

Advanced Probing Techniques

MODULE OVERVIEW

The clinical periodontal assessment is one of the most important functions performed by dental hygienists. This module begins with a review of the periodontal attachment system in health and attachment loss in disease. Other module sections describe techniques for advanced assessments with periodontal probes including (1) measuring oral deviations, (2) assessing tooth mobility, (3) determining the gingival margin level, (4) calculating clinical attachment levels, (5) determining the width of attached gingiva, (6) assessing furcation involvement, and (7) performing a Periodontal Screening and Recording (PSR) System examination.

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KEY TERMS

Periodontal attachment system	Horizontal tooth mobility	Bifurcation
Junctional epithelium	Vertical tooth mobility	Trifurcation
Fibers of the gingiva	Mobility-rating scales	Furcation area
Periodontal ligament fibers	Edema	Furcation involvement
Alveolar bone	Gingival recession	Furcation probe
Loss of attachment	Clinical attachment level	Periodontal Screening and Recording System
Periodontal assessment	Clinical attachment loss	World Health Organization probe
Furcation area	Attached gingiva	Color-coded reference marking
Mobility	Width of attached gingiva	
	Furcation	

LEARNING OBJECTIVES

1. Discuss the uses of calibrated and furcation probes in performing a periodontal assessment.
2. Describe the rationale for assessing tooth mobility.
3. Demonstrate the technique for assessing tooth mobility, and use a mobility rating scale to classify the extent of mobility.
4. Describe the rationale and technique for determining the level of the gingival margin.
5. Describe the consequences of loss of attachment to the tooth.
6. Given the probing depth measurements and gingival margin levels for a tooth, compute the clinical attachment loss.
7. Describe the rationale for furcation detection.
8. Demonstrate correct technique for use of a furcation probe on a periodontal typodont, and classify furcation involvement according to severity.
9. Use advanced probing techniques to accurately assess a student partner's periodontium.
10. Describe the rationale for the PSR examination and the treatment implications for each of the PSR Codes.
11. Use an appropriate probe to complete a PSR examination of two sextants on a student partner and record these findings using the correct PSR Code.
12. For simulated patient cases, use periodontal measurements to differentiate a healthy periodontium from periodontitis, and record these findings on a periodontal chart.

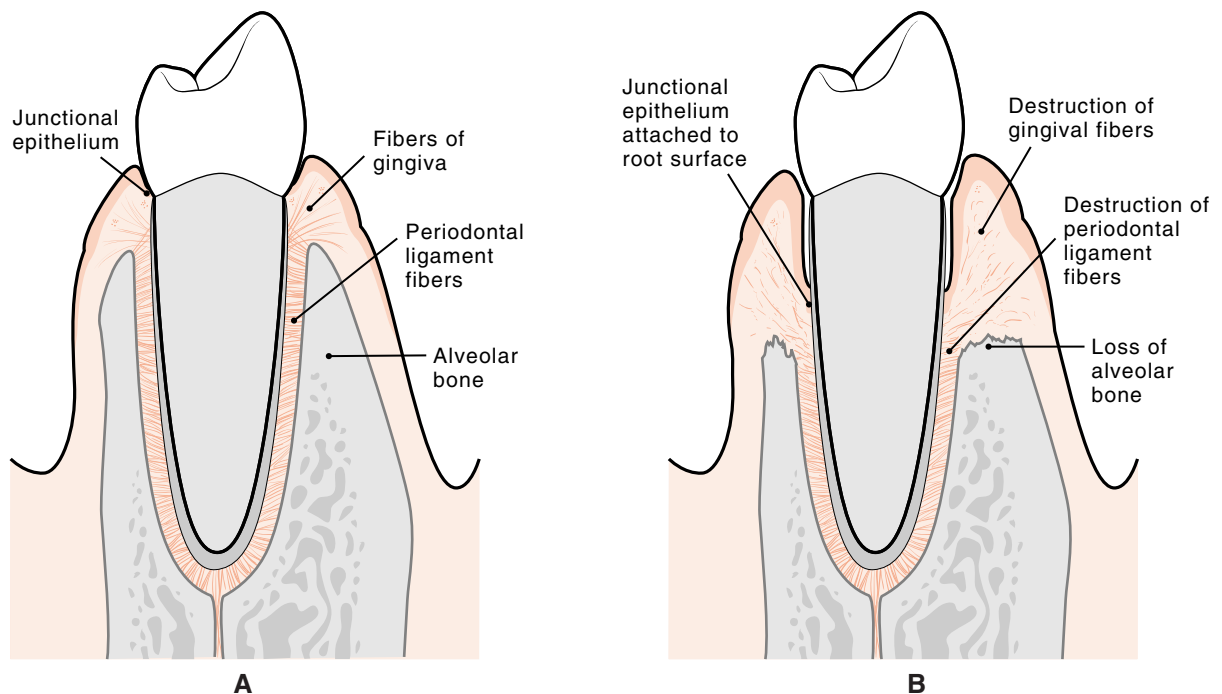
SECTION I

The Periodontal Attachment System

ATTACHMENT IN HEALTH

The **periodontal attachment system** is a group of structures that work together *to attach* the teeth to the skull. To remain in the oral cavity, each tooth must be attached by the following:

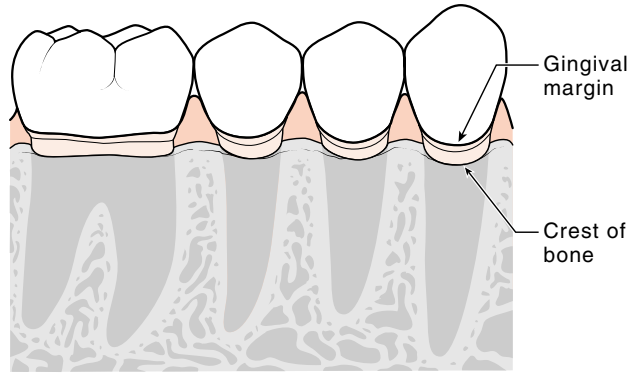
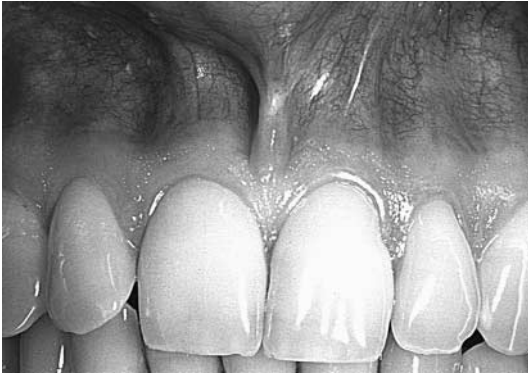
1. **Junctional epithelium**—the epithelium that attaches the gingiva to the tooth.
2. **Fibers of the gingiva**—a network of fibers that brace the free gingiva against the tooth and unite the free gingiva with the tooth root and alveolar bone.
3. **Periodontal ligament fibers**—the fibers that surround the root of the tooth. These fibers attach to the bone of the socket on one side and to the cementum of the root on the other side.
4. **Alveolar bone**—the bone that surrounds the roots of the teeth. It forms the bony sockets that support and protect the roots of the teeth.



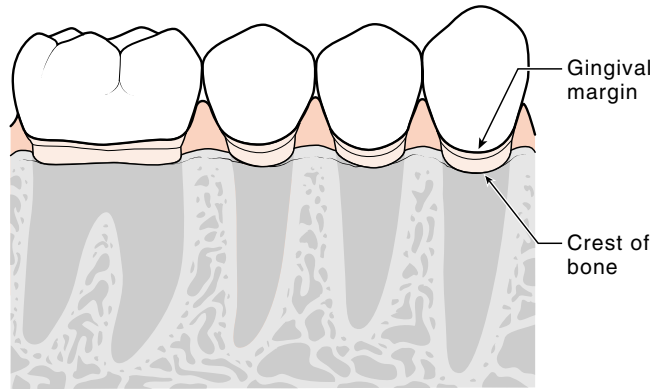
Cross Section of the Periodontal Attachment System. A, The periodontal attachment system in health. B, Destruction of the periodontal attachment system in disease.

