

## Structure of Teeth:•

A tooth is divided into two parts: The crown and one or more ➤  
roots.

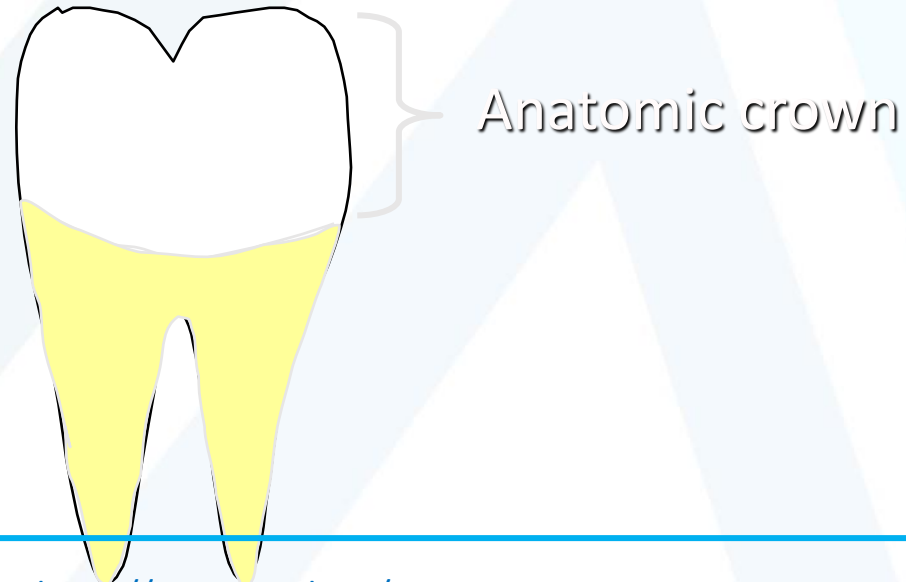
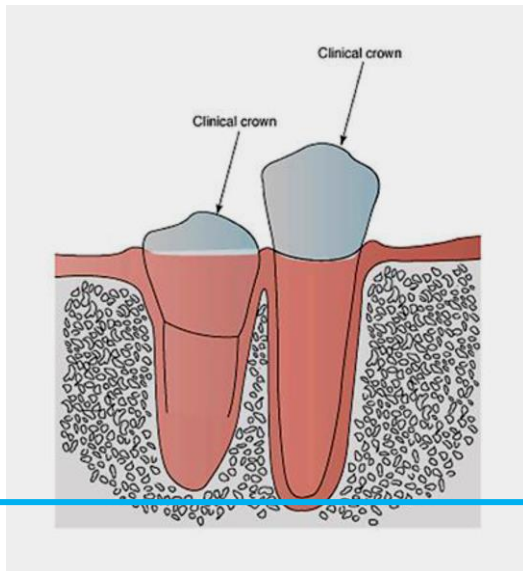
# The Crown and Root

- Crown- portion above the gingiva covered with enamel
- Root- portion below covered with cementum
- They are joined at the cemento-enamel junction (CEJ)



# 1. Anatomy of a tooth : The crown is divided into the anatomic and clinical crown.

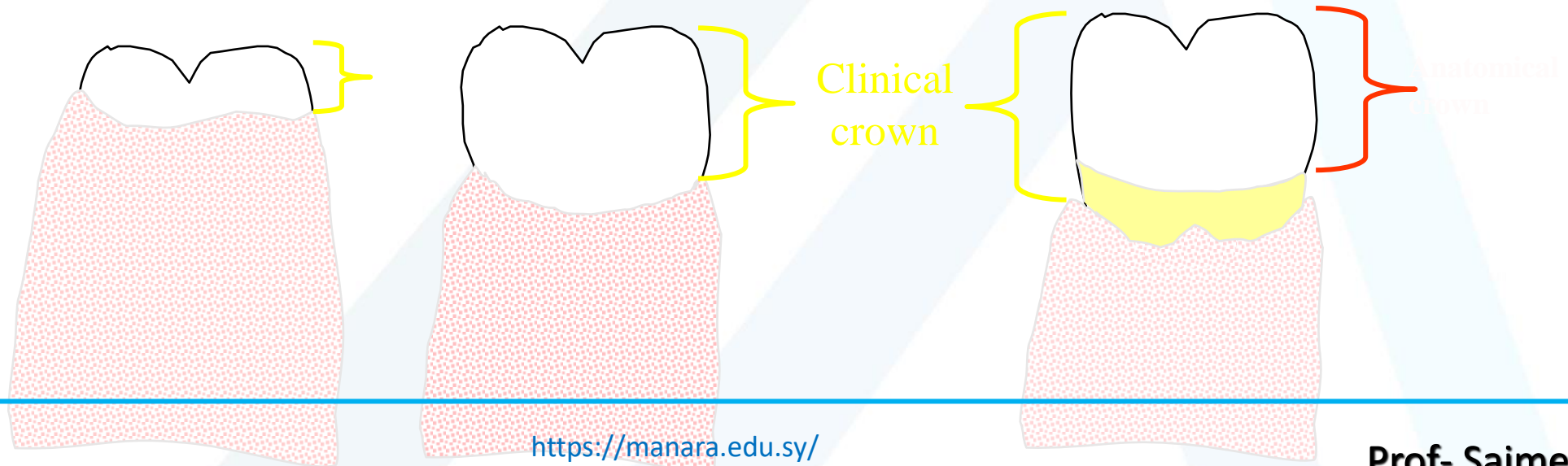
## a. Anatomical crown- portion of tooth covered with enamel

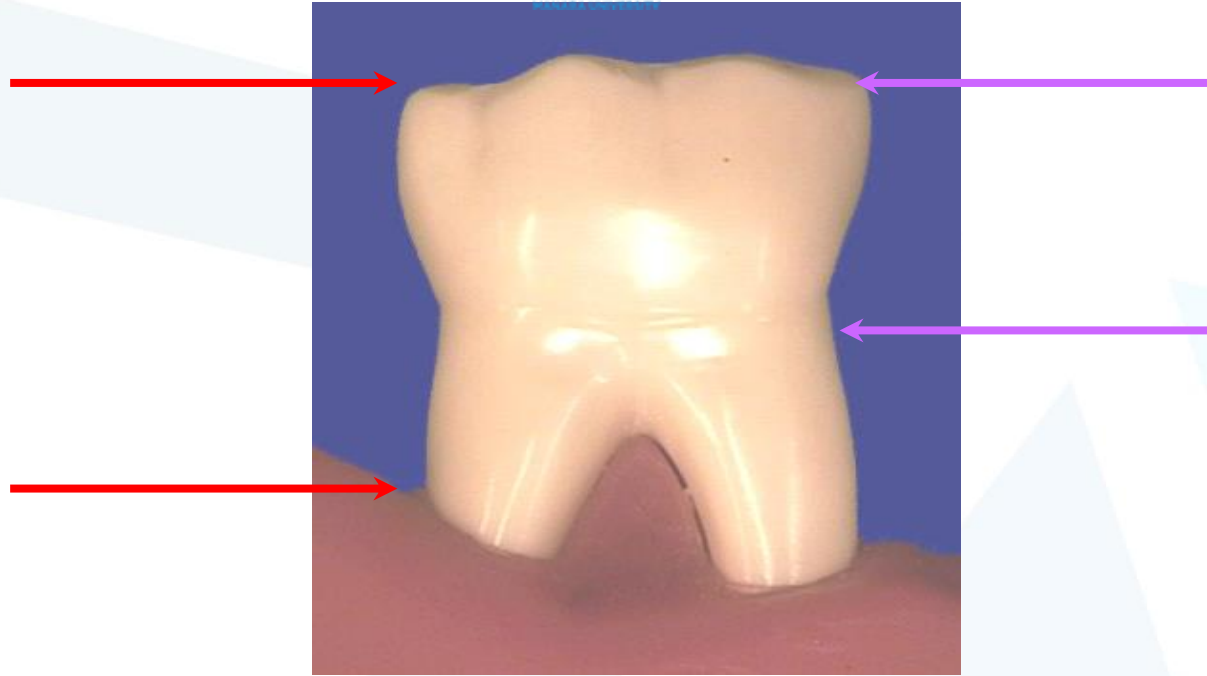


# Dental Anatomy



Clinical crown- visible part of tooth above the gum line. It is the part of the crown exposed or visible in the mouth.





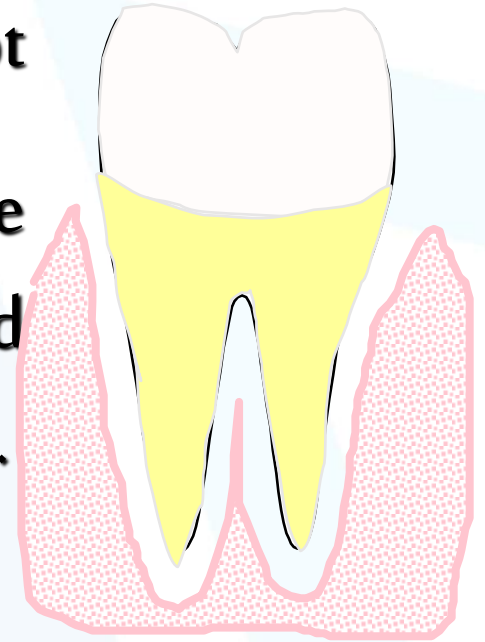
**Anatomic Crown** - that part of the tooth covered in enamel

**Clinical Crown** - that part of the tooth that is visible in the oral cavity

# Dental Anatomy

## c. Root

Part of tooth embedded in the alveolar process and covered by cementum.



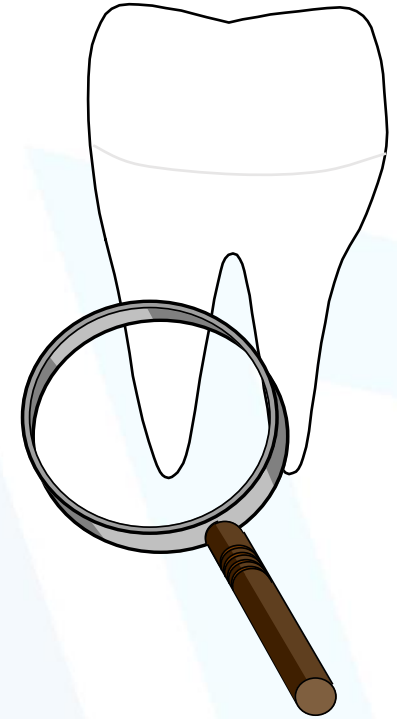


# Dental Anatomy

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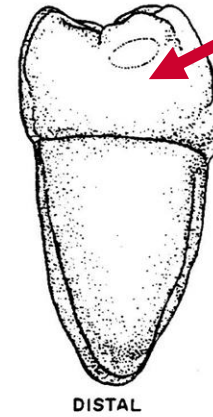
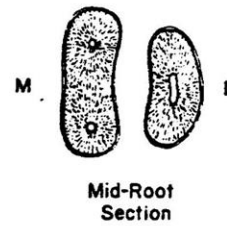
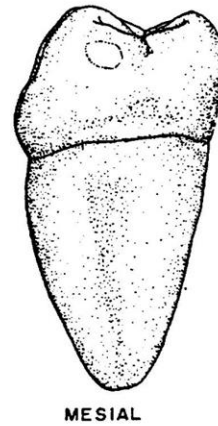
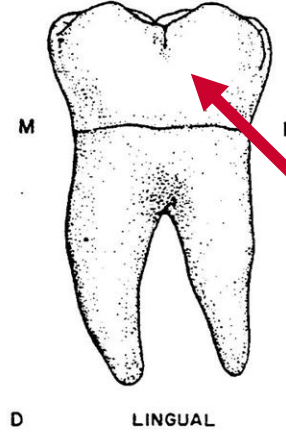
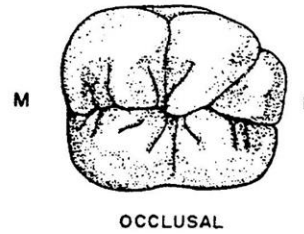
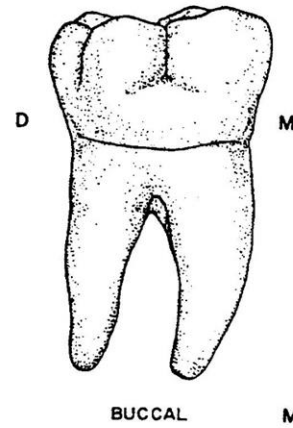
Apex- tapered end of root tip. d.

Apical foramen- e.



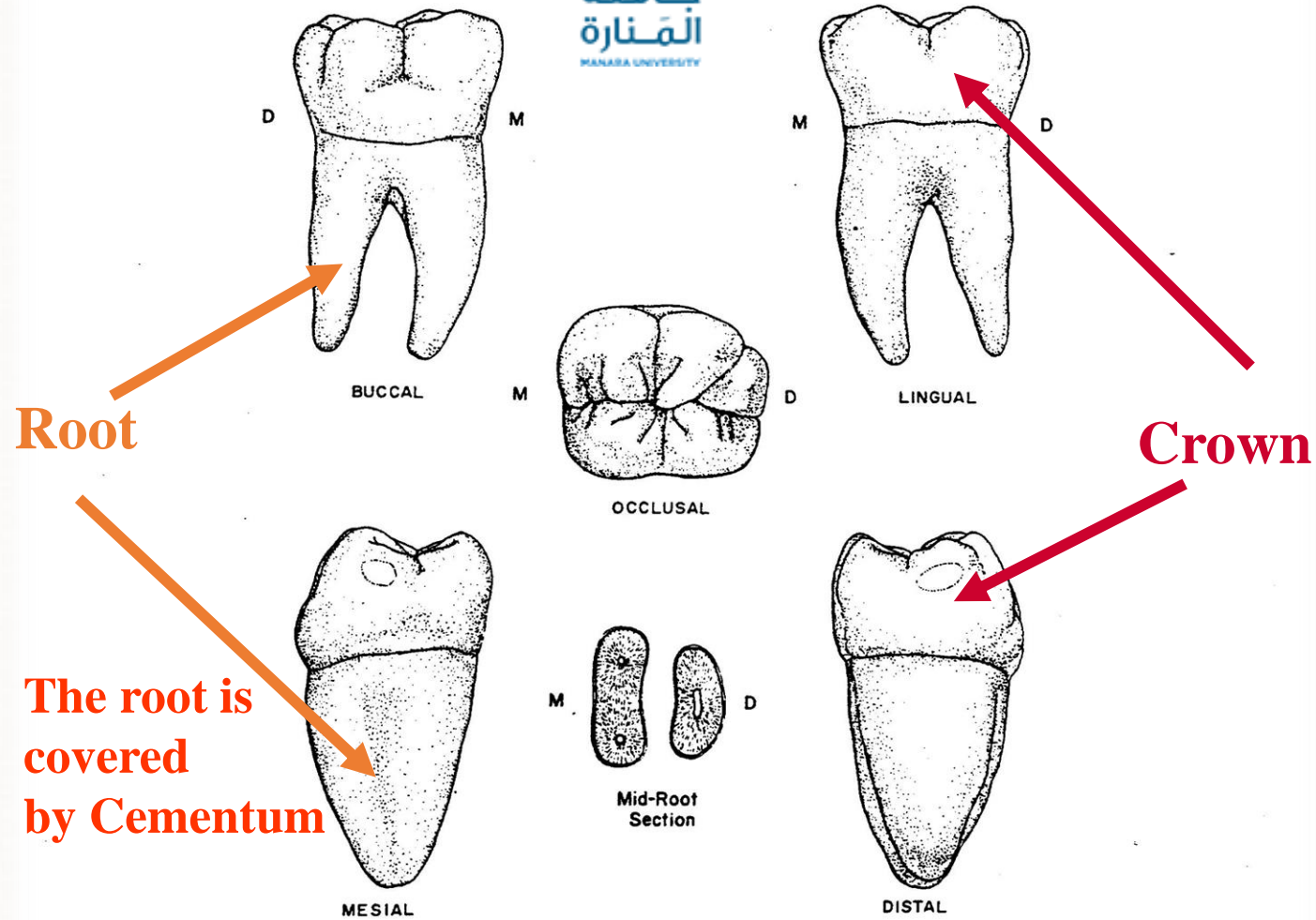
- The root portion of the tooth may be single with one apex as usually found with anterior teeth and some of the premolars, or multiple with bifurcation or trifurcation dividing the root portion into two or three roots with their apices as found in molars and some premolars .





