

SMS

self-study course

course 4 | autumn 2022



TWO CREDIT HOURS
are issued for
successful completion
of this self-study
course. These credit
hours count toward
your OSDB 2022-2023
biennium totals.

ALL ABOUT ASSESSMENT INSTRUMENTS

about this course...

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The purpose of this self-study is to provide the dental professional with a review of necessary information regarding select dental **assessment instruments**. This course will provide a brief overview of assessment instruments, focusing on their design, purpose, and application in assessing oral health status.

You may be thinking, "why do I need to take a self-study course on these instruments? I use them everyday." A valid point, yes. As such, this self - study is designed around the idea that there is always something to be learned! The following content is designed to provide both recent graduates and experienced clinicians with evidence - based information (and resources) that can be used during patient care. Specifically, this course is designed to aid the clinician in making appropriate clinical decisions related to assessment instruments, promoting accuracy and consistency related to diagnosis and treatment planning.



course 04

autumn 2022

COURSE *learning objectives*

Upon completion of this course, the participant will be able to:

- recognize team member roles in clinical assessment
- identify characteristics of comprehensive patient care
- define assessment
- recognize the purpose of assessment instruments
- identify the importance of using assessment instruments
- identify the design of the UNC - 12 probe
- recognize additional functions of the UNC - 12 probe
- interpret the use of the UNC - 12 probe
- identify the design of the WHO probe
- differentiate between the use of the UNC - 12 and WHO probes
- identify the purpose of the ODU 11 / 12 explorer
- recognize the design characteristics of the ODU 11 / 12 explorer
- identify the characteristics of assessment strokes
- define clinical calibration

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ASSESSMENT INSTRUMENTS

who, how, & when
assessment overview

who, how & when

ASSESSMENT INSTRUMENTS

WHO

does this information apply to?

ALL CLINICAL ROLES

The entire dental team can benefit from understanding the clinical applications and important properties of assessment instruments.

HOW

does this information apply to you?

DENTISTS

You can encourage your clinicians by promoting the use of evidence-based equipment. As the clinician who definitively diagnoses a patient's oral health status, it is important to know the "ins and outs" of all instruments in your armamentarium. Promoting the use of the current/recommended assessment instruments among your team is important for excellent patient care. Providing your team with proper assessment instruments allows for a consistent, calibrated approach to patient care.

DENTAL HYGIENISTS

Assessment of a patient, through utilizing evidence-based assessment instruments and assisting in the diagnosis process, is an essential component of the dental hygiene process of care (as defined by the ADHA). In fact, it is the initial step the process. Ensuring that proper assessment instruments are being used and that full mouth assessment is being performed is key for preparing patients for comprehensive examination by the dentist.

DENTAL ASSISTANTS

You can use your knowledge of this topic to educate patients and prepare them for each step of the dental appointment. Your knowledge of the planned assessments as well as the assessment instruments can help to prepare the patient for the appointment process.

WHEN

to replace assessment instruments?

Observation of instrument integrity is equally important for each clinical role. All clinical team members should observe for signs of wear, bent or broken tips, and faded millimeter markings (relative to periodontal assessment instruments). Replacing worn or defective instruments will help to ensure that clinical assessment and comprehensive care are not compromised.



ASSESSMENT

overview

what is

COMPREHENSIVE PATIENT CARE?

Patient care should be comprehensive with a focus on assessment, diagnosis, planning, implementation, evaluation, and documentation. Clear communication provides the foundation for optimal patient care, allowing the assessment of the patient to be driven by critical analysis. Comprehensive and accurate assessment allows for the clinician to develop an individualized patient care plan to address needs appropriately.

what is

ASSESSMENT?