LOSS OF ATTACHMENT IN DISEASE

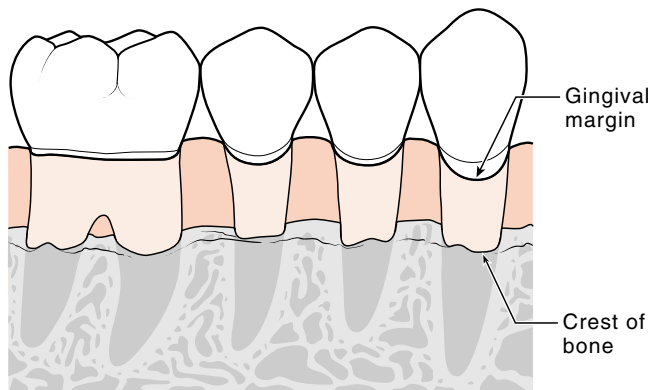
Loss of attachment (LOA) is damage to the structures that support the tooth. LOA occurs in periodontitis and is characterized by (1) relocation of the junctional epithelium to the tooth root, (2) destruction of the fibers of the gingiva, (3) destruction of the periodontal ligament fibers, and (4) loss of alveolar bone support from around the tooth. The changes that occur in the alveolar bone in periodontal disease are significant because loss of bone height can eventually result in tooth loss (Table 21-1).



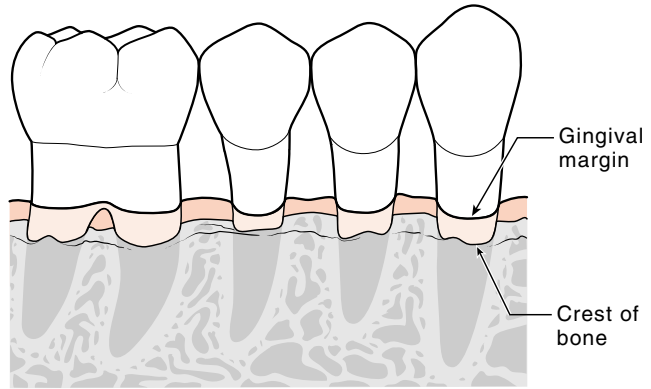
Bone Support in Health. In health, most of the tooth root is surrounded in bone. The crest of the alveolar bone is located very close to the crowns, only 1 to 2 mm apical to (below) the cemento-enamel junctions of the teeth.



Bone Support in Gingivitis. In gingival disease, there is no loss of alveolar bone and the crest of the alveolar bone remains only 1 to 2 mm apical to (below) the cemento-enamel junctions of the teeth.



Bone Loss and Pocket Formation in Periodontitis. In periodontitis, bone is destroyed and the teeth are not well supported in the arch. In this example of bone loss, the gingival margin has remained near the cemento-enamel junction, creating deep periodontal pockets.



Loss of Bone and Gingival Recession in Periodontitis. In this example of periodontitis, the gingival margin has receded, and the tooth roots are visible in the mouth. Note that the alveolar bone is at the same level in this example and the one before—only the level of the gingival margin differs in these two examples.

BLEEDING ON GENTLE PROBING



Bleeding on Gentle Probing. Bleeding on gentle probing is a sign of inflammation. Bleeding can be visible immediately when a site is probed, or it may not be evident until about 10 seconds after a site is probed.

Most periodontal charts have a row of boxes that are used to document sites that bleed; bleeding is indicated with a red dot.

TABLE 21-1. Attachment Structures in Health and Disease

Attachment in Health	Attachment in Disease
<ul style="list-style-type: none"> • Junctional epithelium attaches to enamel at base of sulcus • Fibers brace the tissue against the crown • Many fibers attach root to bone of socket • Most of the root is surrounded by bone; the tooth is firmly held in its socket 	<ul style="list-style-type: none"> • Junctional epithelium attaches to cementum at base of periodontal pocket • Fiber destruction, tissue lacks firmness • Fewer fibers remain to hold tooth in socket • Part of the root is surrounded by bone; the tooth may be movable in its socket

SECTION 2

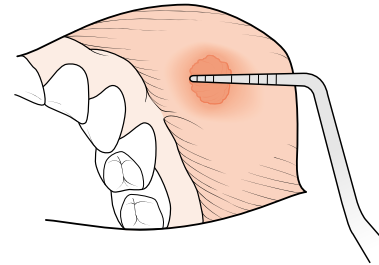
Assessments with Calibrated Probes

The clinical **periodontal assessment** is a fact-gathering process designed to provide a complete picture of a patient's periodontal health status. Much of the information collected during the periodontal assessment involves the use of a periodontal probe.

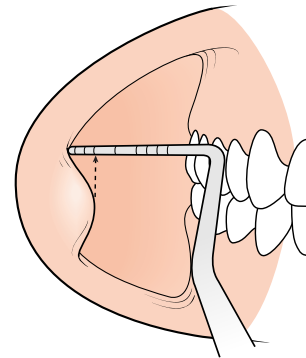
ORAL DEVIATIONS

A calibrated probe is used to determine the size of an intraoral lesion or deviation. The finding of an oral lesion in a patient's mouth should be recorded in the patient's chart. Information recorded should include the (1) date, (2) size, (3) location, (4) color, and (5) character of the lesion as well as (6) any information provided by the patient (e.g., duration, sensation, or oral habits). For example: "January 12, 2004: a soft, red papillary lesion located on the buccal mucosa opposite the maxillary left first premolar; measuring 5 mm in an anterior-posterior direction and 6 mm in a superior-inferior direction."

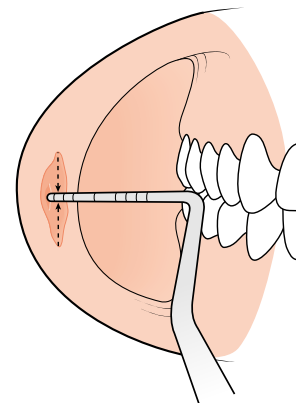
Documenting Measurements. It is best to use anatomic references rather than "length" or "width" to document your measurements on the chart (e.g., as the anterior-posterior measurement and the superior-inferior measurement).



Determining the Height of a Raised Lesion. Place the probe tip on normal tissue alongside of the deviation. Imagine a line at the highest part of the deviation, and record this measurement as the height.



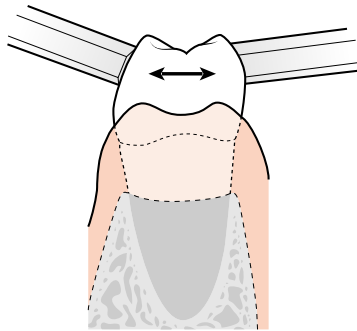
Determining the Depth of a Sunken Lesion. Carefully place the probe tip in the deepest part. Imagine a line running from edge to edge of the deviation. The depth is the distance from this imaginary line to the base of the deviation.



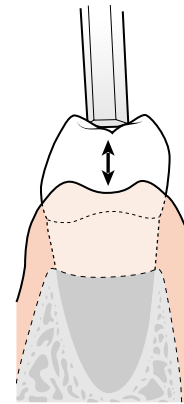
TOOTH MOBILITY

Mobility is the loosening of a tooth in its socket. Mobility may result from loss of bone support to the tooth. Most periodontal charts include boxes for documenting tooth mobility.

