

LESSON PLAN 1 & TEST QUESTIONS

I.COVER SHEET:

Course: DEH 241 Introduction of Dental Hygiene

Topic: Periodontal Instrument

Audience: Adult Learners (Junior Dental Hygiene Student)

Time: 50 Minutes

Personnel: None needed

Instructional Objectives:

Upon completion of the lecture, the student should be able to:

1. Identify the parts of the periodontal instrument.
2. Classify the two primary use of the periodontal instruments.
3. Describe the use of the specialized periodontal instrument.
4. Distinguish the differences between the types of periodontal instruments.
5. Share the advantages of the hand scaler and ultrasonic scaler.

Materials: PowerPoint, Handout.

References:

Bennett, B. C. (2018, September 24). *All About Hand Instruments*. Dimensions of Dental Hygiene. <https://dimensionsofdentalhygiene.com/article/all-about-hand-instruments/>

Peeran, S. W. (2021, January 1). *41. Periodontal Instrumentarium*. ResearchGate. https://www.academia.edu/45114334/41_Periodontal_Instrumentarium

Rdh, R. C. D. B. L., MA, & Cda Ms, D. R. S. (2017). *Modern Dental Assisting* (12th ed.). Saunders.

Suresh, D. K., & Bathla, S. (2011). Periodontal Instruments.

Periodontics Revisited, 296.

Wilkins, E. (2016). *Clinical Practice of the Dental Hygienist* (12th ed.). Jones & Bartlett Learning.

TIME	LESSON CONTENT	NOTES
	<u>II. INSTRUCTIONAL SET</u>	
1 Minute	<p><u>1. Introduction</u> Throughout the semester, you learned about Periodontal. Today we will introduce periodontal instruments. We will talk more about the instruments that used for assessment and treatment for the periodontal and classifications of the periodontal instrument, how each type of the periodontal instruments can be used.</p> <p><u>2. Established Mood</u> By attending today's lecture, you show a great deal of responsibility as a dental hygienist to the patients to perform the right instrument for specific use. Today we will learn which periodontal instruments are needed and what are the appropriate instrument for each procedure.</p> <p><u>3. Gain Attention/Motivate</u> A dental hygienist will need to examine the patient's oral health before performing the treatment. With the periodontal instruments, you will be able to do an excellent examination and the best treatment for your patients.</p> <p><u>4. Established Rational</u> By understanding our lecture today, you will be able to do a great job in the clinic.</p> <p><u>5. Established Knowledge Base</u> What are the uses of periodontal instruments? What are periodontal instruments that can be used for oral health assessment? What are periodontal instruments that can be used for oral health treatments? How many categories for the periodontal instruments?</p>	<p>Slide #1</p> <p>Periodontal Instruments Title</p> <p>Note: A periodontal instrument is essential for assessing the patient's gingival status and cannot be assessed without the periodontal instruments.</p> <p>Q: How many types of assessment instruments?</p> <p>A: Two different types.</p> <p>Slide #2</p> <p>Media: Picture has a motivation quote for dental hygiene students that make the student excited to learn.</p>
2 Minutes		

TIME	LESSON CONTENT	NOTES
1 Minute	<p><u>6. Instructional Objective</u></p> <p>After today's lecture, you should be able to identify the parts of periodontal instrument, classify the two primary use of the periodontal instruments, describe the use of the specialized periodontal instrument, distinguish the differences between the types of the periodontal instruments, and share the advantages of the hand scaler and ultrasonic scaler.</p>	<p>Slide #3 Objectives</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
	<u>III. BODY/CONTENT</u>	
1 Minute	I. Periodontal instruments A. Definition: Periodontal instruments are designed to remove calculus, plan root surfaces, curetting the gingiva, and remove diseased tissue. It is performed for supra and subgingival, and it can be done using a non-surgical or surgical approach.	Slide #4 Periodontal instruments Q: what are the two types of used for periodontal instruments? A: assessment instruments and treatment instruments.
1 Minute	B. Dental hygiene periodontal instruments can be divided into <ol style="list-style-type: none"> 1. Assessment Instruments. 2. Therapeutic Instruments. 	Slide #5: Two difference types of periodontal instruments Media: two pictures. One for assessment instrument and the second picture for therapeutic
2 Minutes	C. Instrument design: 1. PARTS OF THE PERIODONTAL INSTRUMENT <ol style="list-style-type: none"> a. Handle: Used for holding the instrument b. Shank—: Located between the handle and the working-end. c. Working-End—The part that does the work. 	Slide #6 Instrument design Note : <ol style="list-style-type: none"> e. Handle—the part of a periodontal instrument used for holding the instrument. f. Shank—a rod-shaped length of metal located between the handle and the working-end of a dental instrument. g. Working-End—the part of a dental instrument that

