

Basic Probing Technique

FPI Module 12



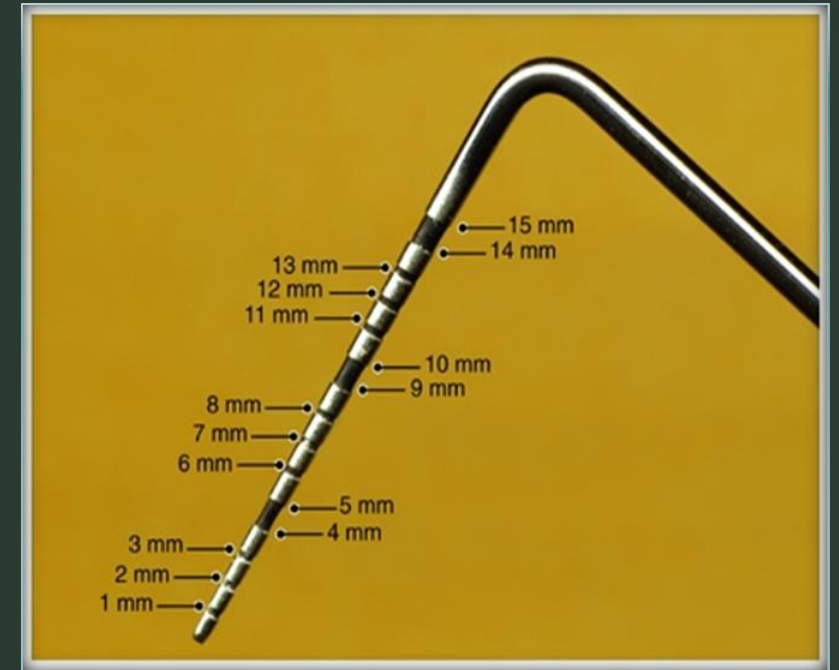
Design of Periodontal Probes

- Blunt, rod-shaped, tapered working-end
- Circular or rectangular in cross-section
- Calibrated with millimeter (mm) markings
- The working-end and the shank meet at a defined angle
- Single-ended or double-ended (paired and unpaired)
- Stainless steel or plastic
- Straight or curved working-end



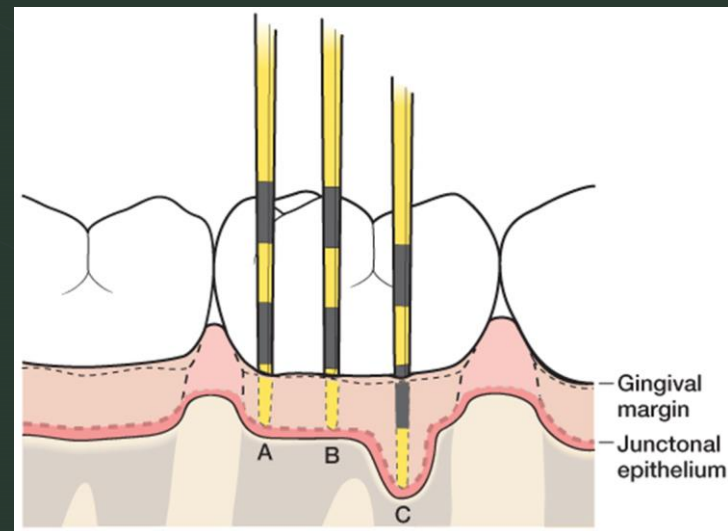
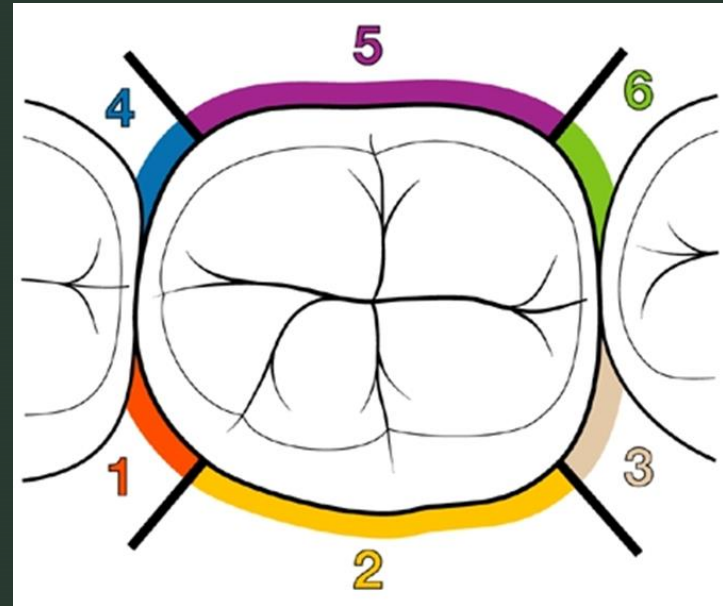
Millimeter Markings

- The working-end of a probe is marked in millimeter increments.
- There are many different patterns of millimeter markings.
- Color-coded probes are marked in bands.
- Do not assume that all probes have the same millimeter marking pattern.
- A millimeter ruler can be used to determine the marking pattern of a particular probe.