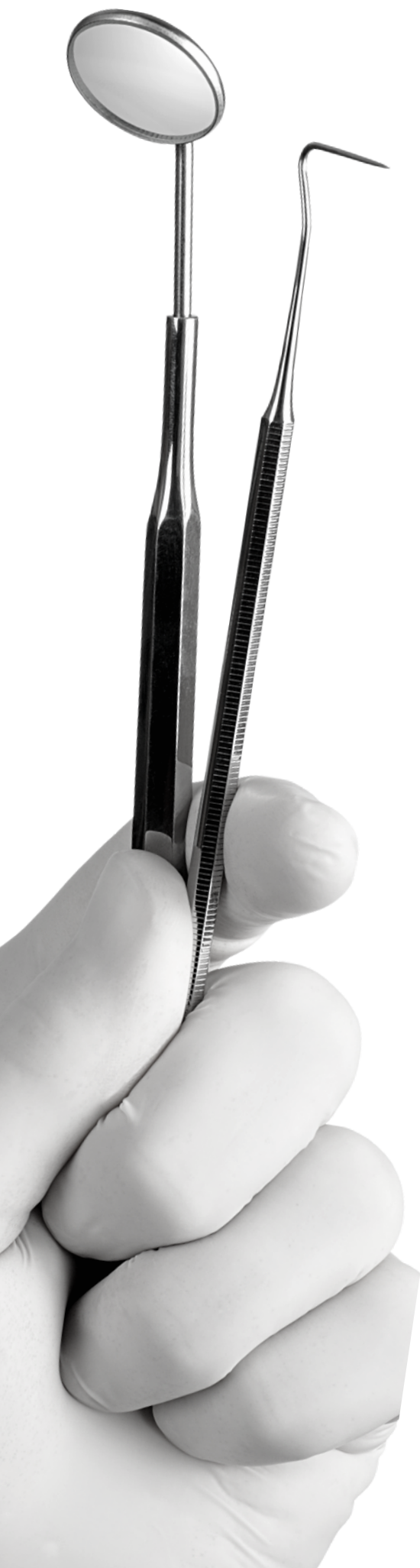
Assessment is the collection and analysis of data relative to systematic and oral health status in order to identify and manage current patient needs. There are several indices, scoring methods, and assessment plans to identify indicators of oral health status. A variety of assessment instruments have been designed to allow for accuracy in documenting clinical findings.

what are

ASSESSMENT INSTRUMENTS?

Assessment instruments are essential tools for gathering data during a clinical evaluation and assisting the clinician with determining patient needs. The assessment instruments needed for a periodontal examination include a mouth mirror, probe and explorer. This focus of this self-study is to review and detail the following periodontal assessment instruments --- the UNC-12 probe, the WHO probe, and the 11/12 explorer. Each instrument is designed for specific application, while serving a variety of purposes.





PERIODONTAL PROBE

quick review

The periodontal probe has long been used as a diagnostic instrument to accurately measure sulcus and pocket depth. A number of periodontal probes are available and vary in how their millimeter measurements are marked. Two general types are available --- standard manual probes and automated probes. This self-study will focus on standard manual, and specifically the UNC - 12 (University of North Carolina) probe and the WHO (World Health Organization) probe.

EXPLORER

quick review

The explorer is an assessment instrument, presenting in various forms, each for a specific use. Historically, explorers have been used for caries detection and diagnosis, evaluation of tooth structure and the margins of restorations, and calculus detection, among other applications. This self - study will focus on the ODU (Old Dominion University) 11 / 12 as an assessment instrument for examination of supragingival and subgingival plaque and calculus.



INTRODUCTION & QUICK-GUIDES

UNC - 12 probe, WHO probe, ODU 11 / 12 explorer

all about the UNC - 12 PROBE

DESIGN

The University of North Carolina - 12 (UNC - 12) periodontal probe is designed with a handle and a blunt, rounded, rod-shaped working-end. It is calibrated with millimeter markings and has color coded markings at the 4mm-5mm and 9mm-10mm intervals. It is also designed with a 90-degree bend to allow for proper insertion into the sulcus.

how to properly read the markings



Click [here](#) to review a simple one-minute video on how to read millimeter markings on the UNC - 12 probe. Click [here](#) to review technique.

PRIMARY PURPOSE

The UNC - 12 periodontal probe is designed as an assessment instrument to determine the health status of the periodontium. The primary purpose of using this instrument is to obtain a physical measurement of the distance between the gingival margin and the base of the sulcus.

