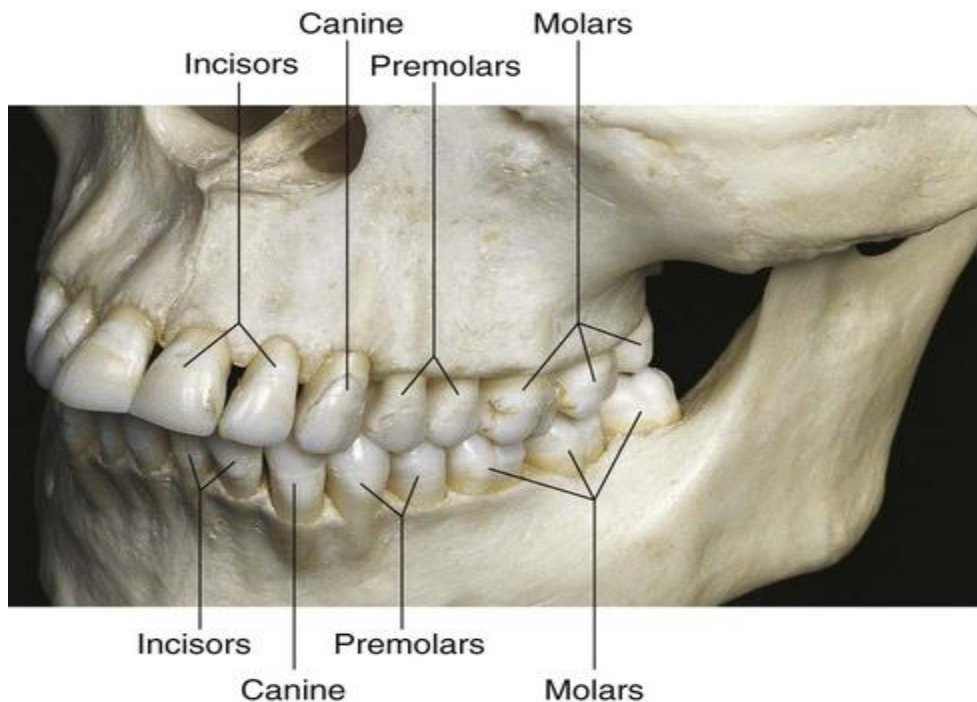


## Lecture-1-

## Dental Anatomy

**Anatomy:** - The branch of science concerned with the bodily structure of humans and other living organisms, especially as revealed by dissection and the separation of parts.

**Dental Anatomy** is the study of the development, morphology, function, and identity of each tooth in human dentition, as well as how the tooth relates in shape, form, structure, color, and function to the other teeth in the same dental arch and the opposing arch.



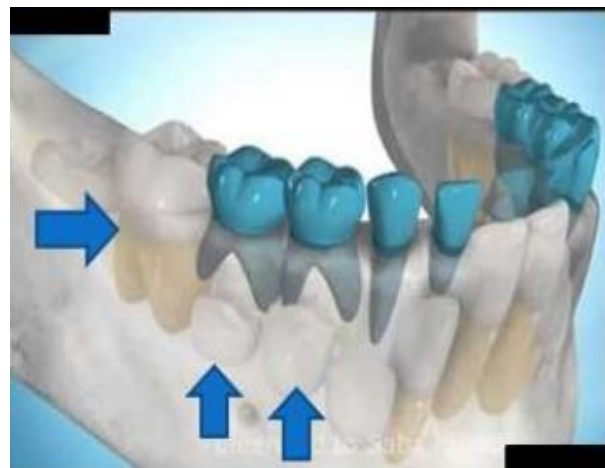
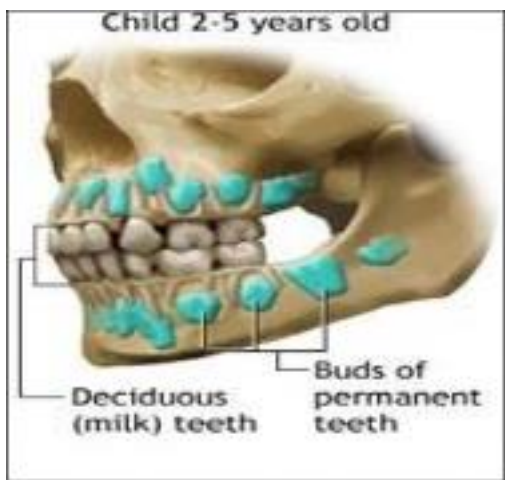
**Dental:** anything related to teeth

**Teeth:** are hard, mineral, rich structures which are used to chew food. they are not made of bone like the rest of the skeleton but have their unique structure to enable them to break down food.

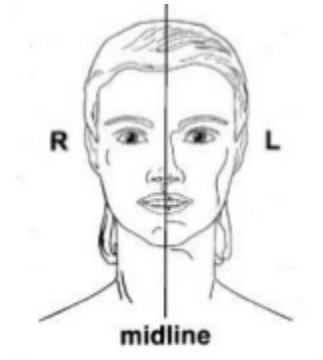


**Heterodont:** which means different-shaped teeth.

**Diphyodont means** two sets of teeth; primary teeth (deciduous teeth or milk teeth or baby teeth) and permanent teeth (succedaneums' teeth).



