

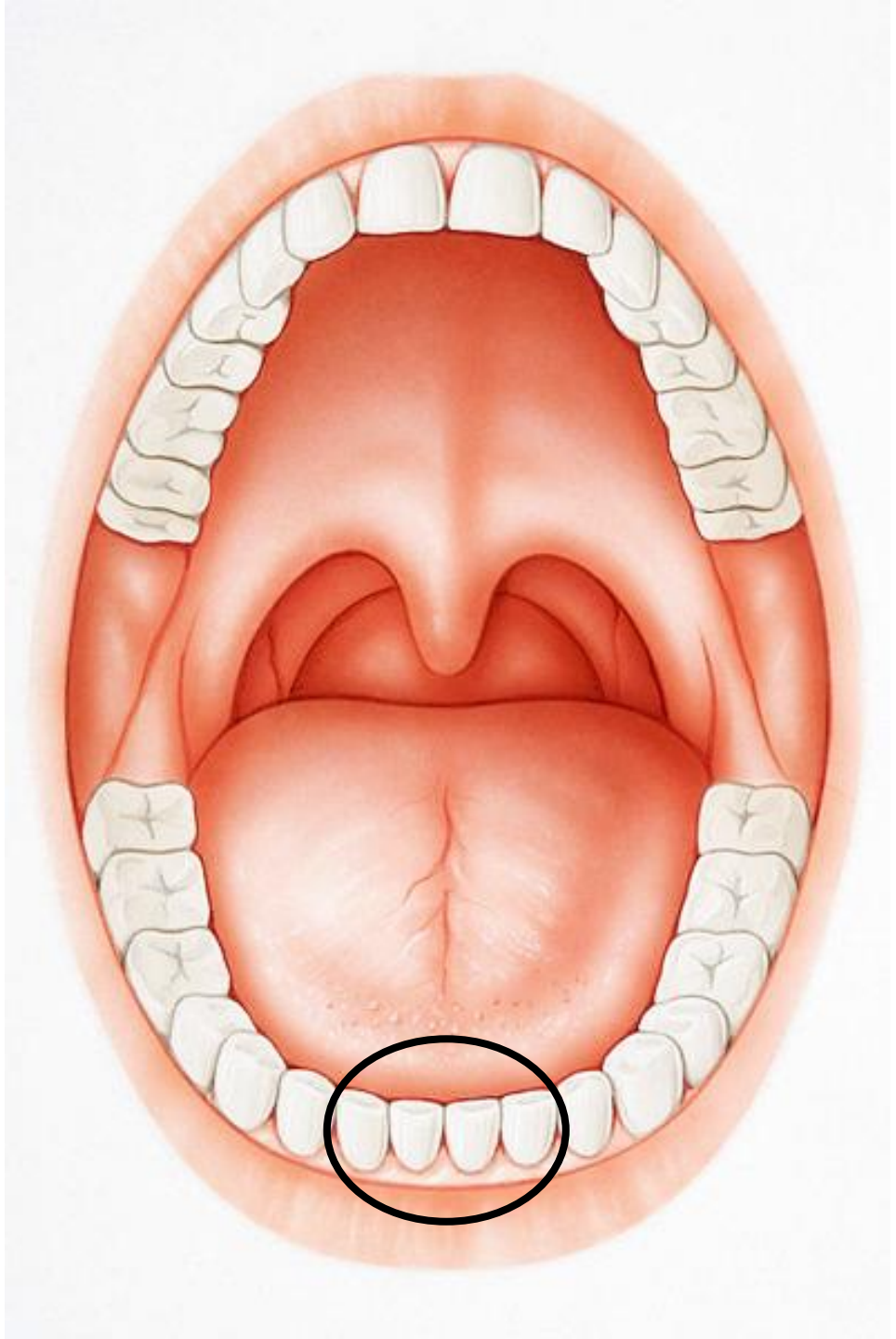
Permanent Mandibular Incisors

By

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Permanent Mandibular Incisors