OTHER FUNCTIONS

The UNC - 12 periodontal probe may also be utilized to:

- assess bleeding on probing (BOP)
- make gingival determinations
- measure & determine clinical attachment level (CAL)
- measure the width of attached gingiva
- determine mucogingival integrity
- measure intraoral lesions

GRASP

A light, modified pen grasp is recommended for the UNC - 12 periodontal probe.



activation & technique

Q U I C K - G U I D E



UNC-12 PROBE

- identify markings on probe
- insert tip at correct line angle
- ensure working end remains parallel with long axis of tooth
- walk probe across proximal surface using bobbing, overlapping strokes
- ensure that probe tip gently touches the base of the sulcus with each downward bob
- slant probe slightly to reach under the contact & record reading
- *note: over angulation may result in a reading greater than the correct depth*
- walk tip back to line angle using bobbing, overlapping strokes
- ensure working end remains parallel with long axis of tooth
- walk probe across F/L surface using bobbing, overlapping strokes
- record reading at midline & continue to line angle
- walk probe across proximal surface using bobbing, overlapping strokes
- slant probe slightly to reach under the contact & record reading
- remove tip from tissues

all about the **WHO PROBE**

DESIGN

The WHO (World Health Organization) probe is designed with a handle and a thin-round working - end. It has a unique ball-end (0.5mm in diameter) attached to a 16 mm long working - end with color-coded areas at 3.5mm to 5.5 mm from the tip. It is also designed with a 90 degree bend to allow for proper insertion into the sulcus.

how to properly read the markings



Click [here](#) to learn more about the WHO probe.

round-ball measures	0.5 mm
next band extends	from 0.5 - 3.5 mm
dark band measures	from 3.5 - 5.5 mm
next band measures	from 5.5 - 8.5 mm
final band measures	from 8.5 - 11.5 mm

PRIMARY PURPOSE

The WHO periodontal probe is designed as an assessment instrument for screening. The primary purpose this instrument is to obtain a score to determine if there is the presence of gingivitis or periodontal disease.

*what is **PSR?***

The PSR system is a simple screening tool used to determine if further periodontal examination is needed. It does not replace the need for a comprehensive periodontal examination.

GRASP

A light, modified pen grasp is recommended for the WHO periodontal probe.

activation & technique

Q U I C K - G U I D E



WHO PROBE

- identify markings on probe
- insert tip at correct line angle
- ensure working end remains parallel with long axis of the tooth
- walk the probe across proximal surface using bobbing, overlapping strokes
- slant probe slightly to reach under the contact & record reading
- walk tip back to line angle using bobbing, overlapping strokes
- ensure working end remains parallel with long axis of tooth
- walk probe across F/L surface using bobbing, overlapping strokes
- record reading at midline & continue to line angle
- walk probe across proximal surface using bobbing, overlapping strokes
- slant probe slightly to reach under the contact & record reading
- remove tip from tissues



all about the **ODU 11/12 EXPLORER**



DESIGN

The 11 / 12 explorer is designed with a handle, shank, and working - end. The handle is lightweight, the shank is long, and working end is thin and circular, allowing vibrations to be felt by the clinician's fingers. The tip of the explorer is the last 1mm - 2mm of the working end. The tip is at a 90 - degree angle to the lower shank. The overall design allows for supragingival and subgingival assessment.



PRIMARY PURPOSE

The 11 / 12 is designed as an assessment instrument that uses tactile sensitivity. It is used on anterior and posterior teeth. It functions through tactile sensitivity to detect calculus, determine the surface texture of the tooth, examine tooth anatomy, detect tooth irregularities and conditions, and evaluate the margins of existing restorations.



GRASP

A light, modified pen grasp is recommended for the ODU 11/12 explorer.



LATERAL PRESSURE

Light lateral pressure (feather-like) pressure is recommended during exploratory strokes to ensure that tactile sensitivity is maximized.



STROKE TYPE

assessment stroke (exploratory strokes)

An assessment stroke is used to detect plaque biofilm, and calculus deposits, and tooth surface irregularities. It involves short, controlled overlapping strokes. Assessment strokes should include vertical, oblique, and horizontal walking strokes.