1. **Horizontal tooth mobility** is the ability to move the tooth in a facial-lingual direction in its socket. Horizontal tooth mobility is assessed by putting the handles of two dental instruments on either side of the tooth and applying alternating moderate pressure in the facial-lingual direction against the tooth—first with one, then with the other instrument handle.
2. **Vertical tooth mobility**, the ability to depress the tooth in its socket, is assessed using the end of an instrument handle to exert pressure against the occlusal or incisal surface of the tooth.
3. There are many **mobility-rating scales** for recording tooth mobility on a periodontal chart. One useful rating scale is indicated in Table 21-2.



Assessing Horizontal Tooth Mobility. Using the ends of two handles, apply alternating pressure, first from the facial and then from the lingual aspects of the tooth.



Assessing Vertical Tooth Mobility. Use the end of an instrument handle to exert pressure against the occlusal surface or incisal edge of the tooth.

TABLE 21-2. Mobility Scale

Classification	Description
Class 1	Slight mobility, up to 1 mm of horizontal displacement in a facial-lingual direction
Class 2	Moderate mobility, greater than 1 mm of horizontal displacement in a facial-lingual direction
Class 3	Severe mobility, greater than 1 mm of displacement in a facial-lingual direction combined with vertical displacement (tooth depressible in the socket)

LEVEL OF THE GINGIVAL MARGIN

The level of the gingival margin can change over time in response to trauma, medications, or disease. Three possible relationships exist between the gingival margin and the cemento-enamel junction (CEJ) of the tooth.

1. **Gingival margin is at the CEJ.** This is the natural position of the gingival margin.
2. **Gingival margin significantly covers the CEJ.**
 - a. In this instance, the gingiva covers a significant portion of the tooth crown.
 - b. The position of the gingival margin may be coronal to the CEJ owing to (1) swelling (**edema**), (2) an overgrowth of the gingival tissues caused by certain medications that a patient takes to treat a medical condition, and/or (3) an increase in the fibrous connective tissue of the gingiva caused by a long-standing inflammation of the tissue.
3. **Gingival margin is significantly apical to the CEJ.**
 - a. When the gingival margin is significantly apical to the CEJ, a portion of the root surface is exposed in the mouth. This relationship is known as gingival recession.
 - b. **Gingival recession** is the movement of the gingival margin from its normal position—usually with underlying loss of bone—resulting in the exposure of a portion of the root surface. In recession, the gingival margin is apical to the CEJ and the papillae may be rounded or blunted.

Gingival Margin at the Cemento-Enamel Junction (CEJ). The gingival margin is at the CEJ in this photograph.

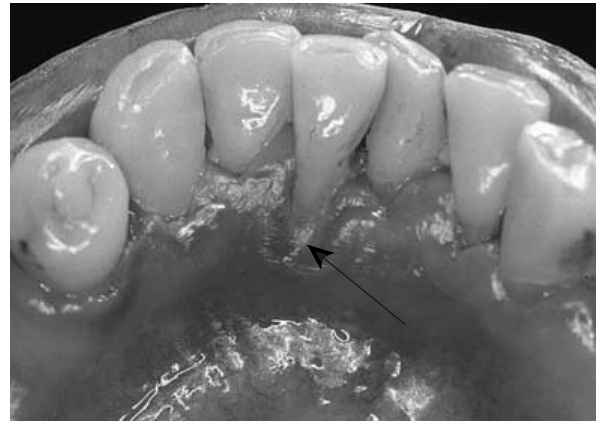


Gingival Margin Significantly Covers the Cemento-Enamel Junction (CEJ). The gingival margin is significantly coronal to the CEJ in this photograph.





A



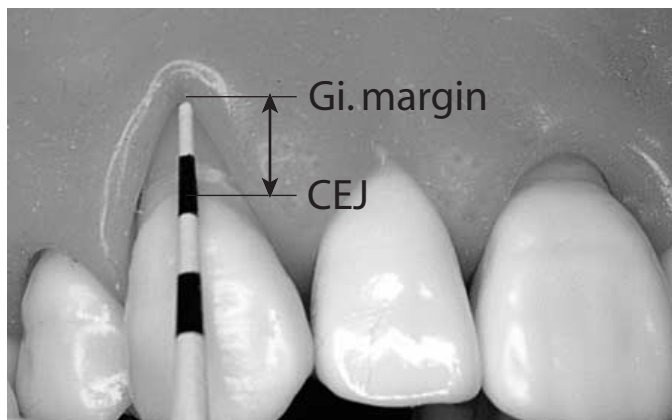
B

Gingival Margin Significantly Apical to the Cemento-Enamel Junction. Known as recession, this relationship leads to exposure of the root surface. **A**, Gingival recession on the facial aspect of three teeth. **B**, Area of gingival recession on the lingual aspect of a mandibular incisor.

TECHNIQUE TO DETERMINE THE GINGIVAL MARGIN LEVEL

When tissue swelling or recession is present, a periodontal probe is used to measure the distance that the gingival margin is apical or coronal to the CEJ.

1. **For gingival recession.** If gingival recession is present, the distance between the CEJ and the gingival margin is measured using a calibrated periodontal probe. This distance is recorded as the gingival margin level.
2. **When the gingival margin covers the CEJ.** If the gingival margin covers the CEJ, the distance between the margin and the CEJ is estimated using the following technique:
 - a. Position the tip of the probe at a 45-degree angle to the tooth.
 - b. Slowly move the probe beneath the gingival margin until the junction between the enamel and cementum is detected.
 - c. Measure the distance between the gingival margin and the CEJ. This distance is recorded as the gingival margin level.



Measuring Tissue Recession. The extent of gingival (Gi.) recession is measured in millimeters from the gingival margin to the cemento-enamel junction (CEJ).

SECTION 3

Assessments That Require Calculations

Information collected during the periodontal assessment is used to make certain calculations that provide valuable information about the health of the periodontal tissues. The most common calculations are the clinical attachment level and width of the attached gingiva.

CLINICAL ATTACHMENT LEVEL

The **clinical attachment level (CAL)** refers to the estimated position of the structures that support the tooth as measured with a periodontal probe. The CAL provides an estimate of a tooth's stability and the loss of bone support.

1. Two terms are commonly used in conjunction with the periodontal support system: clinical attachment level and clinical attachment loss. Both of these terms may be abbreviated as CAL and can be used synonymously.
2. **Clinical attachment loss (CAL)** is the extent of periodontal support that has been destroyed around a tooth.
3. As an example of the use of these two terms, a clinician might report that the “*clinical attachment levels* were calculated for the facial surface of tooth 32 and there is 6 mm of *clinical attachment loss*.”

BOX 21-2

Rationale for Computing CAL

- **Probing depths** are not reliable indicators of the extent of bone support because these measurements are made from the gingival margin. The position of gingival margin changes with tissue swelling, overgrowth, and recession.
- **Clinical attachment levels (CALs)** are calculated from measurements made from a fixed point that does not change—the cemento-enamel junction (CEJ). Because the bone level in health is approximately 2 mm apical to the CEJ, clinical attachment levels provide a reliable indication of the extent of bone support for a tooth.