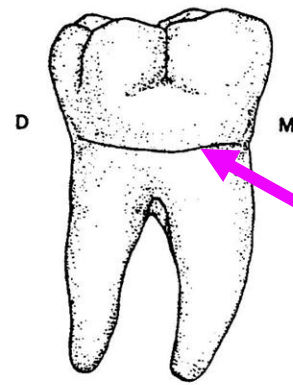
**Crown**

**The Crown is  
Covered by  
Enamel**

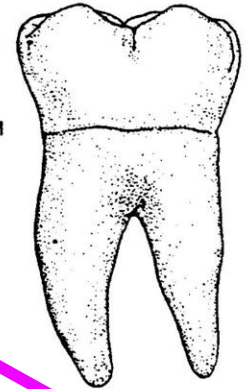




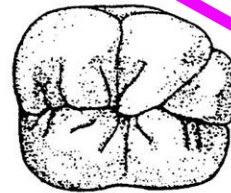
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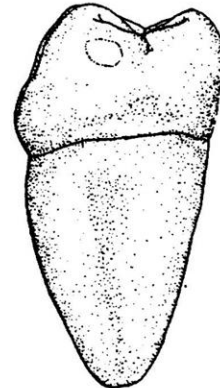
BUCCAL



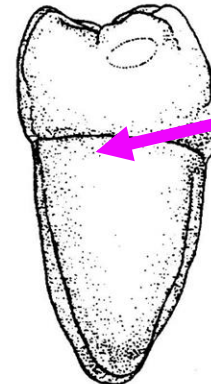
LINGUAL



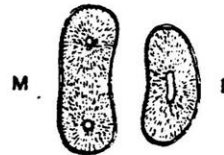
OCCUSAL



MESIAL



DISTAL



Mid-Root  
Section

CEJ

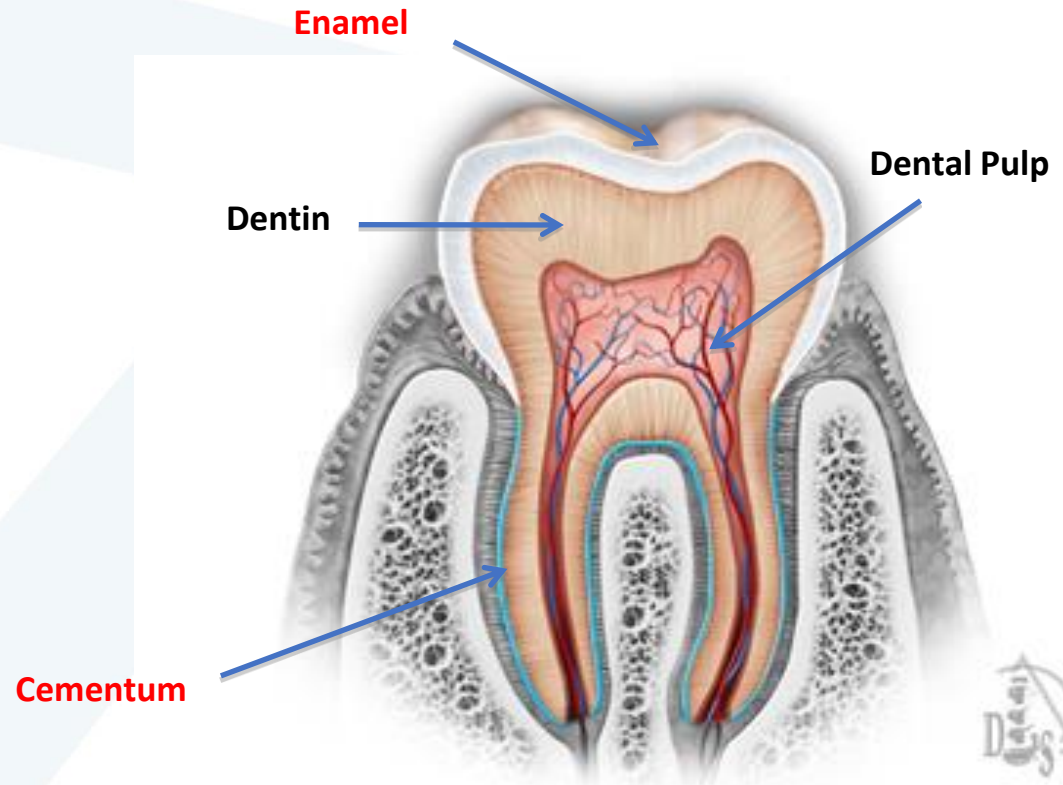
Cemento enamel  
Junction

**A tooth is made up of three elements:**

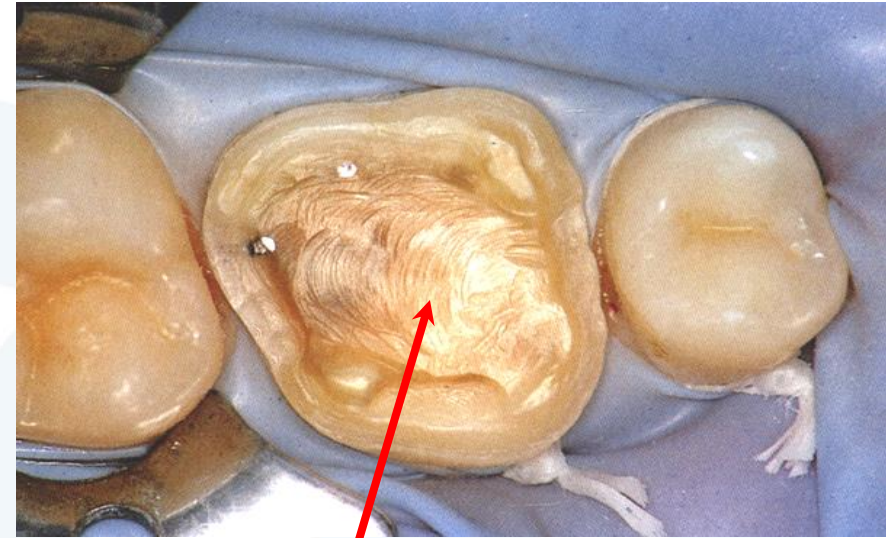
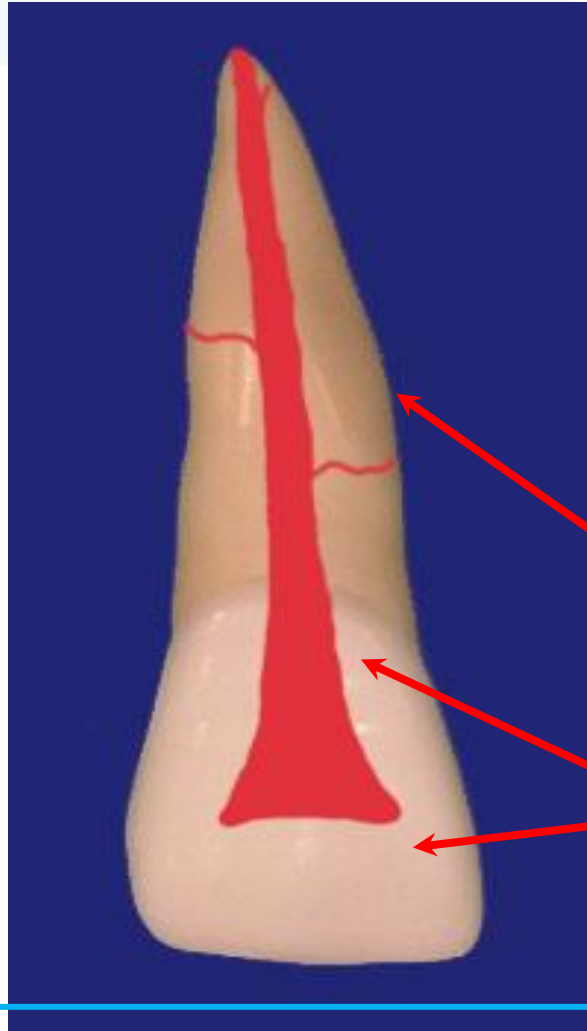
**Water•**

**Organic materials•**

**Inorganic materials•**



# Tissues Of A Tooth



- 1) Dentin
- 2) Enamel
- 3) Cementum
- 4) Pulp



# Enamel

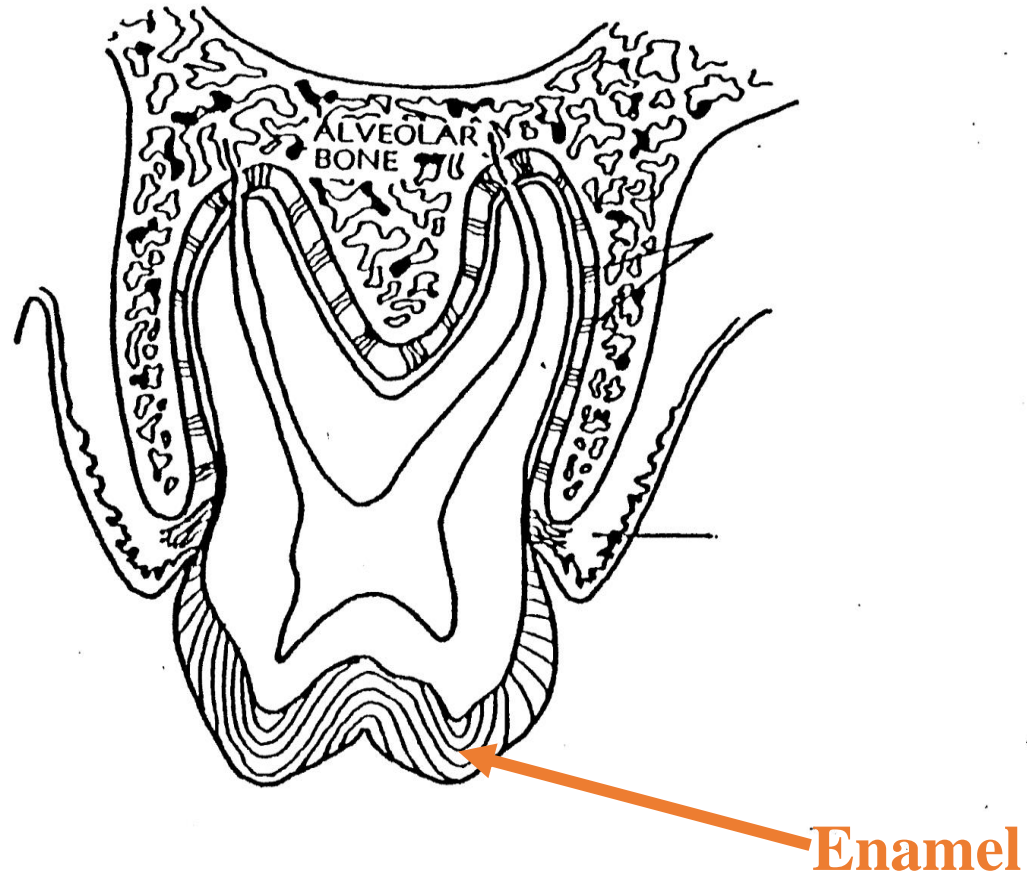


- Makes up the protective outer surface of the anatomic crown
- Mostly inorganic and calcified
- It is the hardest tissue in the human body and consists of approximately 96% inorganic minerals, (Calcium & Phosphorus ),1% organic materials and 3% water.

*white shiny surface of the anatomic crown*  
**dentine \_ cannot heal or repair like bone or**



# A cross-section of a tooth



# Dentin

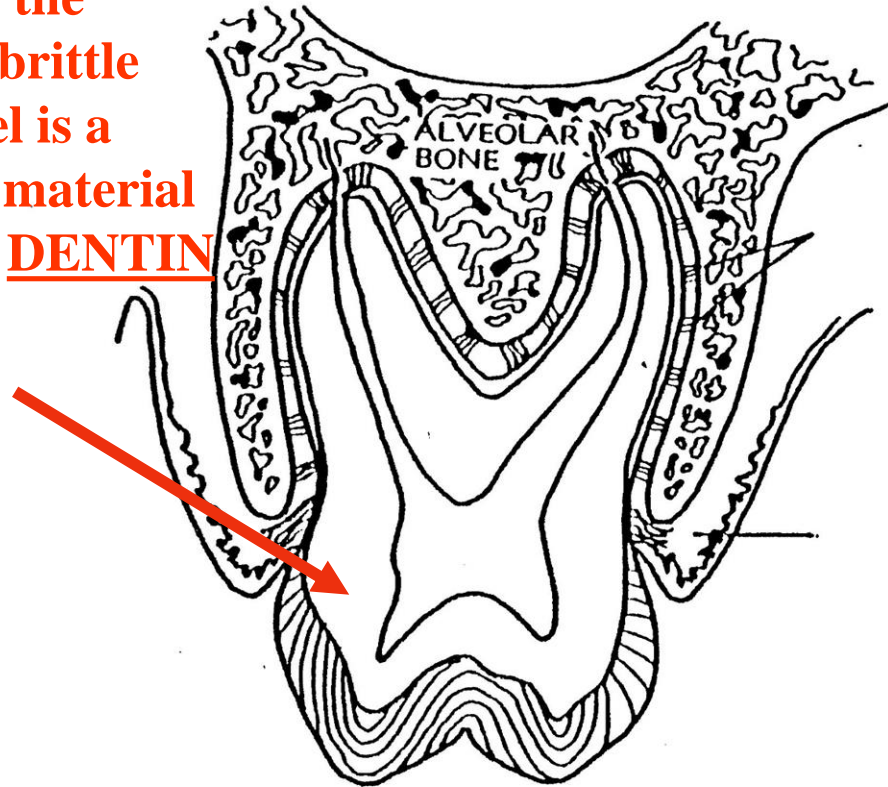


- Found in the crown and root, making up bulk of tooth
- covered by enamel on the crown and cementum on the roots
- protects the pulp