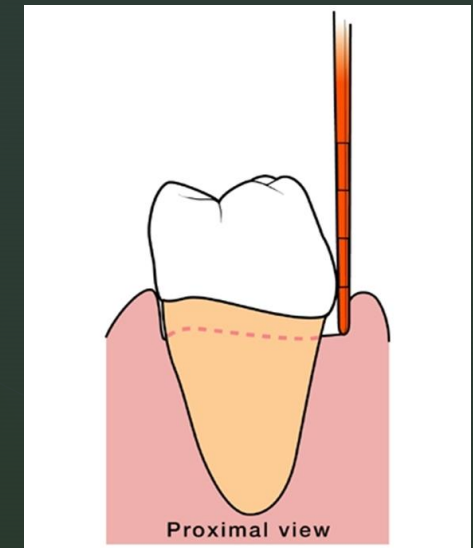
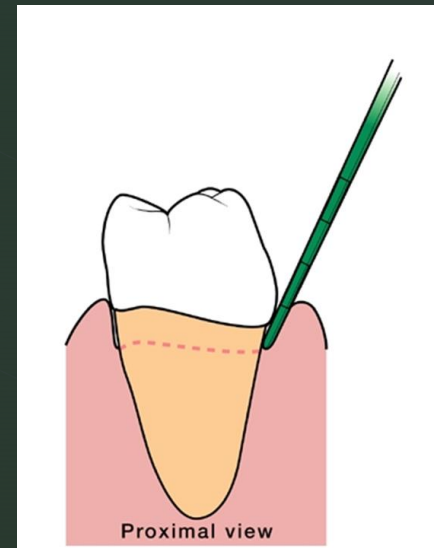
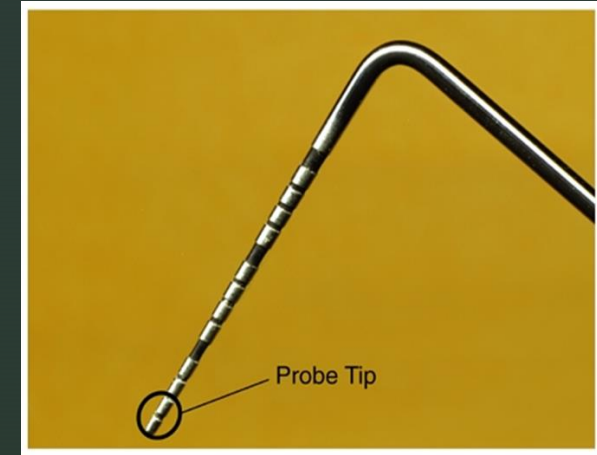
Reading and Recording Depth Measurements

- **Six Zones per Tooth** – 6 measurements recorded for each tooth
- **One reading per zone** – only the deepest reading per each zone is recorded
- **Full millimeter measurements** – to the nearest full millimeter, rounded up to the higher whole number (4.5 = 5; 6.5 = 7)



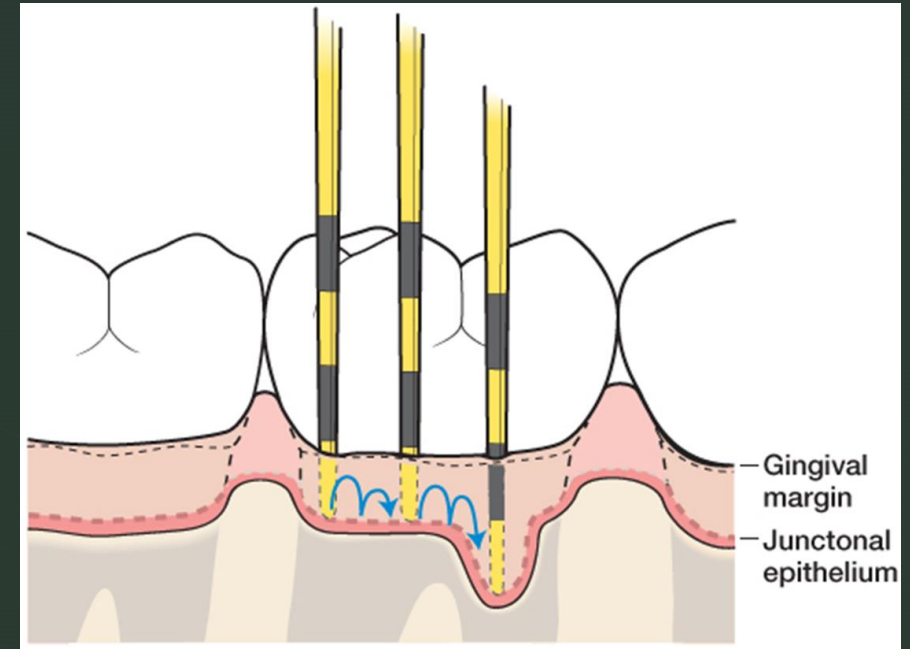
➤ Probing technique

- **Probe tip** - 1 to 2 mm of the side of the probe.
- **Insertion and Adaptation** – once inserted, the working-end is kept parallel to the root surface.
- The tip should be kept as **flat against the root surface** as possible
- Pressure – **no pressure** should be exerted



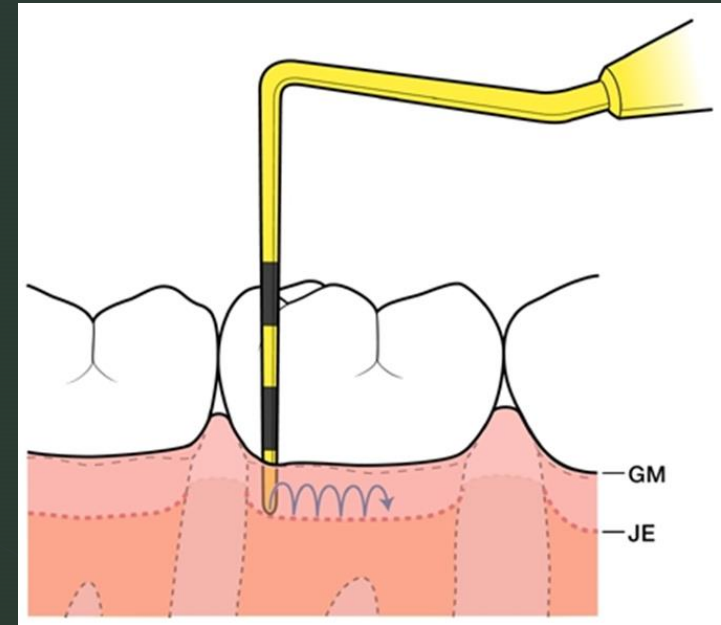
▸ The Walking Stroke

- The Walking strokes are used to cover **the entire circumference** of the sulcus.
- The junctional epithelium is not always a uniform depth.
- A series of **bobbing strokes** within the sulcus or pocket while keeping the probe tip against and in alignment with the root surface