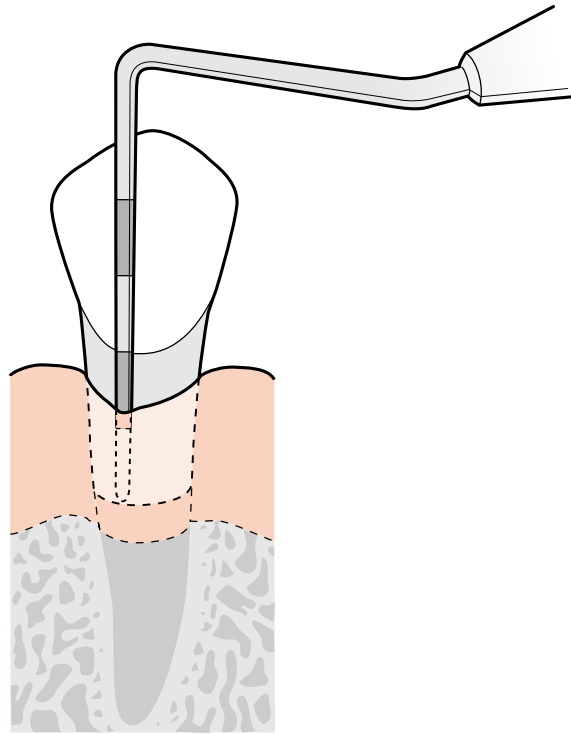
CALCULATING CLINICAL ATTACHMENT LEVEL

A competent clinician must understand the procedure for determining the CAL for the three possible relationships of the gingival margin to the CEJ.

1. The gingival margin may be apical to the CEJ, cover the CEJ, or be at the CEJ.
2. Two measurements are used to calculate the clinical attachment level: (a) the probing depth and (b) the level of the gingival margin (distance from CEJ to gingival margin). Note that both of these measurements are routinely taken and documented on a periodontal chart.

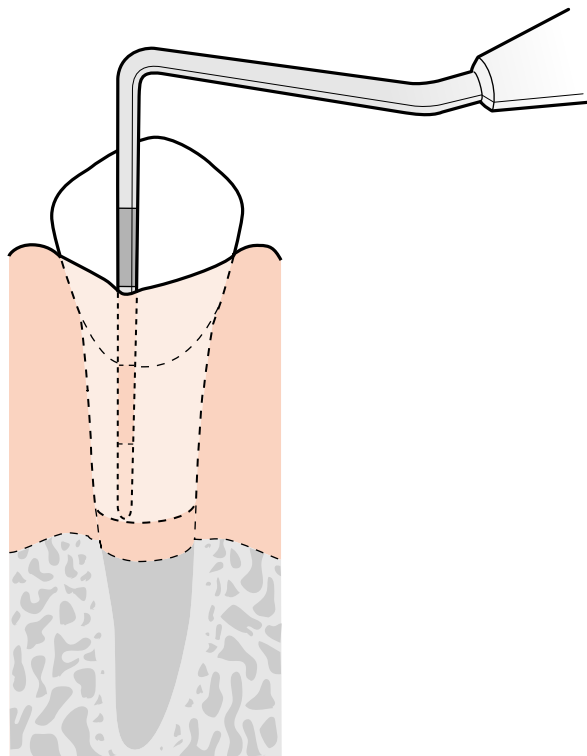
Calculating CAL in the Presence of Gingival Recession. When recession is present, the CAL is calculated by **ADDING** the probing depth to the gingival margin level.

For example:
 Probing depth measurement: 4 mm
 Gingival margin level: +2 mm
 Clinical attachment loss: 6 mm



Calculating CAL When the Gingival Margin Covers the CEJ. When the gingival margin is coronal to the CEJ, the CAL is calculated by **SUBTRACTING** the gingival margin level from the probing depth.

For example:
 Probing depth measurement: 9 mm
 Gingival margin level: -3 mm
 Clinical attachment loss: 6 mm



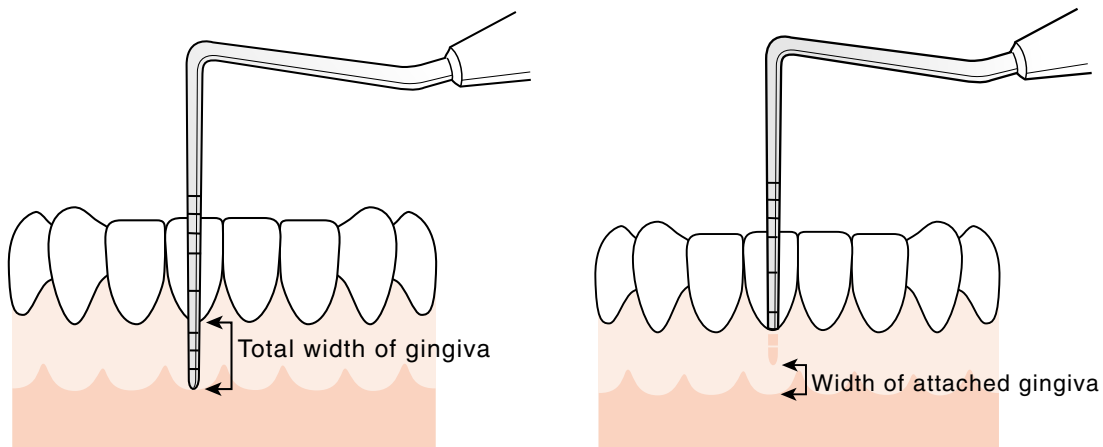
WIDTH OF ATTACHED GINGIVA

The **attached gingiva** is the part of the gingiva that is tightly connected to the cementum on the cervical-third of the root and to the periosteum (connective tissue cover) of the alveolar bone. The function of the attached gingiva is to keep the free gingiva from being pulled away from the tooth. The width of the attached gingiva is an important clinical feature for the dentist to keep in mind when planning restorative procedures. If there is no attached gingiva on a tooth surface, the dentist is limited in the types of restorations that can be placed on the tooth.

1. The attached gingiva extends from the base of the sulcus to the mucogingival junction. The alveolar mucosa can be detected visually by its deep red color and shiny appearance.
2. The **width of the attached gingiva** on the facial aspect varies in different areas of the mouth.
 - a. It is widest in the anterior teeth (3.5–4.5 mm in the maxilla and 3.3–3.9 mm in the mandible).
 - b. It is narrowest in premolar regions (1.8 mm in the mandible and 1.9 mm in the maxilla).
 - c. The width of the attached gingiva is not measured on the palate because clinically it is not possible to determine where the attached gingiva ends and the palatal mucosa begins.
3. The formula for calculating the width of attached gingiva is shown in Box 21-3.

BOX 21-3

Width of the Attached Gingiva



Formula: Calculate the width of the attached gingiva by subtracting the probing depth from the total width of the gingiva.

STEP 1: Measure the total width of the gingiva from the gingival margin to the mucogingival junction.

STEP 2: Measure the probing depth (from the gingival margin to the base of the pocket).

STEP 3: Calculate the width of the attached gingiva by subtracting the probing depth from the total width of the gingiva.

SECTION 4

Assessment with Furcation Probes**FURCATION INVOLVEMENT**

A **furcation** is the place on a multirooted tooth where the root trunk divides into separate roots. The furcation is termed a **bifurcation** on a two-rooted tooth and a **trifurcation** on a three-rooted tooth.

1. The **furcation area** is the space—apical to the root trunk—between two or more roots.
2. In health, the furcation area cannot be probed because it is filled with alveolar bone and periodontal ligament fibers.
3. **Furcation involvement** is a loss of alveolar bone and periodontal ligament fibers in the space between the roots of a multirooted tooth.
 - a. Furcation involvement results when periodontal infection invades the area between and around the roots.
 - b. Furcation involvement frequently signals a need for periodontal surgery after completion of periodontal debridement. Therefore, detection and documentation of furcation involvement is a critical component of the comprehensive periodontal assessment.



Clinically Visible Furcation. The furcation of this mandibular first molar is visible in the mouth because of bone loss and tissue recession.



A



B

Radiographic Evidence of Furcation Involvement. A, This radiograph shows furcation involvement on the mandibular first molar. B, This radiograph shows furcation involvement on a maxillary first molar. (Courtesy of Dr. Robert P. Langlais.)

REVIEW OF ROOT FURCATION MORPHOLOGY

The ability to mentally visualize root furcation morphology is important for effective assessment and instrumentation of periodontal patients.

