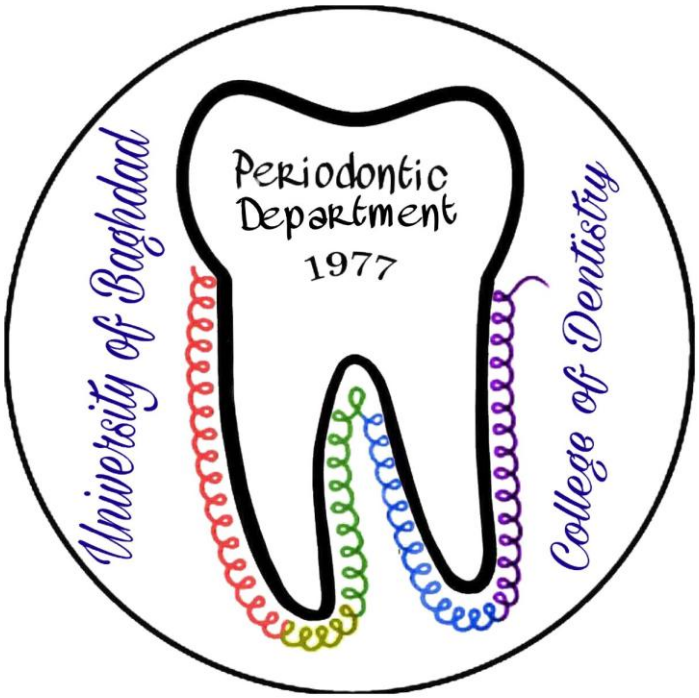
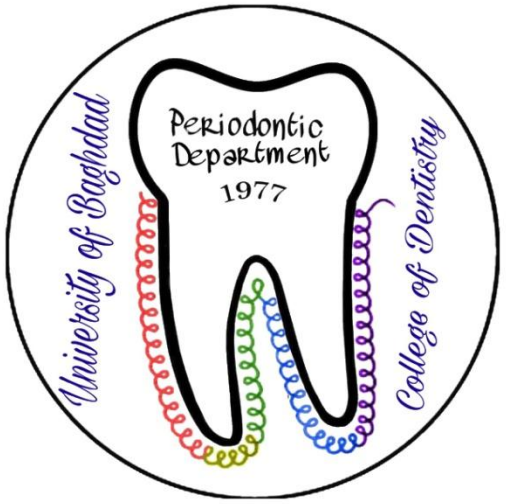
# Diagnosis of periodontal disease




