

PERIODONTAL INSTRUMENTS - 1

DEPARTMENT OF PERIODONTOLOGY





T.P.C.T.'S
TERNA DENTAL COLLEGE

Terna Public Charitable Trust's

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Periodontal instruments-1

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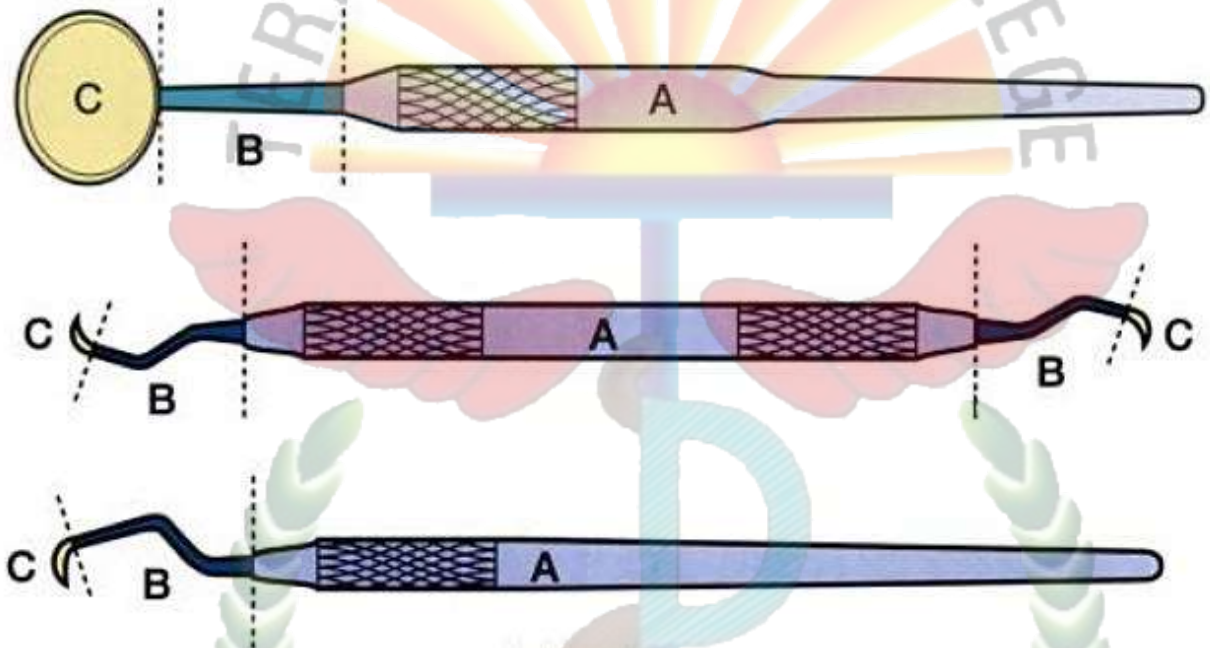


INTRODUCTION

- ▶ Periodontal instruments are designed for specific purpose such as removal of calculus, planing the root surface, curetting or removal of the diseased tissue