BOX 21-4

Root Furcation Morphology

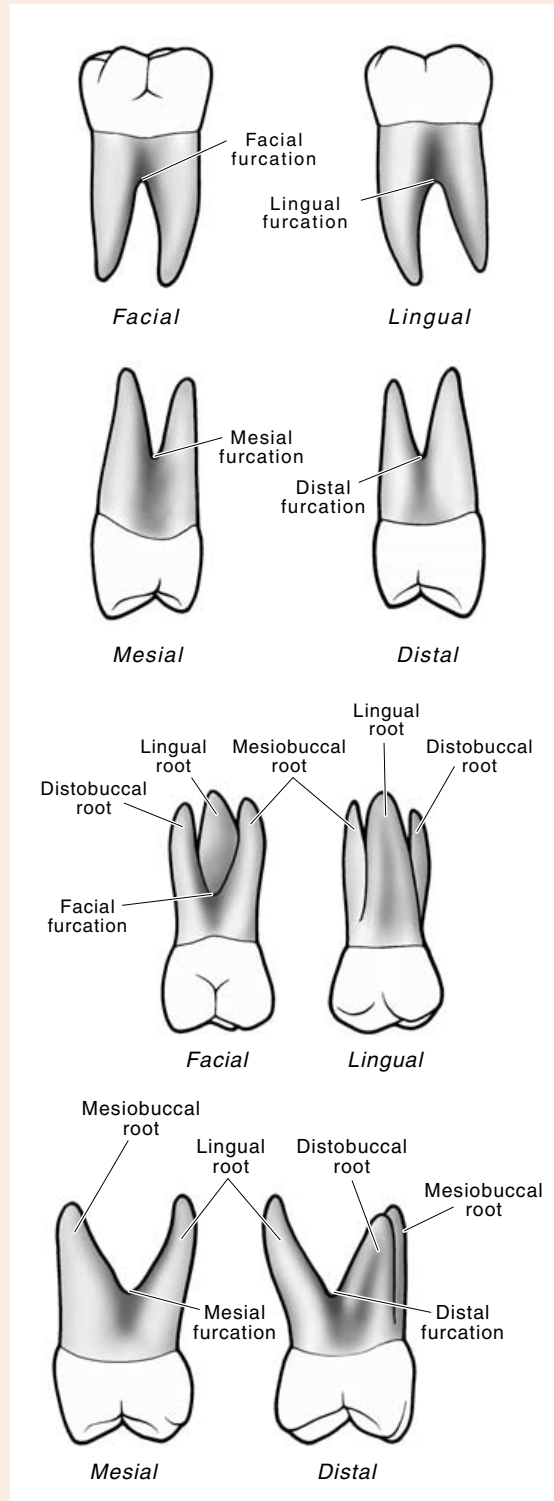
Mandibular molars usually are bifurcated with **mesial and distal roots**.

Maxillary first premolars can be bifurcated with **buccal and palatal roots**. When bifurcated, the roots of a maxillary first premolar separate many millimeters apical to the cemento-enamel junction.

Maxillary molar teeth usually are trifurcated with **mesiobuccal, distobuccal, and palatal (lingual) roots**.

On the mesial surface of a maxillary molar, the furcation is located more toward the lingual surface.

On the distal surface of a maxillary molar, the furcation is located near the center of the tooth.



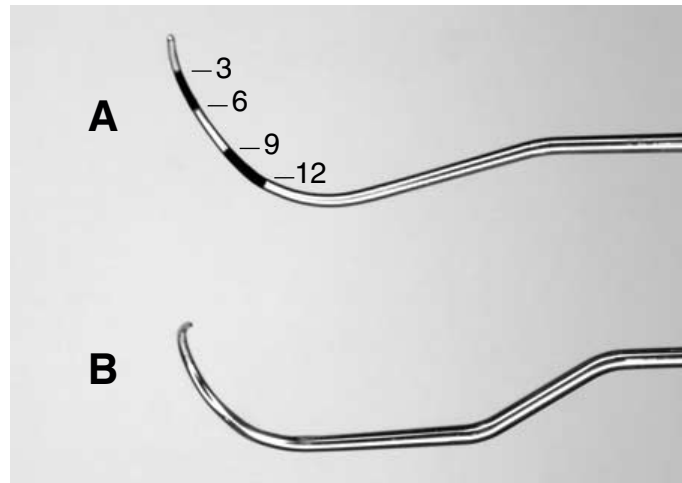
DESIGN CHARACTERISTICS OF FURCATION PROBES

A **furcation probe** is a type of periodontal probe used to evaluate the bone support in the furcation areas of bifurcated and trifurcated teeth.

1. Furcation probes have curved, blunt-tipped working-ends that allow easy access to the furcation areas.
2. Examples of furcation probes are the Nabers 1N and 2N.

Furcation Probes. Probe A has black bands from 3 to 6 mm and from 9 to 12 mm. Furcation probes with millimeter markings often are used in research studies.

Other furcation probes, such as probe B, do not have millimeter markings.



WORKING-END SELECTION

The correct working-end of the probe has been selected if the lower (terminal) shank is positioned parallel to the tooth surface being examined. The incorrect working-end has been selected if the lower shank is perpendicular to the long axis of the tooth surface being examined.



A



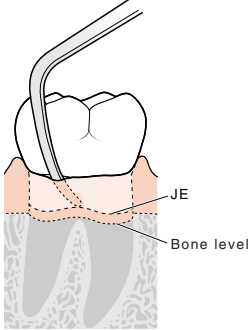
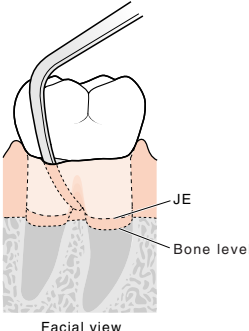
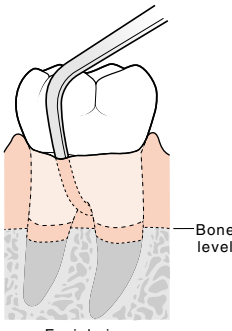
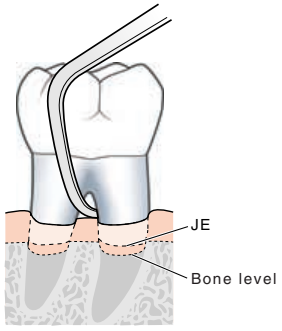
B

Working-End Selection for Furcation Probe. A, The correct end of a furcation probe has been selected if the lower shank is positioned parallel to the long axis of the tooth surface being examined. B, The incorrect working-end has been selected if the lower shank is perpendicular to the tooth surface being examined.

FOUR CLASSIFICATIONS OF FURCATION INVOLVEMENT

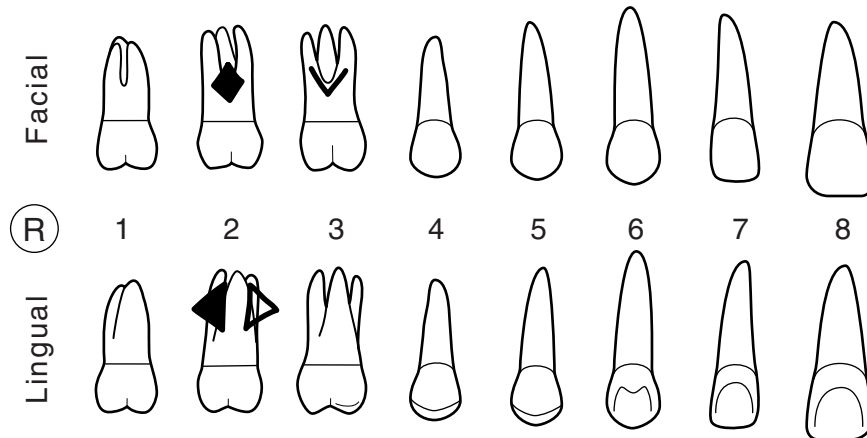
Furcation involvement should be recorded on a periodontal chart using a scale that quantifies the *severity (or extent) of the furcation invasion*. Table 21-3 shows a common furcation-rating scale and charting symbols.