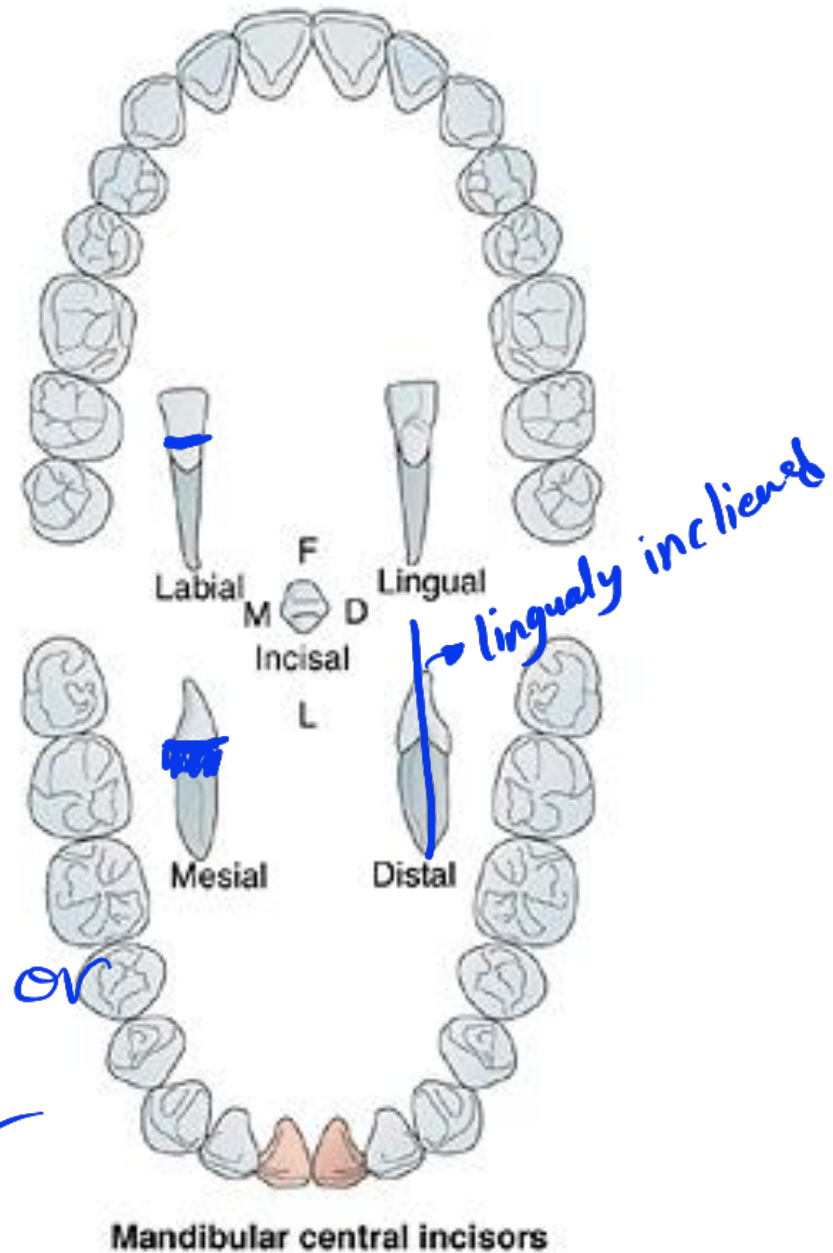
- They are **4 in number**. The L.central is the 1st mandibular tooth from midline
- They are **smaller** than upper incisors.
- They have **smaller mesio-distal** dimension than any of the other teeth.
- L.Central is **smaller** than I.lateral (reverse situation in upper incisors)

- ✱ L. incisors width < thickness
- L. incisors landmarks less developed than upper incisors
- Their crowns have **Lingual inclination** when they viewed from the proximal surface



P. Mandibular Central Incisor

لو رتبت لا حنان من الاكثر وضوحاً
للأقل حسب (landmark)
upper lateral > upper incisor
> lower incisor



