

Non-Surgical Periodontal Therapy

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[Instructions for Use](#)

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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

Coverage Rationale

Scaling and Root Planing

Scaling and Root Planing is indicated for the treatment of localized or generalized active Periodontal Disease characterized by:

- Periodontal probing depths of 4-6+ mm with radiographic evidence of horizontal or vertical bone loss
- Refractory or recurrent Periodontal Disease
- Periodontal abscess

Scaling and Root Planing is not indicated for the following:

- For the removal of heavy deposits of calculus and plaque in the absence of clinical attachment loss
- Gingivitis as defined by inflammation of the gingival tissue without loss of attachment (bone and tissue)

Localized Delivery of Antimicrobial Agents

Localized delivery of antimicrobial agents is indicated in cases of Periodontal Disease with probing depths greater than or equal to 5 millimeters with active disease (bleeding upon probing, exudate and inflammation) present.

Periodontal Maintenance

Periodontal Maintenance is indicated for the following:

- To maintain the results of surgical and non-surgical periodontal treatment
- 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

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.

Gingival Irrigation

Gingival Irrigation is unproven due to insufficient evidence of efficacy.

Coverage Limitations

- Scaling and Root Planing is limited to 1 time per quadrant per consecutive 24 months
- Localized delivery of antimicrobial agents is limited to 3 sites per quadrant, or 12 sites total
- Periodontal Maintenance is limited to 2 times per consecutive 12 months

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

Gingivitis: Inflammation of gingival tissue without loss of connective tissue (ADA)

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)

Periodontal Disease: Inflammatory process of the gingival tissues and/or periodontal membrane of the teeth, resulting in an abnormally deep gingival sulcus, possibly producing periodontal pockets and loss of supporting alveolar bone (ADA).

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)

Root Planing: A definitive treatment procedure designed to remove cementum and/or dentin that is rough, may be permeated by calculus, or contaminated with toxins or microorganisms (ADA).

Scaling: Removal of plaque, calculus, and stain from teeth (ADA).

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
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 most cost effective manner. With non-surgical periodontal therapy, many patients can be treated and maintained without the need for surgical intervention, however patients with advanced and aggressive forms of disease may require periodontal surgery. Non-surgical periodontal therapy includes localized or generalized scaling and root planing, the use of antimicrobials and ongoing periodontal maintenance.

Clinical Evidence

Killeen et al. (2018) conducted a two-year randomized clinical trial of the role of adjunctive minocycline microspheres in periodontal maintenance. The authors evaluated the effects of repeated scaling and root planing (SRP), with or without locally-delivered minocycline microspheres (MM) on residual pockets in patients undergoing periodontal maintenance (PMT). Patients on PMT were randomized into two groups for treatment of one posterior interproximal inflamed pocket (≥ 5 mm) with a history of bleeding on probing every 6 months: SRP plus MM (n=30) or exclusively SRP (n=30). Baseline and 24-month measurements included radiographic interproximal alveolar bone height, probing depths (PD), clinical attachment level (CAL), bleeding on probing (BOP), gingival crevicular fluid (GCF), and salivary interleukin (IL) - 1β , (24 month only). Results were analyzed for baseline data or change in measurements after 24 months of treatment between different treatment groups, as well as whether significant changes occurred after 24 months of treatment for each treatment group individually. The results showed alveolar bone height and GCF IL- 1β remained stable over the 24 months. The SRP + MM and SRP groups each demonstrated reduced PD, CAL and BOP. However, there were no differences between groups over the 24-month study period. The authors concluded that SRP alone, of moderately inflamed periodontal pockets at 6-month intervals, produced stable interproximal alveolar bone height as well as sustained improvements in probing depths, clinical attachment level, bleeding on probing over 24 months, and minocycline microspheres were not shown to enhance these results.

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.

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.

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.

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.

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.

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.

U.S. Food and Drug Administration (FDA)

This section is to be used for informational purposes only. FDA approval alone is not a basis for coverage.

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:
<https://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=overview.process&AppNo=050781>
 - Atridox® (Den-Mat Holdings, Inc.)
 - See the following website for more information:
<https://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=overview.process&AppNo=050751>
 - PerioChip® (Dexcel Pharma)
 - See the following website for more information:
<https://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=overview.process&AppNo=020774>
- (Accessed September 2, 2020)

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UnitedHealthcare 2018 Dental Certificate of Coverage.

Policy History/Revision Information

Date	Summary of Changes
03/15/2021	<ul style="list-style-type: none"> Updated dental entity brand logo
01/01/2021	<p>Template Update</p> <ul style="list-style-type: none"> Reformatted policy; transferred content to new template
12/01/2020	<p>Coverage Rationale</p> <p><i>Scaling and Root Planing</i></p> <ul style="list-style-type: none"> Revised list of conditions for/in which Scaling and Root Planning is indicated for the treatment of localized or generalized active Periodontal Disease; replaced: <ul style="list-style-type: none"> “Periodontal probing depths up to 6 mm with clinical attachment loss of up to 4 mm; radiographic evidence of bone loss and tooth mobility may be present, in molars, Furcation Involvement should not exceed Class 1” with “periodontal probing depths of 4-6+ mm with radiographic evidence of horizontal or vertical bone loss” “Periodontal probing depths <i>greater than 6 mm with attachment loss greater than 4 mm</i>; radiographic evidence of bone loss <i>and tooth mobility are present</i>” with “periodontal probing depths of <i>4-6+ mm</i> with radiographic evidence of <i>horizontal or vertical</i> bone loss” Revised list of conditions for/in which Scaling and Root Planning is not indicated; removed “as a sole treatment for refractory chronic, aggressive or advanced Periodontal Disease” <p><i>Localized Delivery of Antimicrobial Agents</i></p> <ul style="list-style-type: none"> Replaced language stating “localized delivery of antimicrobial agents is indicated in cases of <i>refractory Periodontal Disease and/or residual</i> Periodontal Disease with probing depths greater than or equal to 5 millimeters with inflammation <i>still present following conventional therapies</i>” with “localized delivery of antimicrobial agents is indicated in cases of Periodontal Disease with probing depths greater than or equal to 5 millimeters with <i>active disease (bleeding upon probing, exudate and inflammation)</i> present” Removed language indicating localized delivery of antimicrobial agents is not indicated on the same day, or immediately following scaling and root planning, before adequate healing has been allowed to occur <p><i>Coverage Limitations</i></p> <ul style="list-style-type: none"> Replaced language stating: <ul style="list-style-type: none"> “Localized delivery of antimicrobial agents is limited to 3 sites per quadrant, or 12 sites total, <i>for refractory pockets, or in conjunction with scaling or root planing, by report</i>” with “localized delivery of antimicrobial agents is limited to 3 sites per quadrant, or 12 sites total”

Date	Summary of Changes
	<ul style="list-style-type: none"> ○ “Periodontal Maintenance is limited to 2 times per consecutive 12 months <i>following active or adjunctive periodontal therapy, and exclusive of gross debridement</i>” with “Periodontal Maintenance is limited to 2 times per consecutive 12 months” <p>Supporting Information</p> <ul style="list-style-type: none"> ● Updated <i>Description of Services, Clinical Evidence</i> and <i>References</i> sections to reflect the most current information ● Archived previous policy version DCP004.06

Instructions for Use

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.