 

**Oral Pathology**

Prof. Dr.Muna Merza

Lecture 1

**Lec. 1 ORAL PATHOLOGY Dr. Muna**

**Definition of oral pathology**

It is a science which deals with nature, identification and management of diseases affecting the oral and maxillofacial region.

It is a science that investigates the etiology, mechanism ,signs and symptoms ,treatment and effects of these diseases.

**Slide preparation**: preparation of the tissue section for microscopic examination , description of the tissue structure and function of tissue.



**Methods of preparation of oral tissue for microscopic examination which are commonly used:**

**A-Parraffin embedded section of soft tissues:**

This is the most common technique used for soft tissues such as gingiva, cheek, tongue , lip, salivary gland , etc. That is, the tissue, which are not calcified.

**B-Decalcified section for hard tissue:**

The specimens in this section must be decalcified ( the mineral substance removed by acid). This type is used for the tissue containing bone or teeth.

**C- Ground sections for calcified tissue:**

Specimens of calcified tissue may be ground into thin section such as bone and undecalcified tooth. This is done by slicing the undecalcifed specimen into a section of about 30-50 microns on a revolving stone or disc and then by grinding on lathe wheel or flat stones

**D-Frozen section for soft tissues:-**

This type is used to examined the pathological tissue specimens immediately, or when the reagent used for embedding would destroy the tissue characteristics that are to be studied, so specimen of soft tissue may be frozen and sectioned with freezing microtome (cryostat) without being embedded.

**Steps of the slide preparation:**

1\_Obtaining the specimen: specimen taken from human or animal must be removed carefully

2\_Fixation of the specimen: should be placed immediately in about 400mm of 10% neutral formalin.

3\_Dehydration of the specimen: is placement successively in increasing % of alcohol 40%,60%,80%,95% then to xylene.

4\_Embedding the specimen: completely in the center of a block of paraffin.

5\_Cutting the section of the specimen: thickness 4-10 μm on a microtome knife.

6\_Mounting the cut sections on slides, suitable length of the paraffin ribbon are then mounted on prepared microe slide.

7\_Staining the sections: staining depend on the kind of tissue, stain used for routine microscope study is hematoxylin & eosin.

**Preparation of ground sections of teeth or bone:**

1\_Decalcification of bone and teeth, structures of teeth are damaged because tooth enamel about 96% mineral substance and completely destroyed by ordinary methods of decalcification.

2\_ teeth and bone may be studied by making ground sections of specimens.

**Types of microscopy**

1\_Bright field microscope, which is complex optical instrument uses visible light.

2\_Dark field and polarizing microscope.

3\_Ultra violet microscope.

4\_Electron microscope.

5\_Scanning probe microscope, and other types such as stereomicroscope, simple microscope and compound microscope.

 