اول indicator نشوفه هوا اى اسنان يتطلع

Chronology

First evidence of calcification

3-4 m

Enamel completed

4-5 y

Eruption

6-7 y

Root completed

9 y

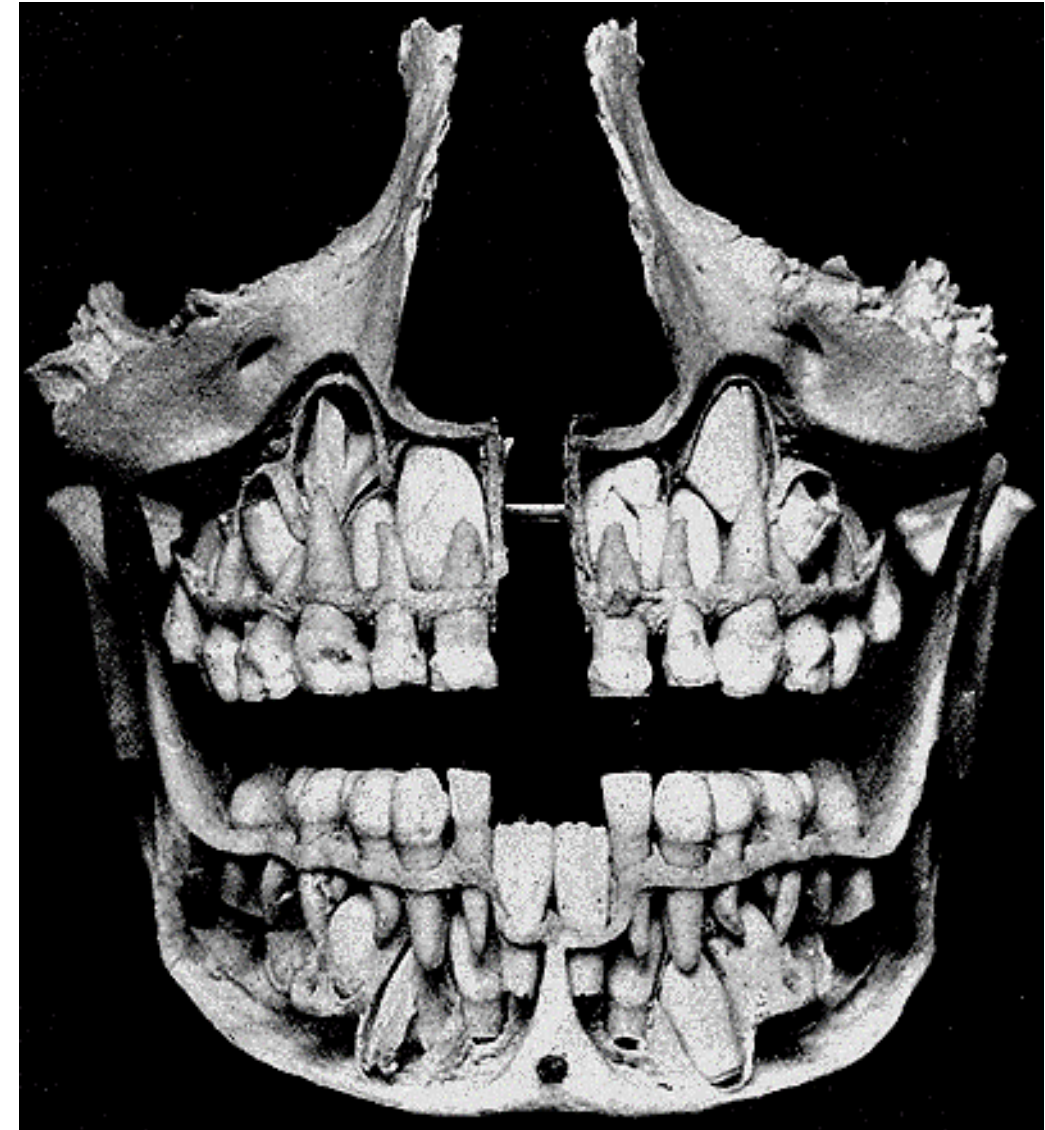
3
3
x3

Type and function

incising food as well as esthetic.