► Production of Walking Strokes

1. Insert the probe and lightly run the tip along the tooth surface until it encounters the soft tissue base of the sulcus or pocket.
2. Create a walking stroke by moving the probe tip up and down in short bobbing strokes.
3. Move forward in 1-mm increments.
4. The probe is NOT removed from the sulcus with each stroke. Repeatedly removing the probe can traumatize the tissue.
5. A pressure exerted with the probe tip against the soft tissue base of the sulcus or pocket is 10 and 20 g.



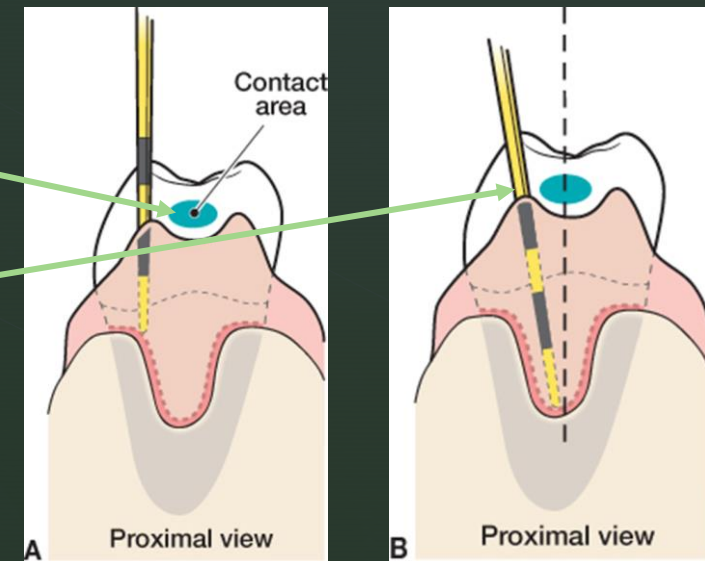
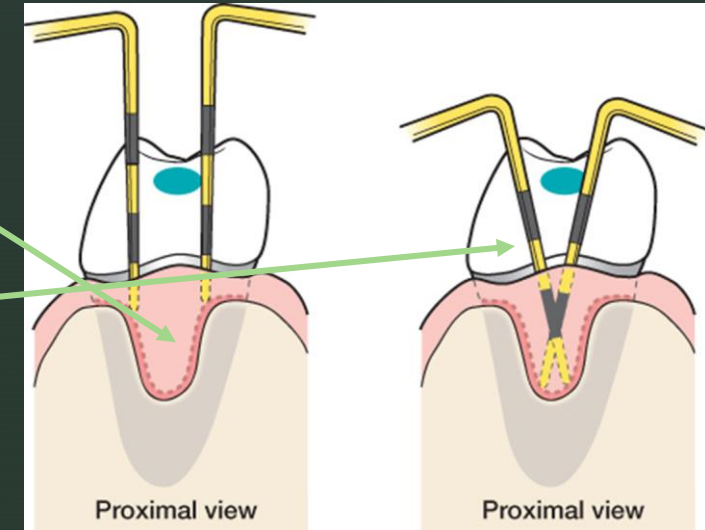
Probing Proximal Root Surfaces

Periodontal pockets are more common on M and D surfaces

The proximal surfaces should be probed from both the facial and the lingual aspects

Special technique is used when two adjacent teeth are in contact:

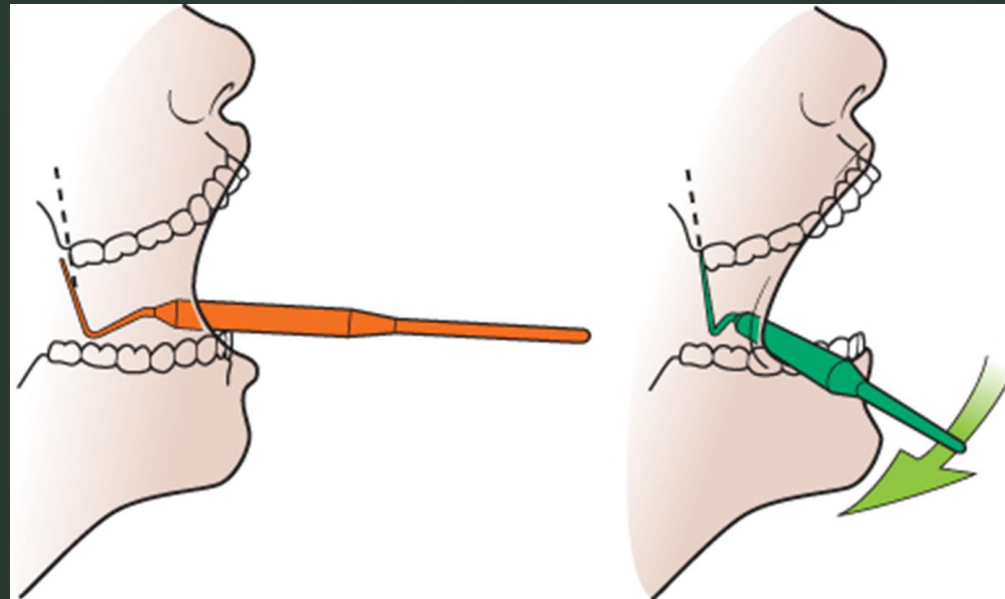
- Keep the working end in constant contact with the proximal root surface and walk the probe until it touched the contact.
- Slant the probe slightly for the tip to reach under the contact area.