Click [here](#) & [here](#) for videos reviewing this technique.

activation & technique

Q U I C K - G U I D E



ODU 11 / 12 EXPLORER

- select correct working end
- insert tip 1/3 at correct line angle
- walk tip across proximal surface using vertical strokes
- explore to base of sulcus and up to the contact
- walk instrument back to line angle
- pivot at line angle
- walk instrument across B/L surface using oblique strokes
- round the line angle
- walk instrument across proximal surface using vertical strokes
- explore to base of sulcus and up to the contact
- walk instrument back to line angle

note: there should be an absence of pressure when exploring



CALIBRATION & CHECKLISTS

UNC-12 probe, WHO probe, ODU 11/12 explorer

all about **CALIBRATION**

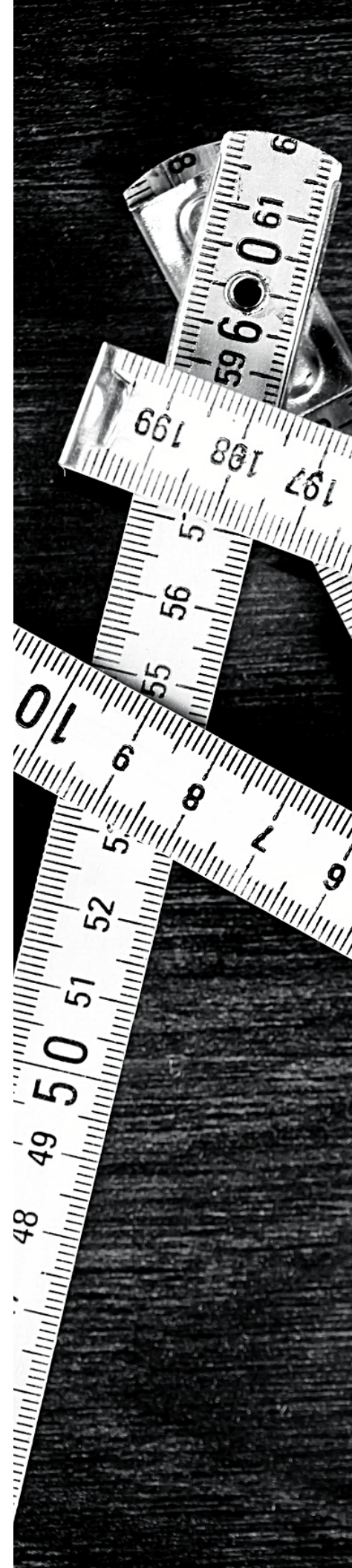
Clinical calibration is the process of ensuring that clinical skills are consistent from clinician to clinician, and instrument to instrument. Accurate measurements obtained when using assessment instruments are the basis for the classification of a patient's periodontal status. The goal of clinical calibration is to make certain that everyone in your office is "on the same page". Clinical calibration is vital to the consistent delivery of patient care.

For consistency, all team members should use the same assessment instruments. For example, everyone in your office should use the same periodontal probe. Why? The shape and size of the tip and measurement markings vary between different periodontal probe designs. When different periodontal probes are used, it can adversely affect patient care and diagnosis.

It is common to have dental team meetings on topics such as production, scheduling, CPR, OSHA and HIPAA. It is not as common for these same teams to meet for calibration purposes. As a follow-up to this self-study course, consider planning a calibration session on probing and exploring for all dentists and hygienists in your practice.

Calibration may be difficult to achieve when members of your team have different clinical experiences based on where and when they completed their dental or dental hygiene training. An assessment instrument calibration session may start with a review of calibration guidelines and viewing some short videos on instrument use. Following a review of brief videos (links are included in this self-study), have one team member serve as a "standardized" patient while other team members take turns probing & exploring one quadrant and recording measurements. Based on a comparison of all probe depth measurements (± 1 mm), determine what further discussions are needed. For the explorer, compare the findings of where calculus was detected.

Use the checklists on the following pages as calibration guides for your current team members, or, to assess the skills of new team members.



calibration

UNC-12 probe CHECKLIST



- ☐ **probe markings**
reads markings on UNC-12 probe accurately
- ☐ **sites for recording measurements**
demonstrates locations of measurement sites
- ☐ **use with mirror**
uses mirror for indirect vision, reflection, and retraction
- ☐ **grasp & fulcrum**
uses correct modified pen grasp and correct fulcrum on all teeth
- ☐ **working end insertion & angulation**
*inserts working end at correct site on every tooth
angles probe parallel to long axis of tooth on all teeth*
- ☐ **adaptation**
inserts probe and reaches base of sulcus on every tooth
- ☐ **walking strokes**
*uses walking strokes---controlled, light, and overlapping
slants probe slightly for all interproximal readings*
- ☐ **charting of probe depths**
charts deepest measurement for each section accurately

calibration

WHO probe CHECKLIST



☐ probe markings

reads markings on WHO probe correctly

round-ball measures 0.5 mm
next band extends from 0.5 - 3.5 mm
dark band measures from 3.5 - 5.5 mm
next band measures from 5.5 - 8.5 mm
final band measures from 8.5 - 11.5 mm