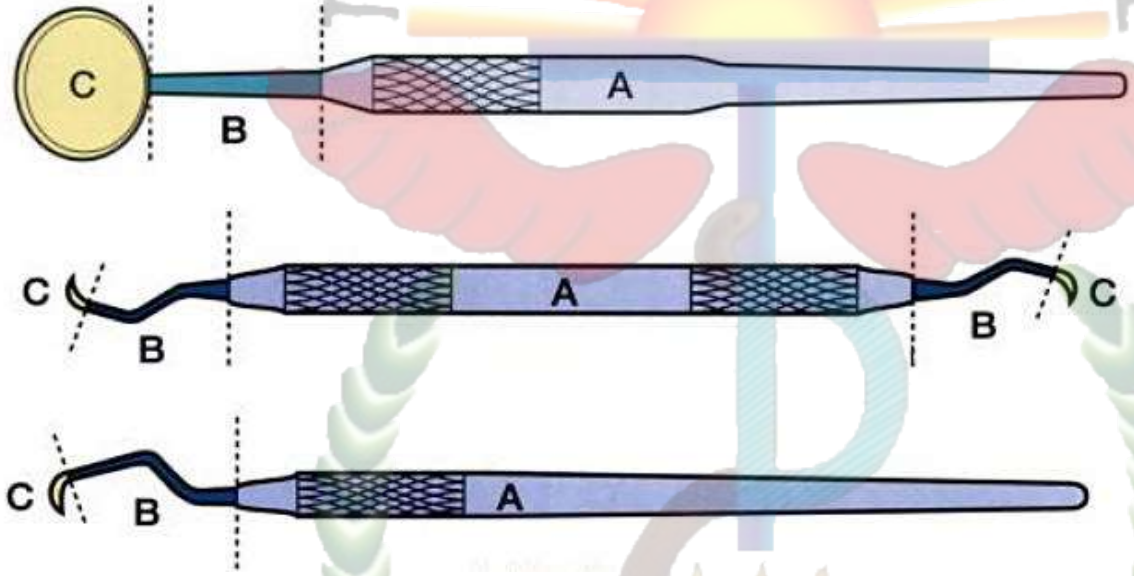
Parts of periodontal instruments



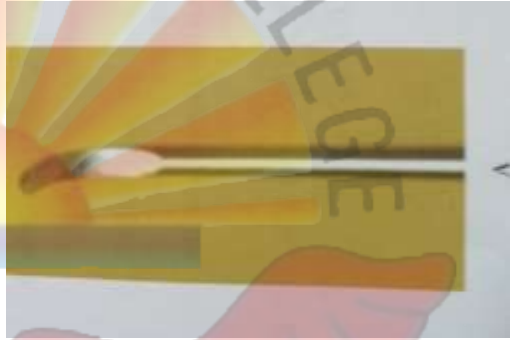
A) Handle : for holding the instrument



B) Shank: rod shaped length of metal located between the handle and the working end. Helps to position the working end over tooth



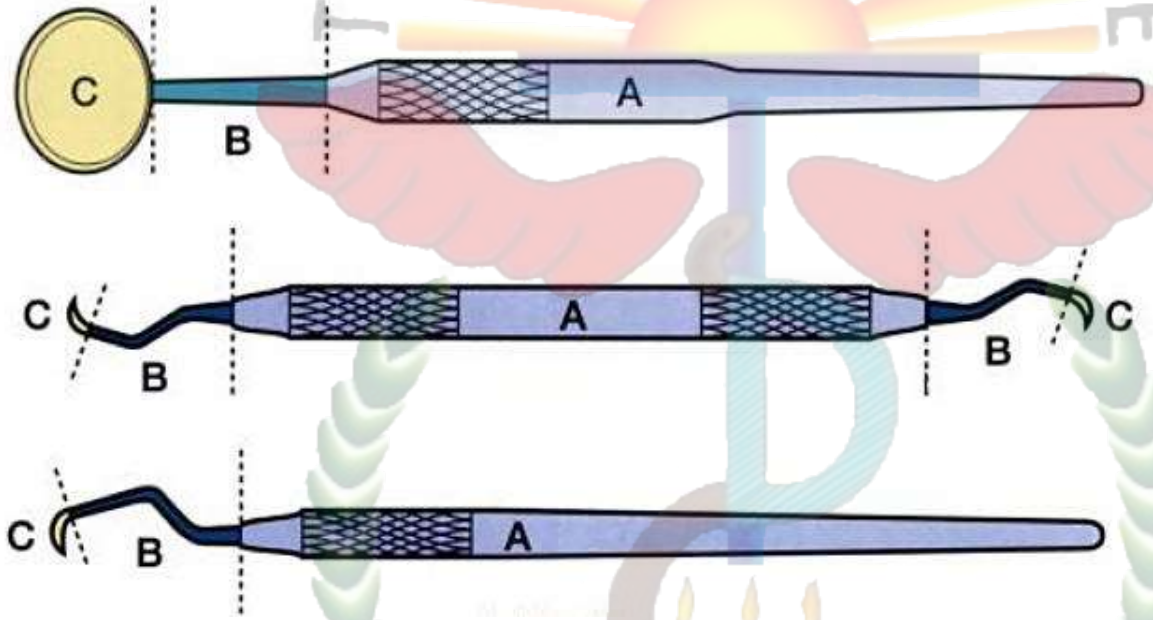
- **Simple** shank design / straight shank -is bent in one place. primarily used for anterior teeth.



