

# Clinical Practice Guideline For *Periodontics*



## INTRODUCTION:

**Periodontal Diseases.** This term, in its widest sense, includes all pathological conditions of the periodontium. It is however, commonly used with reference to those inflammatory disease which are plaque induced and which affect the marginal periodontium: **Periodontitis and Gingivitis**

### Gingivitis:

Gingivitis is the mildest form of periodontal disease. It involves inflammation confined to the gingival tissues.

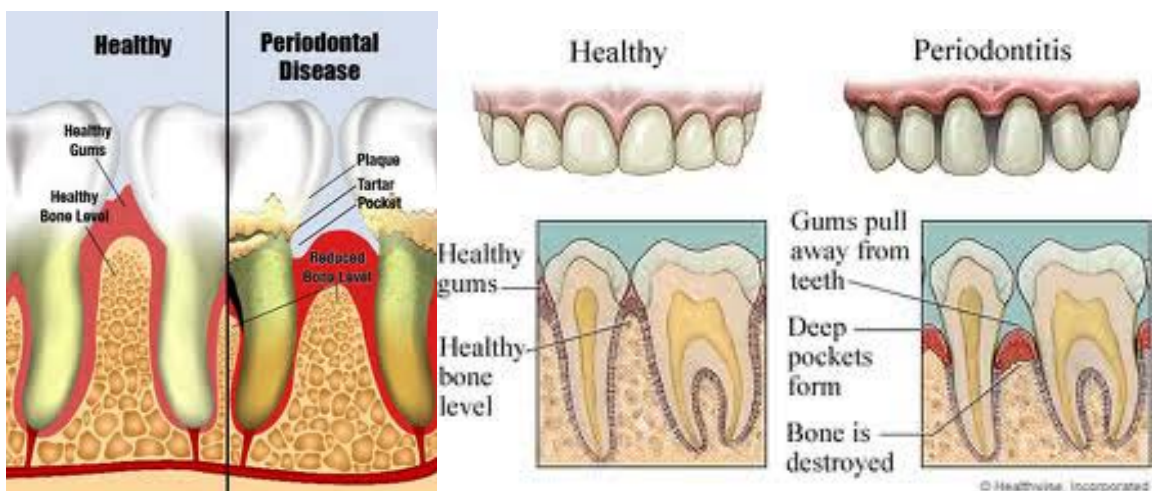


- There is no loss of connective tissue attachment
- A gingival pocket may be present

### Periodontitis:

Is the apical extension of gingival inflammation to involve the supporting tissues. Destruction of the fibre attachment results in periodontal pockets.

- it leads to loss of connective tissue attachment
- which in turn results in loss of supporting alveolar bone



## **OBJECTIVES OF TREATMENT**

- Relief of symptoms
- Restoration of periodontal health
- Restoration and maintenance of function and aesthetic



## **PERIODONTAL ASSESSMENT**

Assessment of medical history

Assessment of dental history

Assessment of periodontal risk factors

1. Age
2. Gender
3. Medications
4. Presence of plaque and calculus (quantity and distribution)
5. Smoking
6. Race/Ethnicity
7. Systemic disease (eg, diabetes)
8. Oral hygiene
9. Socio-economic status and level of education

Assessment of extra-oral and intraoral structures and tissues

Assessment of teeth

1. Mobility
2. Caries
3. Furcation involvement
4. Position in dental arch and within alveolus
5. Occlusal relationships
6. Evidence of trauma from occlusion

Assessment of periodontal soft tissues

1. Colour
2. Contour
3. Consistency (fibrotic or oedematous)
4. Presence of purulence (suppuration)
5. Amount of keratinized and attached tissue gingiva
6. Probing depths
7. Bleeding on probing
8. Clinical attachment levels
9. Presence and severity of gingival recession

