Scaling and Root Planing: This procedure involves instrumentation of the crown and root surfaces of the teeth to remove plaque and calculus from these surfaces. It is indicated for patients with periodontal disease and is therapeutic, not prophylactic in nature. Root planing is the definitive procedure designed for the removal of cementum and dentin that is rough, and/or permeated by calculus or contaminated with toxins or microorganisms. Some soft tissue removal occurs. This procedure may be used as a definitive treatment in some stages of periodontal disease and/or as a part of pre-surgical procedures in others. (ADA, 2016)

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 Clinical Policies and Coverage Guidelines may apply.

CDT Code	Description
D4341	Periodontal scaling and root planing – four or more teeth per quadrant
D4342	Periodontal scaling and root planing – one to three teeth per quadrant
D4346	Scaling in presence of generalized moderate or severe gingival inflammation – full mouth, after oral evaluation
D4381	Localized delivery of antimicrobial agents via a controlled release vehicle into diseased crevicular tissue, per tooth
D4910	Periodontal maintenance
D4921	Gingival irrigation-per quadrant

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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. With non-surgical periodontal therapy, many patients can be treated and maintained without the need for surgical intervention. Non- surgical periodontal therapy includes localized or generalized scaling and root planing, the use of antimicrobials and ongoing periodontal maintenance. Surgical procedures may be required when periodontal health cannot be achieved or maintained with conservative non-surgical therapies.

CLINICAL EVIDENCE

The American Dental Association Council on Scientific Affairs (2015) published the results of a 4 year systematic review and meta-analysis on the nonsurgical periodontal treatment for patients with chronic periodontitis via scaling and root planing (SRP) with and/or without adjunctive services. The group included 72 articles gained from a search on PubMed/Medline. The authors approached the review for evidence showing the results of patients treated with scaling and root planing (SRP) resulted in greater improvement in clinical attachment levels (CAL) compared to no treatment, prophylaxis, and debridement and if the use of local antimicrobials/antibiotics resulted in better improvement in periodontal condition. Full Mouth Debridement (D4355) was not considered “active treatment” for the purposes of this systematic review, as the procedure does not focus on removal of rough cementum or dentin

imbedded with biotoxins. Additionally, the research panel excluded studies that did not specifically include the term “root planing”. This review concluded that while studies showed improvement in CAL following SRP procedures, there is little evidence to support the efficacy of localized antimicrobial delivery. Only one delivery system, PerioChip[®] showed a moderate benefit in this regard. The other 2 FDA approved localized delivery medicaments, Arestin[®] and Atridox[®] showed unclear benefits due to small number of studies as well as the unclear risk of bias.

The American Academy of Periodontology (2005) conducted a systemic review of the published literature regarding supra and subgingival oral irrigation for the treatment of periodontal disease. Studies from 1960-1994 were reviewed and the results published in their Academy Report in 2005. The treatments were reviewed as mono-therapy as well as an adjunct to conventional therapy within each category. Supragingival irrigation with water, water and antimicrobial, and placebo alone and in conjunction with tooth brushing showed no significant evidence in improved outcomes in treating and managing periodontal disease or gingivitis. Subgingival irrigation showed overall reduction but not elimination of pathogens, and the subgingival microflora returned to pretreatment levels within 1-8 weeks. There is overall scant evidence to support the efficacy of a single episode or multiple in office irrigation appointments. The available studies show the greatest problem with irrigation as an adjunctive therapy is that the antimicrobials are quickly eliminated and localized delivery via a controlled release device will allow slow release of medicaments.

Bland et al. (2010) conducted a randomized study to investigate the association between the antimicrobial and clinical efficacy of minocycline hydrochloride microspheres when used adjunctively with scaling and root planing. 127 subjects with moderate-to-advanced chronic periodontitis were randomly assigned to receive minocycline microspheres plus scaling and root planing or scaling and root planing alone. Clinical data was obtained at baseline and 30 days after treatment. End points included changes in the mean sum of red complex bacteria, pocket depth, number of deep pockets, bleeding on probing, and clinical attachment level from baseline to day 30. This study showed minocycline microspheres plus scaling and root planing reduced pocket depth, the number of deep pockets and bleeding on probing, and increased clinical attachment level significantly more than scaling and root planing alone. Additionally, the pocket depth reduction correlated significantly with a decrease in the numbers and proportions of red complex bacteria. Minocycline microspheres significantly improved all clinical parameters compared to scaling and root planing alone. The authors concluded that the addition of minocycline microspheres to scaling and root planing led to a greater reduction in the proportions and numbers of red complex bacteria.

Matesanz et al. (2013) conducted a systematic review to update the existing scientific evidence on the efficacy of local antimicrobials as adjuncts to subgingival debridement in the treatment of chronic periodontitis. Fifty-six papers were selected, reporting data from 52 different investigations. All the studies reported changes in probing pocket depth (PPD) and clinical attachment level (CAL) and most in plaque index (PI) and/or bleeding on probing (BOP). Meta-analyses were performed with the data retrieved from the studies fulfilling the inclusion criteria. Subgingival application of tetracycline fibers, sustained released doxycycline and minocycline demonstrated a significant benefit in PPD reduction. The local application of chlorhexidine and metronidazole showed a minimal effect when compared with placebo. This systematic review showed that the scientific evidence supports the adjunctive use of local antimicrobials mostly when using vehicles with proven sustained release.