- **Complex** shank / angled or curved shank : bent in two plane. Used for posterior teeth.



C) Working end: part of instrument that does the work of the instrument.



CLASSIFICATION



Periodontal instruments

Assessment/Diagnostic instruments

Scaling and root planing instruments

Periodontal probes

Explorers

Sickle scalers

Curets

Periodontal files



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According to the purpose they serve as follows:

- Periodontal probes

Used to locate, measure, and mark pockets, as well as determine their course on individual tooth surface.

- Explorers

Locate calculus and caries



- Scaling, root planing, curettage
Removal of plaque, calculus, altered cementum, soft tissue lining of pocket.

They are classified as: sickle scalers, curettes, hoes, chisel, file scalers, ultrasonic and sonic instruments

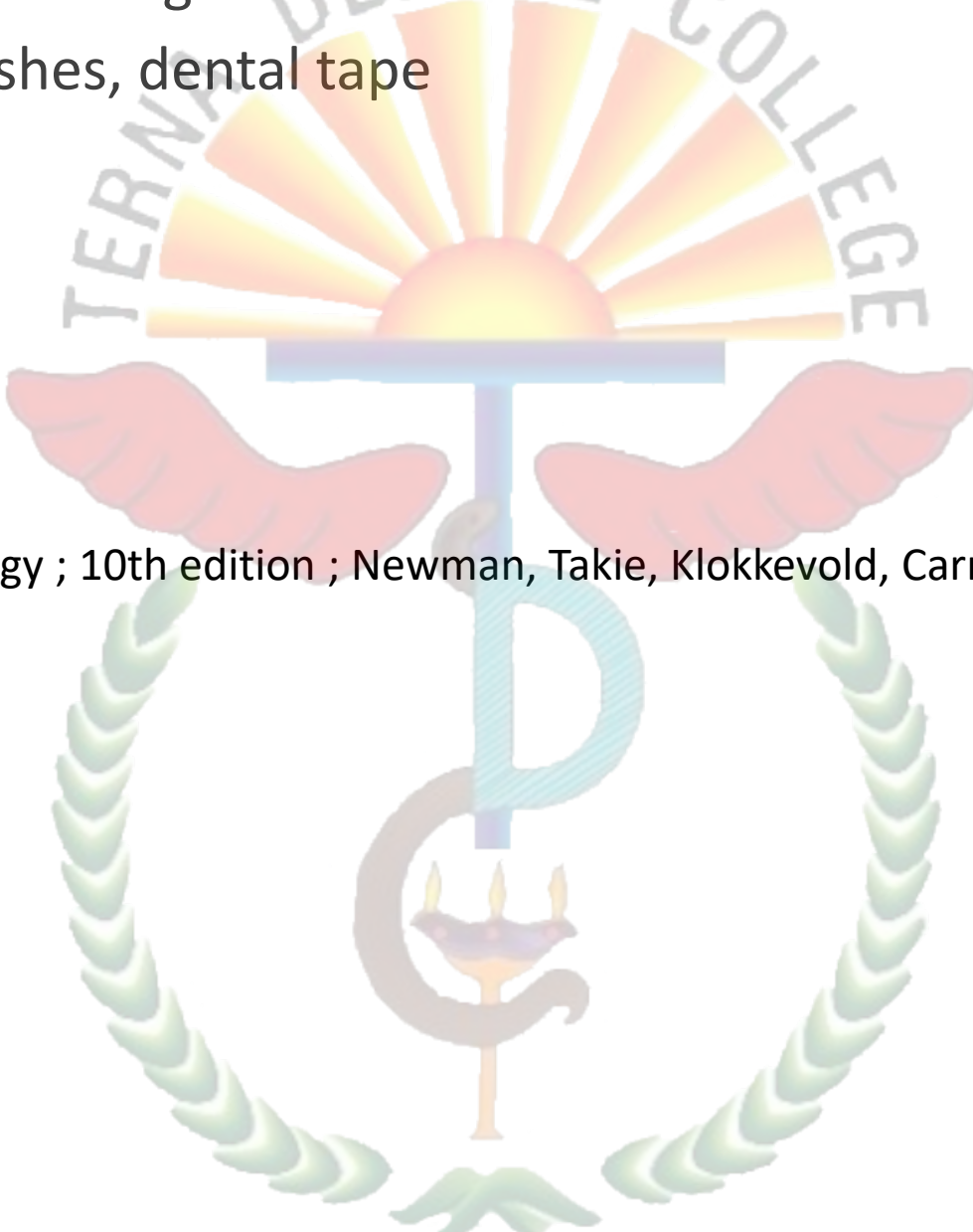
- Periodontal endoscope
To visualize deeply into the subgingival pockets and furcations.



