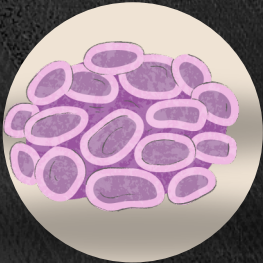
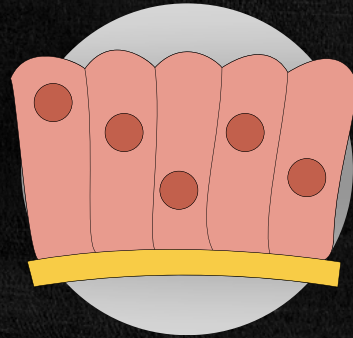


Oral Pathology



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Introduction & Scope of Oral Pathology :

Definition : Oral Pathology is the branch of dentistry concerned with the study of diseases regarding:

- Etiology
- Histogenesis
- Pathogenesis
- Clinical Manifestations
- Prognosis
- Clinical Manifestations :
 - Signs
 - Symptoms
 - Macroscopic features
 - Microscopic / Histologic features
 - X-ray features

Main topics :

- Neoplasm
- Infections :
 - bacterial
 - viral
 - fungal



→ *Diseases of specific systems:*

- *bone*
- *blood*

→ *Cysts*

→ *Developmental disturbances*

→ *Skin diseases*

→ *Sinus diseases*

→ *Metabolic diseases*

→ *Hormonal diseases*

Tumor

Definition : Oral Pathology is the branch of dentistry concerned with the study of diseases regarding:

→ *Etiology*

→ *Histogenesis*

→ *Pathogenesis*

→ *Clinical Manifestations*

→ *Prognosis*

→ *Clinical Manifestations :*





Neoplasm

- **Definition** : A neoplasm is an abnormal mass resulting from:

- 1- Independent proliferation
- 2- Uncoordinated proliferation
- 3- Persistence of growth even after removal of the original stimulus

- **Classification of Neoplasms**

▪ **According to Tissue of Origin**

1- Epithelium

- Surface
- Odontogenic
- Glandular

2- Mesenchyme

- Hard
- Soft

▪ **According to Biological Behavior**

- Benign
- Malignant
- Premalignant





Important Neoplastic Terms

1-Dysplasia :

Dysplasia is abnormal differentiation and maturation associated with:

- *Nuclear/cytoplasmic abnormalities*
- *Increased cell multiplication*

2-Anaplasia :

Anaplasia means loss of differentiation and maturity.

4- Atypia :

Atypia refers to abnormal cellular features.

5- Carcinoma :

A carcinoma is a malignant neoplasm of epithelial origin.

6- Sarcoma :

A sarcoma is a malignant neoplasm of mesenchymal origin.

7- Adenoma :

An adenoma is a neoplasm of glandular origin.

8- Metastasis :

Metastasis is the spread of a malignant neoplasm to another site.





Tumor-like Lesions

- Definition:

Tumor-like lesions can clinically appear as a mass or tumor, but they are not true neoplasms.

- Types

1. Reactive Lesion

A reactive lesion develops as a response to a stimulus.

Main Characteristic ; May regress and resolve

- Examples

- *Traumatic neuroma*
- *Pyogenic granuloma*

2- Hamartoma

A hamartoma is a congenital developmental tumor-like lesion involving proliferation of tissue that is:

Native to the part





3- Choristoma

A choristoma is a congenital developmental tumor-like lesion involving tissue that is:

- *Not native to the part*
- *Present in an abnormal location*

Key difference :

Hamartoma

Native tissue

Tissue is native to the part

Choristoma

Non-native tissue

Tissue is present in an abnormal location

4- Cyst

Cyst is listed among the tumor-like lesions in the lecture.

5- Abscess

Abscess is also listed among the tumor-like lesions in the lecture.

6- Cellular & Tissue Changes

▪ *Proplasia*

Proplasia is progression toward a more advanced or specialized cell.





▪ Metaplasia

Metaplasia is the transformation/differentiation of one mature cell type into another mature cell type.

• Example

Fibroblast → Chondroblast

▪ Desmoplasia

Desmoplasia is the formation/proliferation of :

• Fibroblasts

• Fibrous connective tissue

It is especially associated with tumors.

▪ Spongiosis

Spongiosis is intercellular edema within the epithelium.

▪ Acanthosis

Acanthosis is increased epithelial thickness due to an increased number of cells, particularly in the prickle cell layer.





- *Hyperplasia*

Hyperplasia is an increase in the number of cells.

- *Hypertrophy*

Hypertrophy is an increase in cell size or tissue bulk.

- *Atrophy*

Atrophy is a decrease in cell number and/or cell size.

- *Hypoplasia*

Hypoplasia is underdevelopment due to a deficiency in cell number.

High-Yield Differences

Hyperplasia → ↑ Number

Hypertrophy → ↑ Size

Hypoplasia → Underdevelopment / ↓ Cell number

Atrophy → ↓ Size and/or number





7- Epithelium

■ Definition

Epithelium is a tissue composed of closely attached cells arranged in one or more layers, covering a surface or lining a cavity.

It contains relatively little intercellular substance.

■ Functions

The functions of epithelium include:

Protection

Absorption

Secretion

Sensory function

Lubrication

Contractility through myoepithelial cells

■ Classification

A. Simple Epithelium

Simple epithelium contains one layer of cells.



- *Types*

Simple squamous

Simple cuboidal

Simple columnar

B. Stratified Epithelium

Stratified epithelium contains multiple layers of cells.

- *Types*

Keratinized stratified squamous

Non-keratinized stratified squamous

Stratified columnar

Stratified cuboidal

Transitional

Pseudostratified

8- Keratinized & Non-Keratinized Stratified Squamous Epithelium

A. Keratinized Stratified Squamous Epithelium

From the basement membrane toward the surface, the layers are:





Basal → Spinous → Granular → Keratin

■ *Layers*

1. Basal layer

2. Spinous layer

3. Granular layer

4. Keratin layer

B. Non-Keratinized Stratified Squamous Epithelium

From the basement membrane toward the surface:

Basal → Intermediate → Superficial

-Important

The superficial cells remain nucleated.

Exam Trick

Non-keratinized epithelium → superficial cells retain their nuclei.





9- Keratinization

- *Parakeratosis*

Parakeratosis means that:

Surface cells retain their nuclei.

- *Orthokeratosis*

Orthokeratosis means that:

Surface squamous cells are anucleated.

- *Hyperkeratosis*

Hyperkeratosis means:

Increased thickness of the keratin layer.

- *Hyperparakeratosis*

Hyperparakeratosis means:

Increased thickness of the parakeratin layer.