☐ measurements sites

demonstrates locations of measurement sites

☐ use with mirror

uses mirror for indirect vision, reflection, and retraction

☐ grasp & fulcrum

uses correct modified pen grasp at all times
uses correct fulcrum on all teeth

☐ working end insertion & angulation

inserts working end at correct site on every tooth
angles probe parallel to long axis of tooth on all teeth

☐ adaptation

inserts probe and reaches base of sulcus on every tooth

☐ walking strokes

uses walking strokes---controlled, light, and overlapping
slants probe slightly for all interproximal readings

☐ scoring of sextants

uses scoring system accurately, mouth divided into sextants
each sextant assigned a score of 1 to 4 based on highest score in sextant

- 0 probe depths $\leq 3\text{mm}$
no bleeding/calculus/defective margins
- 1 probe depths $\leq 3\text{mm}$ + bleeding
no calculus, defective margins
- 2 probe depths $\leq 3\text{mm}$ + bleeding +
calculus, w/ or w/o defective margins
- 3 probe depths 3 - 5.5 mm + bleeding +
calculus, w/ or w/o defective margins
- 4 probe depths $> 5.5\text{mm}$ + bleeding +
calculus, w/ or w/o defective margins

calibration

11/12 ODU explorer CHECKLIST

- ☐ **use & sequence**
states use and sequence accurately
- ☐ **use with mirror**
uses mirror for indirect vision, reflection, and retraction
- ☐ **grasp & fulcrum**
uses correct modified pen grasp
uses correct fulcrum
- ☐ **working end selection**
selects correct working end for all teeth
- ☐ **working end insertion**
inserts working end at correct site on every tooth
insertion reaches base of sulcus
- ☐ **insertion & angulation**
inserts working end with correct angulation on all teeth
- ☐ **adaptation**
adapts tip/toe third to tooth surface at all times
smooth pivoting/turning of working end around line angles on all teeth
- ☐ **oblique strokes**
uses walking strokes, controlled, light, and overlapping
- ☐ **vertical strokes**
uses controlled strokes in sulcus/pocket
- ☐ **hand-wrist motion**
activates explorer using hand-wrist motion only on all teeth
uses controlled exploring strokes for all teeth



assessment instrument

RESOURCES

There are numerous resources available, exploring the use and application of assessment instruments. The resources linked on this page include 'just a glimpse' into all that is offered!

WEBSITES

by Colgate

[Periodontal Probing "Back to Basics"](#)

by Colgate

[Gum Health Physical \(GHP\)](#)

by iPerioPal

[Periodontal Probe](#)

by iPerioPal

[WHO Probe](#)

VIDEOS

by Hygiene Edge

[Instrument Basics](#)

* additional resources available upon request

REFERENCES

Blue, CM. Darby's Comprehensive Review of Dental Hygiene 9th ed. St. Louis, Elsevier, 2022.

Boyd LA, Mallonee LF, Wyche CJ. Wilkins' Clinical Practice of the Dental Hygienist 13th ed. Burlington, MA, Jones & Bartlett Learning, 2021.

Gehrig, JS. Patient assessment tutorials: A Step-by-Step Guide for the Dental Hygienist. Lippincott Williams & Wilkins, 2006.

Henry RK, Goldie MP. Dental Hygiene: Applications to Clinical Practice. Philadelphia, F.A. Davis Company, 2016.

* additional text references available upon request



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course

04

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RELEASE DATE
11.28.22

DEADLINE
to complete at no cost
12.30.22

instructions

- **READ the MATERIALS**
read and review the course materials
- **COMPLETE the TEST**
complete 15-questions / 12 must be correct to receive credit
- **SUBMIT your ANSWERS**
submit answers online at <http://go.osu.edu/smsce>
- **CERTIFICATE of COMPLETION**
certificate is emailed / check your email and junk/spam folders

questions

- **WHO can EARN FREE CE CREDITS?**
EVERY dental professional in your office
- **HOW MANY CE CREDITS are EARNED?**
two CE credits are issued for successful course completion ---
credits count toward OSDB 2022-2023 biennium totals
- **WHAT if I MISS THE DEADLINE?**
submit answers by deadline to receive credits at no charge
after deadline, course can be purchased until end of biennium
- **WHEN are SMS COURSES OFFERED?**
four times per year totaling EIGHT free CE credits
- **WHEN is the CERTIFICATE EMAILED?**
allow two weeks for processing/emailing of the certificate
- **WHAT is my SMS NUMBER?**
everyone in your office uses the same SMS number (office
account number) - number is on label on back of test envelope)