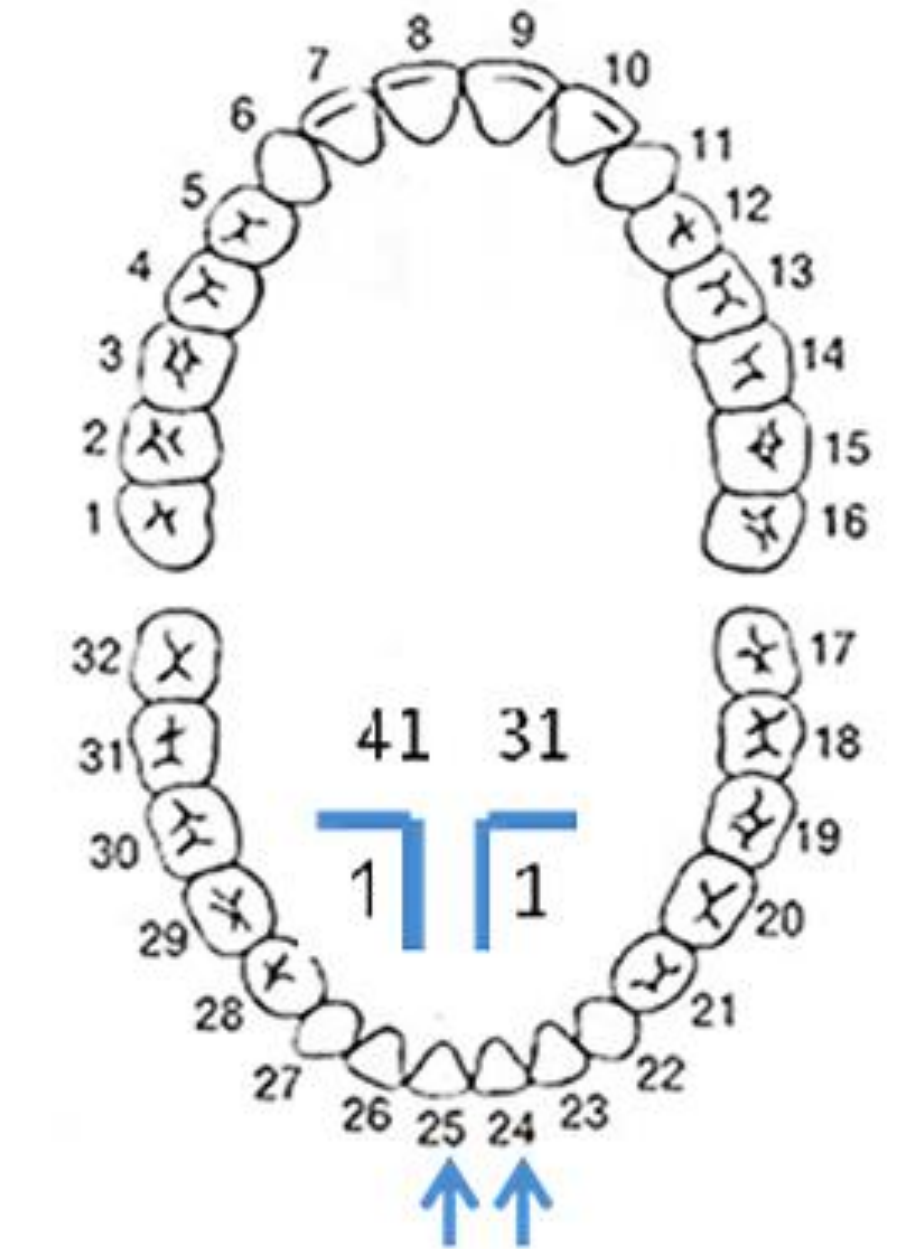
No. of lobes

It has 4 lobes (3 mamelons and 1 cingulum)



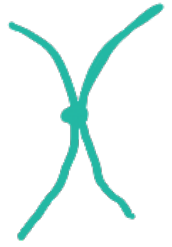
- Numbering system**

	Mandibular right central incisor	Mandibular left central incisor
universal system	# 25	# 24
two-digit system	41	31
Palmer notation system	<div><div></div>1</div>	<div><div></div>1</div>