TABLE 21-3. Charting Symbols for Furcation Classifications

Class	Description	Symbol
I	 <p>The concavity—just above the furcation entrance—on the root trunk can be felt with the probe tip; however, the furcation probe cannot enter the furcation area.</p>	^
II	 <p>The probe is able to partially enter the furcation—extending approximately one third of the width of the tooth—but it is not able to pass completely through the furcation.</p>	△
III	 <p>In <i>mandibular molars</i>, the probe passes completely through the furcation between the mesial and distal roots.</p> <p>In <i>maxillary molars</i>, the probe passes between the mesiobuccal and distobuccal roots and touches the palatal root.</p>	▲
IV	 <p>Same as a class III furcation involvement except that the entrance to the furcation is visible clinically owing to tissue recession.</p>	◆

DOCUMENTING FURCATION INVOLVEMENT

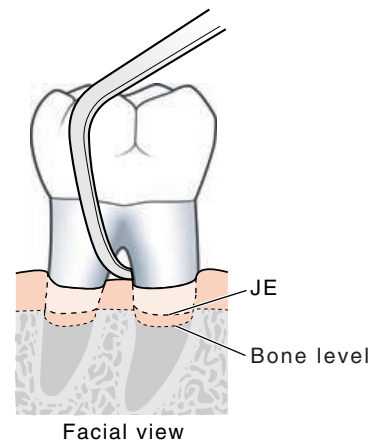
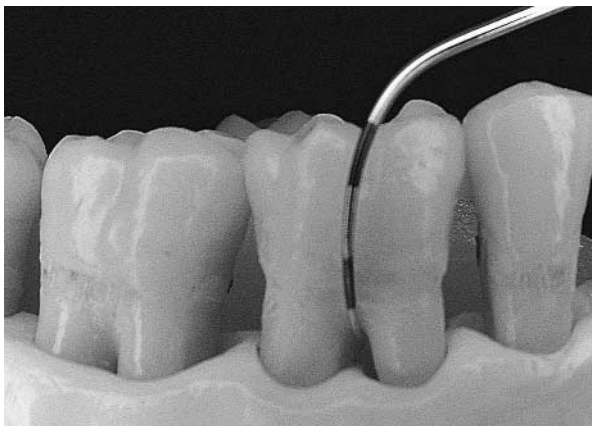
On this sample periodontal chart, all four classes of furcation involvement are represented. Tooth 2 has a class IV furcation involvement on the facial aspect. Tooth 3 has a class I furcation involvement on the facial aspect between the mesiobuccal and distobuccal roots. On the lingual aspect, tooth 2 has a class III furcation involvement between the distobuccal and palatal roots and a class II furcation involvement between the mesiobuccal and palatal roots.



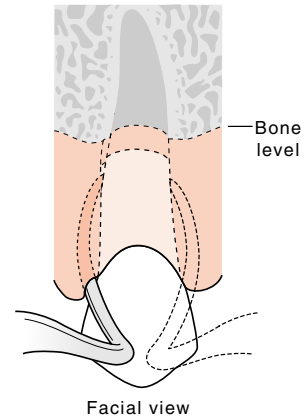
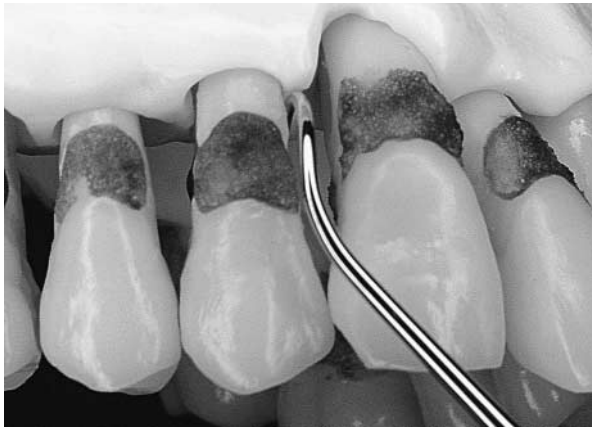
TECHNIQUE PRACTICE WITH FURCATION PROBES

Directions

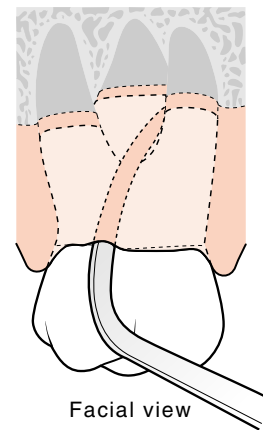
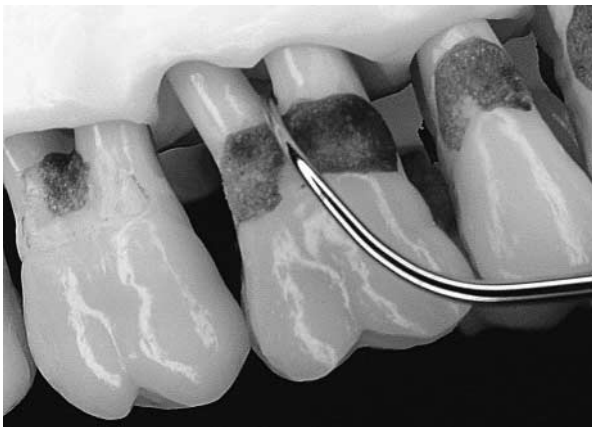
1. Use a periodontal typodont or mount an acrylic mandibular molar, maxillary first premolar, and maxillary first molar in modeling clay or plaster. Mount the teeth so that the furcation areas are exposed.
2. Position the probe at the gingival line at a location near where the furcation is suspected.
3. Direct the probe beneath the gingival margin. At the base of the pocket, rotate the probe tip toward the tooth to fit the tip into the entrance of the furcation.



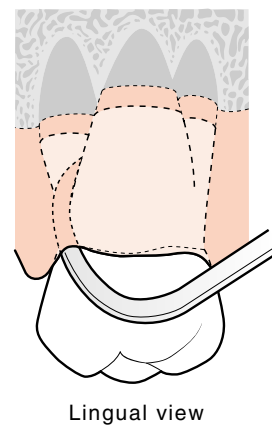
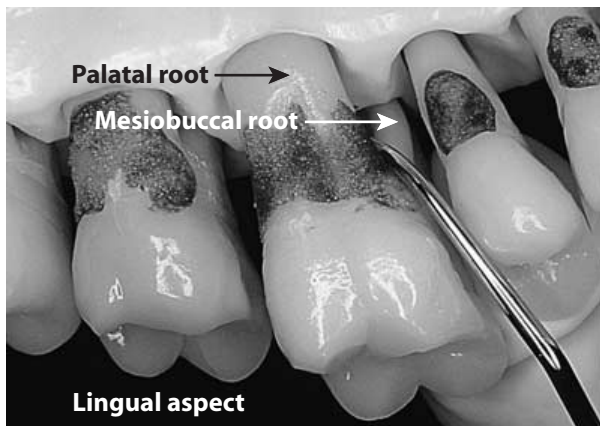
Mandibular Molars. The facial furcation is accessed from the facial. The lingual furcation is accessed from the lingual.



Maxillary First Premolar. The mesial furcation is accessed from the mesial. The distal furcation is accessed from the distal.



Maxillary Molars—Facial Aspect. The facial furcation is accessed from the facial.