is a calcified  
tissue  
name

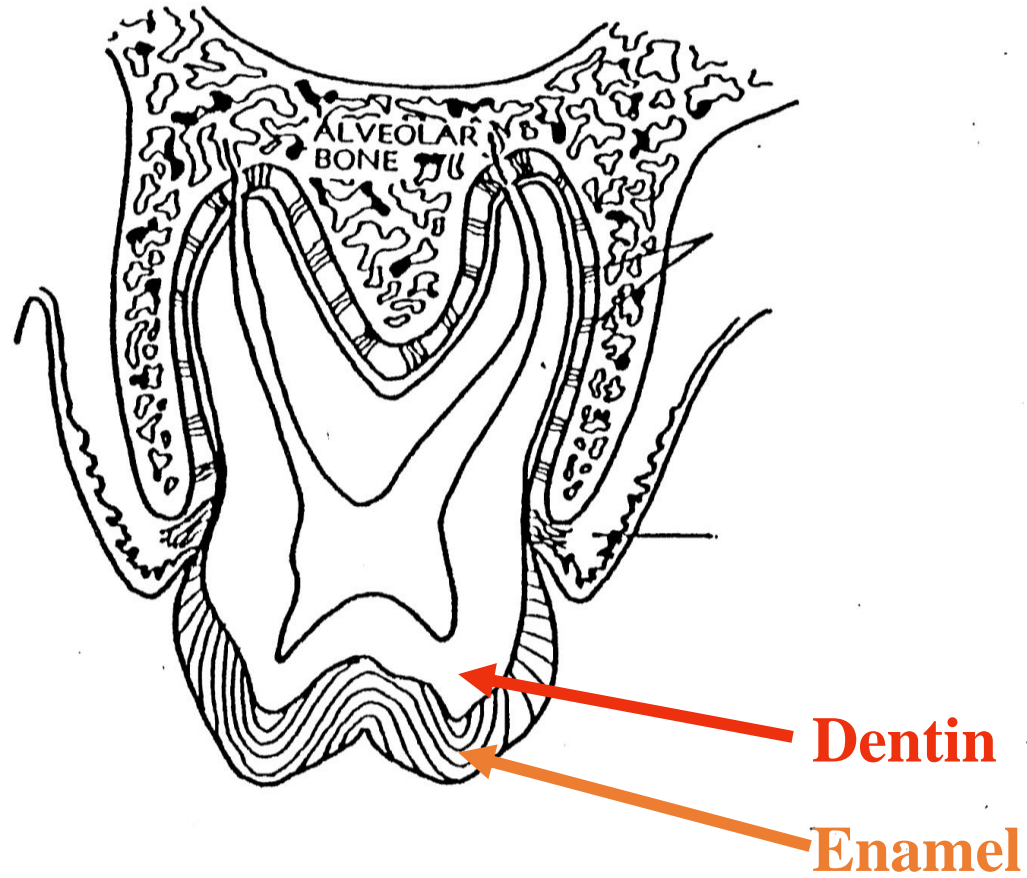


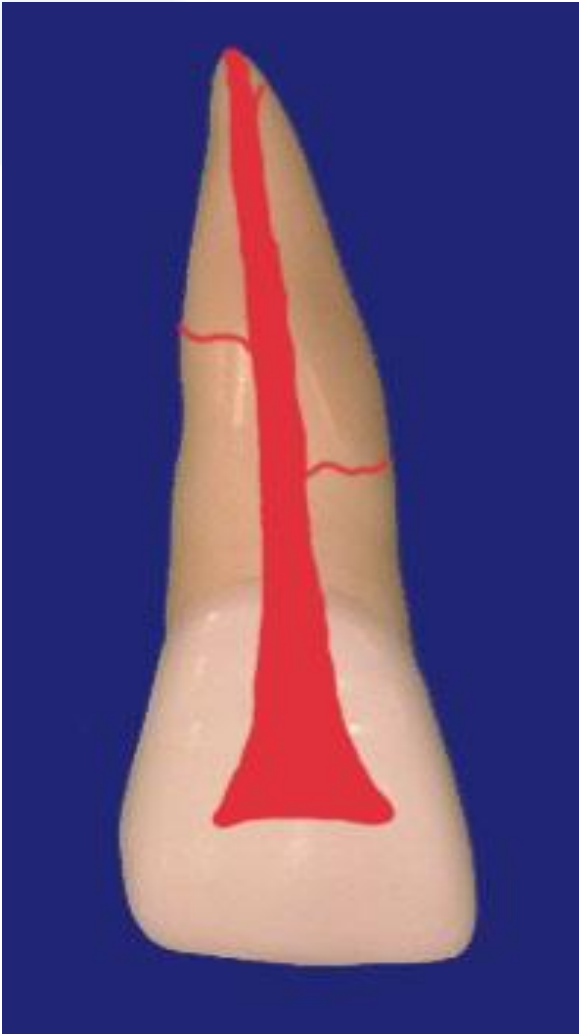
Below the  
hard, brittle  
enamel is a  
softer material  
called DENTIN





A crc





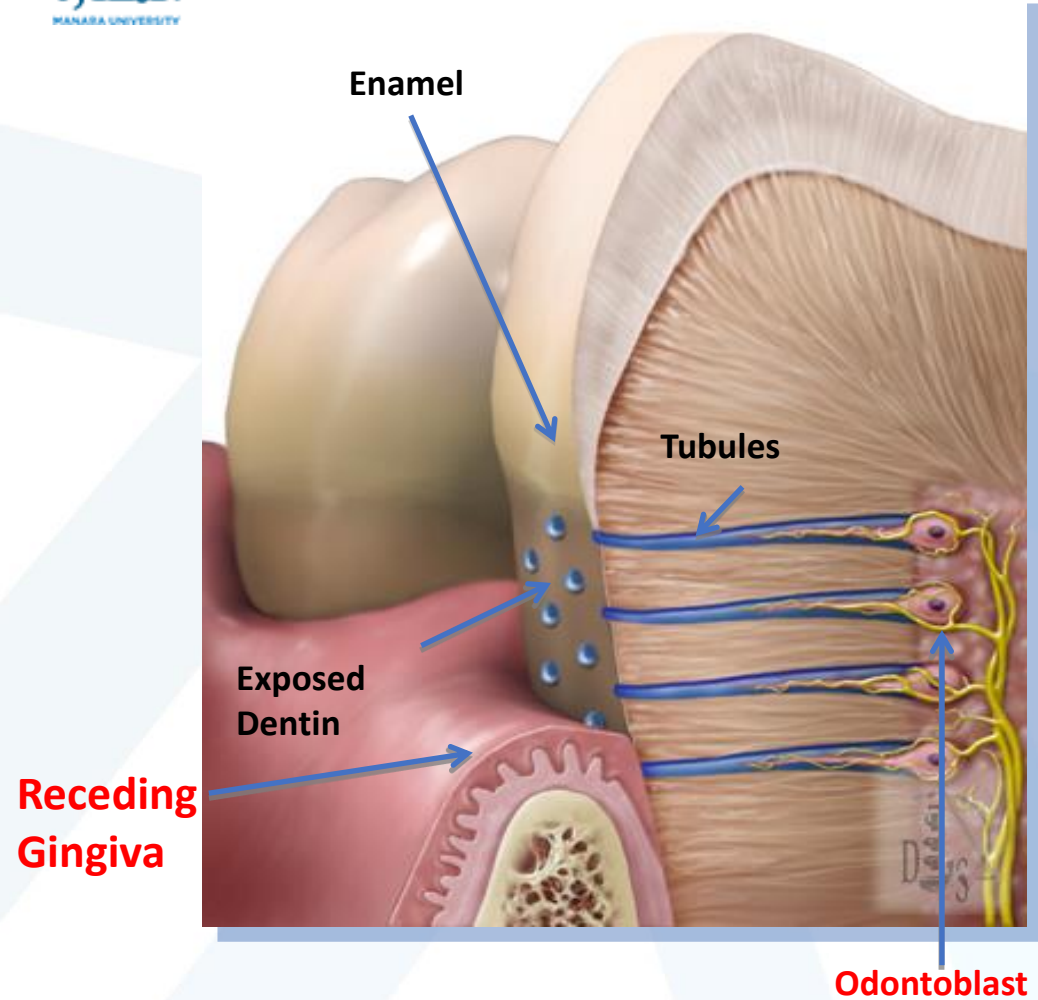
Normally not visible except on •  
dental radiographs

In the coronal portion termed •  
the pulp chamber

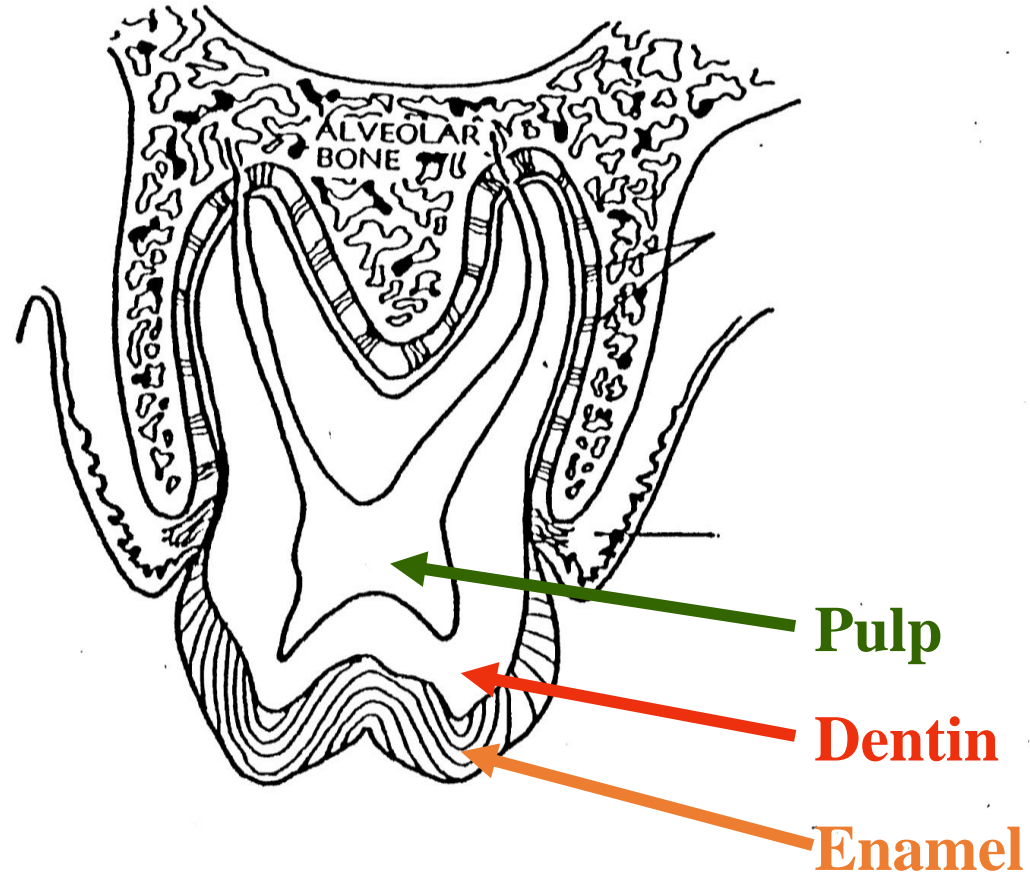
In the root portion termed the •  
pulp canal(s)

The chief function of the pulp :  
**produce dentin throughout the life  
of a tooth**

# Dental Anatomy and Physiology



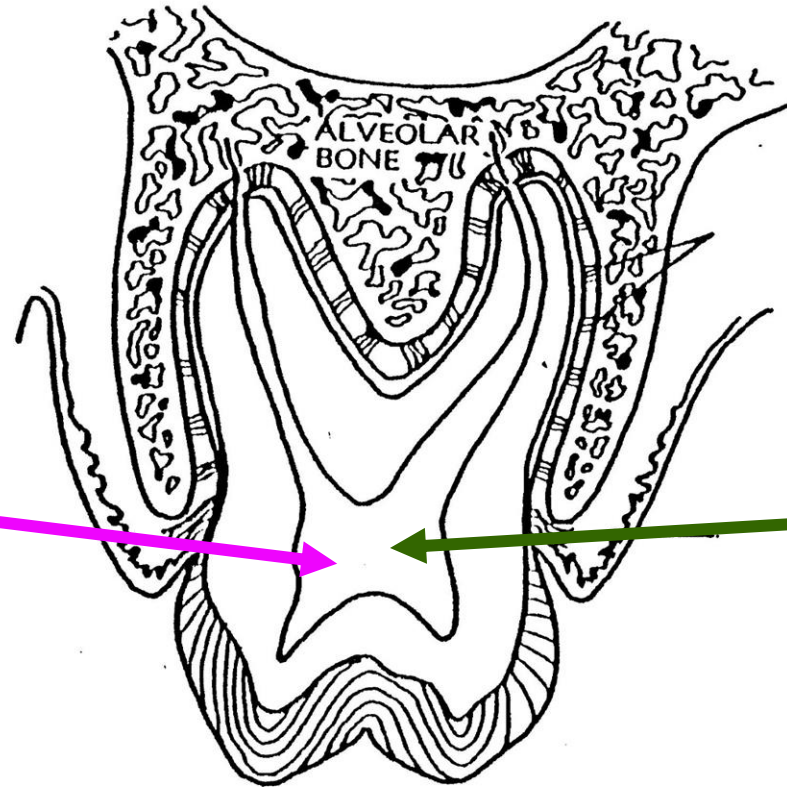
A





The pulp has two  
Parts:

The Pulp  
Chamber

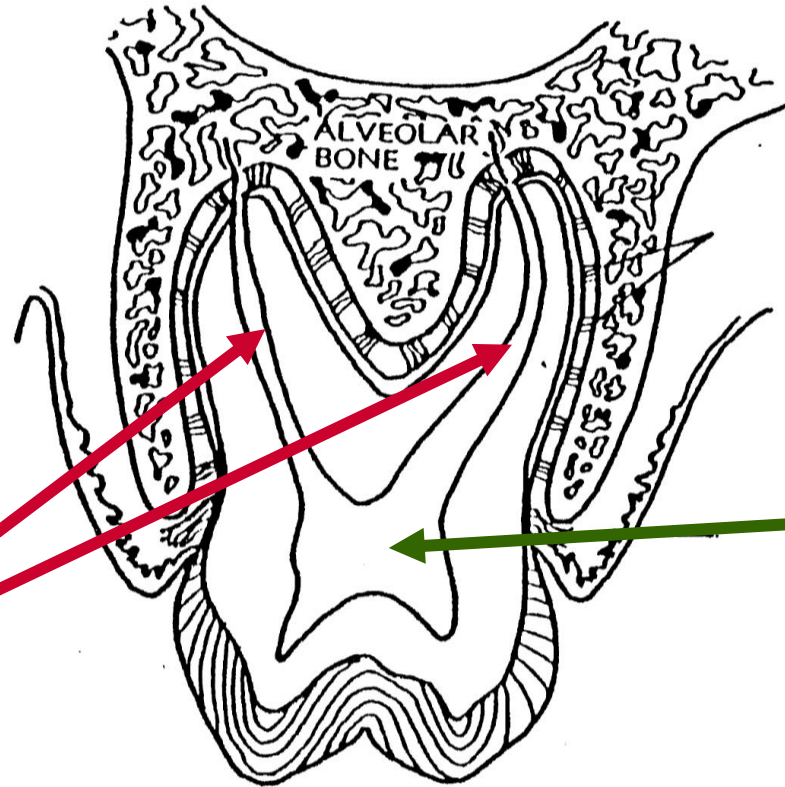


In the center of  
each tooth are  
the nerve and  
blood supply....  
called the PULP

The pulp has two  
Parts:

The Pulp  
Chamber

And the Pulp  
Canal



In the center of  
each tooth are  
the nerve and  
blood supply....  
called the PULP