Lecture one

dr alaa omran

# Introduction

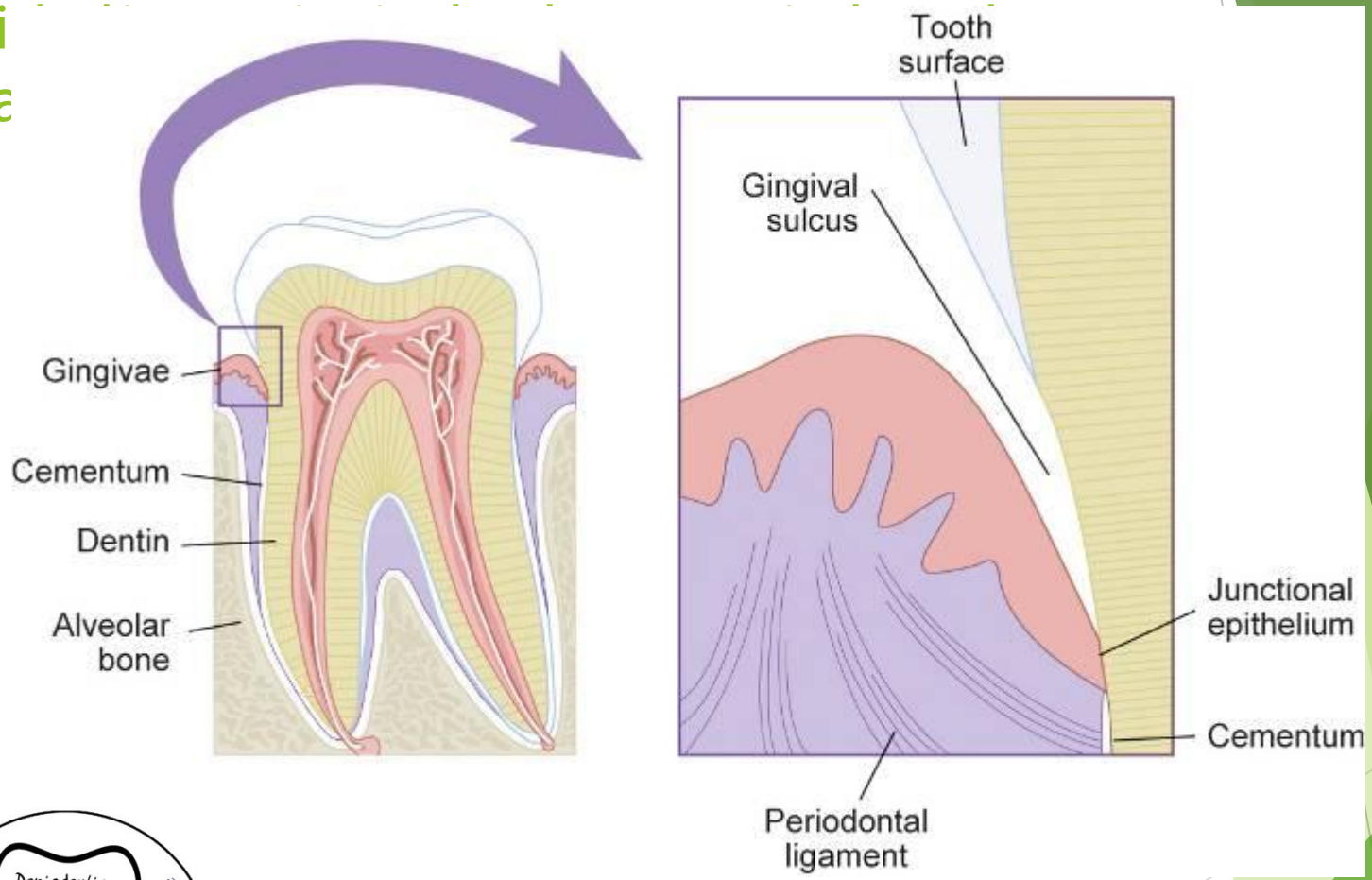


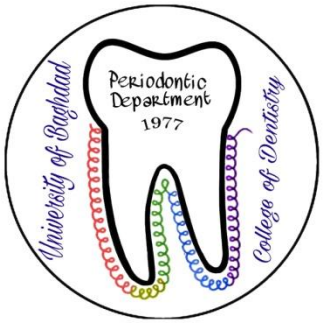

- Periodontal disease is an infectious disease process that involves inflammation. Periodontal diseases involve the structures of the periodontium.
- Periodontal disease can cause a breakdown of the periodontium resulting in loss of tissue attachment and destruction of the alveolar bone.

# Prevalence of Periodontal Disease

- Periodontal diseases are the leading cause of tooth loss in adults.
- Almost 75% of American adults have some form of periodontal disease, and most are unaware of the condition.
- Almost all adults and many children have calculus on their teeth.
- Fortunately, with the early detection and treatment of periodontal disease, most people can keep their teeth for life.

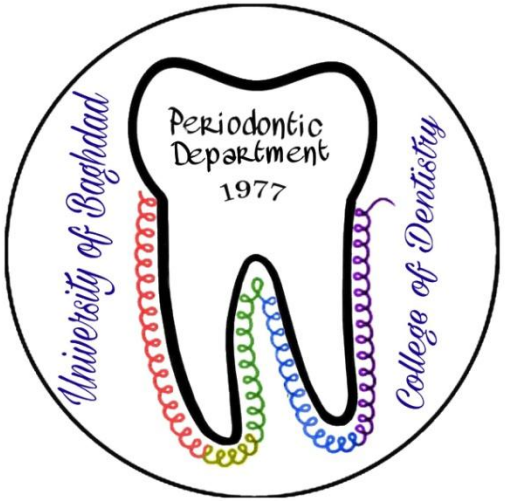
# Structures of the periodontium: junctional epi liga



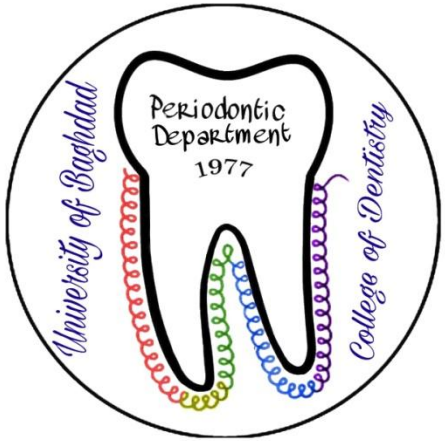
# Types of Periodontal Diseases

- Periodontal disease is an inclusive term describing any disease of the periodontium.
- Gingival diseases and periodontitis are the two basic forms of periodontal disease, and each has a variety of forms.
- Edematous gingivitis  recovered after good oral hygiene while hyperplastic gingivitis need gingivactomy .
- Periodontitis two type chronic and aggressive .



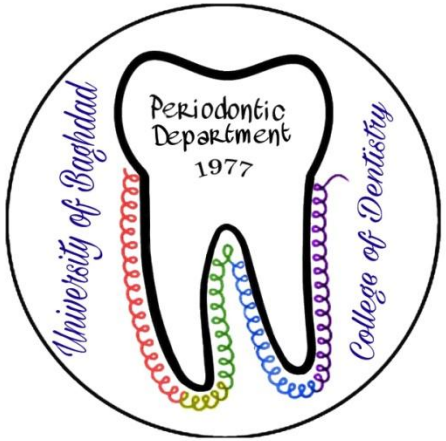
# Gingival Diseases

- Gingivitis is inflammation of the gingival tissue.
- Gingivitis is characterized by areas of redness and swelling, and there is a tendency for the gingiva to bleed easily.
- Gingivitis is limited to the epithelium and gingival connective tissues.
  - It is important to note that there is no tissue recession or loss of connective tissue or bone.



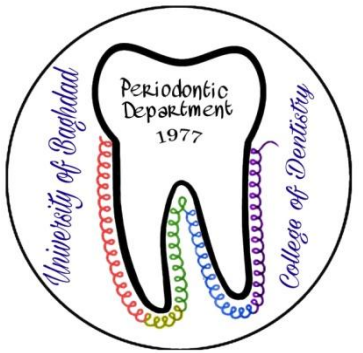
# Other Types of Gingivitis

- Other types of gingivitis are associated with:
  - Puberty
  - Pregnancy
  - Use of  medications
- Gingivitis is painless and often unrecognized until a dental professional emphasizes its importance. Improved daily oral hygiene practices will reverse gingivitis.



# Periodontitis

- Periodontitis means inflammation of the supporting tissues of the teeth.
- Periodontitis is the extension of the inflammatory process from the gingiva into the connective tissue and alveolar bone that supports the teeth.
- The progression of periodontitis involves the destruction of connective tissue attachment at the most apical portion of a periodontal pocket.