Alignment on Distal Surfaces of Maxillary molars

Often it is difficult to align the probe's working end to the distal surfaces of maxillary molars (mandible in the way).

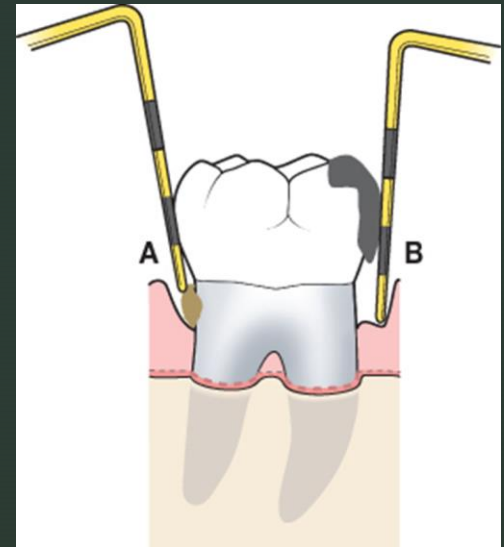
Repositioning the handle to the side of the patient's face could be helpful



Limitations of Measurements

Various factors can affect the accuracy of measurements:

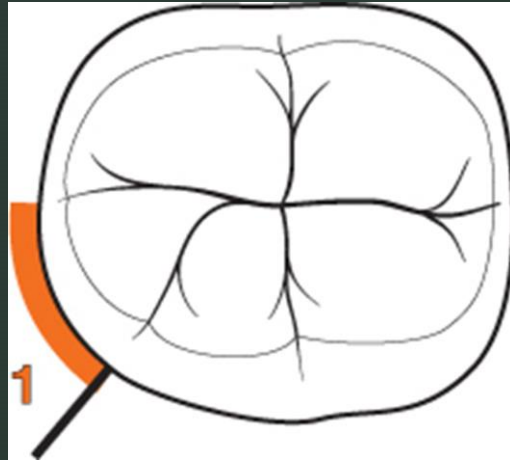
- Position of the gingival margin. If not at CEJ, probing depth will not accurately reflect the extent of the disease.
 - Coronal to CEJ
 - Apical to CEJ
 - Interference from calculus deposits, overhanging restorations
 - Reading errors due to technique and equipment:
 - Angulation and positioning of the probe
 - Amount of pressure applied
 - Misread probe calibrations
 - Diameter and calibration of the probe
- It is acceptable to be within 1 mm between providers