**The median line** is an imaginary line drawn vertically from the middle of the face and passing between two central incisors in both the upper and lower jaws.



**Teeth are grouped into:**

**1-Anterior teeth:** which include the incisors and the canines.



**2- posterior teeth:** which include the premolars and molars.



***The jaw is the bone that carries the teeth. There are two jaws:***

- 1- The upper jaw is fixed, and is called "the maxilla".
- 2- the lower jaw is movable, and is called "the mandible".



### ***Parts of a tooth***

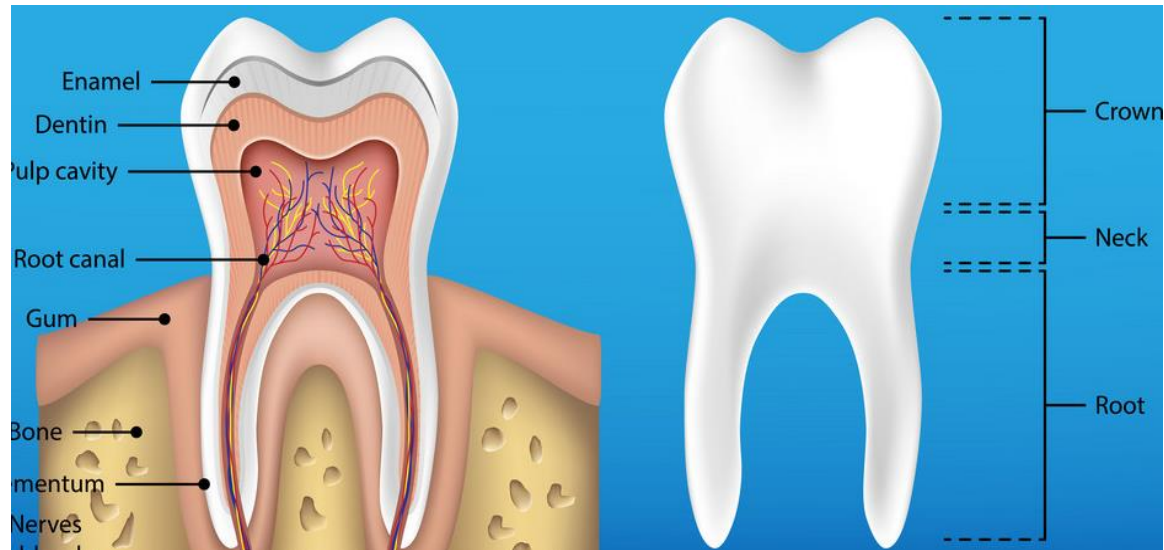
**1-Crown:** part of tooth covered by enamel; portion of the tooth visible in the oral cavity.

**2-Root:** that portion of the tooth is normally embedded in the alveolar bone and covered with cementum.

The root may be single as in anterior teeth or multiple with bifurcation or trifurcation posterior molar and premolar teeth. The end of each root top is known as the apex.

**3-Neck (cervix):** this is the line where the anatomic crown meets the root.

**Cemento-enamel junction:** this is a line formed by the junction of the enamel of the crown with the cementum of the root and is also called the cervical line.



***Tooth layers:***

***Enamel:*** the hardest calcified tissue covering the dentine in the crown being one of the hardest calcified tissues of the body. It can withstand the force of mastication it consists of (96%) mineralized.

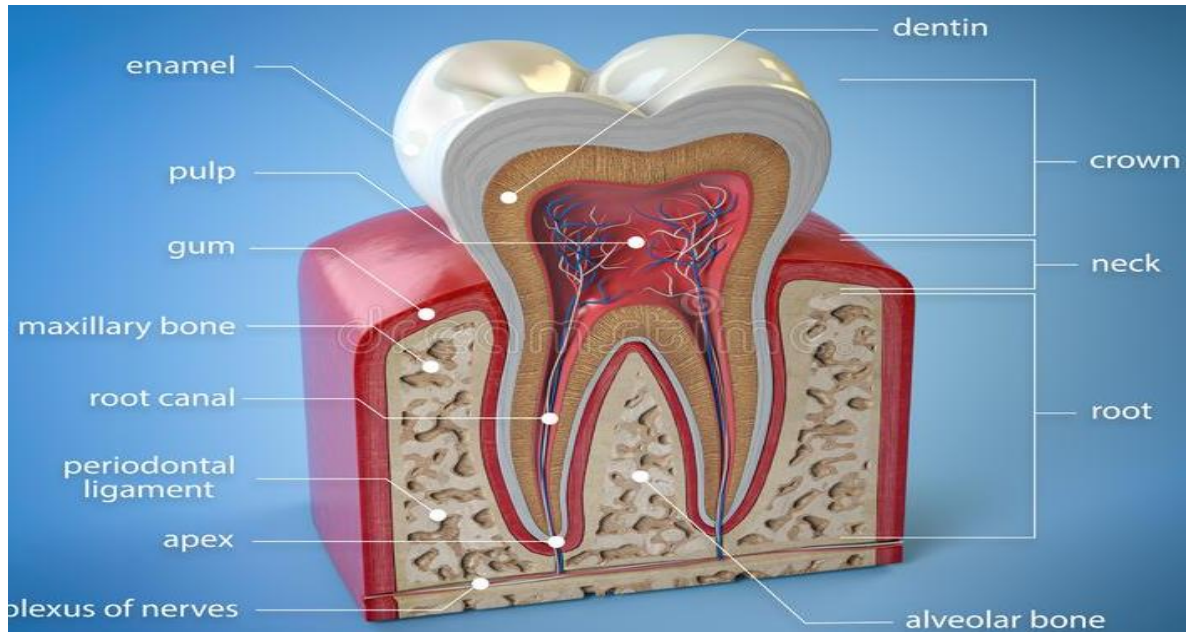
***Dentine:*** This is the main mass of the tooth that covers and protects the pulp it is present under the enamel in the crown and under the cementum in the root and chemically consists of 30% organic and 70% un organic.