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
	<u>III. BODY/CONTENT</u>	
		<p>does the work of the instrument.</p> <p>Q: how many part the periodontal instruments have? A: 3 parts; handle, shank, and working end</p> <p>Media: picture shows the three parts of the periodontal instruments.</p>
2 Minutes	<p>D. Single ended and Double- ended Designed</p> <ol style="list-style-type: none"> 1. Single-ended instruments are less efficient to use because the clinician must stop more often to lay down one instrument and pick up another. 2. Double-ended instruments allow the clinician to simply flip the instrument to use the other working-end. <p>E. Types of double-ended instrument:</p> <ol style="list-style-type: none"> 1- Paired working-end 2- Unpaired working-end 	<p>Slide #7 Single ended and Double- ended Designed</p> <p>Media: picture of single-ended and double- ended instruments</p> <p>Note: Periodontal instruments are available in single-ended and double-ended</p> <p>Note:</p> <ul style="list-style-type: none"> - Most double-ended instruments have paired working-ends that are exact mirror images of each other. - Some double-ended instruments have unpaired (dissimilar) working-ends

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
	<u>III. BODY/CONTENT</u>	
1 minute	II. Use of periodontal instruments for dental hygiene: 1. Remove calculus. 2. Smooth root surfaces. 3. Measure periodontal pockets.	Slide #8 # Use of periodontal instruments for dental hygiene: Media: picture show the three uses
1 Minute	A. Classifications of Periodontal Instruments: A- Assessment Instruments <ol style="list-style-type: none"> 1. periodontal Explorers 2. Periodontal Probes B- Therapeutic Instruments <ol style="list-style-type: none"> 1. Periodontal Scalers 2. Periodontal Curettes 3. Periodontal Files 4. Ultrasonic 	Slide #9 Classification Q: Can periodontal scaler used for assessment the patient's gingival status ? A: No
3 Minutes	B. Periodontal Explorers: a. The explorer has thin working ends to adapt around root surfaces easily. b. Explorer offers the dental hygienist perfect tactile information on the location of subgingival calculus deposits.	Slide #10 Periodontal Explorers: Note: Periodontal explorers are longer and curved than

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
	<u>III. BODY/CONTENT</u>	
	<ul style="list-style-type: none"> c. Locate supragingival and the subgingival calculus deposits d. Check the roughness or smoothness of the root surfaces 	<p>explorers that used for caries detection</p> <p>Media: picture of the periodontal explorer</p> <p>Q: In which type is the periodontal explorer involved?</p> <p>A: assessment instruments.</p>
2 Minutes	<p>C. Periodontal Probes:</p> <ul style="list-style-type: none"> 1. Marked in millimeter. 2. Tapered to fit into the gingival sulcus and has rounded tip not to injure the soft tissues 3. Used to measure the depth of gingival sulcus and periodontal pockets. 4. Used to measure clinical attachment levels. 	<p>Slide #11 Periodontal Probes:</p> <p>Q: In which type is the periodontal probes involved?</p> <p>A: assessment instruments.</p> <p>Media: Picture of periodontal probe.</p>
3 Minutes	<p>A. Types of periodontal probes:</p> <ul style="list-style-type: none"> a. Williams probe – has 10mm b. Marquis color-coded probe. c. UNC-15 probe, d. University of Michigan probe e. World Health Organization (WHO) probe 	<p>Slide #12 Types of periodontal probes:</p> <p>Media: Pictures of all the periodontal probe's types.</p> <p>Note: Williams probe – has 10mm</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
	<u>III. BODY/CONTENT</u>	
		<ul style="list-style-type: none"> f. Marquis color-coded probe. 3mm in each section g. UNC-15 probe, A 15 mm long h. University of Michigan probe with 10mm (1,2,3,4,5,6,7,8,9,10) i. World Health Organization (WHO) probe, 11.5 mm (0.5, 3.5, 8.5, 11.5) <p>Q: how many common types of periodontal probes? A: 5 different types</p>
2 Minutes	<p>D. Furcation probes (Nabers probe):</p> <ul style="list-style-type: none"> 1. Furcation probes is also known of Nabers probe <p>Used for:</p> <ul style="list-style-type: none"> 2. Used to measure the horizontal and vertical pocket depths of multirooted teeth. 	<p>Slide #13 Furcation probes (Nabers probe)</p> <p>Media: Picture of Furcation probes</p> <p>Slide #14 Periodontal scalers:</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
3 Minutes	<u>III. BODY/CONTENT</u> B- Sickie Scaler Curved Blade: A contra-angle shank, is designed to remove calculus from the posterior teeth.	Slide #17 Periodontal Curettes: Media: picture show the tip of the periodontal curettes
	IV. Periodontal Curettes: a. Have a rounded end, with one or two cutting edges Used for: 1- Removing deep subgingival calculus. 2- Removing soft tissue lining of a periodontal pocket. 3- Root planning.	Q: Can we use the curettes for supragingival calculus? A: Yes Note: Curettes have a rounded end, in contrast of sickle scalers, which have a pointed end.
2Minutes	Types of periodontal curettes: 1- Universal Curettes: A-Designed to adjust to all tooth surfaces. B-Have two cutting edges, one on each side of the blade. Double-ended	Slide #18 periodontal curette's types Media: Picture of Universal Curettes
2 Minutes	2- Gracey Curettes:	Slide #19 Gracey Curettes: Media: picture of Gracey Curettes