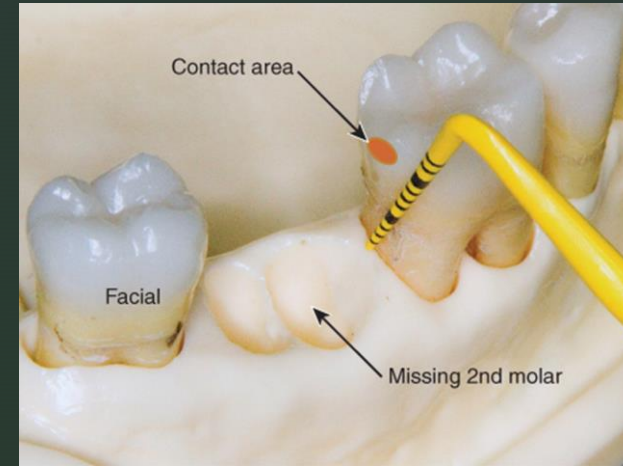
Step-by-Step Directions for Probing

Posterior Teeth

1. Locate and begin to Probe zone 1



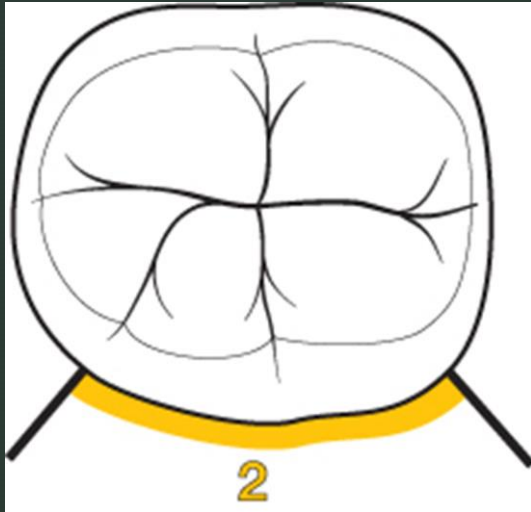
2. Probe Proximal Surface



Step-by-Step Directions for Probing

- Posterior Teeth

3. Locate and begin to Probe zone 2



4. Continue across Zone 2

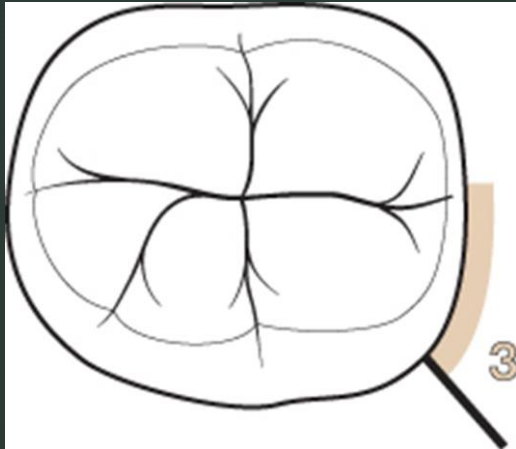


Step-by-Step Directions for Probing

- Posterior Teeth

5. Locate and begin to Probe zone 3

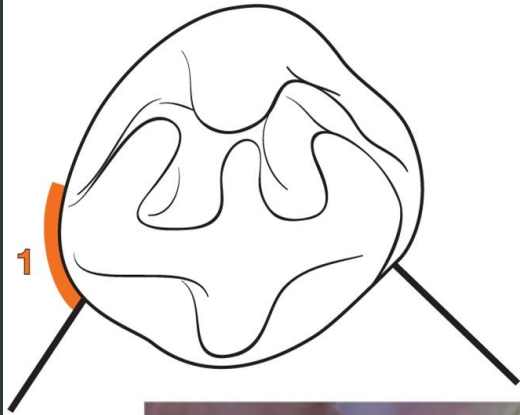
6. Assess beneath the contact area



Step-by-Step Directions for Probing

Anterior Teeth

1. Locate and begin to Probe zone 1



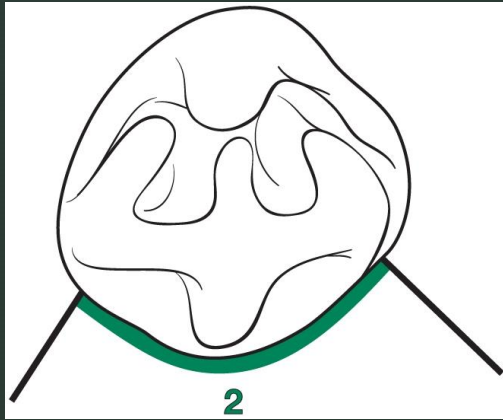
2. Walk the probe toward the distal surface. Tilt the probe and take a reading beneath the distal contact area.



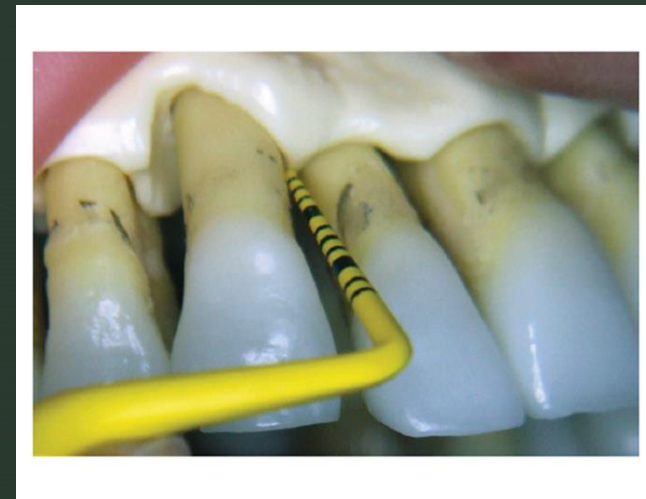
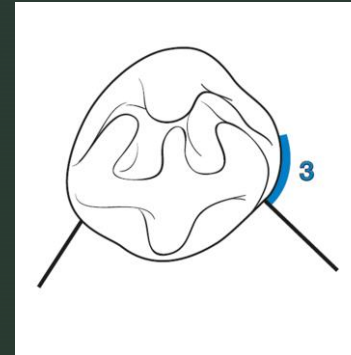
Step-by-Step Directions for Probing

Anterior Teeth

3. Locate and begin to Probe zone 2.
Walk across Facial surface



4. Zone 3. From the mesiofacial line angle to the midline of the mesial surface. Tilt under the contact.



Periodontal Charting Wilkins Ch. 18-20



The Recognition of Gingival and Periodontal Infections: Signs and Symptoms

- I. Patients may or may not have specific symptoms to report because periodontal infections may be painless.
- II. • Bleeding gingiva while brushing or flossing.
- III. • On occasion, spontaneous bleeding of the gingiva.
- IV. • Sensitivity to hot and cold.
- V. • Tenderness or discomfort while eating or pain after eating.
- VI. • Food retained between the teeth.
- VII. • Unpleasant mouth odors/Chronic bad taste.
- VIII. • A feeling that the teeth are loose.
- IX. **Those are mostly subjective findings**



The Recognition of Gingival and Periodontal Infections: The Clinical Examination

• A **comprehensive periodontal examination** to gather assessment information and identify the signs of inflammation includes the following:

- Gingival tissue changes (color, size, shape, surface texture, position).
- Mucogingival involvement (width of attached gingiva).
- Probing depths.
- Clinical attachment levels.
- Bleeding on probing.
- Exudate or suppuration.
- Furcation involvement.
- Dental biofilm and calculus distribution.
- Tooth mobility.
- Fremitus.
- Radiographic evaluation.