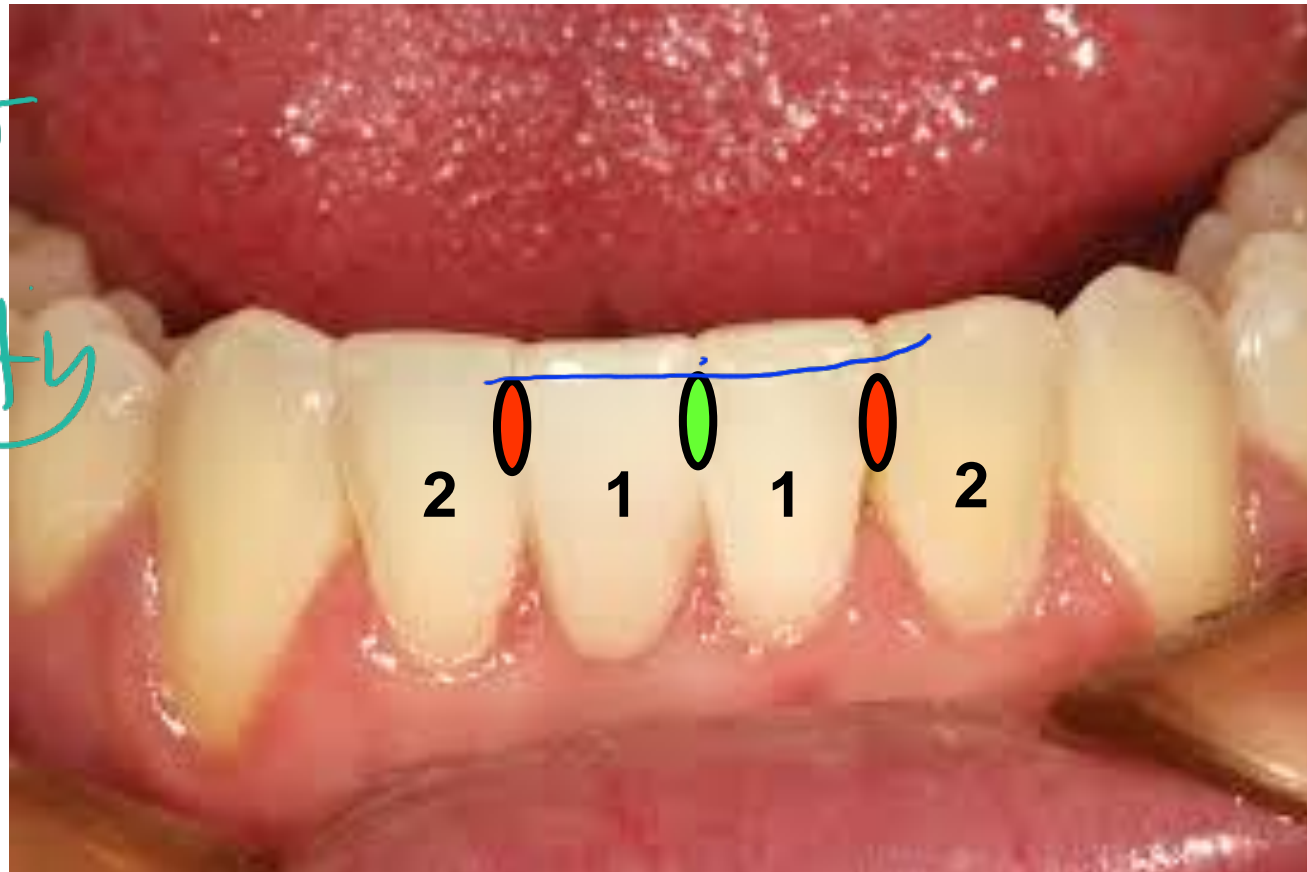


Relation

The two central incisors make contact **mesially** with each other and **distally** with the mesial surface of the lateral incisor.



contact point
to
max convexity



No. of surfaces

4 surfaces & incisal aspect.



Labial



Lingual



Mesial



Distal

No. of roots

one root.

Incisal



Labial aspect

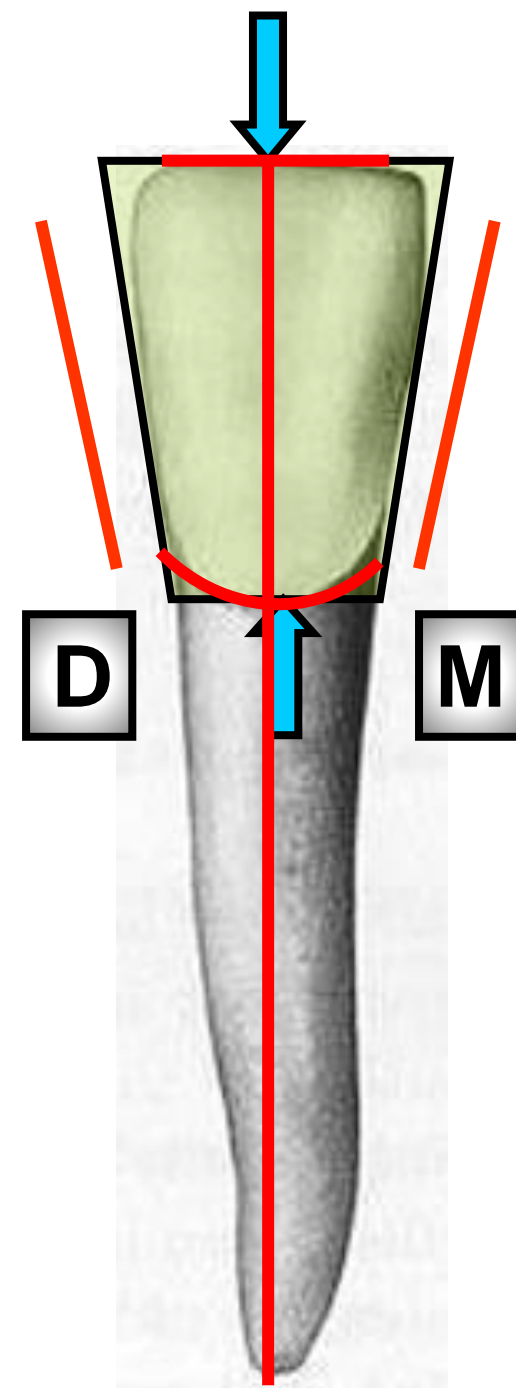
Geometrical outline of the crown:

Trapezoid.

- The short side cervically.
- The long side incisally.

The outline:

- Mesial and distal outlines are **straight**.
- Incisal outline is **straight** and perpendicular to the long axis of the tooth.
- The cervical line is convex root-wards.



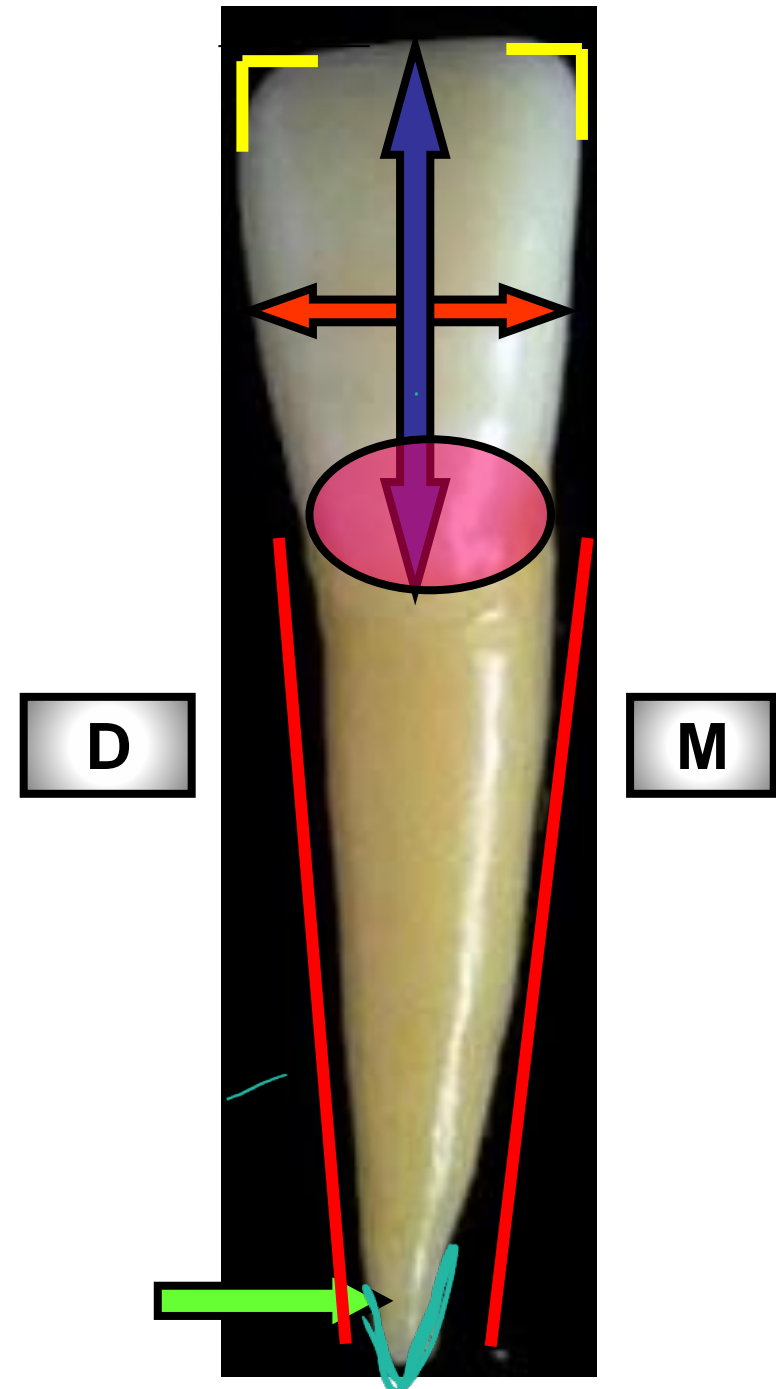
- The **mesio and disto-incisal** angles are sharpe .