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- Cleansing and polishing instruments
Rubber cups, brushes, dental tape



Clinical Periodontology ; 10th edition ; Newman, Takie, Klokkevold, Carranza.



Mouth mirror

- Types:

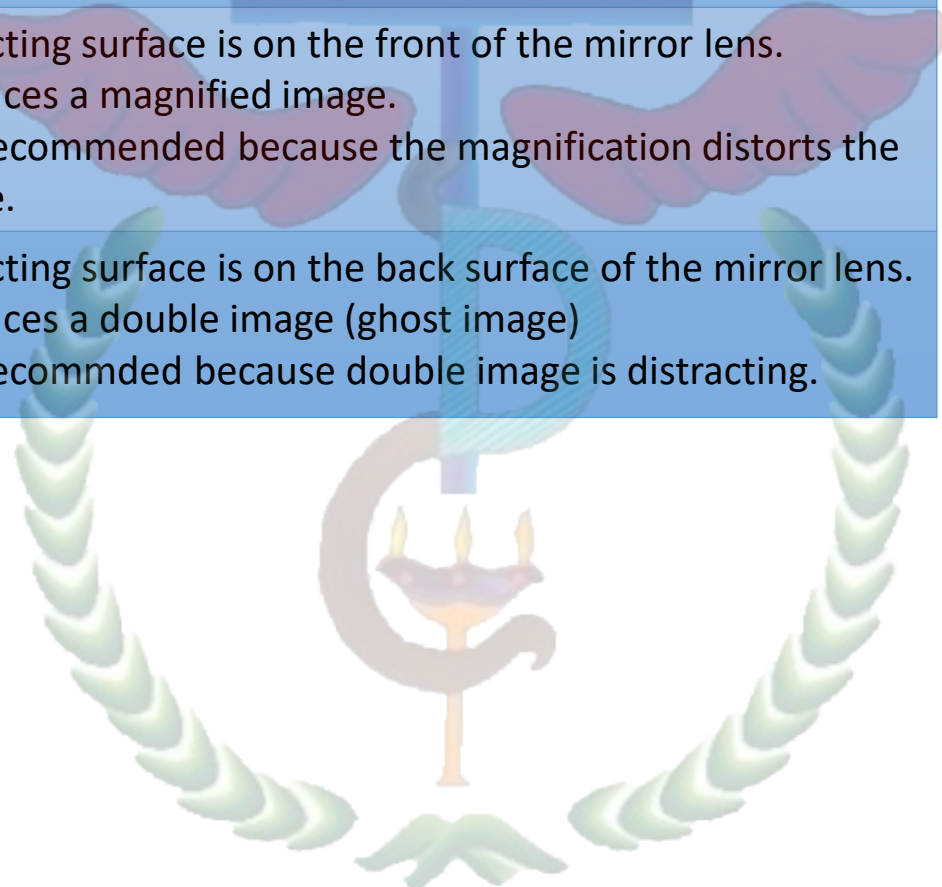
- Front surface mirror
- The concave mirror
- The plane mirror/ flat surface mirror