Jeffcoat et al. (2000) expounded on previous multi-center trials that demonstrated the efficacy of a biodegradable chlorhexidine-gelatin chip (CHX) in reducing probing depth in patients with periodontitis. This study utilized a subset of the subjects from the previous studies to determine if the CHX chip was effective in maintaining alveolar bone over a 9-month period. Forty-five subjects with at least four 5 to 8 millimeters pockets were enrolled in this double-blind controlled, placebo-controlled trial. Control groups received either placebo chip plus scaling and root planing (SRP) or SRP alone. Test group subjects received active CHX chip or SRP alone. Standardized radiographs were taken for quantitative digital subtraction radiography at baseline and 9 months. At the 9 month assessment, 15% of SRP treated subjects experienced loss of bone in 1 or more sites, and none of the subjects treated with the active CHX chip combined with SRP lost bone. Also noted were significant differences in the change in probing depth and clinical attachment levels in the subjects treated with both SRP and the CHX chip. The researchers concluded that the data indicates that the CHX chip, when used as an adjunct to scaling and root planing, significantly reduces loss of alveolar bone.

Sadaf et al. (2012) conducted a controlled clinical study to compare the efficacy of scaling and root planing (SRP) alone versus tetracycline fiber therapy used adjunctively in the treatment of chronic periodontitis sites in maintenance patients. A total of 30 patients with a diagnosis of chronic periodontitis were selected. None of these patients had received any surgical or non-surgical periodontal therapy and had sites of periodontal pockets measuring 4–7 millimeters clinically and demonstrated radiographic evidence of moderate bone loss. Plaque indexes (PI) and Gingival-bleeding index (GBI) were measured at baseline and 15th, 30th, 60th, and 90th day. Clinical pocket depth (PD) and microbial analysis (MA) were analyzed at baseline and 90th day. At 3 months adjunctive tetracycline fiber therapy was significantly better in reducing PI, GBI than SRP alone. In comparison, the reduction in the PD was non-significant. The microbial analysis showed significant reduction in Porphyromonas gingivalis and Prevotella subgingival

flora. The researchers concluded that the results indicate that fiber therapy significantly enhanced the effectiveness of SRP in the management of chronic periodontitis due to the reduction of colonized subgingival bacterial flora. **ESSIONAL**

Becker, W. and B.E. Becker (1984) conducted a retrospective study of 44 patients who had completed active periodontal therapy and for varying reasons, elected to not follow up with the maintenance portion of periodontal therapy. Examination showed worsening of furcation involvements, and overall bone loss. The reviewers concluded that periodontal therapy without maintenance is of little value in therapeutically restoring periodontal health.

Goldman et al. (1986) conducted a retrospective study of tooth loss in 211 patients who were treated for periodontal disease in private practice and maintained for 15 to 34 years on 3- to 6-month recall schedules is reported. On the basis of response to therapy, the patients were classified as Well-Maintained (62%), Downhill (28%) and Extreme Downhill (10%) The average age of the patients was 42 years, and the average length of time in maintenance was 22 years. The importance of maintenance therapy is emphasized in this retrospective study.

U.S. FOOD AND DRUG ADMINISTRATION (FDA)

Currently, there are three resorbable, site-specific locally administered antimicrobial/antibiotics products approved by the FDA for the treatment of chronic periodontitis.

- Arestin® (OraPharma, Inc.)
 - See the following website for more information:
http://www.accessdata.fda.gov/scripts/cder/ob/docs/obdetail.cfm?Appl_No=050781&TABLE1=OB_Rx
- Atridox® (Tolmar Inc.)
 - See the following website for more information:
http://www.accessdata.fda.gov/scripts/cder/ob/docs/obdetail.cfm?Appl_No=050751&TABLE1=OB_Rx
- PerioChip® (Dexcel Pharma)
 - See the following website for more information:
http://www.accessdata.fda.gov/scripts/cder/ob/docs/obdetail.cfm?Appl_No=020774&TABLE1=OB_Rx

(Accessed September 4, 2018)

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POLICY HISTORY/REVISION INFORMATION

Date	Action/Description
11/01/2018	<ul style="list-style-type: none"> • Updated coverage rationale: <ul style="list-style-type: none"> ○ Modified list of indications for periodontal maintenance; replaced “to maintain the results of non-surgical periodontal <i>scaling and root planing therapy</i> and prevent recurrent disease” with “to maintain the results of <i>surgical and non-surgical periodontal treatment</i> and prevent recurrent disease” ○ Updated information pertaining to clinical evidence/study findings for gingival irrigation per quadrant; replaced language indicating “the available studies show the greatest <i>problem with</i> irrigation as an adjunctive therapy is that the antimicrobials are quickly eliminated” with “the available studies show the greatest <i>limitation of</i> irrigation as an adjunctive therapy is that the antimicrobials are quickly eliminated <i>and have no sustained effect</i>” • Updated supporting information to reflect the most current description of services and references • Archived previous policy version DCP004.04