Objective findings

Periodontal Charting

Purposes and uses:

Assessment and diagnosis

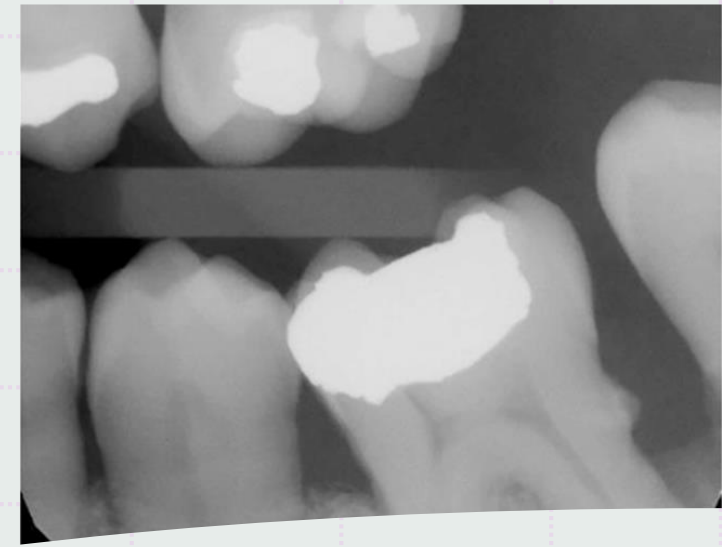
Severity of disease

Care planning

Evaluation

Referral





Preparation for Comprehensive Periodontal Examination

The following assessments must be completed prior to Periodontal Examination:

- Medical/Dental/Psychosocial histories
- Vital Signs
- Extraoral/Intraoral Examination
- Risk Assessment (Dental Caries, Periodontal disease, Oral cancer)
- Radiographic examination - when radiographs are not available a definitive diagnosis is based on clinical findings only.
- Dental examination/charting
- Calculus detection

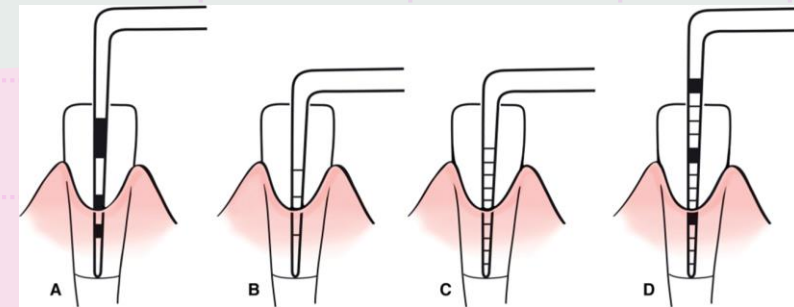
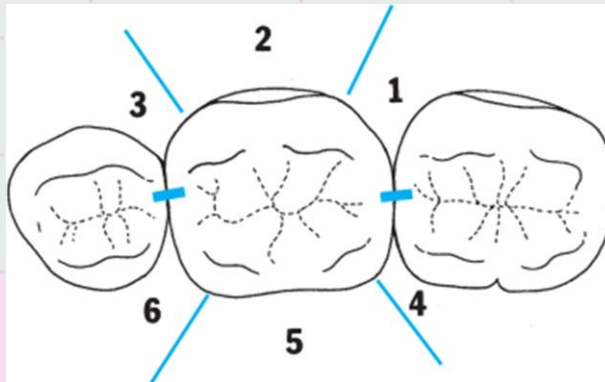
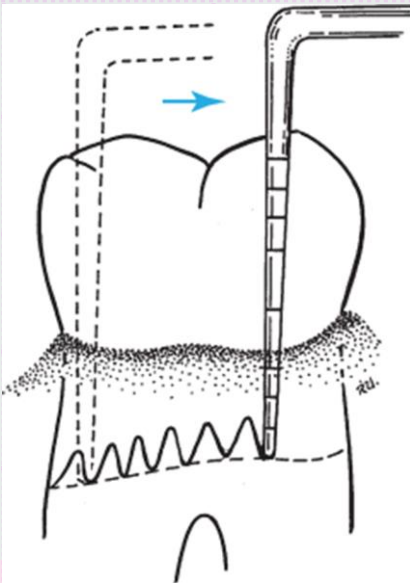
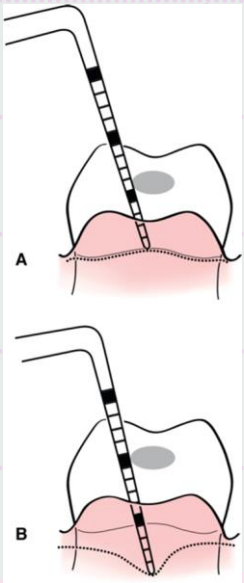
Armamentarium and Patient Preparation

- Informed consent
- Pre-procedural mouth rinse
- Safety eyewear
- Proper lighting/patient positioning/ergonomics
- Air/water syringe
- Mouth mirror
- Periodontal Probe



Probing Procedure To determine Probing Depth (PD)

- Types of probes
- Insertion to the base of the pocket (varies depending on the type of the tissue: healthy or fibrotic vs spongy soft gingival tissues)
- Adaptation to individual teeth, proximal areas
- Circumferential probing (6 zones)
- Reading the measurements
- Recording the measurements



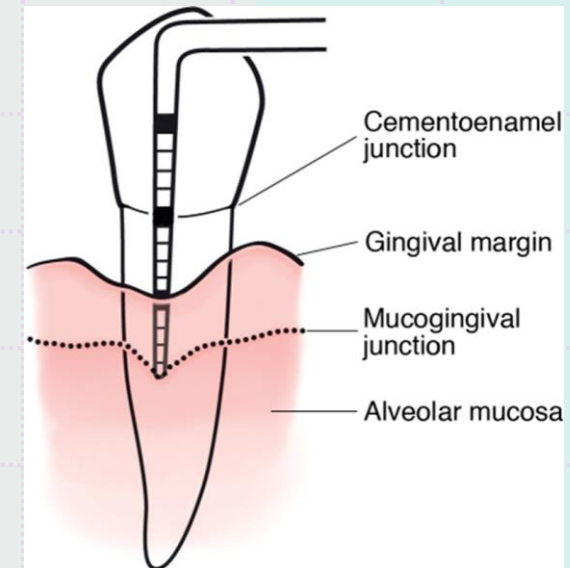
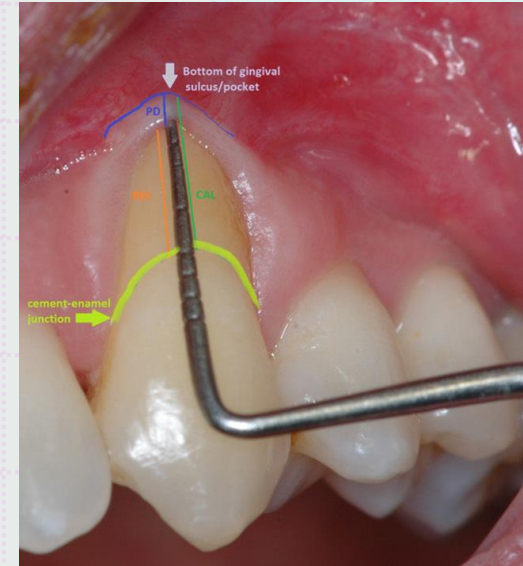
Measuring Recession (GM)

