Dental Anatomy

Lec.3

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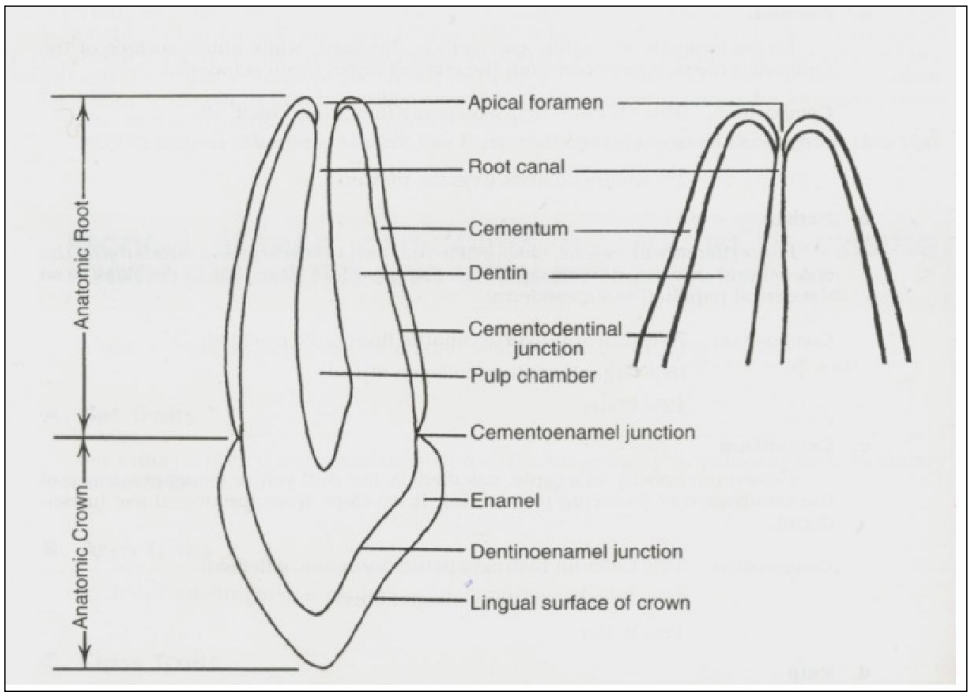
The Crown and Root

Each tooth has a ***crown*** and ***root*** portion. The crown is covered with ***enamel***, and the root is covered with ***cementum***. The crown and root join at the ***cementoenamel*** junction, this junction also called ***cervical line***.

The main bulk of the tooth under enamel and cementum is composed of ***dentin***. The plane of meeting between the dentin and enamel on the crown of a tooth known as ***dentinoenamel junction***. The plane of meeting between the dentin and cementum on the root of a tooth known as ***cementodentinal*** or ***dentinocemental junction***.

In the center of the crown and root there is a ***pulp chamber*** and ***pulp canal***, which normally contain the ***pulp tissue***. The spaces are continuous with each other and together known as the ***pulp cavity***. The pulp cavity is surrounded by dentin except at hole or holes near the root apex called the ***apical foramen***. The pulp tissue furnishes the blood and nerve supply to the tooth.



Enamel, cementum, and dentin are known as ***hard tissues***, while the pulp is known as ***soft tissue***.

The crown of an anterior tooth may have an ***incisal ridge*** or ***edge*** as in the central and lateral incisors, or a ***single cusp***, as in the canines. The crown of a posterior tooth has ***two or more cusps*** as on premolars and molars. Incisal ridges and cusps form the cutting surfaces on tooth crowns.

The root portion of the tooth may be ***single*** with one apex or terminal end, as usually found in anterior teeth and some of the premolars, or may be ***multiple***, with ***bifurcation*** or ***trifurcation*** dividing the root portion into two or more roots with their apices, as found in all molars and in some premolars.

The root portion of the tooth is firmly fixed in the bony process of the jaw that is known as ***alveolar process***. The bone of the tooth socket is called ***alveolus***.

The crown portion is never covered by bone tissue after it is fully erupted but it is partly covered at the cervical third in young adults by soft tissue of the mouth known as the ***gingiva*** or ***gingival tissue***, or ***gum tissue***. In older persons, all of the enamel and frequently some cervical cementum may be exposed in the oral cavity.

Anatomic Crown and Clinical Crown

Anatomic Crown is that part of a tooth that has an enamel surface. The clinical crown is the part of tooth that is visible in the oral cavity. The clinical crown may be longer or shorter than the anatomic crown.

Anatomic Root and Clinical Root

Anatomic root is the part of a tooth that has a cementum surface. The clinical root is that part of a tooth which is under the gingiva and is not exposed to the oral cavity; it may be longer or shorter than the anatomic root.