# Risk Factors for Periodontal Disease

- Smoking
- Diabetes
- Poor Oral Hygiene
- Osteoporosis
- HIV/AIDS
- Medications
- Stress
- Obesity

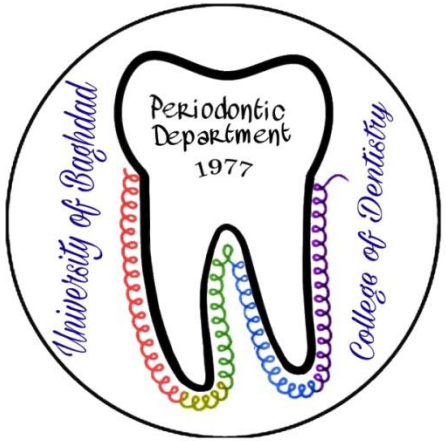
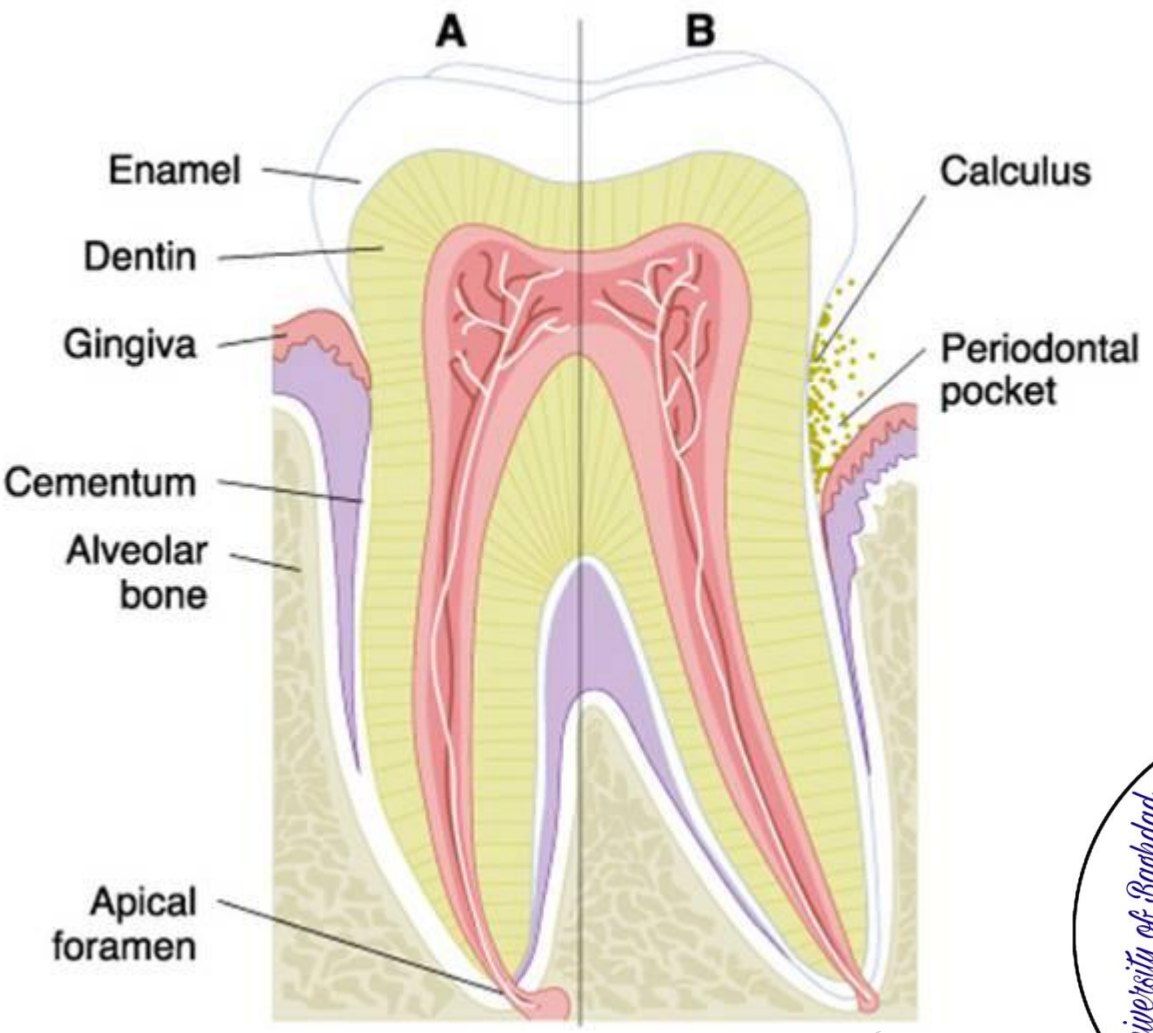