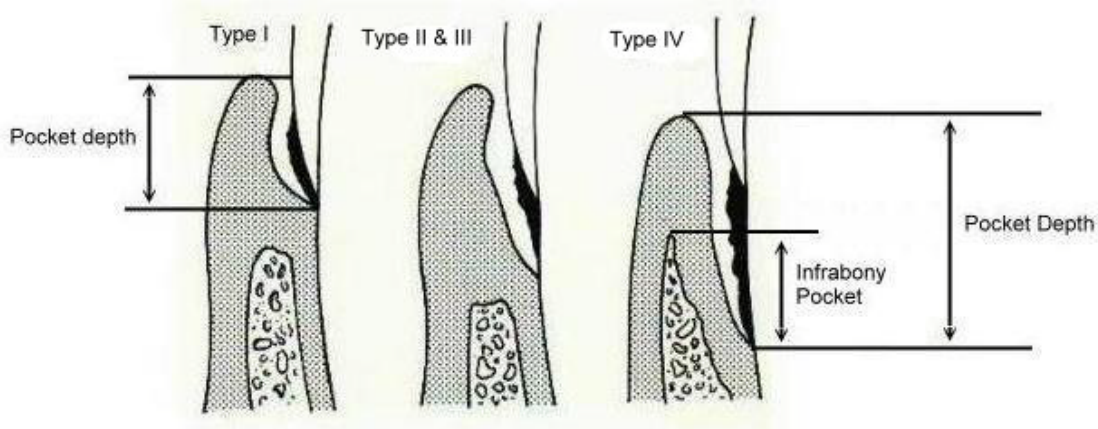


**Radiographic evaluation:**

This is useful in the evaluation of alveolar bone loss, bone density, furcations, root shape, and proximity, etc. It reveals the extent of bony involvement (bone loss), sub-gingival calculus, restorations and other pathologies that are present in the bone and teeth.



**The Treatment of Periodontal Disease**



**Prophylaxis/ Scaling:**



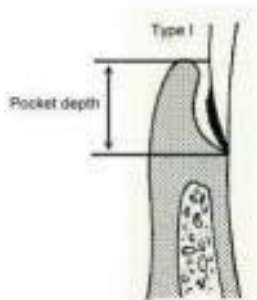
- It involves scaling calculus above the gum line followed by ordinary flossing, and pumice polishing using a rubber cup on a slow speed hand piece.
- A prophylaxis is performed only on patients with little bone loss and only minor, localized pocketing.
- With a pocketing of <3mm

## Debridement/ Root planing:

- A **full mouth debridement** involves supra and sub- gingival scaling to remove the bulk of the calculus and plaque from the teeth
- Root planing is a specific treatment that removes the roughened cementum and surface dentin that is impregnated with calculus, microorganisms and their toxins
- This is often done under local anaesthesia.

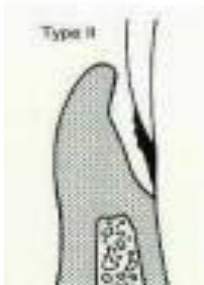


### Type I (Gingivitis)



- Type I periodontal disease is characterized by swollen and red gums (**gingivitis**).
- Presence of **pseudo pocketing**.
- If there is substantial buildup of calculus in the sulcus, the treatment of choice is a **full mouth debridement** followed by a second prophylaxis visit (referred to as a fine scale).

### Type II (early or mild) Periodontal Disease



- In type II periodontal disease, some bone loss has occurred.
- Pocketing area at most 3-4 mm deep.
- As with type I disease, the first line of treatment always involves a debridement visit followed by the thorough removal of all calculus and plaque under local anesthesia.
- This type of scaling is called a **root planing**.

### Type II (moderate periodontitis)





- In moderate periodontitis, pocket depths (or attachment loss) are 4 to 6 mm, with BOP and sometimes slight mobility.
- These cases are also treated with an initial debridement visit followed by several visits for scaling and root planing procedures.
- Unfortunately, because of the loss of the bone, the pockets may not subside all the way back to normal. Floss may not be able to reach all the way down to the base of the pocket

### **Type III (severe) Advanced Periodontal Disease**



- Type IV periodontal disease is much more serious than either of the other two types because the bone loss is so much more pronounced.
- The major difficulty here is that the bony pockets will not rebuild, and it becomes very difficult to reach all the way to the bottom of the infrabony pockets to clean them.
- In most of these cases, patients are referred to a Periodontist for periodontal surgery.