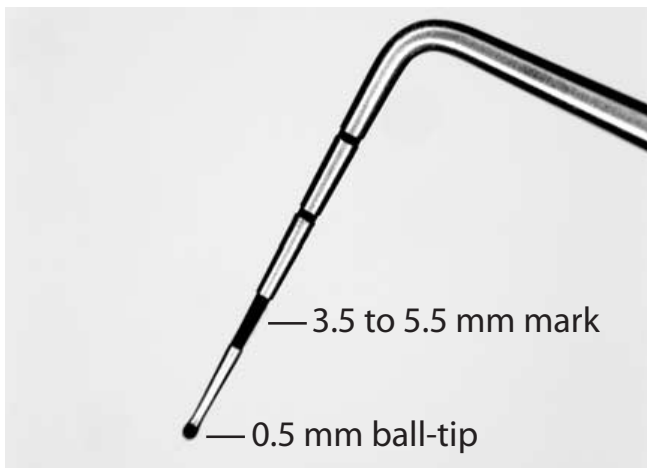
Maxillary Molars—Lingual Aspect. The mesial furcation is accessed from the lingual. The distal furcation is accessed from the lingual.

SECTION 5

PSR Examination**PERIODONTAL SCREENING AND RECORDING SYSTEM**

The American Dental Association and the American Academy of Periodontology suggest that all routine dental examinations include a screening examination using the **Periodontal Screening and Recording (PSR) System**. A PSR examination can help to identify patients who need a comprehensive periodontal assessment. The results of this screening examination are used to separate patients into two broad categories: (a) those who have periodontal health or gingivitis and (b) those who have periodontitis. The unique aspects of the PSR system are the manner in which the probe is read and the minimal amount of information that is recorded.

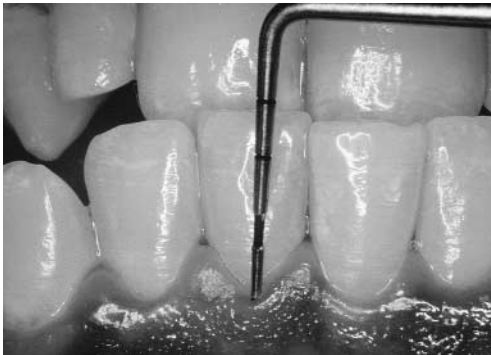
1. A **World Health Organization (WHO) probe** is used for this examination. The WHO probe has a colored band (called the reference marking) located 3.5 to 5.5 mm from the probe tip. This **color-coded reference marking** is used when performing the PSR examination.
2. The mouth is divided into sextants for the PSR examination. *Only one code is recorded for each sextant in the mouth.*
 - a. Instead of reading and recording six readings per tooth, the clinician needs to observe only the position of the color-coded reference marking in relation to the gingival margin and the presence of furcation invasion, mobility, mucogingival problems, or recession.
 - b. Each sextant is assigned a single PSR code; the highest code obtained for the sextant is recorded. An X is recorded if a sextant is edentulous.
 - c. The probe is walked circumferentially around each tooth in the sextant being examined. The color-coded reference mark is monitored continuously while probing. At each site probed, the color-coded reference mark is either (a) completely visible, (b) partially visible, or (c) not visible at all.
3. The PSR codes are recorded in a special PSR box chart.



The World Health Organization (WHO) Periodontal Probe. The probe has the following design features: (1) a 0.5-mm ball-tipped end and (b) a colored-coded reference mark located 3.5 to 5.5 mm from the explorer tip. Note that the other markings on the probe are not used when performing a PSR examination.

THE PSR EXAMINATION. For the PSR, the clinician needs to observe only the position of the color-coded reference mark in relation to the gingival margin and the presence of furcation involvement, mobility, mucogingival problems, or gingival recession.

TABLE 21-4. Criteria for Assigning PSR Codes



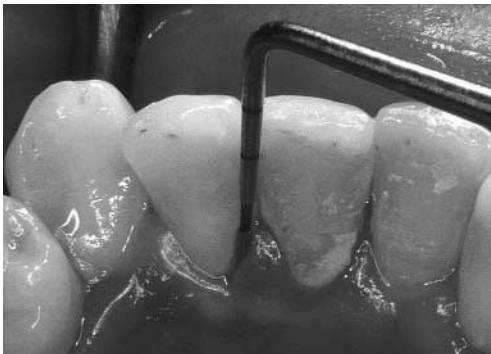
CODE 0:

- Color-coded reference mark is completely visible in the deepest sulcus or pocket of the sextant.
- No calculus or defective margins on restorations are present.
- Gingival tissues are healthy with no bleeding evident on gentle probing.



CODE 1:

- Color-coded reference mark is completely visible in the deepest sulcus or pocket of the sextant.
- No calculus or defective margins on restorations are present.
- Bleeding IS present on probing.



CODE 2:

- Color-coded reference mark is completely visible in the deepest sulcus or pocket of the sextant.
- Supragingival or subgingival calculus and/or defective margins are detected.



CODE 3:

- Color-coded reference mark is partially visible in the deepest sulcus or pocket in the sextant.
- This code indicates a probing depth between 3.5 and 5.5 mm.

(PSR codes continue on next page)

TABLE 21-4. Criteria for Assigning PSR Codes (continued)

**CODE 4:**

- Color-coded reference mark is not visible in the deepest sulcus or pocket in the sextant.
- This code indicates a probing depth of greater than 5.5 mm.

**CODE *:**

The * symbol is added to the code of a sextant exhibiting any of the following abnormalities: furcation involvement, mobility, mucogingival problems, or recession extending into the colored area of the probe. Pictured here is an example of a sextant that has teeth with furcation involvement; therefore, the symbol should be recorded next to the sextant code.

**CODE * Example: Recession**

This sextant exhibits gingival recession and mucogingival problems and therefore should include the * symbol next to the sextant code.

**CODE * Example: Mucogingival Problems**

This sextant exhibits mucogingival problems and calculus and therefore should include the * symbol next to the sextant code.

DOCUMENTATING PSR CODES

A special form is used to document the PSR codes for each sextant.

For example, the PSR box chart would look like the chart shown below, for a PSR completed on May 14, 2004.

On the sample PSR chart shown below, the following codes have been entered:

- Maxillary right posteriors = Code 3
- Maxillary anterior sextant = Code 2
- Maxillary left posteriors = Code 1
- Mandibular right posteriors = Code 3
- Mandibular anterior sextant = Code 3
- Mandibular left posteriors = Code 4 plus the * symbol to indicate one of the following problems: furcation involvement, mobility, mucogingival problems, or recession extending into the colored area of the probe.

3 2 1			Periodontal Screening and Recording			
3	3	4*	0	5	14	04
Sextant Score	Sextant Score	Sextant Score	Month	Day	Year	