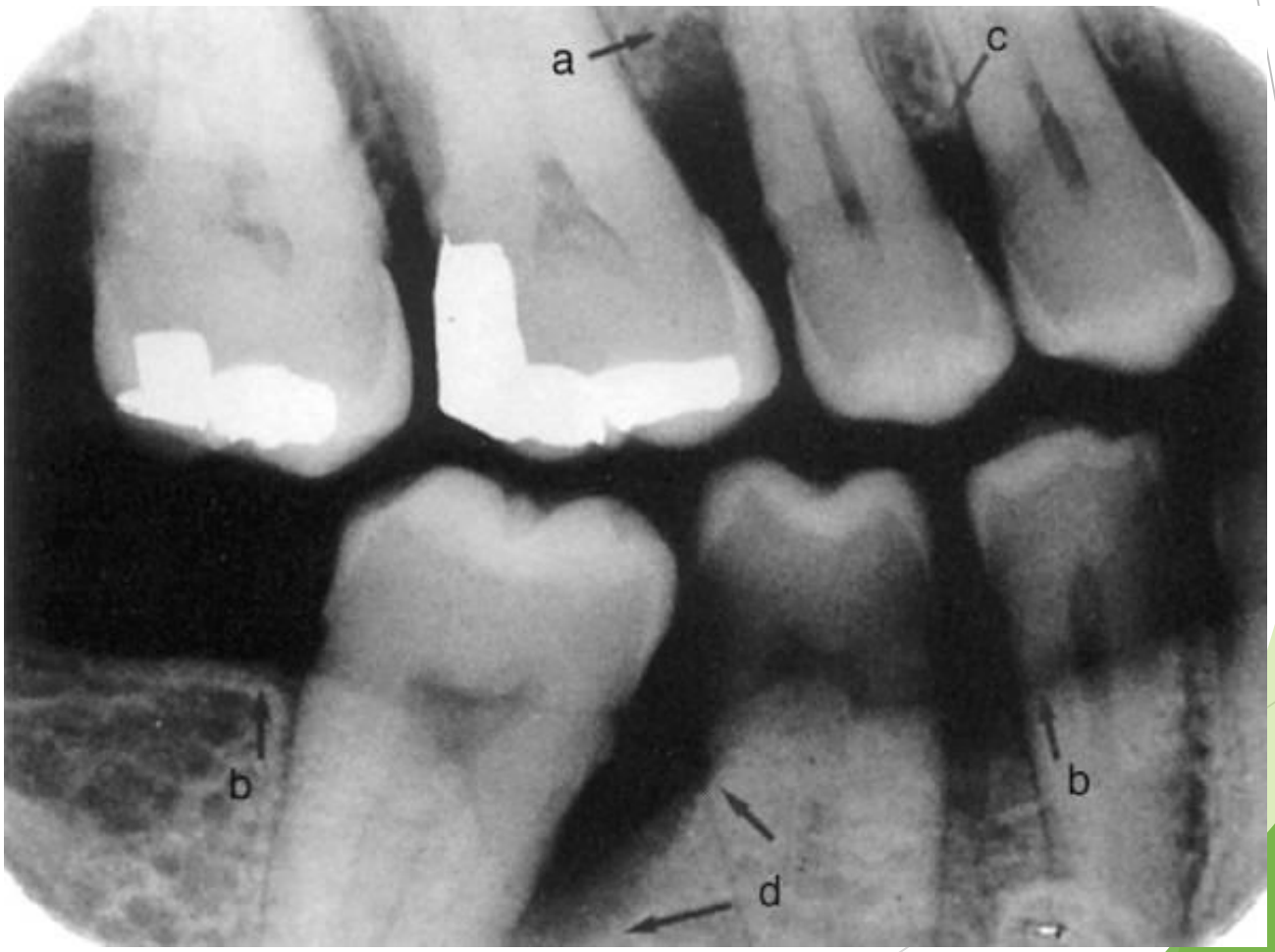
Fig. 14-7 Cross section of a tooth and associated anatomic structures.

A, Illustra

B, Illustra

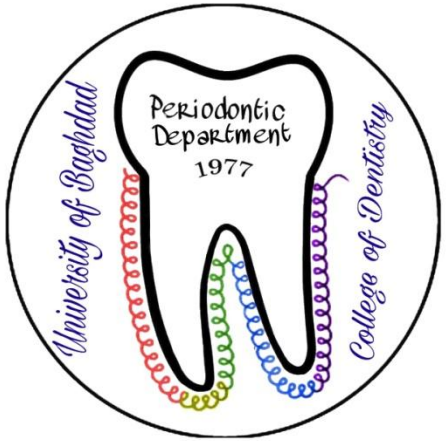


The arrows indicate varying amounts of bone loss due to periodontal disease



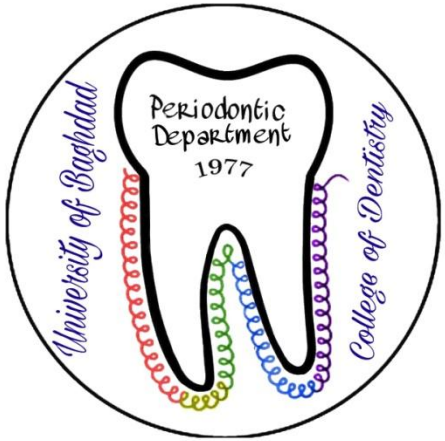
# Signs and Symptoms of Periodontal Disease

- Red, swollen, or tender gingiva
- Bleeding gingiva while brushing or flossing
- Loose or separating teeth
- Pain or pressure when chewing
- Pus around the teeth or gingiva.
- Put there is no sharp pain.



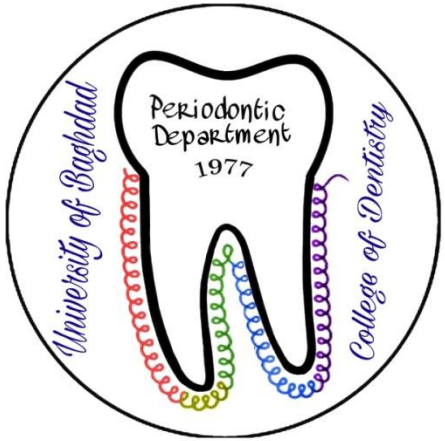
# Why we do diagnosis?

- To determine whether the disease is present or not.
- Identify its types.
- Extent
- Severity
- Distribution
- Underlying pathological process and their causes.



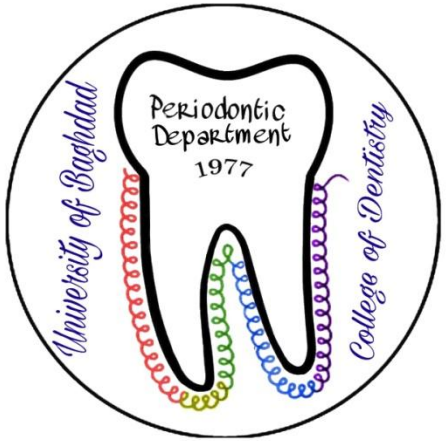
# First visit

- Overall apprasial of the patient.
- Medical history.
- Dental history.
- intra-oral radiographic survey
- Cast
- Clinical photograph



# Overall apprasial of the patient

- Mental and emotional status.
- Attitude
- Physiologic age

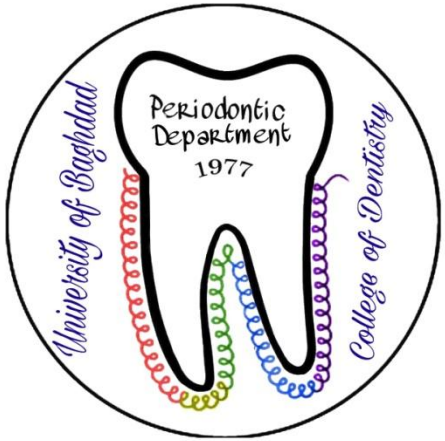


# Medical history

- Systemic diseases, conditions or behavioral factors may affect periodontal disease
- Oral infection may affect severity of some systemic disease