Surface anatomy:

- The surface is convex both **mesiodistally** and **inciso-cervically**.
- elevation: cervical ridge

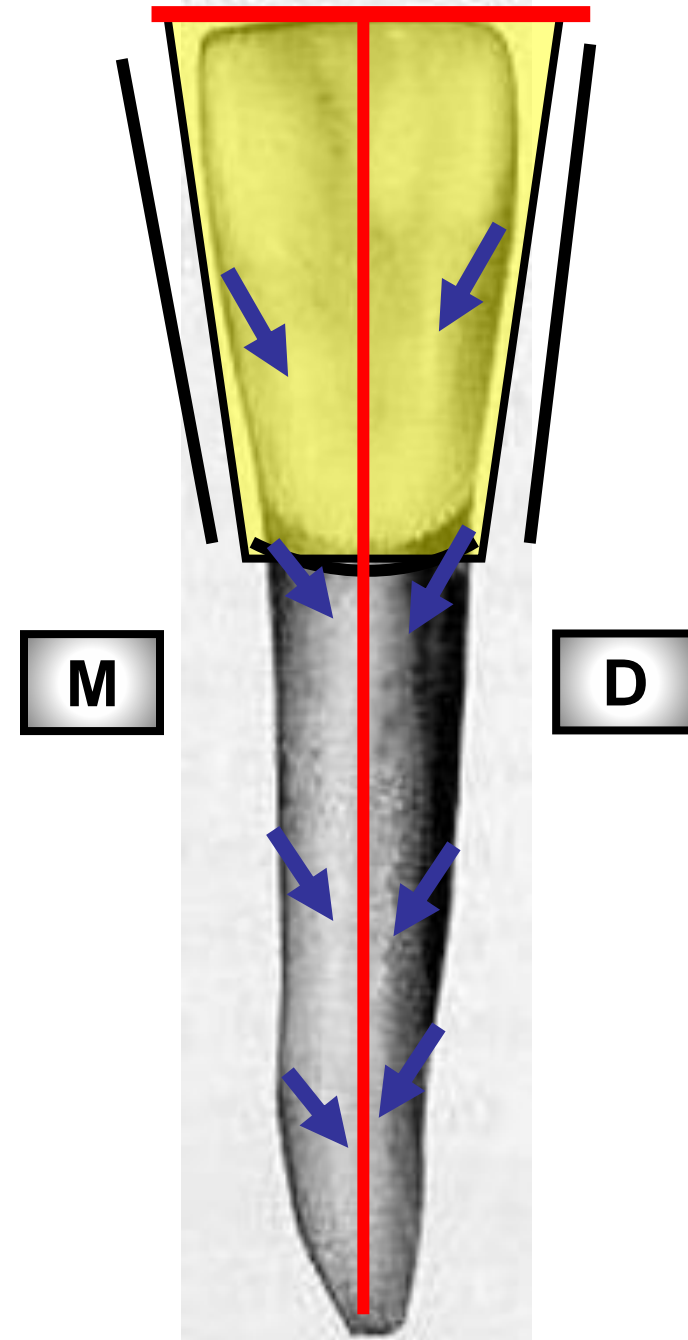
The root:

- It has a single root.
- It tapers evenly to apical 1/3 , then curve distally (or straight) with a pointed apex.



Lingual aspect

- It has the same geometrical outline and outline as the labial surface.
- The mesial and distal sides of the crown and root **converge lingually** (the lingual surface is narrower than the labial surface).
- This convergence to accommodate with the horseshoe shaped of the alveolar process.



Surface anatomy:

The elevations:

1- The cingulum (present at cervical 1/3).

2- ridges.

- Mesial marginal ridge.
- Distal marginal ridge.
- Incisal ridge.

The depressions:

- The lingual fossa (it lies between the previous elevations).

N.B All elevations and depression are poorly developed than the upper incisors.