- The working end of a dental mirror has a reflecting mirrored surface used to view tooth surfaces that cannot be seen directly



Types of mirror surface

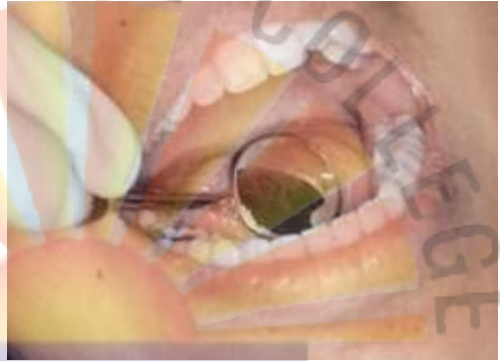
Type	Characteristics
Front surface	Reflecting surface is on the front of the glass. Produces a clear image with no distortion. Most commonly used type because of good image quality. Reflecting surface of mirror is easily scratched.
concave	Reflecting surface is on the front of the mirror lens. Produces a magnified image. Not recommended because the magnification distorts the image.
Plane (flat surface)	Reflecting surface is on the back surface of the mirror lens. Produces a double image (ghost image) Not recommended because double image is distracting.



USES



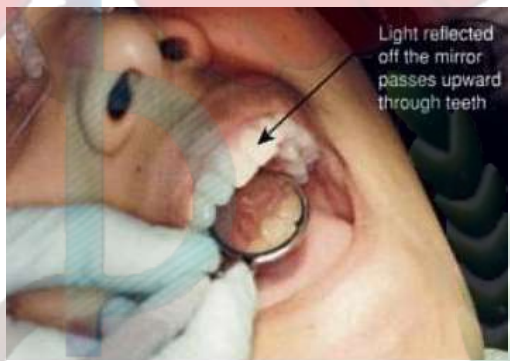
Indirect vision



Retraction



Indirect illumination



Transillumination



Periodontal Probes

- ▶ Slender assessment instrument used to evaluate the health of the periodontal tissues.
- ▶ Blunt, rod shaped working ends that are circular or rectangular in cross section.
- ▶ Described by Orban as the "eye of the operator beneath the gingival margin" periodontal probes are an essential part of a complete dental examination



- Calibrated periodontal probe is used to measure
 - Gingival sulcus
 - Pocket depth
 - Clinical attachment level
 - Width of attached gingiva
 - To assess for bleeding on probing or purulent exudate(pus)
 - Size of oral lesions



Williams

- Invented in 1936 by periodontist **Charles H.M. Williams**, the Williams' periodontal probe is the prototype or benchmark for all first-generation probes.
- These probes have a thin stainless steel tip of **13 mm** in length and a blunt tip end with a diameter of **1 mm**.
- The graduations on these probes are **1 mm, 2 mm, 3 mm, 5 mm, 7 mm, 8 mm, 9 mm, and 10 mm**. (The 4-mm and 6-mm markings are absent to improve visibility and avoid confusion in reading the markings.) The probe tips and handles are enclosed at **130°**.