TABLE 21-5. Implications of PSR Codes

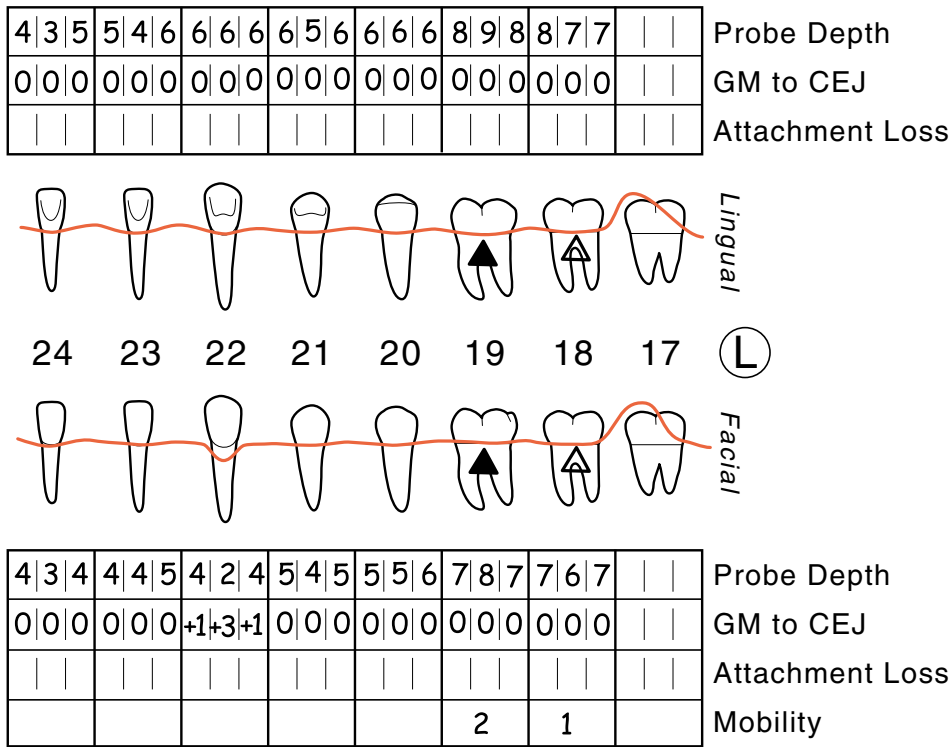
Code	Further Clinical Documentation
Code 0, 1, or 2 in all sextants	No further documentation needed
Code 3 in one sextant	Comprehensive periodontal assessment of sextant with 3 code
Code 3 in two or more sextants	Comprehensive periodontal assessment of entire mouth
Code 4 in one or more sextants	Comprehensive periodontal assessment of entire mouth

SECTION 6

Skill Application**PRACTICAL FOCUS****Periodontal Assessment Case: Mr. Temple****Mr. Temple: Assessment Data**

1. Generalized bleeding upon probing.
2. Deposits
 - a. Moderate supragingival plaque on all teeth. Light subgingival plaque on all surfaces with moderate subgingival plaque on the proximal surfaces on all teeth.
 - b. Supragingival calculus deposits—light calculus on lingual surfaces of mandibular anteriors.
 - c. Subgingival calculus deposits—small-sized deposits on all teeth; medium-sized deposits on all proximal surfaces.

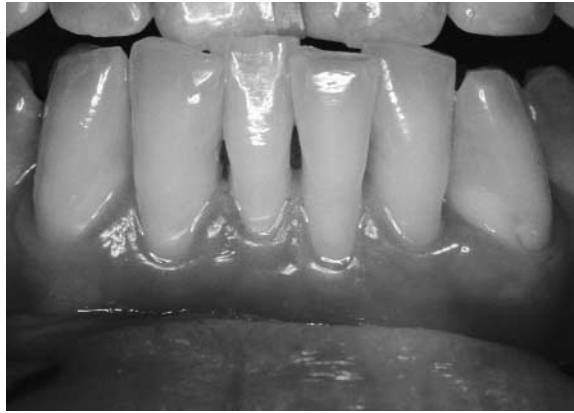
Mr. Temple: Periodontal Chart



Mr. Temple: Case Questions

1. Use the information recorded on Mr. Temple’s chart to calculate the attachment loss on the facial and lingual aspects for teeth 18 to 24.
2. Describe the characteristics of the class I mobility on tooth 18. Describe the characteristics of class II mobility on tooth 19.
3. Describe the characteristics of the furcation involvement on teeth 18 and 19 (i.e., What does this level of furcation involvement look like in the mouth?)
4. Do the assessment data indicate healthy sulci or periodontal pockets in this quadrant? Explain which data you used to determine the presence of sulci or pockets?
5. If the gingival margin level information had NOT been documented on this chart, would the probing depth measurements *alone* be an accurate indicator of the level of bone support present? Why?
6. Based on the assessment information, which type of explorer would you select to explore the teeth in this quadrant? Which instruments would you select for calculus removal in this quadrant: sickle scalers, universal curets, area-specific curets? Explain your rationale for instrument selection.

Periodontal Assessment Case: Mrs. Blanchard



Mrs. Blanchard: Assessment Data

1. Generalized bleeding upon probing.
2. Deposits
 - a. Light supragingival plaque on all teeth. Light subgingival plaque on all surfaces.
 - b. Supragingival calculus deposits—light calculus on lingual surfaces of mandibular anteriors and facial surfaces of maxillary molar.
 - c. Subgingival calculus deposits—small-sized deposits on all teeth.

SKILL EVALUATION MODULE 21 **Advanced Probing Techniques**

Student: _____ Anterior Area 1 = _____

Evaluator: _____ Posterior Area 2 = _____

Date: _____

PART 1—ASSESSMENT TECHNIQUE ON STUDENT PARTNER

EVALUATOR: Indicate **S** or **U**. Each **S** equals 1 point, each **U** equals 0 points.

	Area 1	Area 2
CRITERIA:	I	I
Position: Demonstrates correct principles of positioning for the clinician, patient, equipment, and area		
Dental Mirror: Uses the mirror correctly for retraction and/or indirect vision		
Infection Control and Communication: Maintains infection control throughout the assessment procedure		
Explains assessment procedure to the patient		
Intraoral Fulcrum and Grasp: Fulcrums on same arch, near tooth being instrumented		
Probing Technique: Positions probe parallel to the tooth surface		
Keeps tip in contact with the tooth surface and uses small walking strokes within the sulcus to cover the entire circumference of each tooth		
Tilts probe and extends tip beneath contact area to assess interproximal area		
Attached Gingiva: Measures the amount of attached gingiva on one tooth in each area		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Part 1: Total points (18 possible points)		
Part 2: Total points (24 possible points)		
Part 3: Total points (8 possible points)		
Calculate Total S's for Parts 1, 2, and 3.		
Grand Total of S's _____ divided by Total Points Possible (50) equals the Percentage Grade _____		

Continue with evaluation PARTS 2 and 3 on the following page.

Student: _____

PART 2—PROBING DEPTH MEASUREMENTS ON STUDENT PARTNER

Evaluator calls out a tooth number in each quadrant to be probed on student partner (six readings per tooth).

S = student probing depth reading is within 1 mm of the evaluator’s finding for the tooth.

U = student probing depth reading is not within 1 mm of the evaluator’s finding for the tooth

QUADRANT	ASPECT	TOOTH #	STUDENT READINGS			EVALUATOR READINGS		
1	Facial	#						
	Lingual							
2	Facial	#						
	Lingual							
3	Facial	#						
	Lingual							
4	Facial	#						
	Lingual							

OPTIONAL GRADE PERCENTAGE CALCULATION—Part 2

Total number of readings within 1 mm of evaluator’s measurement _____. (24 possible points)

EVALUATOR—Transfer total number of points to page 1 of Assessment Evaluation Form.

PART 3A—FURCATIONS ASSESSMENT ON PERIODONTAL TYPODONT

On a periodontal tyodont, uses furcation probe to assess a mandibular first molar (2 possible points) and a maxillary first molar (3 possible points).

PART 3B—CALCULATING ATTACHMENT LOSS

Calculate the clinical attachment loss. S = correct calculation. U = incorrect calculation.

Tooth A		Tooth B		Tooth C	
Probing Depth	= 2 mm	Probing Depth	= 3 mm	Probing Depth	= 6 mm
GM to CEJ	= +5 mm	GM to CEJ	= +4 mm	GM to CEJ	= -3 mm
Attachment Loss	=	Attachment Loss	=	Attachment Loss	=

OPTIONAL GRADE PERCENTAGE CALCULATION—Part 3

Total number of S evaluations for technique with furcation probe _____. (5 possible points)

Total number of correct CAL calculations _____. (3 possible points)

EVALUATOR—Transfer total number of points to page 1 of the Assessment Evaluation Form.