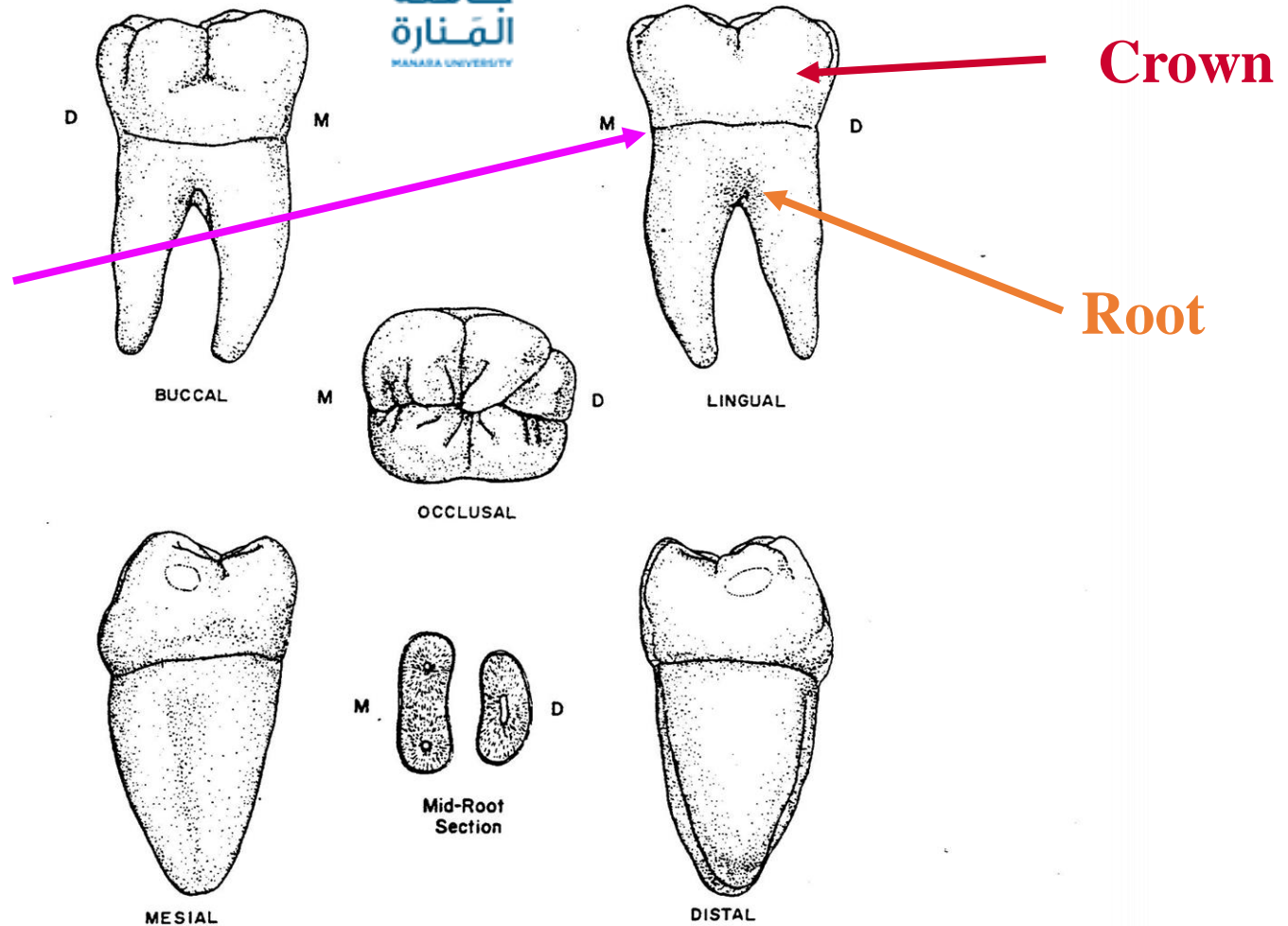
# Junctions Of Tooth Structure



Cemento-enamel Junction - also called the cervical line, separates the anatomic crown from the anatomic root.

A cross

**CEJ**  
Cementoenamel  
Junction



The **CEJ** separates the **Crown** from the **Root**.



**Periodontium:** The tissues that collectively surround and support the teeth.

Their main function is to support, protect, and provide ➤  
nourishment to the teeth.

The periodontium consists of: ➤

.1 Cementum

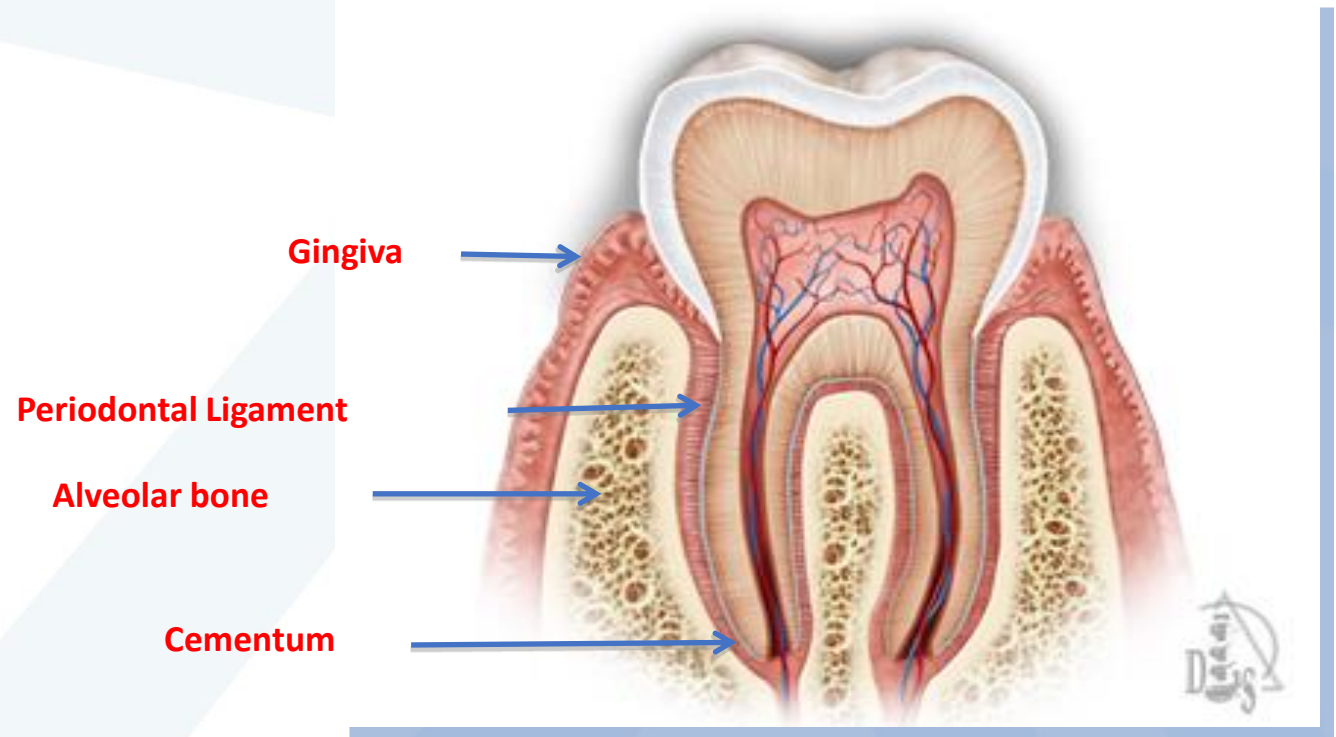
.2 Alveolar bone

.3 Gingiva

4- periodontal ligament •



# Dent





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## Tissues of the Teeth

Cementum: is the bonelike tissue that covers roots of the teeth in •  
a thin layer.

It is light yellow in color, slightly lighter than dentin. ➤

It is composed of approximately **55% *organic*** material and ➤  
**45% *inorganic*** material. (inorganic components are mainly  
calcium salts.

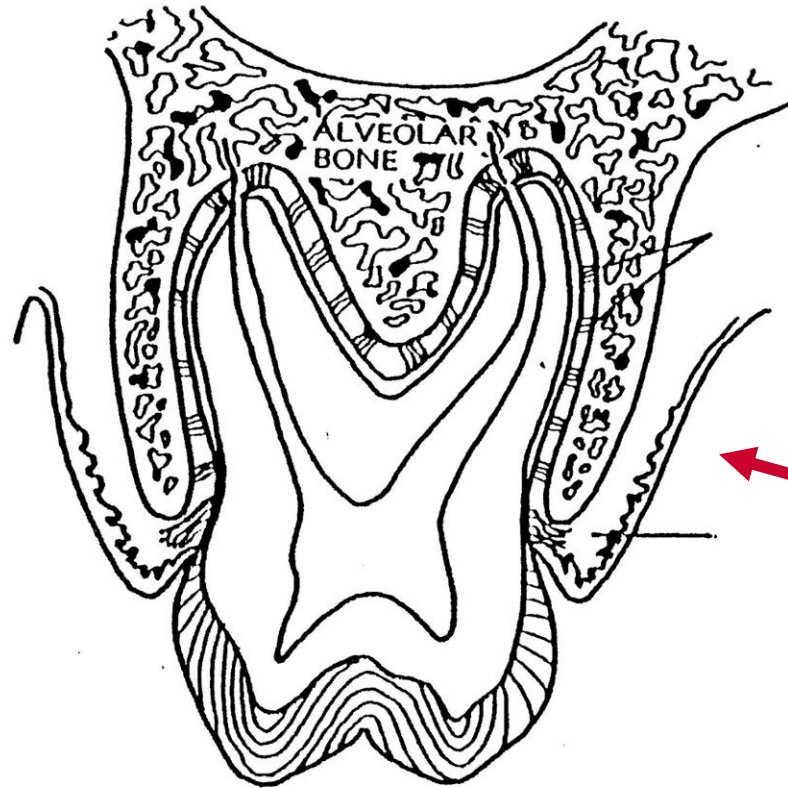


Joins enamel at the cementoenamel junction (CEJ). ➤

The main function of cementum is to anchor the teeth to the  
bony socket in the periodontium with attachment fibers. ➤