CPITN

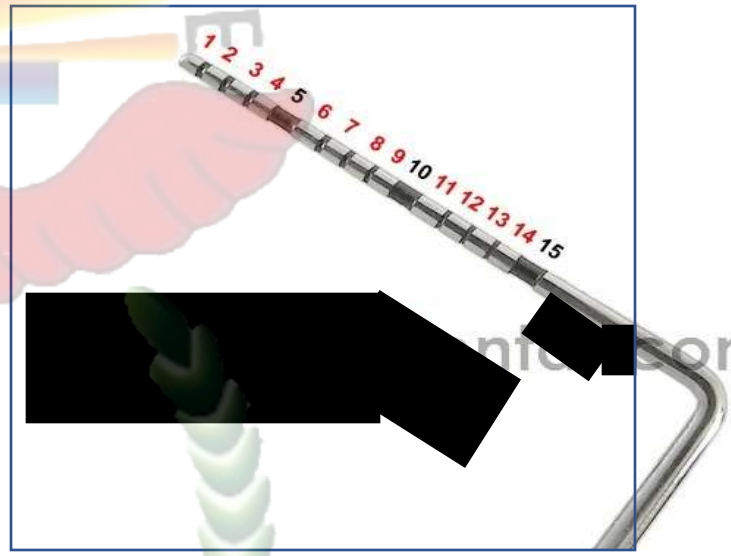
- The Community Periodontal Index of Treatment Need (CPITN) was designed by Professors **George S. Beagrie** and **Jukka Ainamo** in 1978.
- **CPITN–E** (epidemiologic), have 3.5-mm and 5.5-mm markings, and **CPITN–C** (clinical), have 3.5-mm, 5.5-mm, 8.5-mm, and 11.5-mm markings.
- The probes have a ball tip of **0.5 mm**, with a black band between **3.5 mm and 5.5 mm**, as well as black rings at **8.5 mm and 11.5 mm**.



University of North Carolina/ UNC – 15 probe

► University of North Carolina-15 (UNC-15) probes are color-coded at every millimeter demarcation.

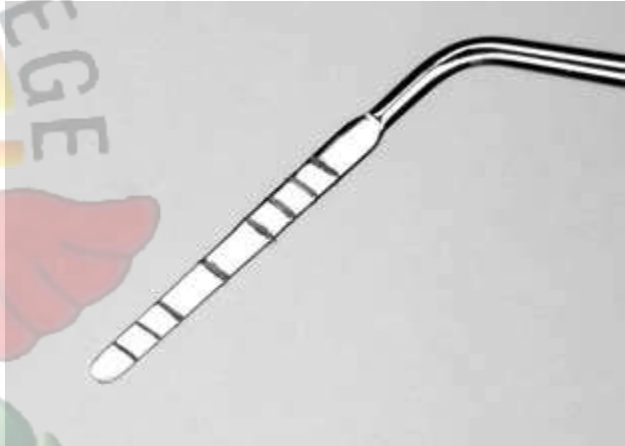
► They are the preferred probe in clinical research if conventional probes are required.



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Goldman Fox
Goldman-Fox probe is
rectangular in cross section
and has millimeter (mm)
markings at 1-2-3-5-7-8-9-10.



Flat ended Goldman Fox probe



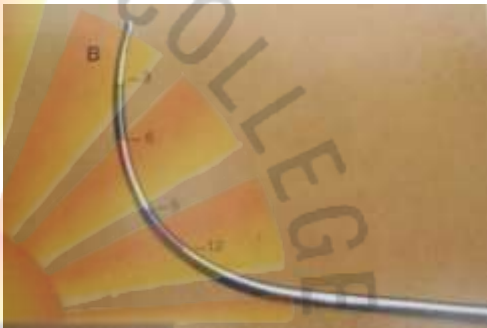
University of Michigan "0" probe

- University of Michigan O probes have markings at 3 mm, 6 mm, and 8 mm.
- A modification of this probe with Williams' markings also is available.



Nabers probe

- The Naber's probe is used to detect and measure the involvement of furcation areas by the periodontal disease process in multirooted teeth.