### **Type (refractory) periodontal disease**

- Same clinical signs as Advanced but includes adolescents or young adults
- Localized Or generalized
- Rapid cycles of disease
- Patients in this category may start out with mild to moderate periodontitis, follow through with treatment for each stage,
- carry out all home care procedures along with routine periodontal scaling every 3-4 months

### **Antibiotics and antibiotic delivery systems**

“Antibiotic therapy has been helpful as an adjunctive therapy ***in addition*** to root planing and good daily hygiene”.

### **Systemic Antibiotic:**

#### **Doxycycline [and Metronidazole (Flagyl)]**

- **Doxycycline** (minocycline) is a long acting form of tetracycline.
- It has an affinity for dermal structures so it tends to concentrate in the skin, teeth and gingivae.
- Doxycycline has both antibiotic properties and the ability to block the action of **collagenase** which is an enzyme that is produced by plaque organisms and is partly responsible for the dissolution of the connective tissue which makes up gum tissue.
- Azythromycin is another antibiotic that is recently proven to be very effective in the treatment of periodontal disease

### **Local Antibiotic:**

#### **Arestin**

Is a form of antibiotic that is actually injected into a periodontal pocket.

#### **Atridox**

It too is a method for delivering doxycycline. It is applied as a gel that conforms to the teeth and gums and then solidifies. Its effects are less long lasting than Arestin, but lasting enough to be of use during the healing phases after surgery.

#### **Actisite**

Is a thin thread similar to dental floss, which is treated with tetracycline hydrochloride. This thread is placed into the periodontal pockets around the roots of the teeth after a root planning.

## **General Overview of the Major Steps in a Typical Periodontal Treatment Plan.**

### Sequence of Major Phases

1. Address acute periodontal problems and/or pain
2. Review and update medical and dental histories
3. Assessment of systemic risk factors and refer for medical consultation as needed
4. Extra-oral examination
5. Oral cancer evaluation
6. Assessment of periodontal risk and modifying factors
7. Periodontal examination to include dental implants
8. Dental examination to include occlusal relationships and dental implants
9. Radiographic examination
10. Establish a definitive diagnosis
11. Generate a diagnosis-driven periodontal treatment plan and sequence of treatment
12. Determine required adjunctive restorative, prosthetic, orthodontic, and/or endodontic treatments and sequence
13. Execute Phase I therapy (aka anti-infective or nonsurgical therapy) with consideration given to adjunctive use of chemotherapeutic agents
14. Re-evaluation (assessment) of Phase I therapy
15. If end-points are not achieved, consider selective retreatment, need for surgical therapy, specialty referral, or use of adjunctive diagnostic aides, eg, microbial, genetic, medical lab tests, etc.
16. Determine interval for periodontal maintenance and continued assessment of periodontal status.

### Periodontal Diagnostic Guidelines.

**Table 1:**

<b>Case Indicator</b>	<b>Healthy</b>	<b>Gingivitis</b>
<b>Pocket Depth</b>	[less than or equal to] 3 mm	[less than or equal to] 4 mm
<b>Bleeding Upon Probing</b>	No	Yes
<b>Six-Point Probing</b>	Yes	Yes
<b>Bone Loss</b>	None	None
<b>Tooth Mobility</b>	None	None
<b>Furcation</b>	None	None
<b>Clinical Attachment Loss(CAL)</b>	None	None
<b>Other</b>	No Inflammation	Only Gingival Tissues affected by inflammatory Process No alveolar bone loss Localized or generalized
<b>TREATMENT MODALITY</b>		
<b>Assessment</b>	Prophylaxis/ OHI	Prophylaxis/OHI
<b>Active Therapy</b>	Prophylaxis OHI	Prophylaxis OHI
<b>Ongoing</b>	6 Months	6 Months
<b>Maintenance</b>	Prophylaxis/OHI	Prophylaxis/OHI

