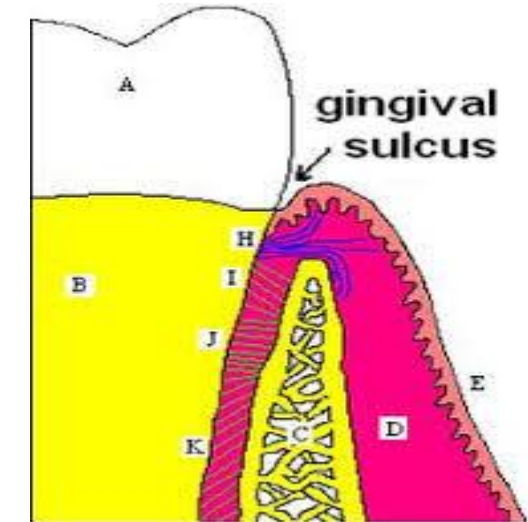


Gingival and periodontal pocket

Tooth gingival interface

- The interface between the tooth and surrounding gingival tissue is a dynamic structure
- The crevice around the tooth is known as sulcus
- It is a constant state of flux due to microbial invasion and subsequent immune response
- There is 1mm of **junctional epithelium** and another 1mm of **gingival fibre attachment** comprising the **biological width**



Gingival sulcus

- A healthy sulcular depth is 3 mm or less
- Microbes accumulation lead to form biofilm
- These microbes if remain undisturbed, may pose a danger to the periodontal ligament (PDL)
- And they penetrate and destroy the delicate soft tissue and PDL
- This leads to deepening of the sulcus, recession, destruction of periodontium, accompanied by bone loss, teeth mobility and teeth loss

Periodontal pocket

- Is an inflammatory changes and **apical migration of junctional epithelium**
- It is also defined as a pathological deepening of the gingival sulcus, which occur by coronal movement of gingival margin and apical displacement of gingival attachment or both

Classification

1- According to the involved tooth surface

- Simple pocket:** involves one surface
- Compound pocket:** involves more than one surface
- Complex or spiral pocket:** originating on one surface and twisting around the tooth to involve one or more additional surfaces

2. According to its location

- Gingival pocket:** which is formed by gingival enlargement without destruction of underlying periodontal tissue. The sulcus is deepened because of increased bulk of the gingiva
- Periodontal pocket:** associated with destruction of underlying supportive tissues

Gingival pocket

This pocket presents when the marginal gingiva experience an oedematous reaction, whether due to localised irritation and subsequent inflammation, systemic issues or drug induced gingival hyperplasia

- This phenomenon is referred to a false pocket (pseudopocket)
- The epithelial attachment does not migrate
- The only anatomical landmark experiencing migration is the gingival margin in a coronal direction
- A gingivectomy is necessary to reduce the gingival pocket to a healthy 1-3mm condition

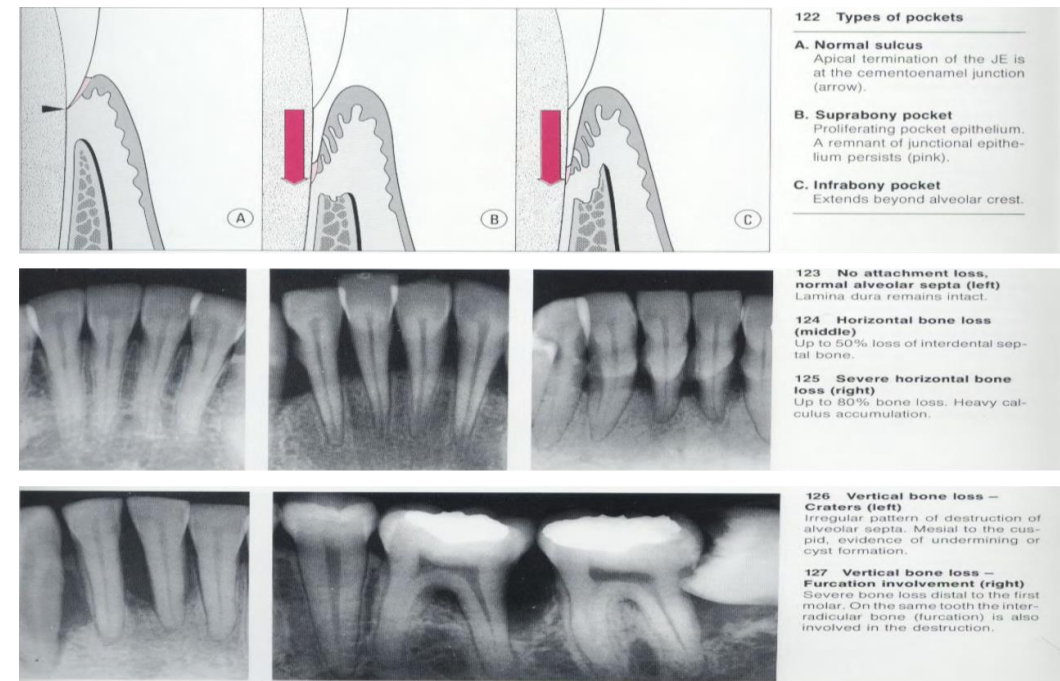
3. According to its relation to alveolar crest

a. **Suprabony pocket:** also called supra crestal or supra alveolar

- The base of the pocket is coronal to the level of underlying bone. The bone loss is **horizontal**