Formed continuously throughout the life of the tooth ➤

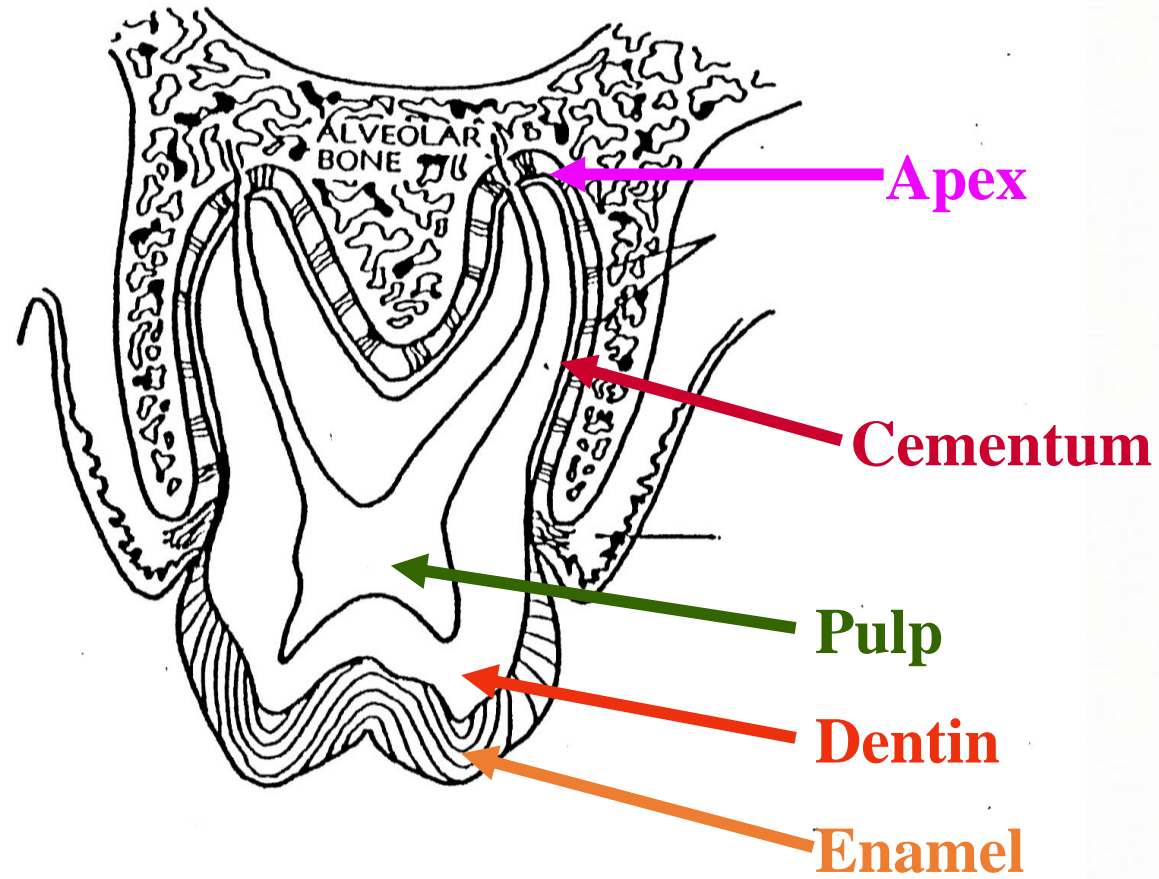




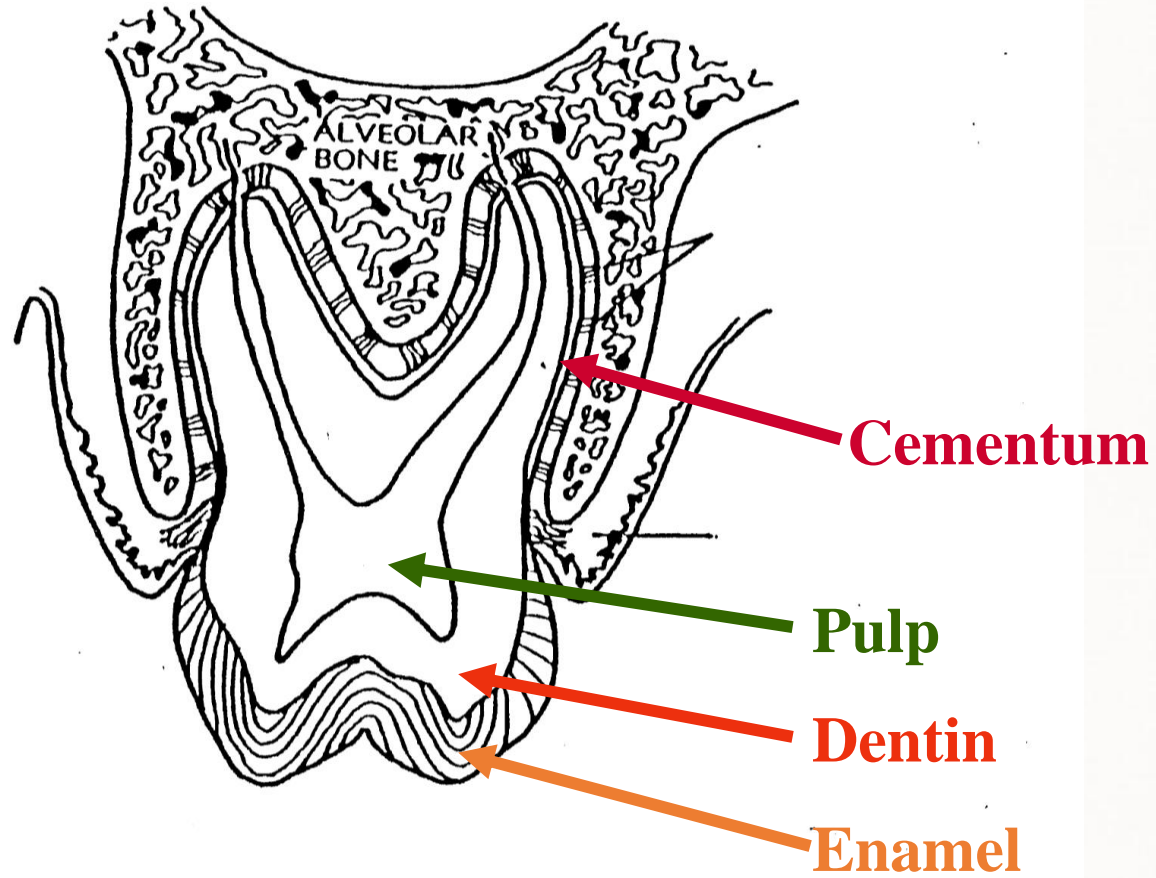
**Cementum**

**Cementum covers  
the root of a tooth**

A crc

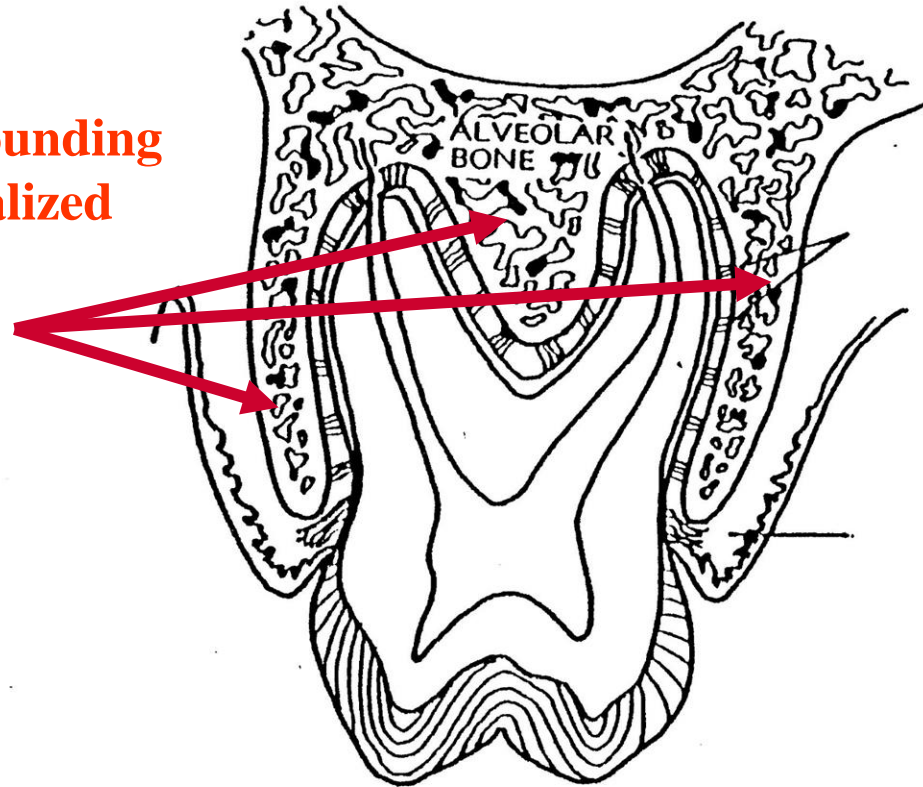


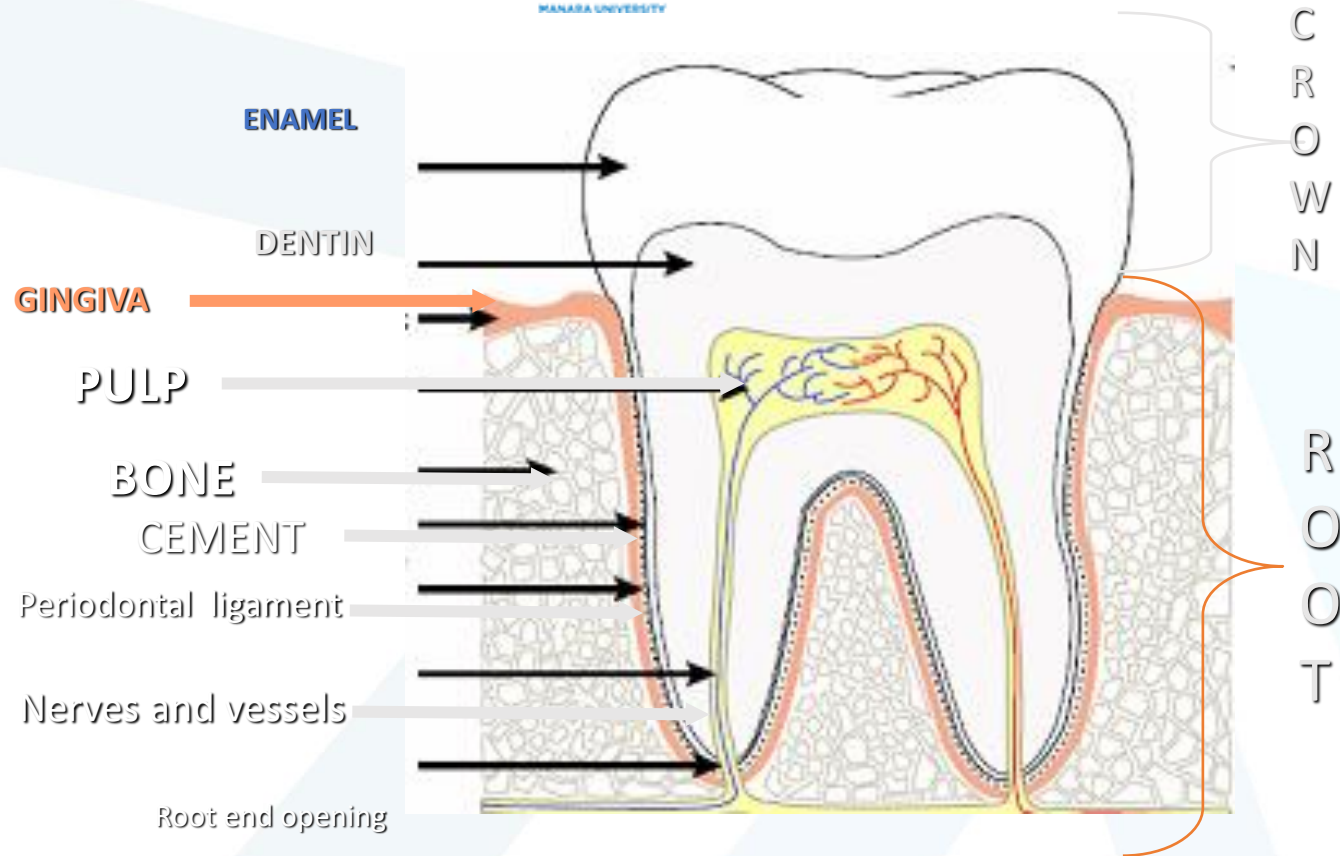
A crc



- ***Alveolar Process:*** The bony portion of the maxilla and mandible where the teeth are embedded.
- ***Periodontal Ligament:*** Connects the tooth to the bony socket.
- ***Gingiva:*** Encircles the necks of teeth to aid in the support of the teeth and protects the alveolar process and periodontal ligament from bacterial invasion.

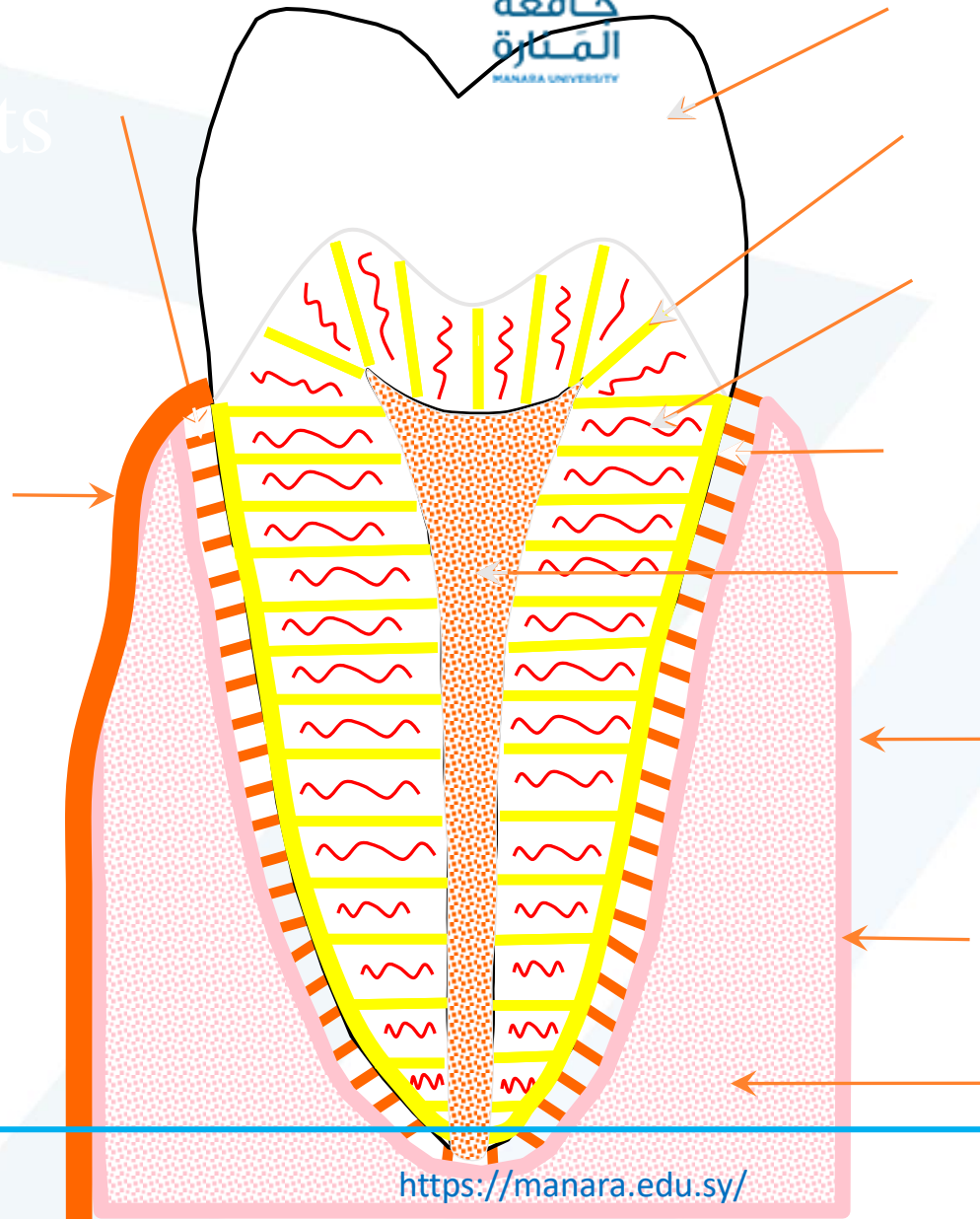
**The Bone surrounding  
a tooth is specialized  
Bone called  
Alveolar Bone**





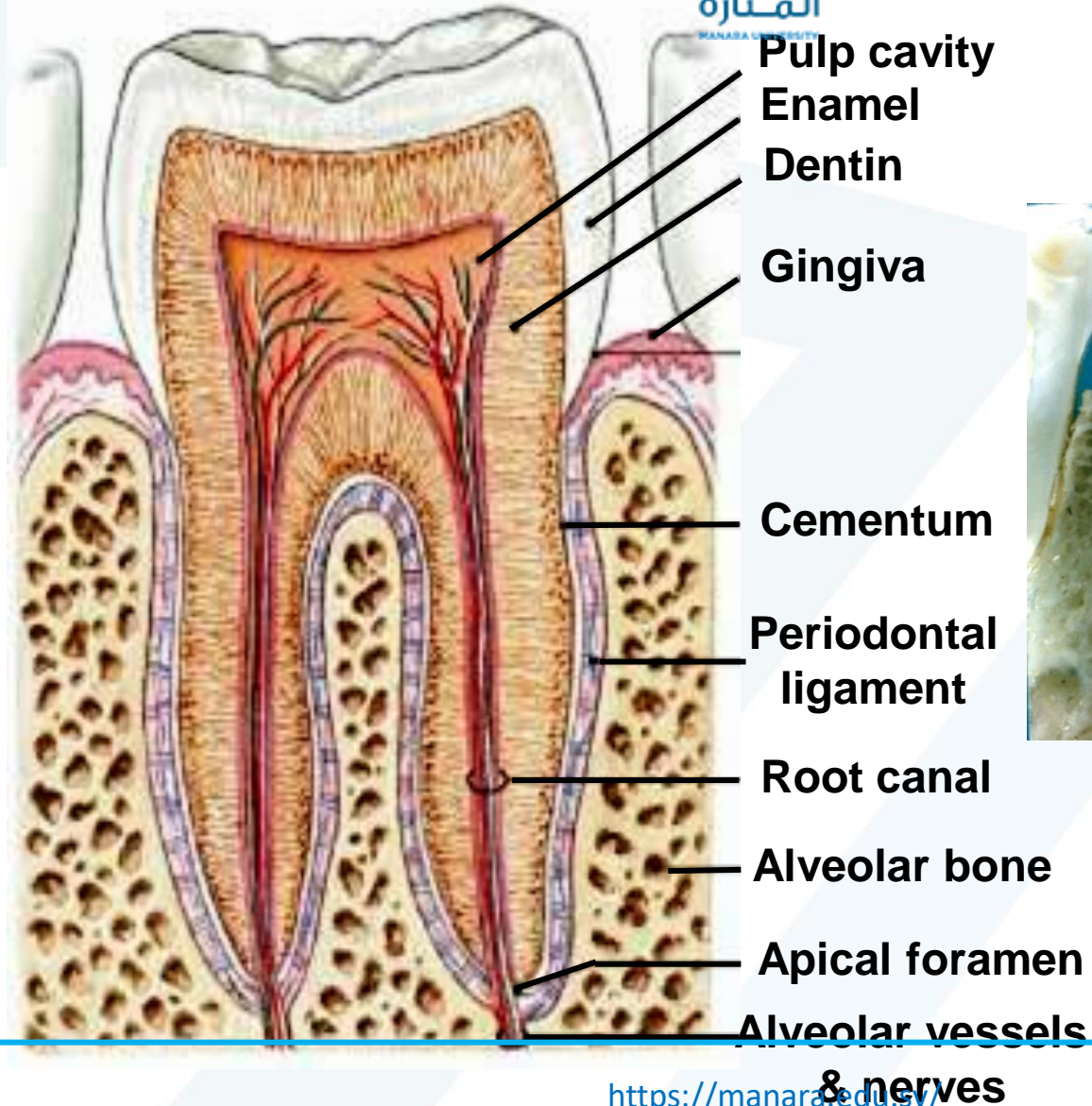


# Periodontal Ligaments



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# Tooth Surfaces

Occlusal surfaces: Posterior teeth

Incisal surfaces: Anterior teeth

Lingual surfaces

Buccal or facial surfaces

Proximal : Mesial surfaces & Distal surfaces

**Proximal: the surface of a tooth that is toward another tooth in the arch**

## Surfaces of the Teeth •

**Facial:** the surface of a tooth that faces towards the lips or •  
cheek. (*Where there is a requirement to be more specific, the  
term labial and buccal are used.*)

- Labial: facial surface of anterior teeth (toward the lips). •
- Buccal: facial surface of posterior teeth (toward the cheeks)

# Tooth Surfaces



***Labial Surface:*** Surface which is towards the lip ( in the anterior teeth ).

# Terminology Used To Distinguish Tooth Surfaces



Labial Surface - the facial surface next to the lips, generally used for anterior teeth

# Tooth Surfaces



***Buccal Surface:*** Surface which is towards the cheek ( in the posterior teeth ).

**Lingual:** the surface of a tooth that faces towards the tongue.



**Lingual Surface:** the surface which facing the tongue (all teeth).

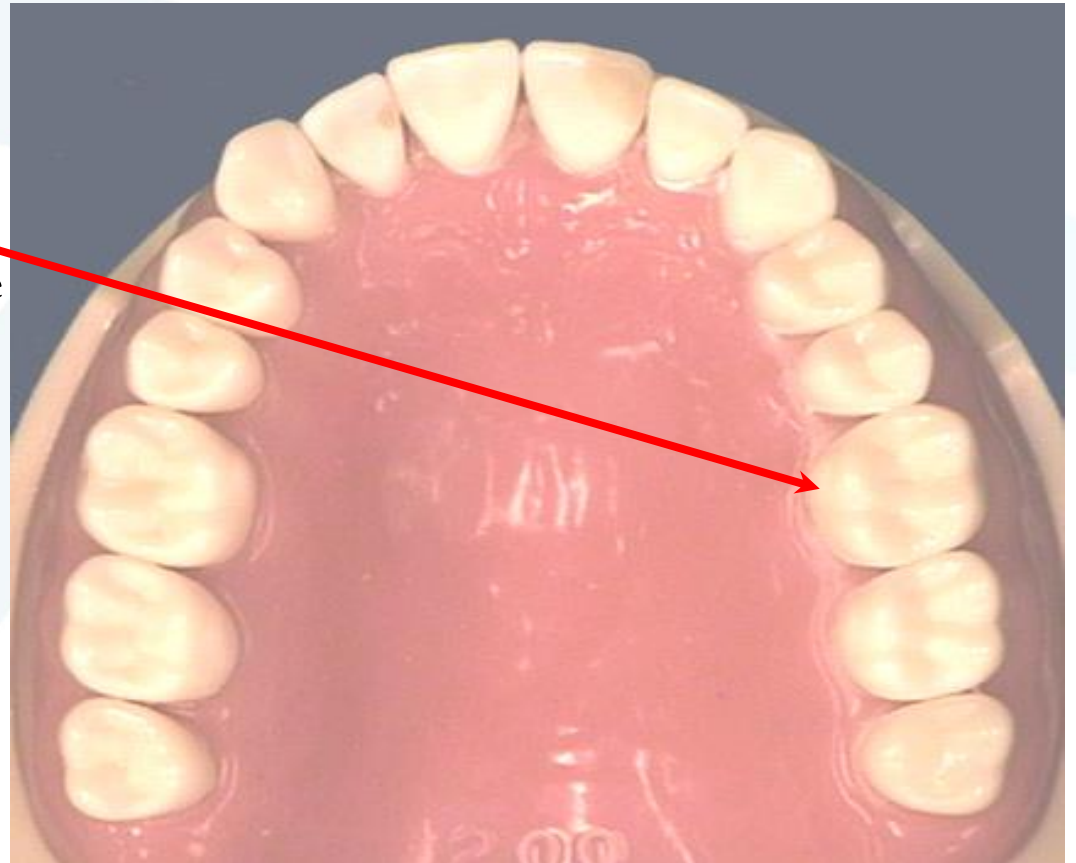
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**Prof- Saimeh**



# Terminology Used To Distinguish Tooth Surfaces

Palatal Surface –  
is the surface of maxillary teeth nearest the  
palate





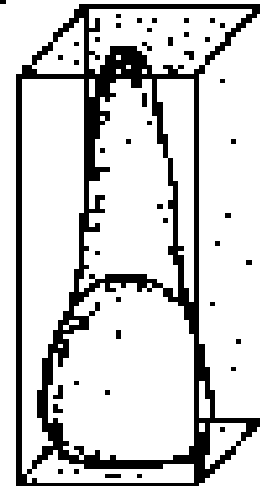
## Surfaces of the Teeth •

**Occlusal:** broad chewing surface found on posterior teeth (bicuspid and molars). •

Incisal: cutting edge of anterior teeth.