- It includes

1. Is the patient under the care of a physician?
2. Hospitalization.
3. Medications.
4. Medical problems
5. Occupational disease
6. Abnormal bleeding

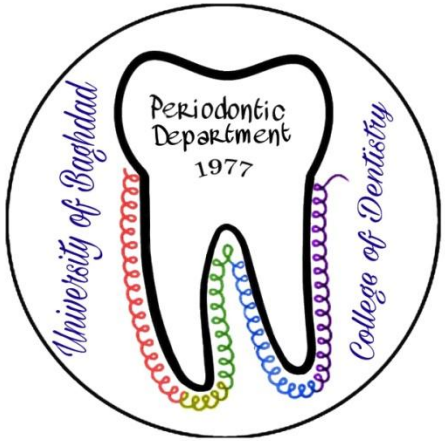


# Dental history

- Current illness

- Dental history includes:

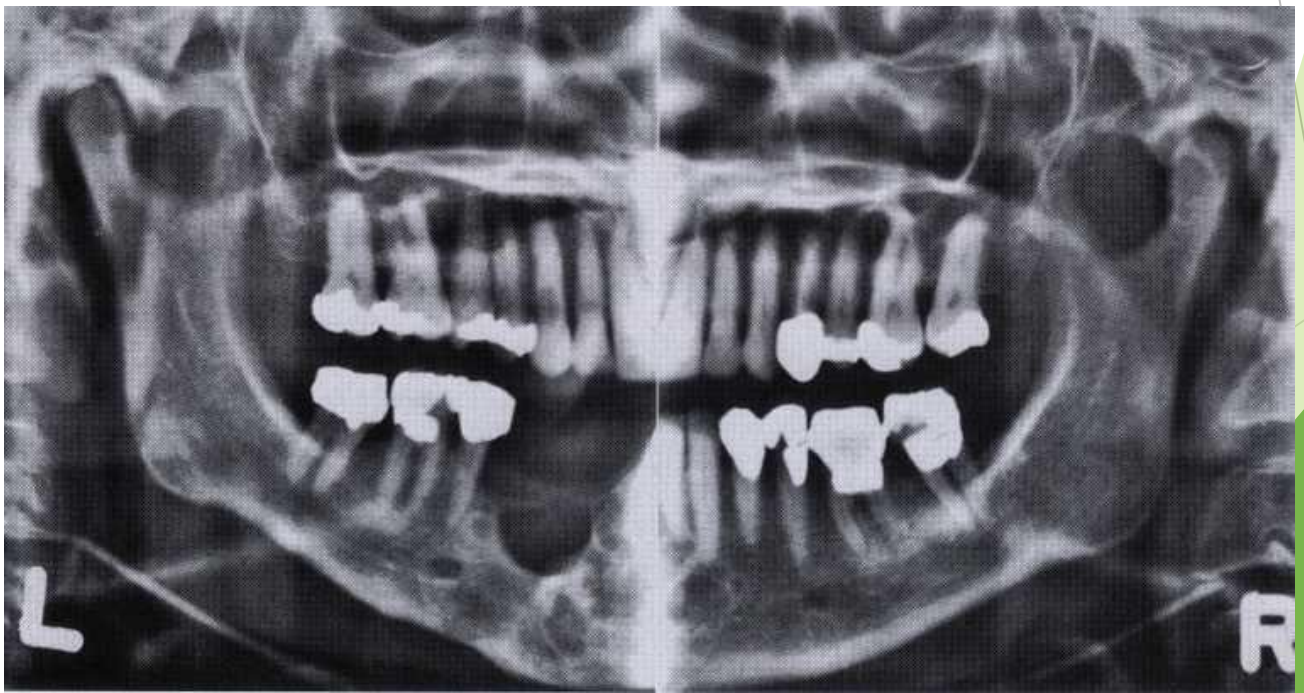
1. Dental visit
2. Oral hygiene
3. Orthodontic treatment
4. Pain
5. Bleeding gum
6. Bad taste
7. Do the tooth feel loose or insecure
8. Dental habits
9. Previous periodontal problems