- Recession is characterized by the position of the gingival margin apical to the CEJ
- Recession is measured with a periodontal probe
- Distance between the CEJ and the gingival margin



Clinical Attachment Loss (CAL)

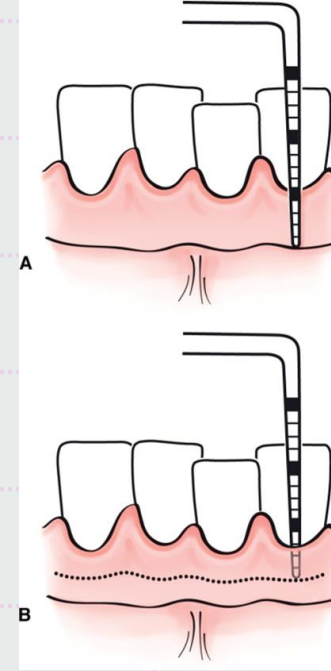
- CAL refers to the position of the periodontal attached tissues at the base of the pocket
- CAL is measured from the CEJ (fixed point) to the base of the pocket
- Rationale for measuring the CAL (disease stability or progressions, disease extent)



Width of Attached Gingiva

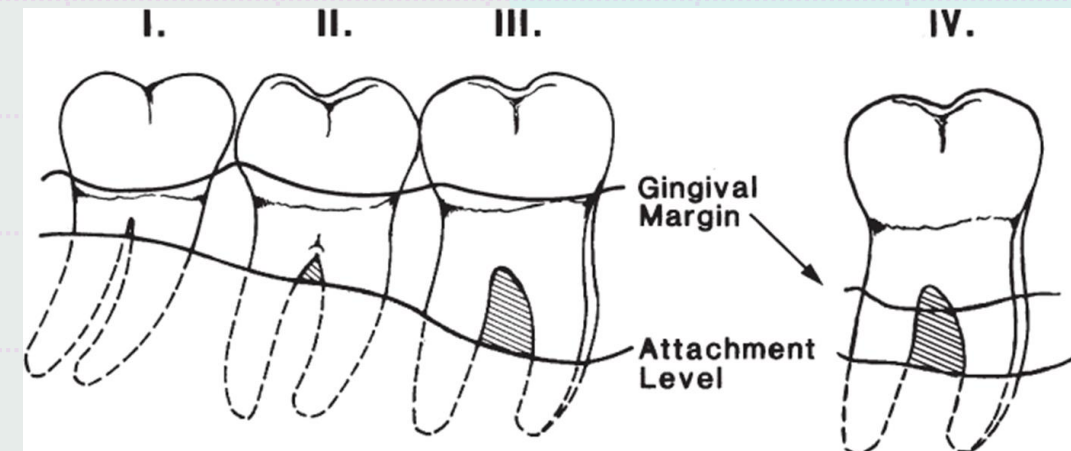
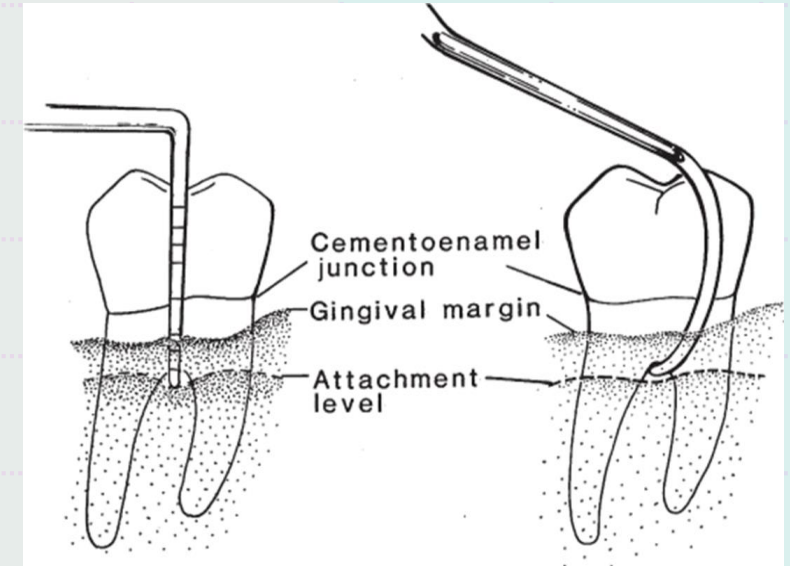
Mucogingival Junction (MGJ) is identified to assess the width of the attached gingiva and locate frenal attachments.