**Table 2.**

<b>Case Indicator</b>	<b>Slight chronic Periodontitis</b>	<b>Moderate chronic Periodontitis</b>	<b>Advanced Periodontitis</b>	<b>Aggressive/ Retractory (Not included)</b>



<b>Pocket Depth</b>	4-5 mm	5-6 mm	[Greater than or Equal to] 6mm	[Greater than or Equal to] 6mm
<b>Bleeding Upon Probing</b>	Yes	Yes	Yes	Yes
<b>Six-Point Probing</b>	Yes	Yes	Yes	Yes
<b>Bone Loss</b>	[less than or equal to] 10%	[less than or equal to] 33%	[Greater than or Equal to] 33%	[Greater than or Equal to] 33%
<b>Tooth Mobility</b>	None	[less than or equal to] Grade II	[less than or equal to] Grade III	[less than or equal to] Grade III
<b>Furcation</b>	< Grade I	[less than or equal to] Grade II	[less than or equal to] Grade III or IV	[less than or equal to] Grade III or IV
<b>Clinical Attachment Loss (CAL)</b>	1-2 mm CAL	3-4 mm CAL	[Greater than or Equal to] 5mm CAL	[Greater than or Equal to] 5mm CAL
<b>Other</b>	Signs of inflammation may be present, <b>including:</b> -Edema -Redness Suppuration -Alveolar bone level is 3-4 mm from CEJ -Radiographic bone loss present -Localized or generalized	Signs of inflammation may be present, <b>including:</b> -Edema -Redness -Suppuration- -Alveolar bone level is 4-6 mm from CEJ -Radiographic bone loss present -Localized or generalized	Signs of inflammation present, <b>including:</b> -Edema -Redness -Suppuration- -Alveolar bone level is [Greater than or equal to] 6 mm from CEJ -Radiographic bone loss present -Localized or generalized progression	Signs of inflammation present, <b>including:</b> -Edema -Redness -Suppuration- -Same clinical signs as Advanced but includes adolescents or young adults -Localized or generalized -Rapid cycles of disease

**TREATMENT MODALITY**

<b><u>Case Indicator</u></b>	<b><u>Slight Periodontitis</u></b>	<b><u>Moderate Periodontitis</u></b>	<b><u>Advanced Periodontitis</u></b>	<b><u>Aggressive/ Refractory</u></b>
<b>Assessment</b>	-Comp. Oral Evaluation -Comp. Perio Evaluation -X-rays	-Comp. Oral Evaluation -Comp. Perio Evaluation -X-rays	-Comp. Oral Evaluation -Comp. Perio Evaluation -X-rays	-Comp. Oral Evaluation -Comp. Perio Evaluation -X- rays (bitewing & OPG) -Occlusal Analysis -Full Mouth Debride

	(bitewing & OPG) -Occlusal Analysis Full mouth Debride	(bitewing & OPG) -Occlusal Analysis -Full Mouth Debride	(bitewing & OPG) -Occlusal Analysis -Full Mouth Debride	
<b>Active Therapy</b>	-Quadrant SRP -Localized SRP -Locally Administered Antimicrobials -OHI -Specialty Referral	-Quadrant SRP -Localized SRP -Locally Administered Antimicrobials -OHI -Specialty Referral	-Quadrant SRP -Localized SRP -Locally Administered Antimicrobials -OHI -Specialty Referral	-Specialty Referral
<b>Ongoing Maintenance</b>	-Perio Maintenance-- 3/4/6 months -OHI -Locally Administered Antimicrobials -Localized SRP	-Perio Maintenance-- 3/4/6 months -OHI -Locally Administered Antimicrobials -Localized SRP	-Perio Maintenance-- 3/4/6 months -OHI -Locally Administered Antimicrobials -Localized SRP	-Perio Maintenance--3/4/6 months -OHI -Locally Administered Antimicrobials -Localized SRP