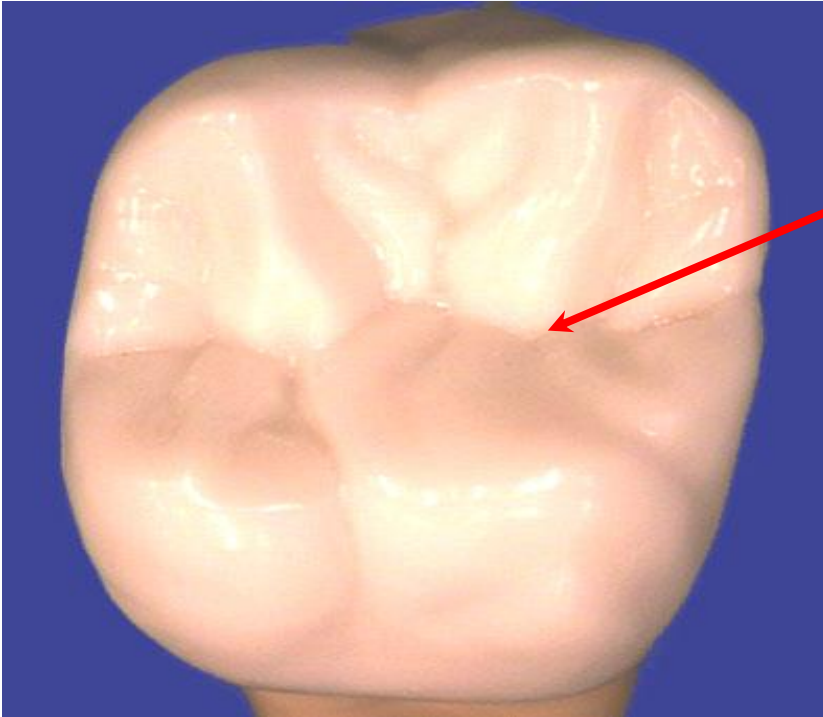
Apical: toward the apex, the tip of the root.

**Apical**



**Occlusal / Incisal**

# Terminology Used To Distinguish Tooth Surfaces



Occlusal Surface - is the chewing surface of the posterior teeth found within cusp and marginal ridges

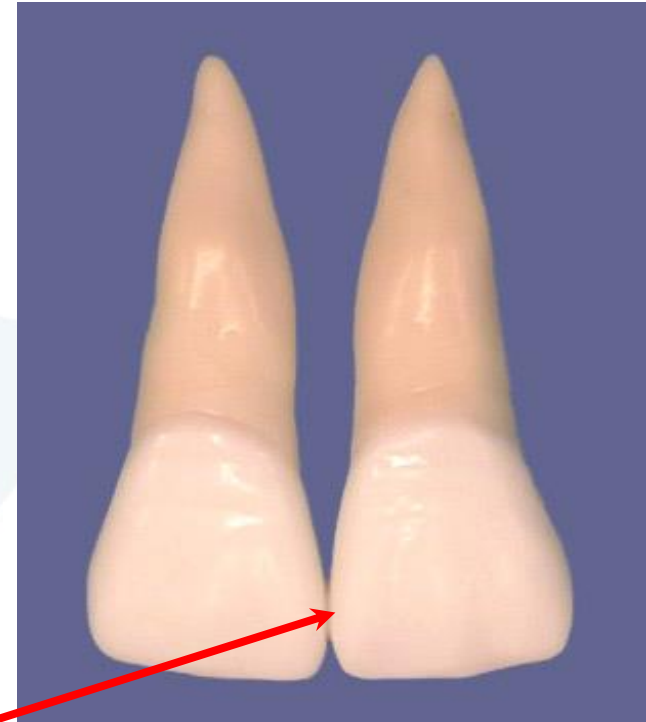
# TOOTH MORPHOLOGY

## Surfaces of the Teeth

**Proximal Surfaces:** A tooth has 2 proximal surfaces. ➤

**Mesial:** oriented toward the midline of the dental arch. ➤

**Distal:** oriented away from the midline of the arch. ➤



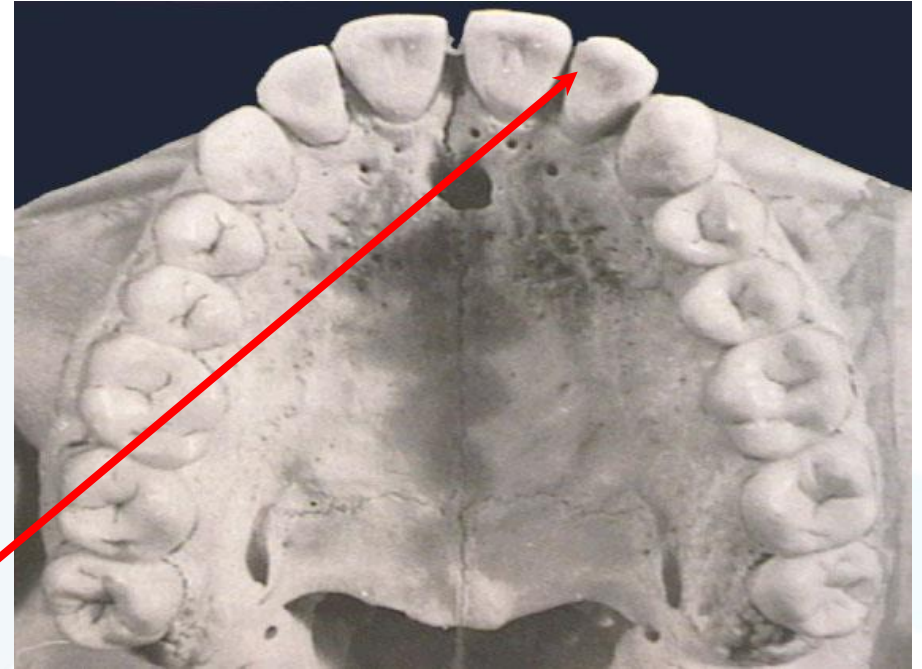
Proximal Surface - the surface or side of a tooth that is next to an adjacent tooth .

# Tooth Surfaces

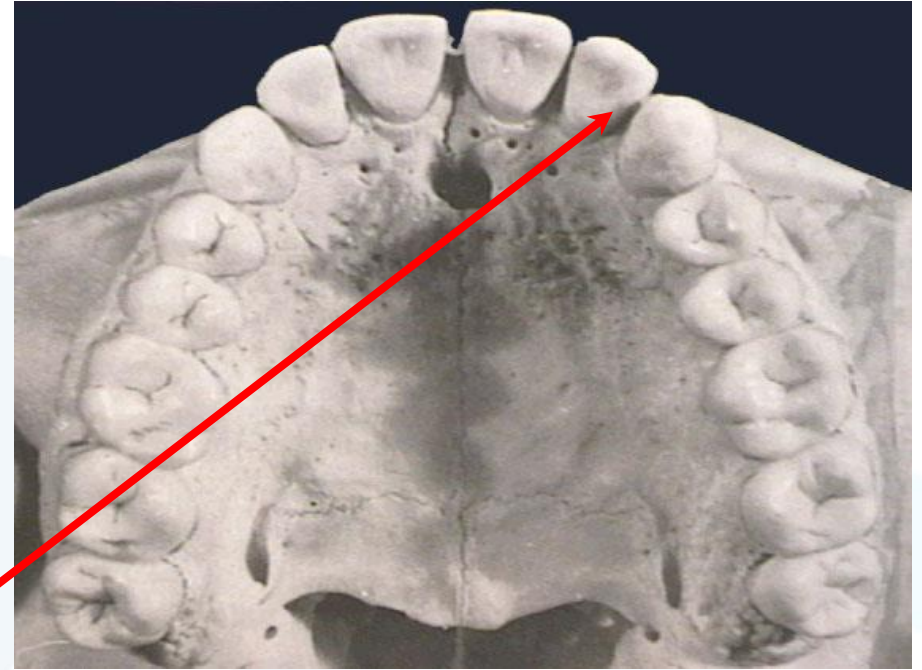


***Mesial Surface:*** it's the surface which is facing towards the midline.

***Distal Surface:*** it's the surface which is facing away from the midline.



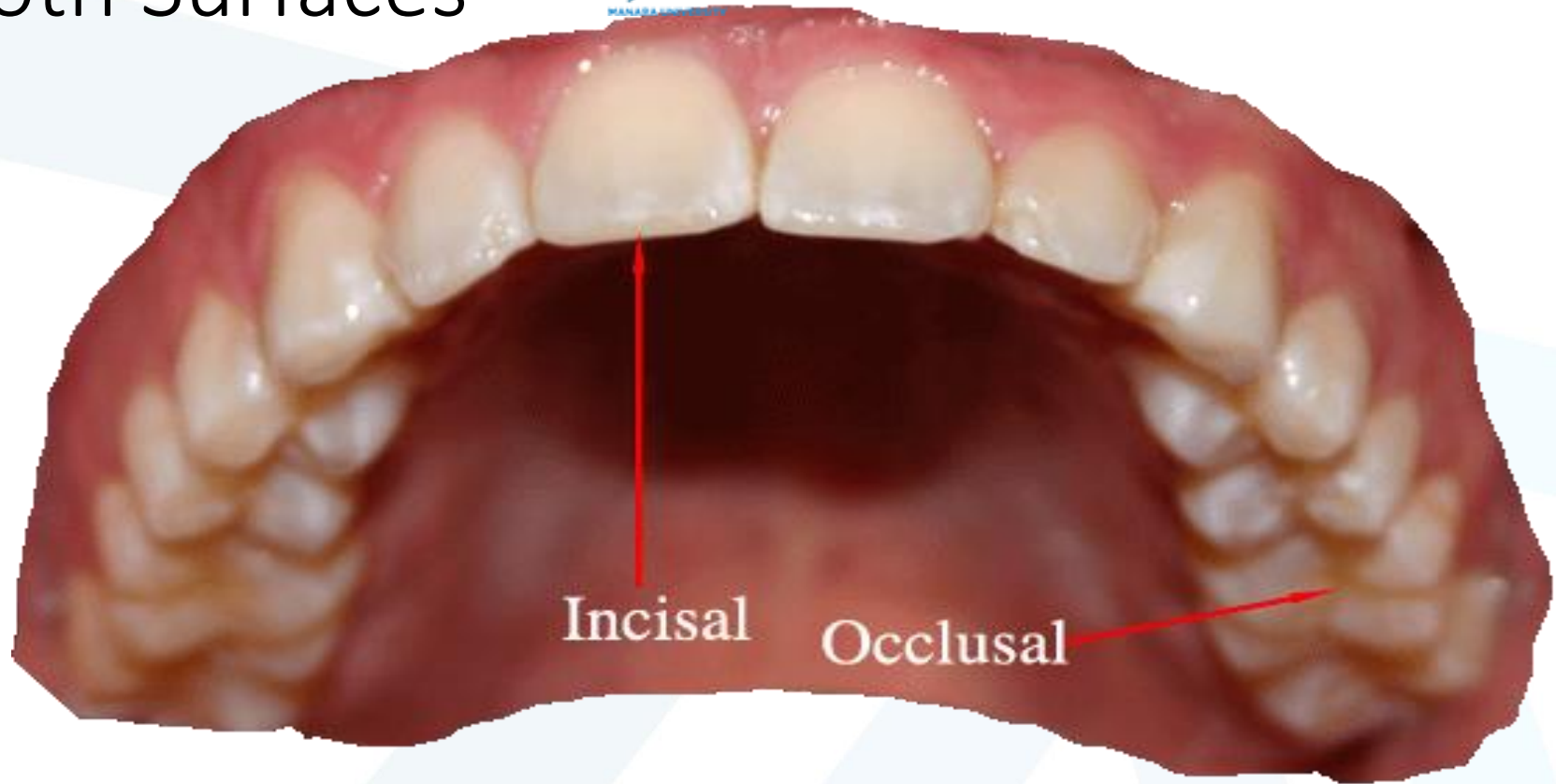
Mesial Surface - is the surface of the tooth nearest to the midline of the dental arch



Distal Surface - is the surface of the tooth farthest from the midline of the dental arch