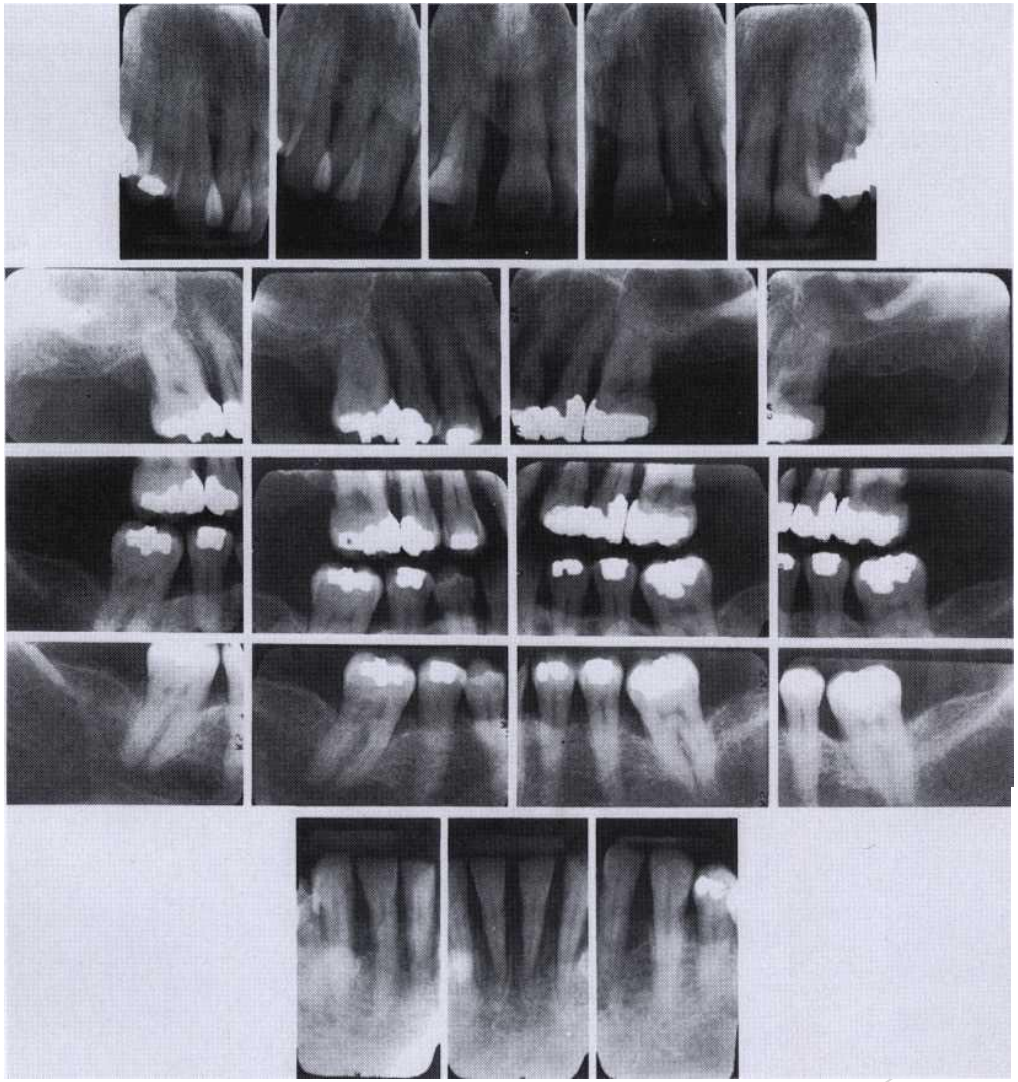


# Intra-oral radiographic survey

- 14 intra-oral films + 4 posterior bitewing films
- Panoramic radiograph

They are helpful for the detection of developmental anomalies, pathologic lesions of the teeth and jaws, and fractures





University of Baghdad
Periodontic Department
1977
College of Dentistry

# Oral hygiene

- Plaque index (Silness and Lo
- Disclosing agent
- Does not always related to severity of disease as in aggressive periodontitis.

## Oral malodor: fetor ex ore, fetor oris, halitosis

•Foul or offensive odor;
•Intral oral or extra oral source

# Examination of the oral cavity

- Lip, floor of the mouth, tongue, palate, oropharyngeal region and the quality and quantity of saliva.

## Examination of the lymph node

•Enlarged, palpable, tender and fairly immobile.

•ANUG, primary herpetic gingivostomatitis, acute periodontal abcess

Teeth

# Wasting disease: (smooth, polished, shiny)

- Erosion : wedge- shaped defect (enamel, dentine then cementum)

- Abrasion: saucer-shaped defect starts on cementum then dentine

•Attrition : occlusal wear result from functional contact with opposing teeth

•Abfraction: occlusal loading surfaces causing flexure and mechanical microfractures and tooth substances loss in the cervical area

## Dental stain

- Pigmented deposits
- source

## hypersensitivity

- Exposed root surface

## Proximal contact relationship

By clinical observation and dental floss

## Tooth mobility

Physiologic mobility, pathologic mobility

- Normal mobility
- Less than 1 mm
- More than 1 mm
- Severe mobility faciolingually and mesiodistally combined with vertical displacement.

# Trauma from occlusion

- Excessive tooth mobility
- Widening of periodontal space
- Vertical or angular bone loss
- Intra bony pocket
- Pathological migration

# Pathologic migration of teeth

- Tongue thrust
- Abnormal forces
- Pathologic migration of anterior teeth in young adult, may be sign of localized aggressive periodontitis

## Sensitivity to percussion

- Acute inflammation of PDL.
- Percussion at different angles of the long axis of the tooth

## Dentition with jaw closed

- Irregular alligned teeth
- Extruded teeth
- Improper proximal contact
- Area of food impaction

## Functional occlusal relationship

Dentitions that appear normal when jaws are closed may present marked functional abnormality.

# Gingiva

- Dried
- Color, size, contour, cosistency, surface textu

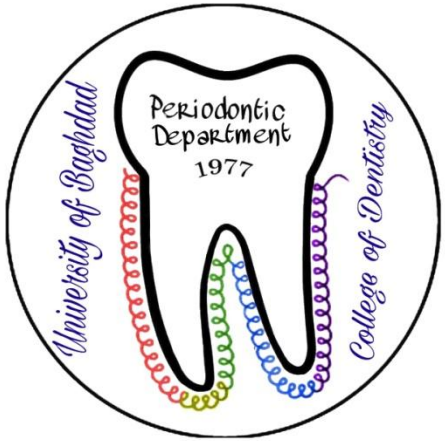
position, ease of bleeding and pain.

- Two types of gingival inflammation

1. Edematous → smooth, glossy, soft and red →
2. Fibrotic → firm, opaque, thick and round margin

# Use of clinical indices in dental practice

- Gingival index
- Plaque index
- Furcation involvement



# Gingival bleeding

- More objective than color change.
- Increase bleeding with increase inflammatory infilterate of tissues
- By periodontal probe or wooden interdental cleaner.
- Limitations:

1. Force> 0.25 N may evoke bleeding on healthy sites
2. In smokers, little or no bleeding mask the degree of inflammation.