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
	<u>III. BODY/CONTENT</u>	
3 Minutes	<ul style="list-style-type: none"> a- Designed to adopt to specific tooth surfaces (mesial or distal) b- Only have one cutting edge and rounded working end c- Allow for deep scaling and root planning. 	<p>Q: how many types for the periodontal Gracey curettes? A: Fives types</p> <p>Slide #20 Types and using for Gracey Curettes</p>
1 Minute	<p>Types and using for Gracey Curettes:</p> <ul style="list-style-type: none"> 1- Gracey Number 1/2, 3/4 Anterior teeth (Incisors and canines) 2- Gracey Number 5/6 Anterior teeth and premolars 3- Gracey Number 7/8, 9/10 Posterior teeth (Buccal and lingual surfaces) 4- Gracey Number 11/12 Posterior teeth (Mesial) 5- Gracey Number 13/14 Posterior teeth (Distal) 	<p>Note: The number indicates the specific area the Gracey curette will be used in</p> <p>Media: picture for the different types of the Gracey Curettes</p>
1 Minute	Difference of Cutting Edge of Scaler and Curettes	<p>Slide #21 Difference of Cutting Edge of Scaler and Curettes</p> <p>Media: Picture shows the difference of cutting edge of scaler and curettes</p>
1 Minute	VI. Periodontal files:	<p>Slide #22 Periodontal files:</p> <p>Media: Picture of the periodontal file.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
	<u>III. BODY/CONTENT</u>	
2Minutes	<ul style="list-style-type: none"> b. Used to crush or fracture extremely heavy calculus, c. Each working-end of a periodontal file has several cutting edges. 	Slide #23 Periodontal Ultrasonic:
	VII. Periodontal Ultrasonic:	Q: What is the benefit of spraying water in the ultrasonic? A: avoid the tip to heat up, and wash debris and bacteria from the pocket's base
	<ul style="list-style-type: none"> a. The ultrasonic scaler removes calculus quickly and minimizes dental hygienists' hand fatigue. b. The ultrasonic scaler converts extremely high-frequency sound waves into mechanical energy in the form of extremely fast vibrations at the instrument's tip. c. The water at the tip avoids the buildup of heat. d. The water from the tip washes debris and bacteria from the pocket's base. 	Media: two pictures of periodontal ultrasonic
	Ultrasonic Used for:	Slide #24 ultrasonic
2Minutes	<ul style="list-style-type: none"> 1. Removing supragingival calculus 2. Removing difficult stains. 3. Removing subgingival calculus. 4. Removing plaque, and endotoxins from the root surface 5. Cleaning of furcation areas. 	Slide #25 Hand and Ultrasonic Scaling
	Hand and Ultrasonic Scaling:	Note : In terms of removing calculus and tooth plaque, both ultrasonic and manual scaling treatments are equally effective.