- The probe is placed on the external surface of the gingiva
- The **total width** of the gingiva is measured from the MGJ to the GM
- The PD is measured separately
- The **width of the attached gingiva** is calculated by subtracting PD from the total width
- Areas of concern: base of the pocket near MGJ, absence of attached gingiva, anatomic differences



Furcation Involvement

- Furcation involvement indicates the extent of clinical attachment levels and bone loss in the area of furcation (between the roots of multirooted teeth)
- Presence of furcation involvement increases the risk of the tooth loss
- Specifically designed probes are used to determine furcation involvement - Nabers probe
- Classification of furcation involvements: Grade I-IV (Glickman furcation grades)



Mobility

Because of the nature and function of the periodontal ligament, teeth have slight normal mobility.

- Mobility can be considered abnormal or pathologic when it exceeds normal.
- Can be a clinical sign of trauma from occlusion.
- To test for mobility, use 2 single-ended metal instruments with wide blunt ends.
- Test **horizontal** mobility and **vertical**



Recording mobility

Record Degree of Movement using the Miller Index (1938)

Scale:

- The N, 1, 2, 3 or I, II, III are frequently used, sometimes with a plus sign (+) to indicate mobility between numbers.

Recording

- N = normal, physiologic.
- 1 = slight mobility, greater than normal.
- 2 = moderate mobility, greater than 1 mm displacement.
- 3 = severe mobility, moves vertically and is depressible in the tooth socket.



Fremitus

Fremitus means palpable vibration or movement.

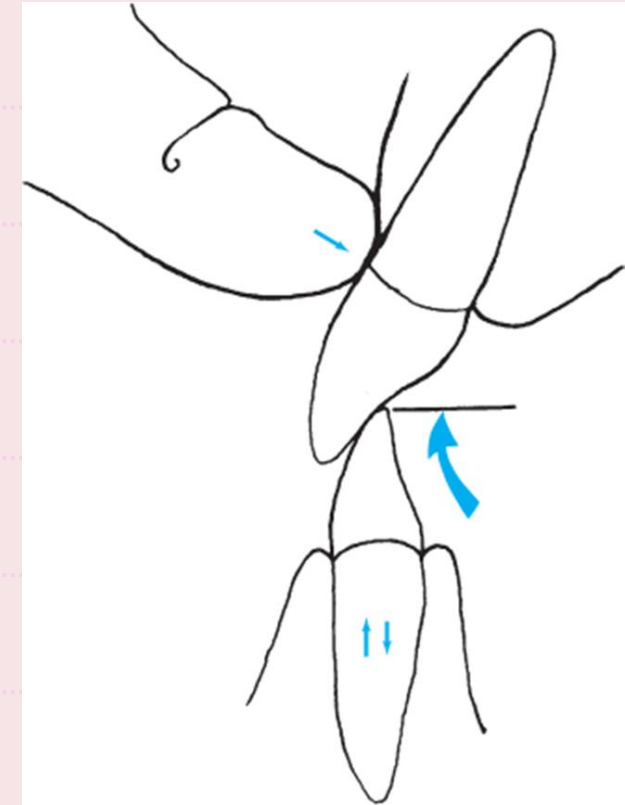
- A tooth with fremitus has excess contact
- Demonstrates some degree of mobility
- Determination is made only on the maxillary teeth.

Procedure for Determination of Fremitus:

Seat the patient upright, the occlusal biting plane is parallel to the floor. Gently place the **index finger** on each maxillary tooth at about the cervical third. Ask the patient to close the back teeth together and tap up and down repeatedly.

Record by tooth number:

- N = normal (without vibration or movement).
- + = only slight vibration can be felt.
- + + = the tooth is clearly palpable but the movement is barely visible.
- + + + = movement is clearly observed visually.



Bleeding (BOP) and Exudate

Signs of Health

- Healthy gingival tissue **does not bleed** during periodontal probing.
- There is **no exudate** in health.

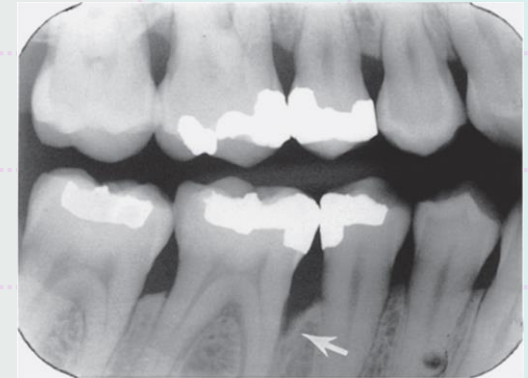
Changes in Disease

- Sulcular epithelium becomes a diseased *pocket epithelium*.
- The ulcerated **pocket wall bleeds** spontaneously or during periodontal probing.
- Increased Gingival Crevicular Fluid (GCF) in presence of inflammation with flow rate increasing as periodontal disease progresses.
- **Suppuration** (or pus) is another indicator of active periodontal breakdown and may be seen in about 25% of patients with chronic periodontitis.



Radiographic findings:

- Bone level in disease and in health
- Shape of remaining bone:
 - Horizontal bone loss
 - Vertical bone loss
- Distribution of bone loss (generalized vs localized, 30% rule)
- Furcation involvements
- Presence of hard deposits, deficient restorations



Documentation

Record the following findings on the periodontal chart:

- Probing depths
- Recession
- Clinical attachment loss
- Mucogingival defects (insufficient levels of attached gingiva)
- Mobility
- Furcation involvements
- Bleeding and suppuration

Gingival statement: statement of gingival inflammation, gingival assessment (30% rule)

Periodontal diagnosis based on your findings

Directions: Cross out any teeth not present with a black 'X'

Periodontal Charting

Example:

Color
Gingival Margin – Green
Probe depths: Blue
Bleeding on Probing (BOP): Red dot above/below measurement
See *Department Policy & Procedure Manual* for mobility and furcation involvement.

BOP Summary
No BOP _____ (check one)
Minimal _____
Moderate _____
Severe _____
Localized Y N
Generalized Y N