B. **Infrabony pocket:** also known as sub crestal or intra alveolar pocket

- The base of the pocket is apical to the level of adjacent bone. The bone loss is **vertical**



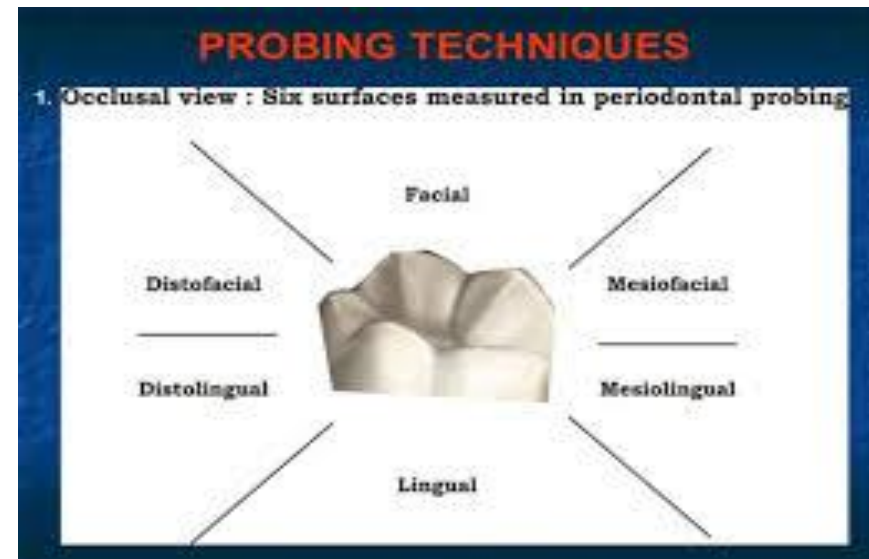
Diagnosis & detection of pockets

- 1- Careful exploration with periodontal probe
- 2- Radiographic: pockets are not detected by the radiographic examination because pockets are soft tissue changes

Probing techniques can reveal the extent of the disease

-Six surfaces can be measured in periodontal probing

- 1- Facial
- 2- Lingual
- 3- Distofacial
- 4- Distolingual
- 5- Mesiofacial
- 6- Mesiolingual



- **In multirooted teeth** , the possibility of furcation involvement would be carefully explored with specially designed probe (eg Nabers probe)
- The probe should be inserted parallel to the vertical axis of the tooth and walked circumferentially around each tooth to detect the area of deepest penetration
- **To detect internal crater:** the probe should be placed obliquely from both facial and lingual surfaces to explore the deepest point of the pocket which is located beneath the contact point

The typical probe is tapered, rod-like instrument, calibrated in millimetres with a blunt rounded tip

Types of calibrated periodontal probe

Marquis color-coded probe: its calibrations are in 3mm sections, markings are 3,6,9,12mm

MARQUIS COLOR CODED PROBE



- Calibrations are in 3mm sections.
- Markings are 3,6,9,12mm.

University of Michigan 'O' probe with William markings

- Markings are 1,2,3,5,7, 8,9,...



The UNC-15 probe: 15 long and markings are at each mm and coding at the 5th, 10th and 15th mm
Millimetre markings at 1,2,3,4,5,6,7,8,9,10,11,12,13,14 and 15 mm



World health organization (WHO) probe: prescribed in 1978: the probe was designed for two purposes:

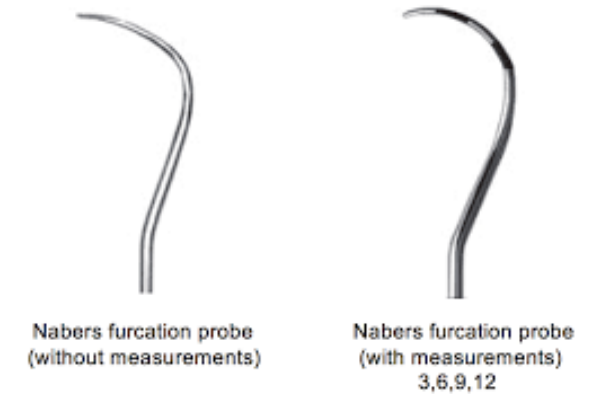
- Measurement of pocket depth
- Detection of subgingival calculus

It is using in the assessment of CPITN (Community periodontal index for treatment needs)



Naber's furcation probe: it is used to determine the extent of furcation involvement on a multirooted teeth

- It has a curved working end for accessing the furcation area
- It has a blunt end
- The depth of the insertion of the probe into the furcation area determines the degree of furcation involvement



Peri-implant probe: can measure the level of mucosal margin relative to a fixed position on the implant

- The probing depth is often measure of the thickness of surrounding connective tissue and correlates most consistently with the level of surrounding bone
- The presumed healthy condition around an implant is **3 mm** in all surfaces
- The results obtained by periimplant probing cannot be interpreted as same as the natural teeth because of differences in the surrounding tissues that support implanted teeth
- Around natural teeth, the periodontal probe is resisted by the insertion of supra-crestal connective tissue fibres into the cementum of root surfaces, where are not equivalent fibres around implants