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
4 Minutes	<u>III. BODY/CONTENT</u>	
	<p data-bbox="467 310 1015 380">1. Hand scaling and ultrasonic scaling are equally effective</p> <p data-bbox="475 447 878 478">A. Advantages of Hand Scaling</p> <ul style="list-style-type: none"> <li data-bbox="488 541 813 569">a. Great tactile sensitivity. <li data-bbox="488 575 699 602">b. More control. <li data-bbox="488 609 1008 642">c. Area-specific designs to improve access <p data-bbox="475 705 946 737">B. Advantages of Ultrasonic Scaling:</p> <ul style="list-style-type: none"> <li data-bbox="548 800 894 827">a. It improved healing time. <li data-bbox="548 833 946 905">b. The water supply keeps the operating field clean. <li data-bbox="548 911 992 982">c. With correct application, repetitive motions are reduced. <li data-bbox="548 989 959 1016">d. Tissue distention is reduced. 	

TIME	LESSON CONTENT	NOTES – MEDIA- Q/A
	<u>VIII. CLOSURE</u>	
3 Minutes	<p>A. <u>Summary of Major Points - Relate Back to Objectives</u></p> <p>I hope that you now have a better understanding of periodontal instruments. I hope that you can take what you have learned today and use this knowledge to perform it when you work as a dental hygienist in the dental clinic. I hope you know you can recognize the use of periodontal instruments. Also, to distinguish the differences between the types of periodontal instruments. In addition, you could demonstrate the advantages of the hand scaler and ultrasonic scaler.</p> <p><u>Provide a Sense of Accomplishment</u></p> <p>I hope you will be more comfortable and able to classify the types and use for Gracey curettes and analyze the difference between cutting-edge scalers and curettes.</p> <p>B. <u>Assignment:</u></p> <p>For a better understanding of our topic today you should:</p> <p>After today's lesson, I hope you will</p> <ol style="list-style-type: none"> 1. Explore websites on the handout provided 2. Search resources regarding this topic 	<p>Slide #26</p> <p>Q: what should you use to measure the horizontal and vertical pocket depths of multirooted teeth? A: Furcation probes (Nabers probe)</p> <p>Q: In which types are The periodontal probe instrument involved? A: assessment instrument</p> <p>Media: Video shows Gracey Instrumentation Basics</p> <p>Note: websites provided, scientific journals.</p>

CRITICAL THINKING ACTIVITY:

Case: A periodontitis risk comes in with an adult patient. The patient has moderate calculus on the mesial lingual of tooth #19 and heavy calculus on the lingual of teeth #24 and #25.

1- What is the appropriate periodontal instrument that can be used to measure the periodontitis' stage of risk?

Answer: The appropriate instrument is the periodontal probe to measure the tooth's depth pocket.

2- what is the appropriate Gracey curettes that can be used to remove the calculus from tooth #19?

Answers: the appropriate Gracey curettes for the mesial is number 11/12.

3-what are the appropriate Gracey curettes that can be used to remove the calculus from teeth #24 and #25?

Answers: the appropriate Gracey curettes for the anterior teeth are numbers 1/2 and 3/4.

Test Questions

1. **Objective #1:** Identify the parts of the periodontal instrument

Test Item: Which of the following is NOT consider as a part of the periodontal instrument?

- a. Handle
- b. Lighting-End
- c. Working-End
- d. Shank

2. **Objective #2:** Classify the two main use of the periodontal instruments

Test Item: All the following are involved into therapeutic periodontal instruments **EXCEPT** one. Which is the **EXCEPTION**?

- a. Periodontal probe
- b. Periodontal scaler
- c. Periodontal Curettes
- d. Periodontal Files

3. **Objective #3:** Describe the used of periodontal specialized instrument.

Test Item: All the following are involved into the used of periodontal specialized instrument **EXCEPT** one. Which is the **EXCEPTION**?

- a. Remove calculus.
- b. Smooth root surfaces.
- c. Measure periodontal pockets.
- d. Remove dental caries

4. **Objective #4:** Distinguish the differences between the types of the periodontal instruments.

- **Test item:** Name the instrument that has a rounded end with two cutting edges?

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5. **Objective #5.** Demonstrates the advantages of the hand scaler and ultrasonic scaler.

Test Item: Write one advantage of the hand scaler?

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Correct Answers:

1. b
2. a
3. d
4. Universal Curette
5. Great tactile sensitivity, more control, or area-specific designs to improve access.