***Cementum:*** It is a thin bony layer covering the dentin in the root of the tooth, 50% mineralized.

***Pulp:*** the innermost noncalcified tissues containing blood vessels, lymphatics, and nerves.

***Apical foremen:*** It is an opening through which the nerve, lymph, and blood vessels pass through this foreman is located at the apex of the root.

***Cemento- enamel junction:*** That area at which the crown meets the root.



***Hard tissue included: -***

a-Enamel    b-Dentine    c-Cementum

***Soft tissue included: -***

a-Pulp b-periodontal membrane.

***There are two types of teeth:***

1- deciduous teeth (Primary)



2- Permanent teeth



***Deciduous teeth:*** commonly known as milk teeth, baby teeth, and temporary teeth. Are the first set of teeth in the growth development of humans. They develop during the embryonic stage of development and erupt that is, they become visible in the mouth during infancy. they are 20 teeth in the mouth, 10 in each jaw the most important function of primary teeth is that they act as a guide for the development of permanent teeth.

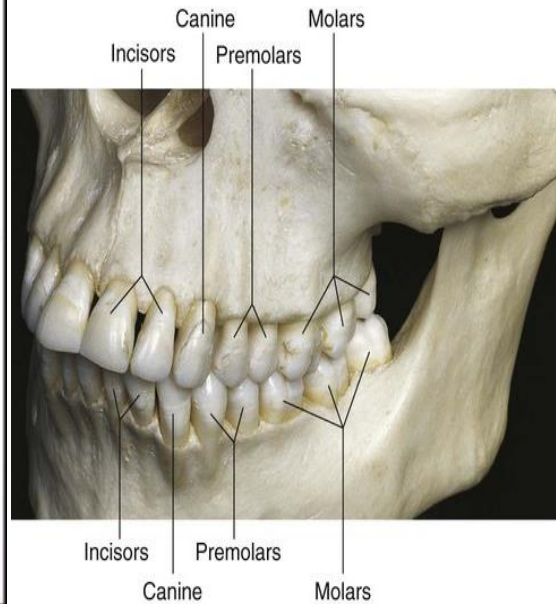
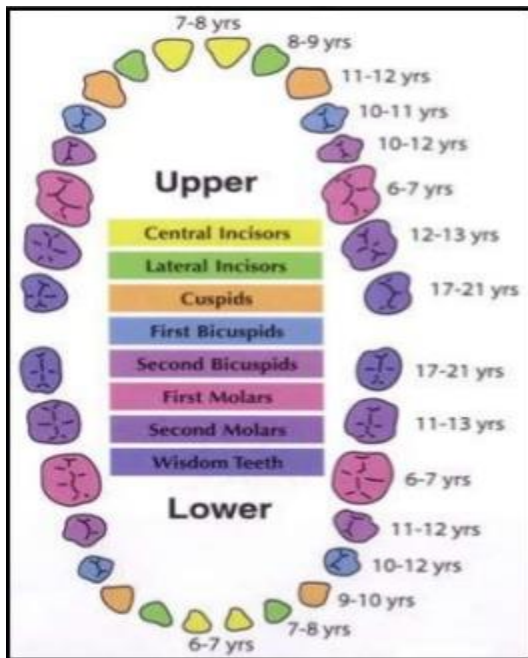


***The dental formula for deciduous teeth is: -***

$I \frac{2}{2} C \frac{1}{1} M \frac{2}{2} = 10$	Primary dentition
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Primary teeth-	EDCBA	ABCDE
	EDCBA	ABCDE

**Permanent teeth:** These teeth replace the primary teeth they aid in digestion, speech, and general appearance. There are 32 permanent teeth with the main difference from primary teeth being that there are 4 premolars and 6 molars in each arch. Permanent teeth begin erupting at 6 years of age and end at 21 of age.



**The dental formula for permanent teeth are**

$I \frac{2}{2} C \frac{1}{1} P \frac{2}{2} M \frac{3}{3} = 16$	Permanent dentition
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Permanent teeth- 87654321	12345678
87654321	12345678