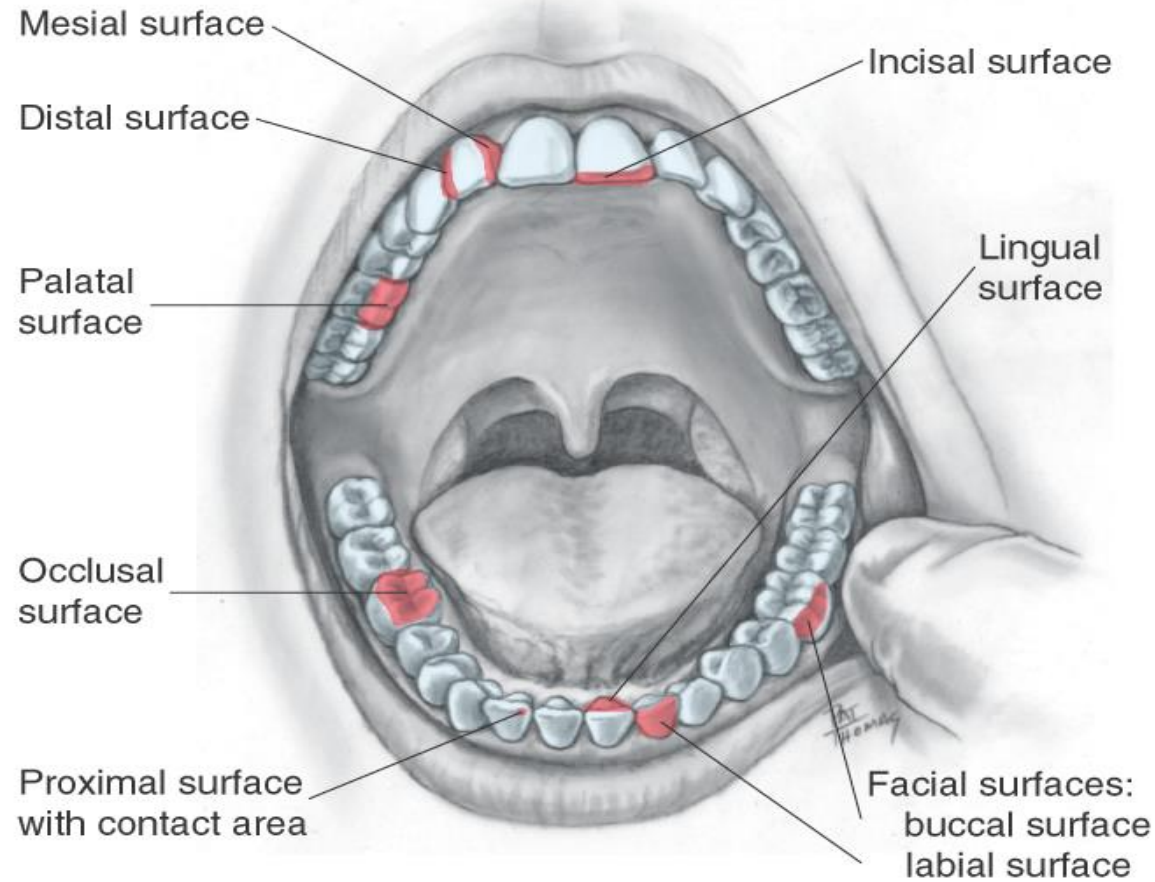


# Tooth Surfaces



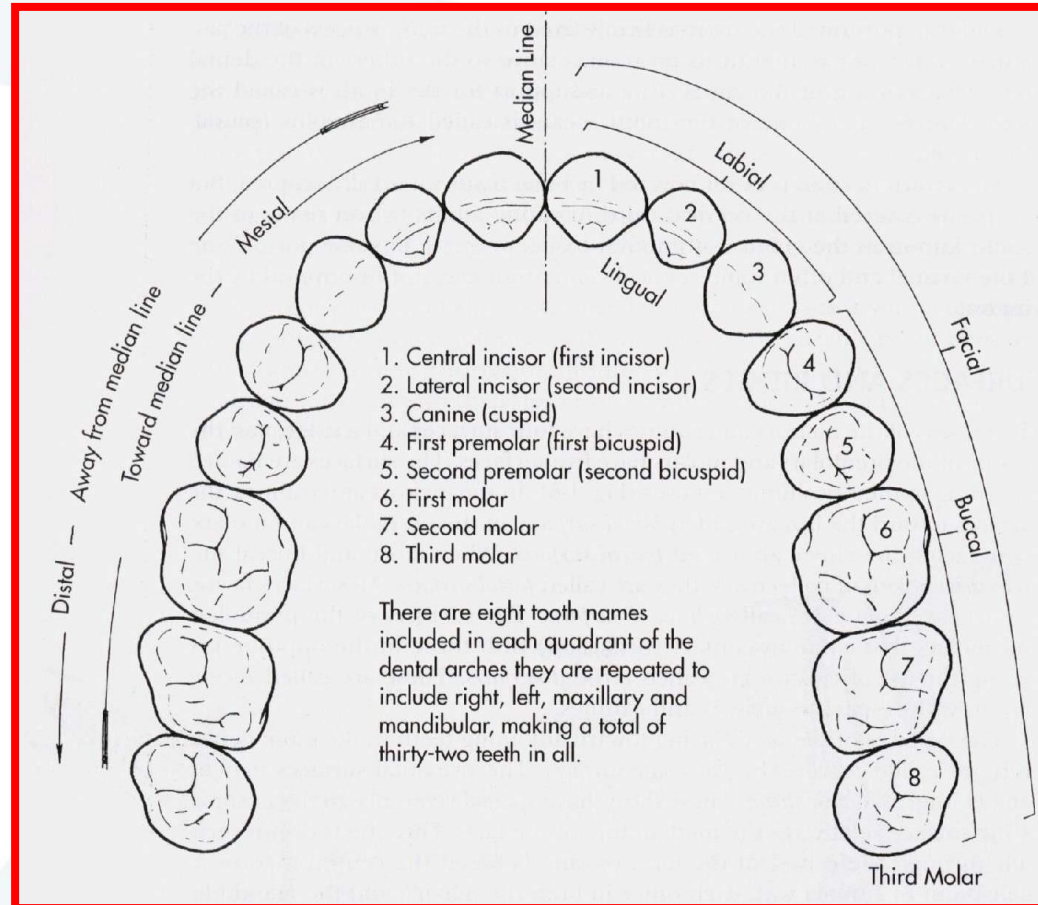
*Occlusal Surface*: the surface of the posterior teeth which contact the teeth in the opposite jaw (in the anterior teeth called Incisal ridge).

# Surfaces of the teeth.



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# Tooth Surfaces



**Occlusion** :is the relationship of the maxillary and mandibular teeth when the jaws are in a fully closed position.

# Dividing the Tooth into Thirds

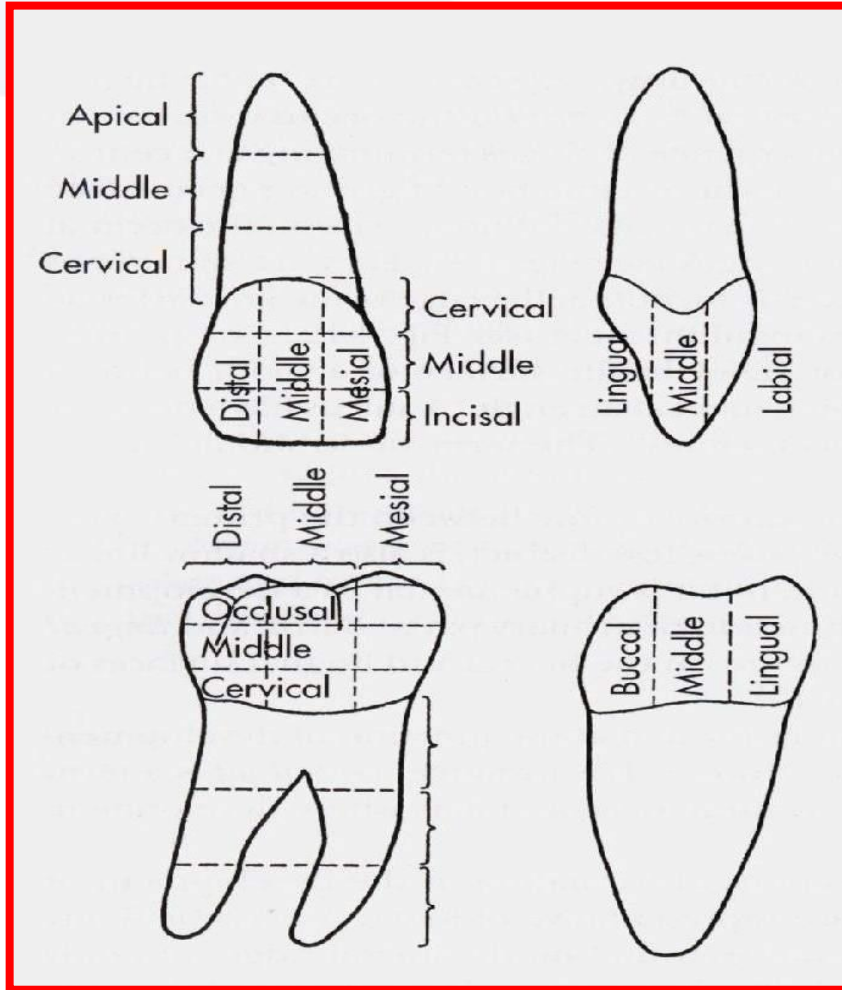
The root of the tooth is divided crosswise into thirds:

**Apical third** (nearest the tip of the root)

**Middle third**

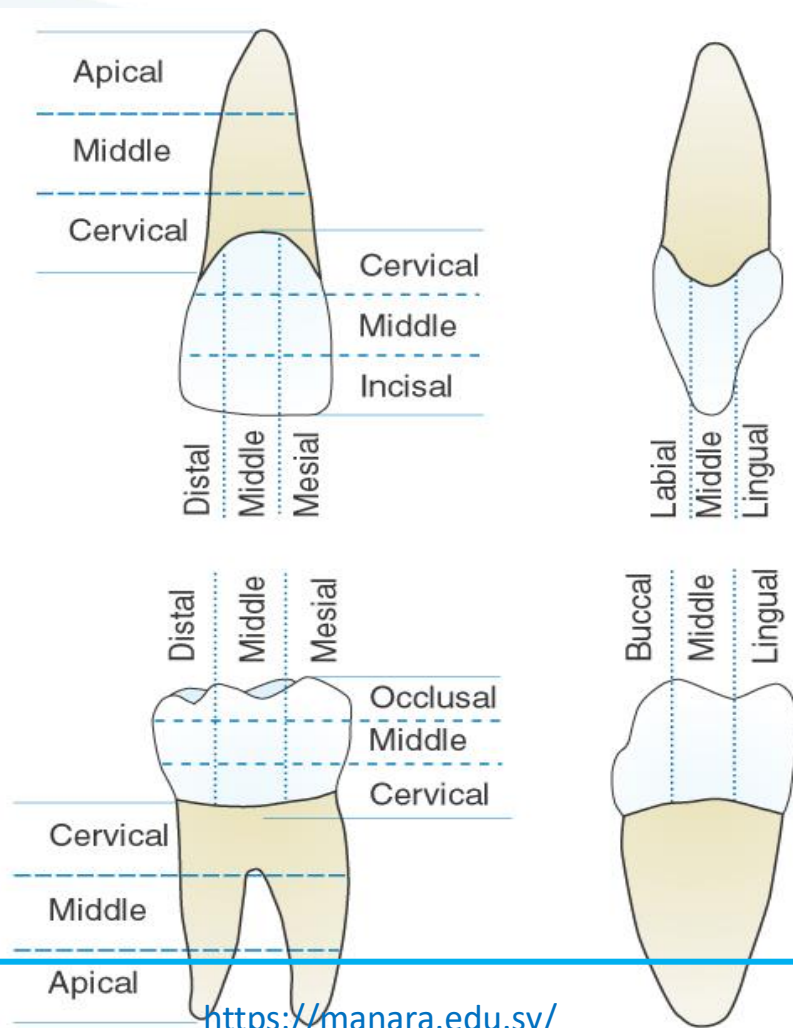
**Cervical third** (nearest the neck of the tooth)





- The crown is divided into an incisal or occlusal third, a middle third, a cervical third.
- It is also divided into Labial or buccal , middle, and lingual thirds. It is also divided into the mesial, middle, distal thirds.
- The root is divided into an cervical or coronal third, a middle third, and an apical third.

# Anterior and posterior teeth divided into crown and root thirds.



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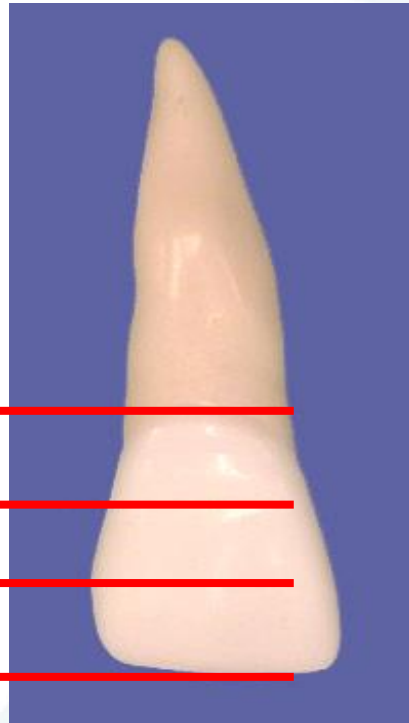
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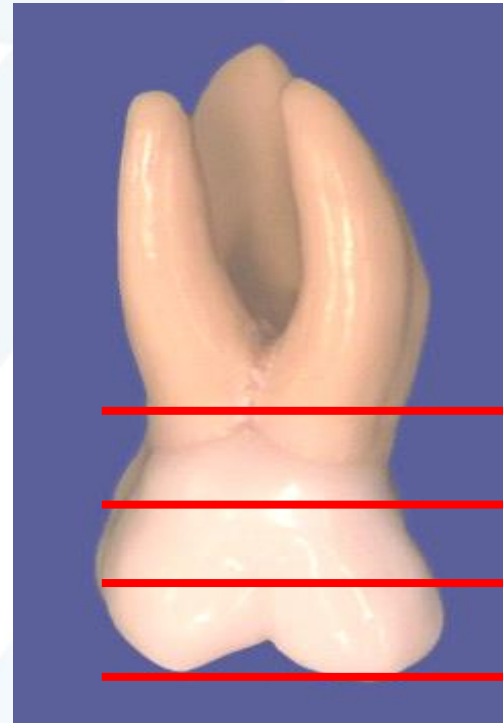
# Divisions Of The Crown And Root Of A Tooth