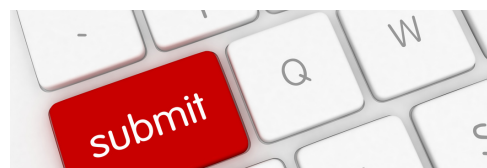
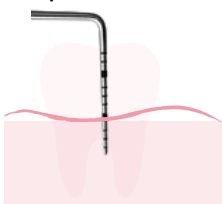
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ASSESSMENT INSTRUMENTS

test questions

1. Patient care should be comprehensive, focusing on assessment, diagnosis, planning, implementation, evaluation, and documentation.
a. true
b. false
2. Assessment is defined as the collection and analysis of data relative to systematic and oral health status. Examples of assessment instruments include explorers and probes.
a. both statements are false
b. both statements are true
c. the first statement is false, the second statement is true
d. the first statement is true, the second statement is false
3. Which statement is incorrect concerning an assessment instrument?
a. an assessment instrument is designed for a specific application
b. an assessment instrument serves a variety of purposes
c. an assessment instrument is optional when examining a patient
d. an assessment instrument allows for documentation accuracy
4. Accurate measurements obtained when using assessment instruments are the basis for the classification of a patient's periodontal status.
a. true
b. false
5. Assessment instruments are essential tools for gathering data during a clinical evaluation and assisting the clinician with determining patient needs.
a. true
b. false
6. The UNC-12 probe is calibrated with millimeter markings and color-coded marking at the 2-3 mm & 7-8 mm intervals. The UNC-12 has a ball at the tip to distend tissue and make room within the sulcus.
a. both statements are true
b. both statements are false
c. the first statement is true, the second statement is false
d. the first statement is false, the second statement is true
7. Which statement is incorrect? The UNC-12 may function to...
a. assess bleeding on probing (BOP)
b. assess clinical attachment loss (CAL)
c. measure intraoral lesions
d. remove calculus
8. Refer to picture (below) --- what probe depth you would record if this was the deepest measurement you identified using a UNC-12 probe?
a. 3mm
b. 4mm
c. 5mm
d. 6mm
9. The WHO probe has a unique ball-end (0.5mm in diameter) attached to a 16 mm long working-end with color-coded areas at 3.5 to 5.5 mm.
a. true
b. false
10. Comprehensive periodontal health may be definitively diagnosed through the use of the WHO probe and PSR screening.
a. true
b. false
11. Which assessment instrument is ideal for detecting root surface calculus?
a. UNC-12
b. WHO probe
c. ODU 11/12 explorer
d. mirror
12. How does the design of the explorer allow the clinician to use tactile sensitivity?
a. the explorer tip is thick, allowing for the clinician to access every surface, sending vibrations to the clinician's fingers
b. the handle is thick to allow for heavy lateral pressure to be applied, to ensure tactile sensitivity
c. the handle is heavy, the shank is short, and the working end is thin and circular, allowing vibrations to be felt by the clinician's fingers
d. the handle is lightweight, the shank is long, and working end is thin and circular, allowing vibrations to be felt by the clinician's finger
13. Assessment strokes involve vertical, horizontal, and oblique strokes. They should be short, light, and controlled.
a. both statements are true
b. both statements are false
c. the first statement is true, the second statement is false
d. the first statement is false, the second statement is true
14. Clinical calibration is the process of ensuring that clinical skills are consistent from clinician to clinician, and instrument to instrument.
a. true
b. false
15. Which statement is incorrect?
a. all members of the clinical team should be able to discuss the use and purpose of assessment instruments
b. only dental hygienists benefit from understanding the clinical applications of assessment instruments
c. periodontal probes should be assessed for wear through evaluation of the millimeter markings and the integrity of the instrument tip
d. all members of the clinical team should assess instruments for wear



deadline is 12.30.22
<http://go.osu.edu/smsce>