- SRP- Simple Root Planing

**Level of Management by Cadre to be determined.**

**Equipment and Instrument Needed.**

- Periodontal probes
- Hand Scalers
- Prophylaxis machine with Tips

**References:**

1. Grant, DS, Stern IB, **Periodontics**, 6th Edition, CV Mosby and Co. St. Louis 1988.
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3. W M M Jenkins, C J Allan, **Peridontitis A Synopsis**, Reed Educational, 1999.
4. [www.clinicalperiodontology.com](http://www.clinicalperiodontology.com)

5. (Adapted from Newman MG, Takei H, Klokkevold PR, Carranza FA. Carranzas Clinical Periodontology 10th ed. Philadelphia, PA: Elsevier; 2006.)
6. (Adapted from Newman MG, Takei H, Klokkevold PR, Carranza FA. Carranza's Clinical Periodontology 10th ed. Philadelphia, PA: Elsevier, 2006.)
7. (Adapted from Armitage GC. Development of a classification system for periodontal diseases and conditions. Ann Periodontol 1999; 4(1):1-6

### **AKNOWLEDGEMENT:**

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## **ANNEX**

### **DEFINITIONS & CLASSIFICATIONS**

- (a) Excluding gingival overgrowth and recession
- (b) Bleeding upon probing may not be present in individuals with periodontal disease who are smokers.
- (c) **Tooth Mobility:**
  - Grade I:** Slightly more than normal;
  - Grade II:** Moderately more than normal;
  - Grade III:** Severe mobility faciolingually and mesiodistally, combined with vertical displacement.

(d) **Furcation Grades:**

**Grade I:** Initial attachment loss with most of the bone still intact in the furcation. No radiographic changes seen;

**Grade II:** The bone defect is definite horizontal bone loss that does not extend all the way through. Vertical bone loss may also be present. There is an opening into the furca with a bony wall at the deepest portion.

**Grade III:** Bone is lost across the whole width of the furcation so no bone is attached to the furcation roof

**Grade IV:** Bone loss across the furcation, accompanied with gingival recession at the furcation, is clinically visible.

## **PERIODONTAL DISEASE CLASSIFICATION**

### **I. Gingival Diseases**

#### **A. Dental plaque-induced gingival diseases\***

1. Gingivitis associated with dental plaque only
  - a. without other local contributing factors
  - b. with local contributing factors
2. Gingival diseases modified by systemic factors
  - a. associated with the endocrine system
    - 1) puberty-associated gingivitis
    - 2) Menstrual cycle-associated gingivitis
    - 3) pregnancy-associated
      - a) Gingivitis
      - b) Pyogenic granuloma
    - 4) diabetes mellitus-associated gingivitis
  - b. associated with blood dyscrasias
    - 5) leukaemia-associated gingivitis
    - 6) Other

#### 3. Gingival diseases modified by medications

- a. drug-influenced gingival diseases
  - 1) drug-influenced gingival enlargements
  - 2) drug-influenced gingivitis
    - a) oral contraceptive-associated gingivitis
    - b) Other

#### 4. Gingival diseases modified by malnutrition

- a. ascorbic acid-deficiency gingivitis
- b. other

#### **B. Non-plaque-induced gingival lesions**

##### 1Gingival diseases of specific bacterial origin

- a. *Neisseria gonorrhoea*-associated lesions
- b. *Treponema pallidum*-associated lesions
- c. streptococcal species-associated lesions
- d. other

2. Gingival diseases of viral origin
  - a. herpes virus infections
    - 1) Primary herpetic gingivostomatitis
    - 2) Recurrent oral herpes
    - 3) Varicella-zoster infections
  - b. Other
  