## Divisions Cervico-occlusally

Cervical 3rd  
Middle 3rd  
Incisal 3rd



Cervical 3rd  
Middle 3rd  
Occlusal 3rd



Anterior

# Divisions Of The Crown Of A Tooth



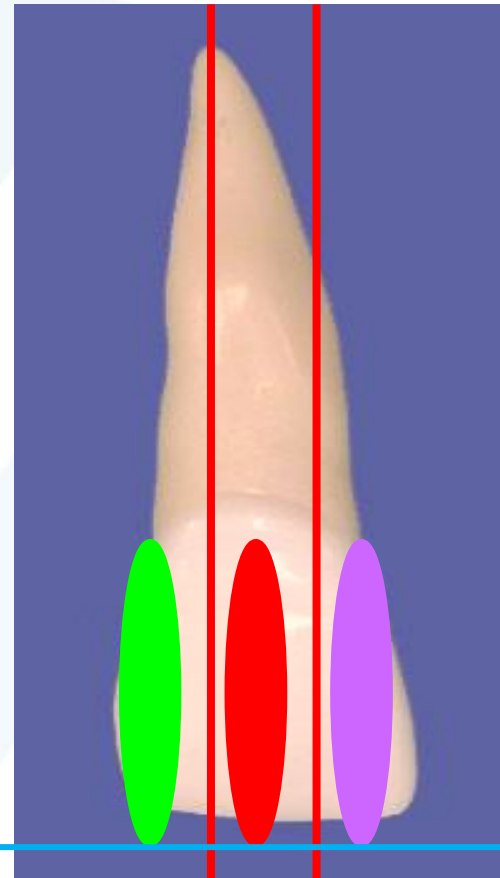
## Divisions Mesiodistally



Distal 3rd

Middle 3rd

Mesial 3rd



# Divisions Of The Crown Of A Tooth

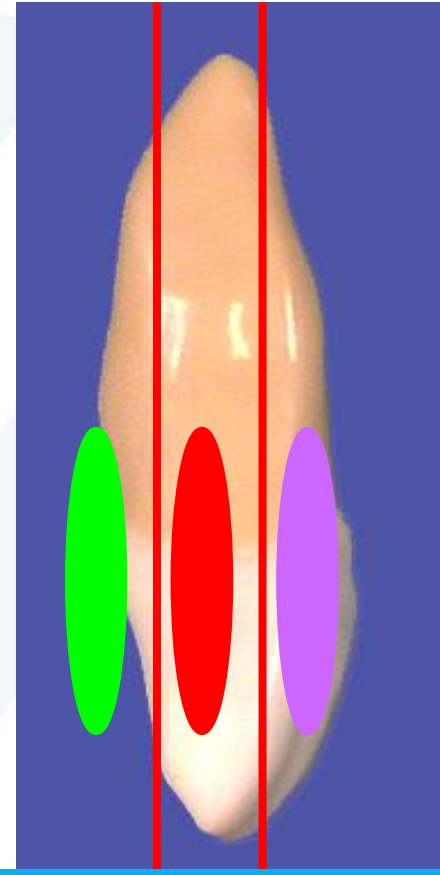
Divisions Faciolingually



Lingual 3rd

Middle 3rd

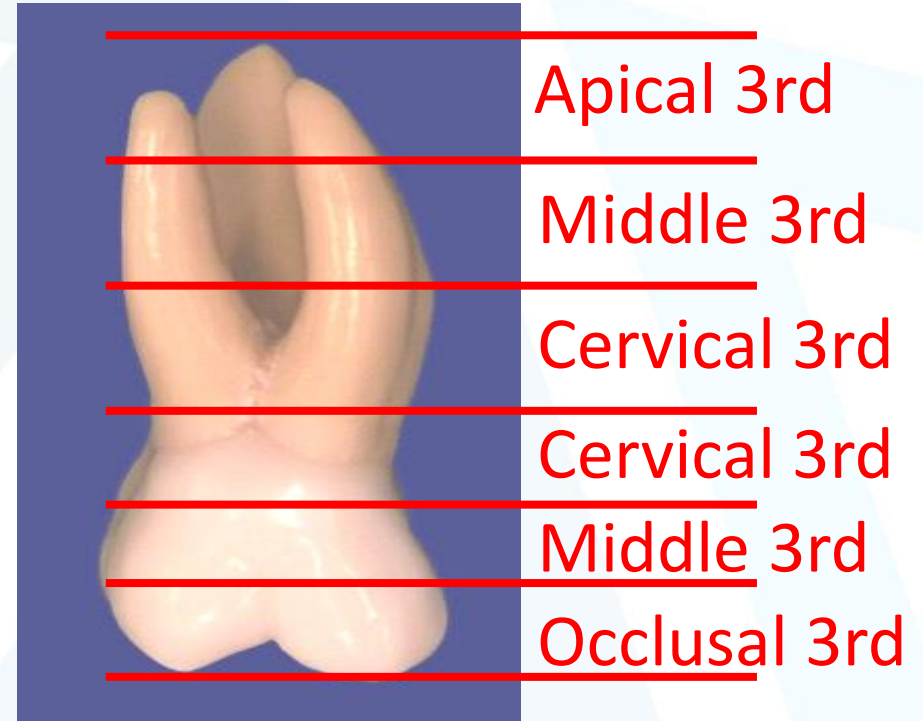
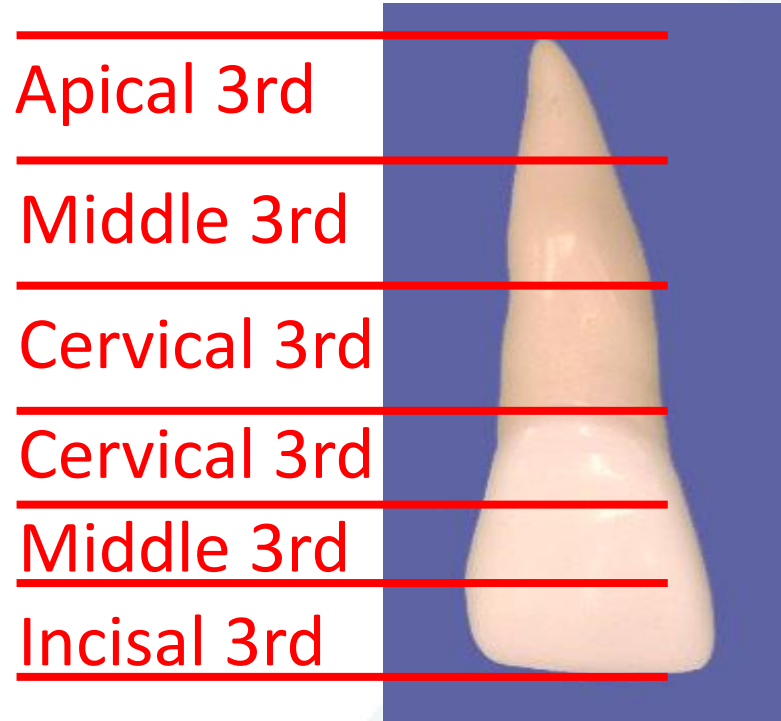
Facial 3rd





# Divisions Of The Crown And Root Of A Tooth

## Divisions Cervico-occlusally



# Line Angles

An **angle** is the junction of two or more surfaces of a tooth.

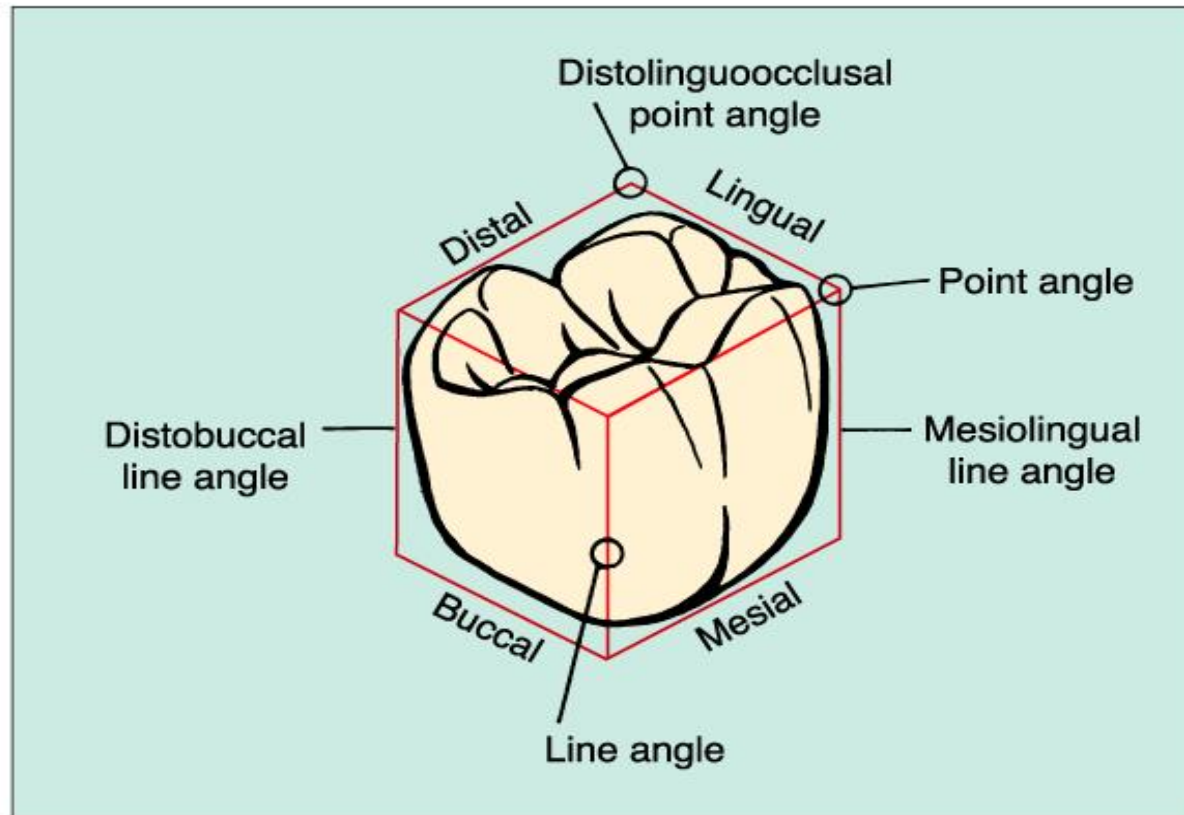
A **line angle** is that angle formed by the junction of *two* surfaces of a tooth crown along an imaginary line.

A **point angle** is that angle formed by the junction of *three* surfaces at one point.



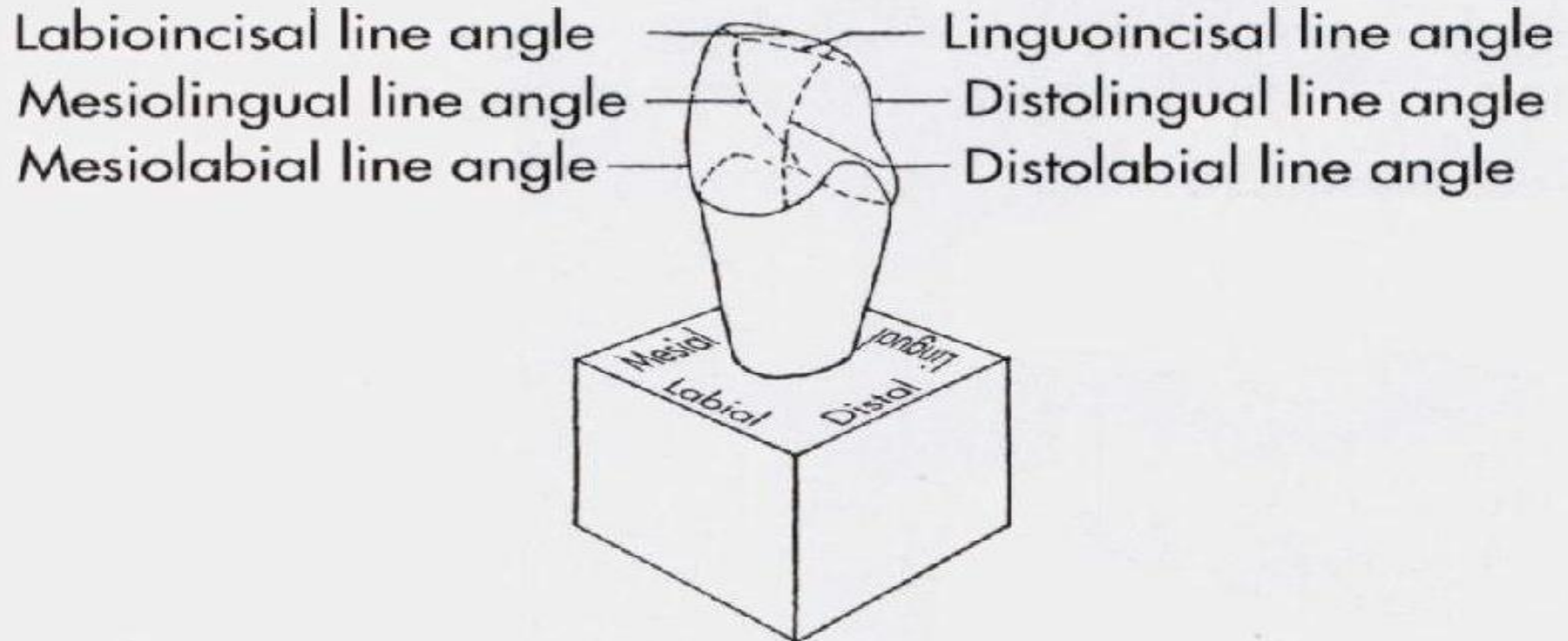
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# Line angles and point angles



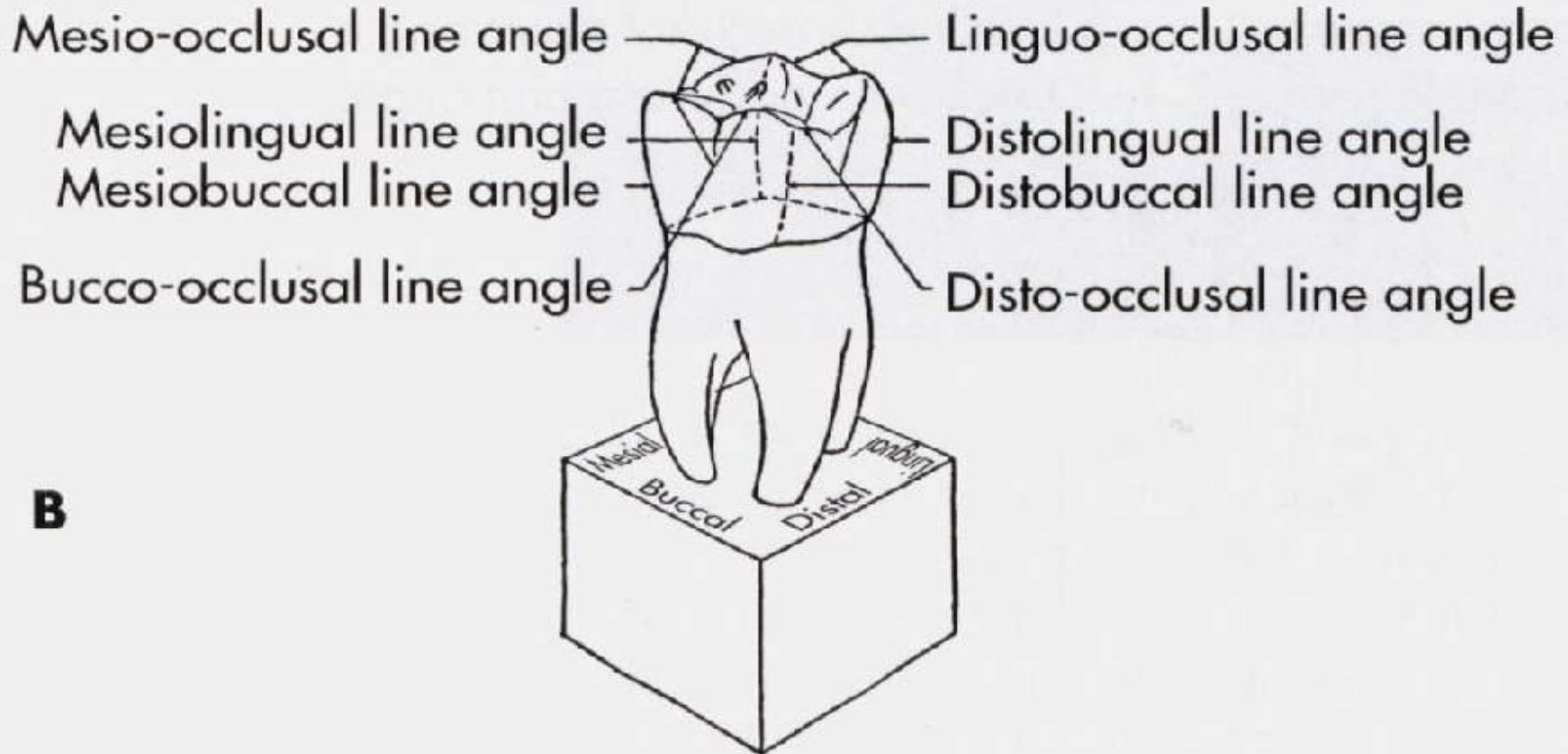
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# The Line angles of anterior teeth



**A**

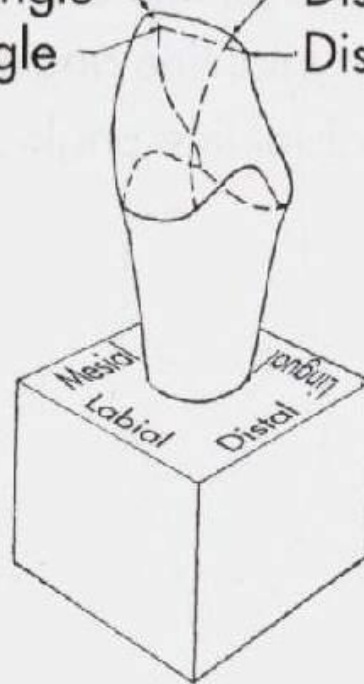
# The Line angles of Posterior teeth





# The point angles of anterior teeth

Mesiolabioincisal point angle  
Mesiolinguoincisal point angle  
Distolabioincisal point angle  
Distolinguoincisal point angle



# The point angles of Posterior teeth

Mesiolinguo-occlusal point angle  
Mesiobucco-occlusal point angle  
Distolinguo-occlusal point angle  
Distobucco-occlusal point angle