# Periodontal pocket

- Presence and distribution on each tooth surface.
- Pocket depth
- Level of attachment on the root
- Type of pocket (supra or intrabony)

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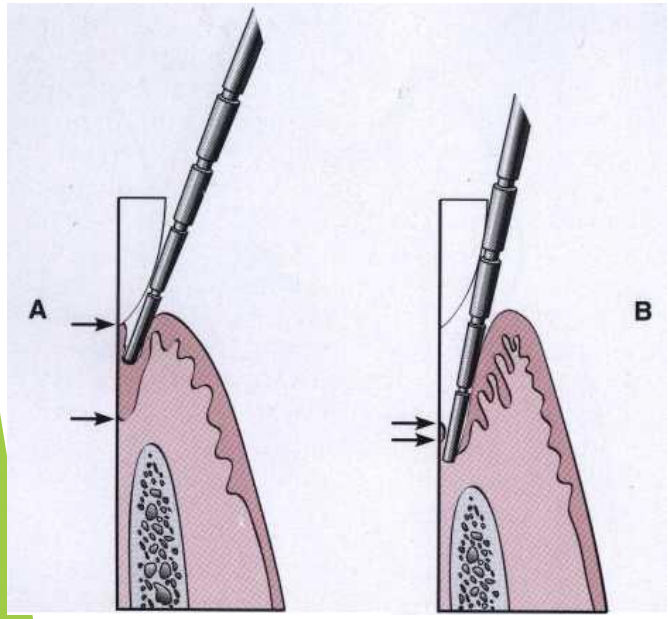
- Probing → best for pocket detection
- using of gutta percha point or caliberated silver points with radiograph.

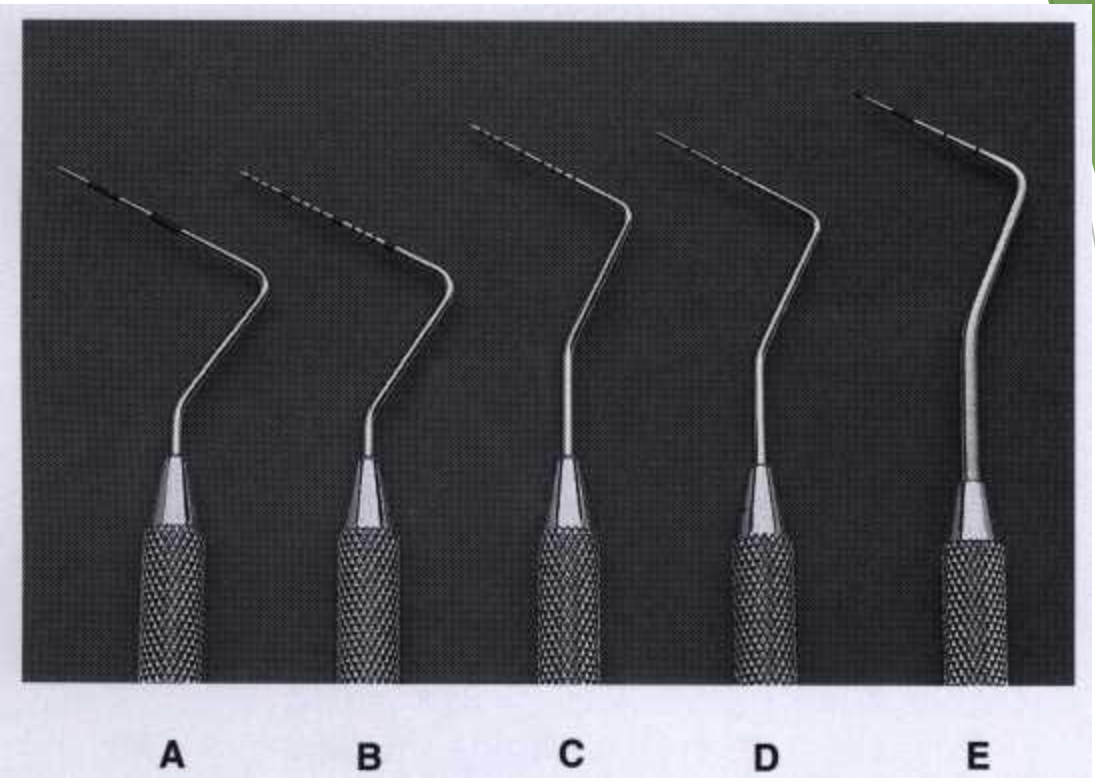
# Pocket probing

1. Histologic depth or biologic depth
2. The probing depth which depends on: size of the probe, force, convexity, direction and the tissue resistance

In smokers; biologic depth is more than the probing depth

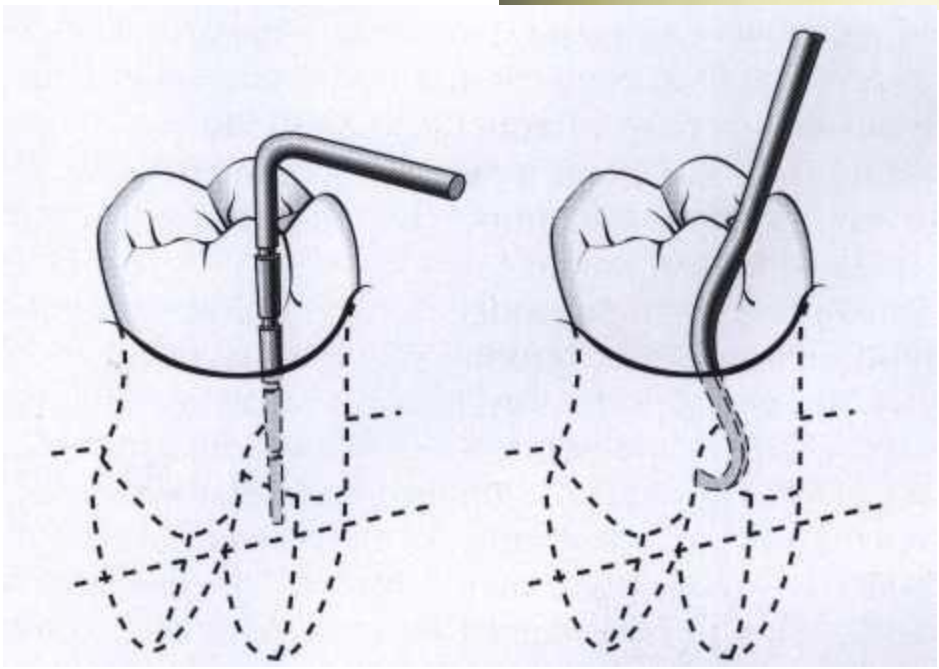



A, In a normal sulcus with a long junctional epithelium , the probe penetrates about one third to one half the length of the junctional epithelium.
B, In a periodontal pocket with a short junctional epithelium (between arrows), the probe penetrates beyond the apical end of the junctional epithelium.