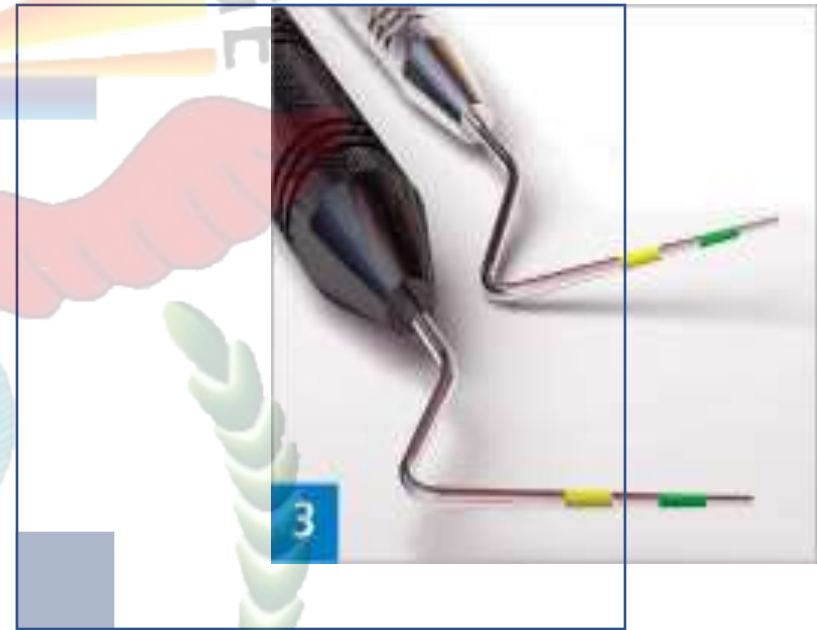


- These probes can be color-coded at interval of **3 mm** or without demarcation.



Marquis color-coded probe

- Markings present at 3, 6, 9, and 12 mm.
- Color coding done in between 3 to 6 mm and from 9 to 12 mm.



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Glickman 26G

- Marking present at 1 mm, 2, 3, 5, 7, 8, 9, 10 mm.



EXPLORER

- ▶ EXPLORER is an assessment instrument with a flexible working-end
- ▶ Used to determine the health of the periodontal tissues, tooth anatomy, and texture of tooth surfaces.
- ▶ The explorer with its highly flexible working end is the instrument of choice for detection of **subgingival calculus deposit**.
- ▶ Also used to examine **decalcified carious lesion, dental anomalies, anatomic features such as grooves, curvatures, or root furcations**.



Shepherd hook explorer

- Resembles the long stick with curved end that was used by ancient shepherds to catch sheep.

USE

- Supragingival examination for dental caries and margins of restorations.

NOTE:- NOT recommended for subgingival use as the point could injure the soft tissue at the base of the sulcus or pocket.

- Eg; 23 and 54 explorers.



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Straight explorer

- Eg: 6, 6A, 6L, and 6XL explorer.



Curved explorer

- Calculus detection in normal sulci or shallow pockets.
- Care must be taken not to injure the soft tissue base of the sulcus or pocket if the working end is used subgingivally.
- Eg: 3 and 3A.



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Pig tail and cowhorn explorer

- Resembles pig's tail or a bull's horn.
- Eg: 3ML, 3CH, and 2A.



Orban-type explorer

- Use: assessment of anterior root surface and the facial and lingual surfaces of posterior teeth. Difficult to adapt to the line angles and proximal surfaces of the posterior teeth.
- Eg: 17, 20F, and TU17.