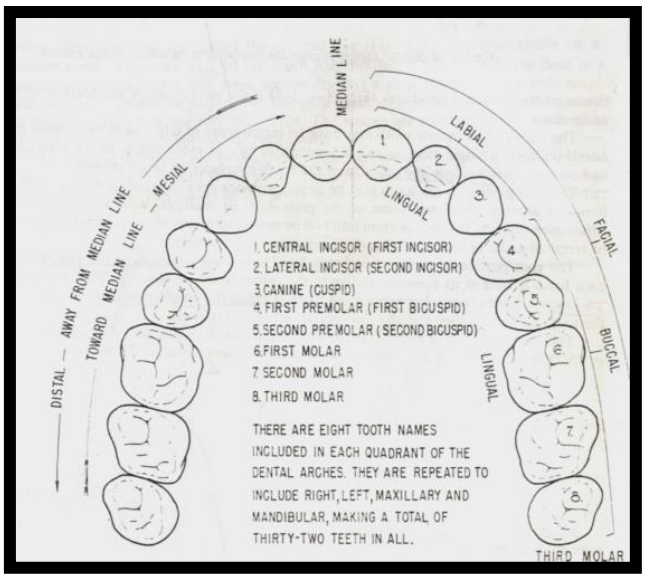
Surfaces and Ridges

The crowns of the incisors and canines (anterior teeth) have four surfaces and a ridge or edge, and crowns of premolars and molars (Posterior Teeth) have five surfaces.

In the anterior teeth, the surfaces towards the lips are called ***labial surfaces***, in the posterior teeth, those facing the cheek are the ***buccal surfaces***. When the labial and buccal surfaces are spoken collectively, they are called ***facial surfaces***. All surfaces facing the tongue are called ***lingual surfaces***. In the maxillary teeth, the lingual surfaces also called ***palatal surfaces***, as they are facing the palate. The surfaces of posterior teeth which come in contact with those in the opposite jaw during occlusion are called ***occlusal surfaces***. In the anterior teeth those surfaces are called ***incisal surfaces***.

The surfaces of the teeth facing toward adjoining teeth in the same dental arch are called ***proximal*** or ***proximate surfaces***. The proximal surfaces which are faced toward the median line are called ***mesial*** surfaces, and those most distant from the median line are called ***distal surfaces.***

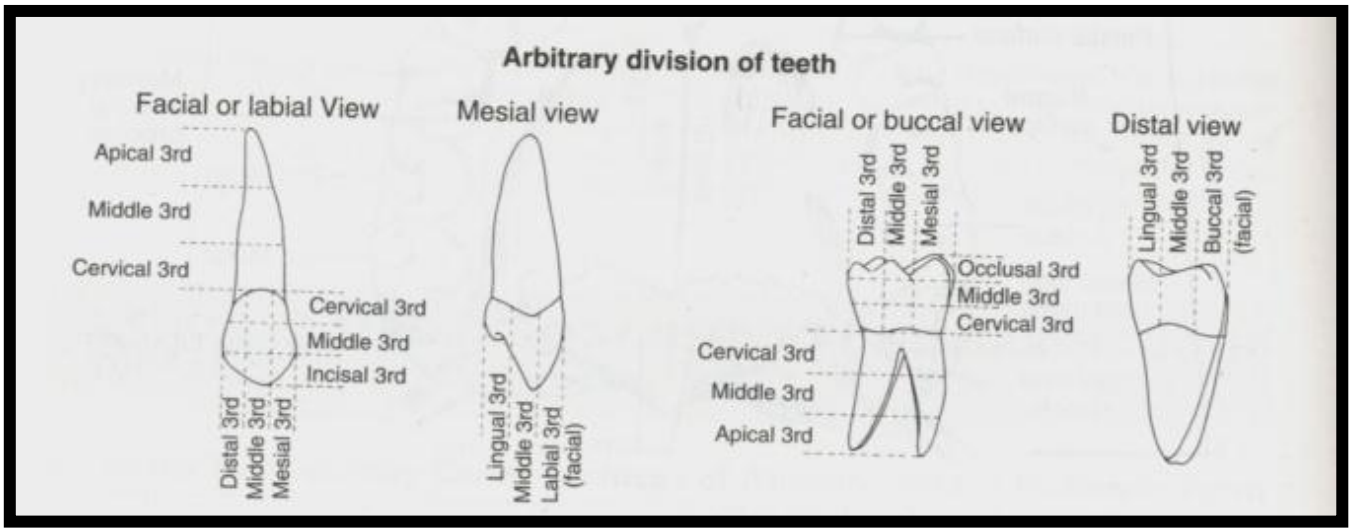
The area of the mesial or distal surface of a tooth that touches its neighbor in the same arch is called the ***contact area.*** This area also may be defined as the ***crest of curvature*** on the proximal surfaces of tooth crown where a tooth touches the tooth adjacent to it in the same arch when the teeth are in proper alignment (also called ***contact point***)



Divisions into Thirds

For purposes of description, the crowns and roots of teeth have been divided into thirds. These thirds are named according to their location. Looking at the tooth from the labial or buccal aspect, the crown is divided into an ***incisal*** or ***occlusal third, middle third***, and a ***cervical third***. The root is divided into a ***cervical third, middle third,*** and ***apical third.***

Mesiodistally, the crown is divided into the ***mesial, middle***, and ***distal thirds***. Faciolingually, it is divided into the **labial** or ***buccal, middle***, and ***lingual thirds***.



- Other landmarks*:* Pages (6-10) in the textbook.