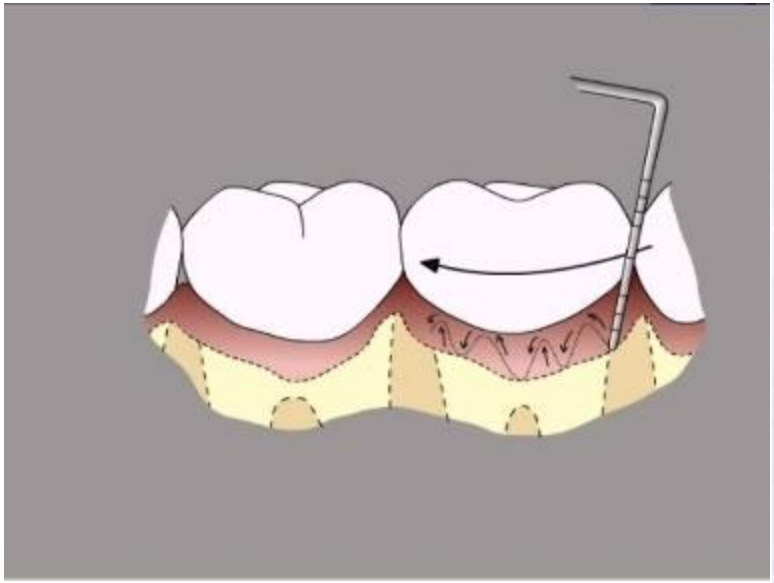


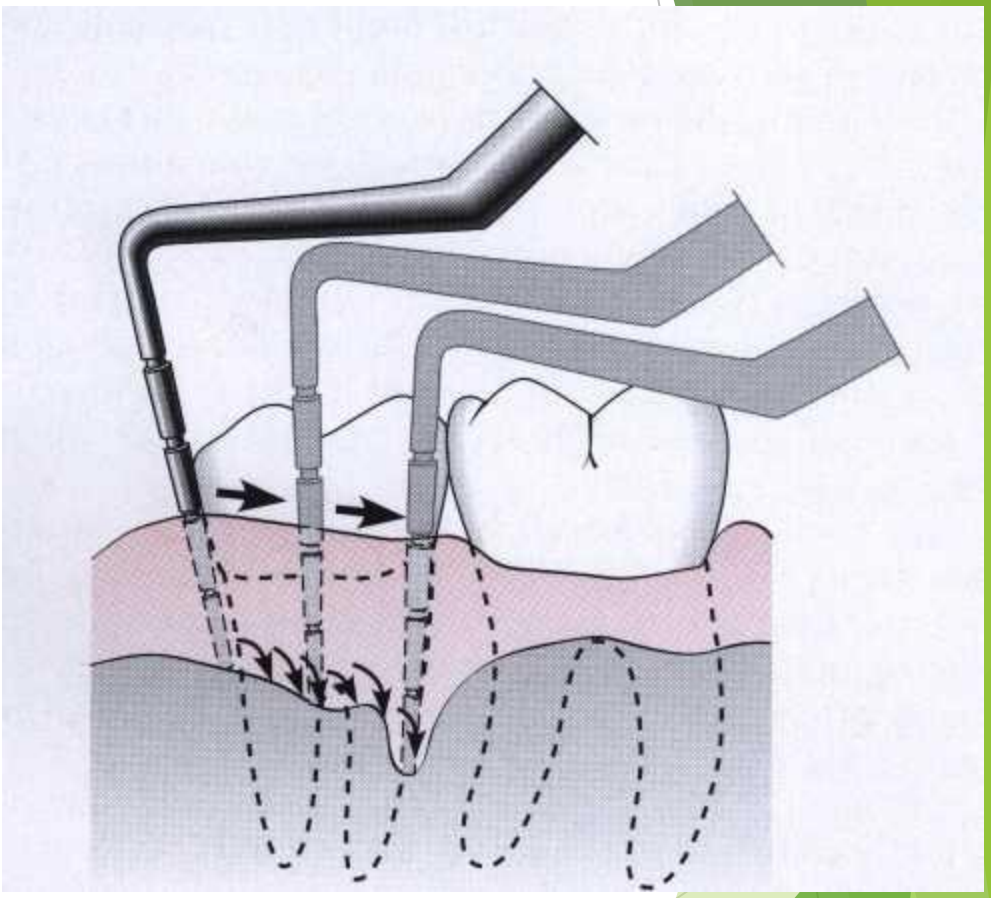

A, The Marquis color-coded probe. Calibrations are in 3-mm sections.
B, The UNC-15 probe, a 15-mm-long probe with millimeter markings at each millimeter and color coding at the 5th, 10th, and 15th mm.
C, The University of Michigan "O" probe, with Williams markings (at 1, 2, 3, 5, 7, 8, 9, and 10 mm).
D, The Michigan "O" probe with markings at 3, 6, and 8 mm.
E, The WHO (World Health Organization) probe, which has a 0.5 mm ball at the tip and millimeter markings at 3.5, 8.5, and 11.5 millimeters and color coding from 3.5 to 5.5 mm.

# Nabers probe



# Probing technique





# Pocket depth versus level of attachment

## Alveolar bone loss

- Clinically by the probe; transgingival probing
- Radiographic examination

## suppuration

Placing the ball of the index finger along the lateralaspect of marginal gingiva and applying pressure in a rolling motion toward the crown.