3. Gingival diseases of fungal origin
  - a. *Candida*-species infections
    - 1) Generalized gingival candidosis
    - b. linear gingival erythema
    - c. histoplasmosis
    - d. other
  4. Gingival lesions of genetic origin
    - a. hereditary gingival fibromatosis
    - b. other
  5. Gingival manifestations of systemic conditions
    - a. mucocutaneous disorders
      - 1) Lichen planus
      - 2) Pemphigoid
      - 3) Pemphigus vulgaris
      - 4) Erythema multiforme
      - 5) Lupus erythematosus
      - 6) drug-induced
      - 7) other
    - b. allergic reactions
      - 1) Dental restorative materials
        - a) Mercury
        - b) Nickel
        - c) Acrylic
        - d) Other
      - 2) Reactions attributable to
        - a) toothpastes/dentifrices
        - b) mouthrinses/mouthwashes
        - c) Chewing gum additives
        - d) Foods and additives
      - 3) Other
    6. Traumatic lesions (factitious, iatrogenic, accidental)
      - a. chemical injury
      - b. physical injury
      - c. thermal injury
    7. Foreign body reactions
    8. Not otherwise specified (NOS)

## **II. Chronic Periodontitis**

- A. Localized
- B. Generalized



### **III. Aggressive Periodontitis**

- A. Localized
- B. Generalized

### **IV. Periodontitis as a Manifestation of Systemic Diseases**

#### A. Associated with haematological disorders

1. Acquired neutropenia
2. Leukaemia
3. Other

#### B. Associated with genetic disorders

1. Familial and cyclic neutropenia
2. Down syndrome
3. Leukocyte adhesion deficiency syndromes
4. Papillon-Lefèvre syndrome
5. Chediak-Higashi syndrome
6. Histiocytosis syndromes
7. Glycogen storage disease
8. Infantile genetic agranulocytosis
9. Cohen syndrome
10. Ehlers-Danlos syndrome (Types IV and VIII)
11. Hypophosphatasia
12. Other

#### C. Not otherwise specified (NOS)

### **V. Necrotizing Periodontal Diseases**

- A. Necrotizing ulcerative gingivitis (NUG)
- B. Necrotizing ulcerative periodontitis (NUP)

### **VI. Abscesses of the Periodontium**

- A. Gingival abscess
- B. Periodontal abscess
- C. Pericoronal abscess

### **VII. Periodontitis Associated With Endodontic Lesions**

- A. Combined Periodontics-endodontic lesions

### **VIII. Developmental or Acquired Deformities and Conditions**

- A. Localized tooth-related factors that modify or predispose to plaque-induced gingival diseases/periodontitis
  1. Tooth anatomic factors
  2. Dental restorations/appliances
  3. Root fractures

4. Cervical root resorption and cementum tears

B. Mucogingival deformities and conditions around teeth

1. Gingival/soft tissue recession
  - a. facial or lingual surfaces
  - b. interproximal (papillary)
2. Lack of keratinized gingivae
3. Decreased vestibular depth
4. Aberrant frenum/muscle position
5. Gingival excess
  - a. Pseudo pocket
  - b. inconsistent gingival margin
  - c. excessive gingival display
  - d. gingival enlargement (See I.A.3. and I.B.4.)
6. Abnormal colour

C. Mucogingival deformities and conditions on edentulous ridges

1. Vertical and/or horizontal ridge deficiency
  2. Lack of gingivae/keratinized tissue
  3. Gingival/soft tissue enlargement
  4. Aberrant frenum/muscle position
  5. Decreased vestibular depth
  6. Abnormal colour
- D. Occlusal trauma
1. Primary occlusal trauma
  2. Secondary occlusal trauma

Scope and Application	This CPG is intended for use by all health care workers in their daily care of patients who undergo dental/oral procedures
Effective Date	2010
Supercedes Policy Number	Not applicable
Review Responsibilities	The Chairperson of the Oral Health CSN will initiate the review of this guidelines every 3 years from the date of issue or as required.
Further Information	Oral Health CSN Chairperson

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