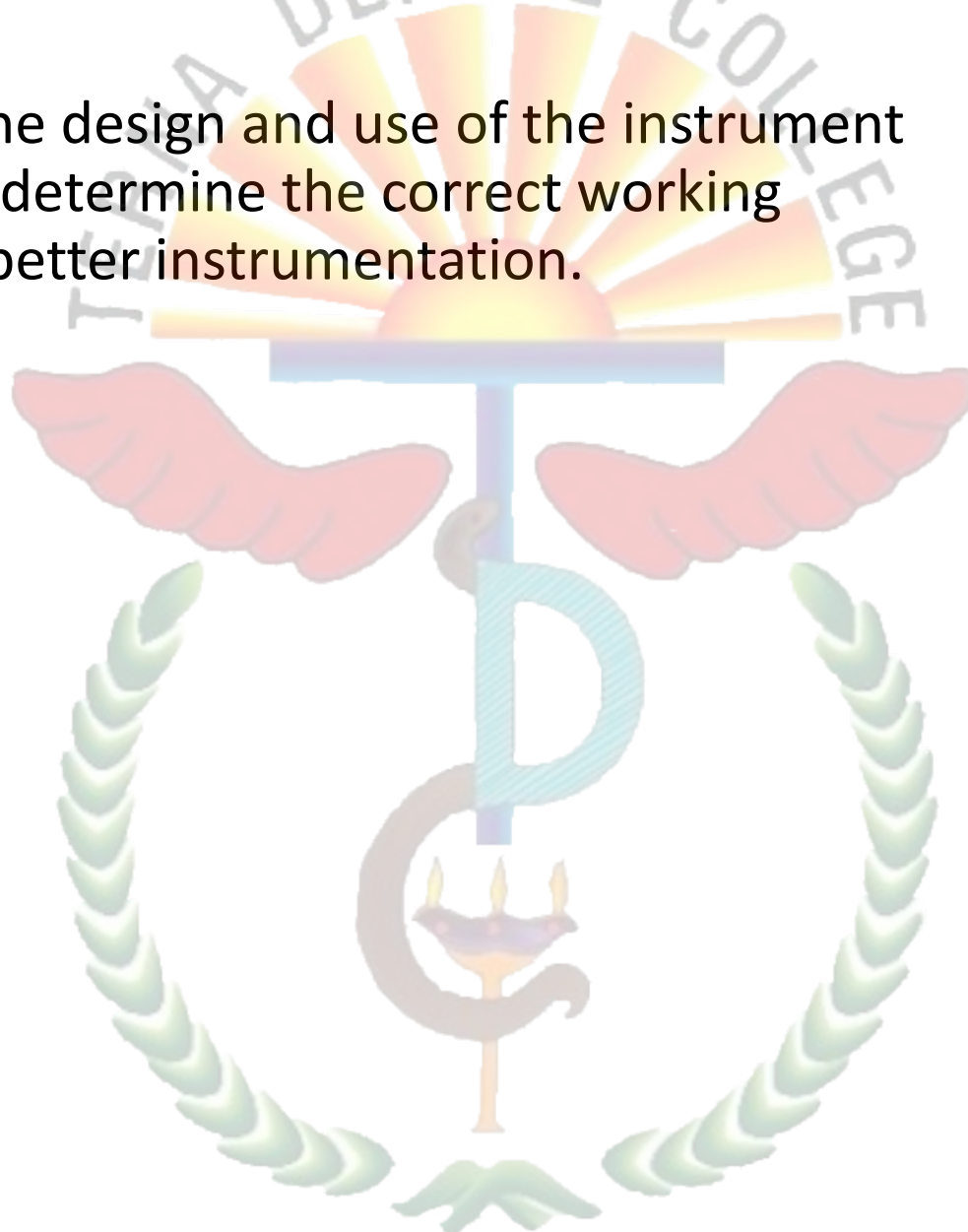
11/12 – type explorer

- Tip is at 90° angle to the lower shank.
- The long complex shank design makes it equally useful when working on anterior and posterior teeth with normal sulci or deep periodontal pockets.
- Use: assessment of root surfaces on anterior and posterior teeth.
- Eg: ODU 11/12 and 11/12AF;



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Conclusion

- Knowledge of the design and use of the instrument is necessary to determine the correct working instrument for better instrumentation.



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Take away message

- Identification of instruments , working parts and the technique is of utmost importance in manueuring and delivering good results.



SAQs & LAQs

- Classify instruments
- Types of explorers
- Types of probes & classify