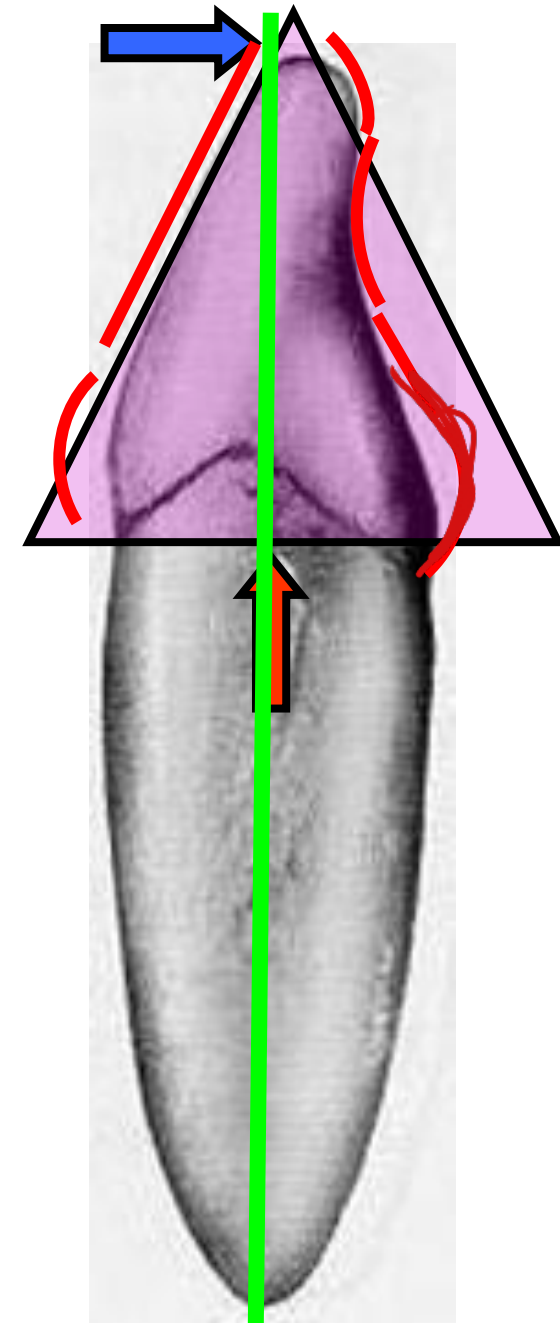
Mesial aspect

Geometrical outline of the crown:

- Triangular; the base **cervically** and the apex **incisally**.
- The incisal ridge is lingual to a line that bisects the center of the root.

The outline:

- **The labial outline** is convex at cervical 1/3 (cervical ridge).
- Then become straight to the incisal ridge.
- **The lingual outline** is convex at cervical 1/3 (cingulum).
- Then straight to concave at the lingual fossa.
- Then slightly convex for the incisal ridge.



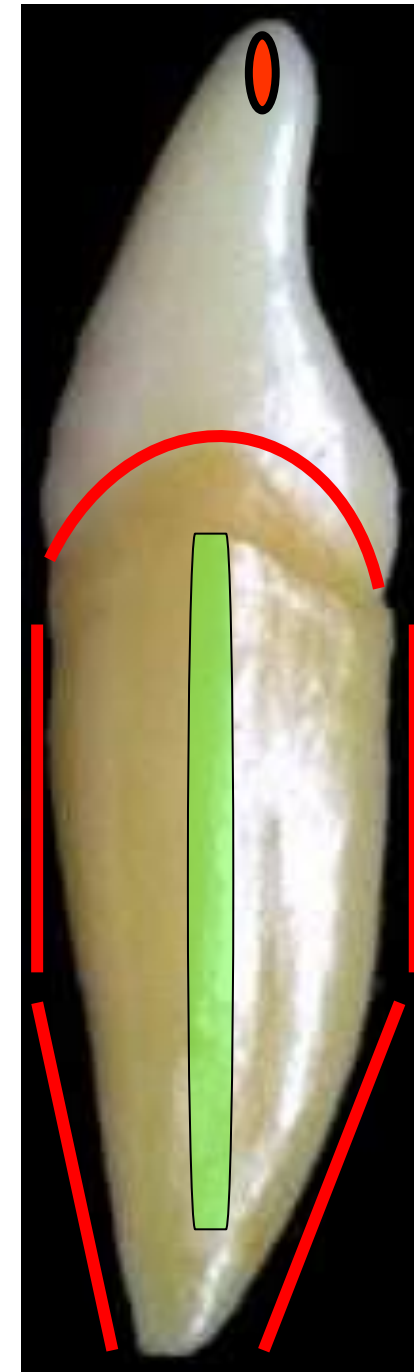
- The mesial cervical line is convex incisally.

Surface anatomy:

- The mesial surface is convex with the maximum convexity near the incisal ridge (the contact area).

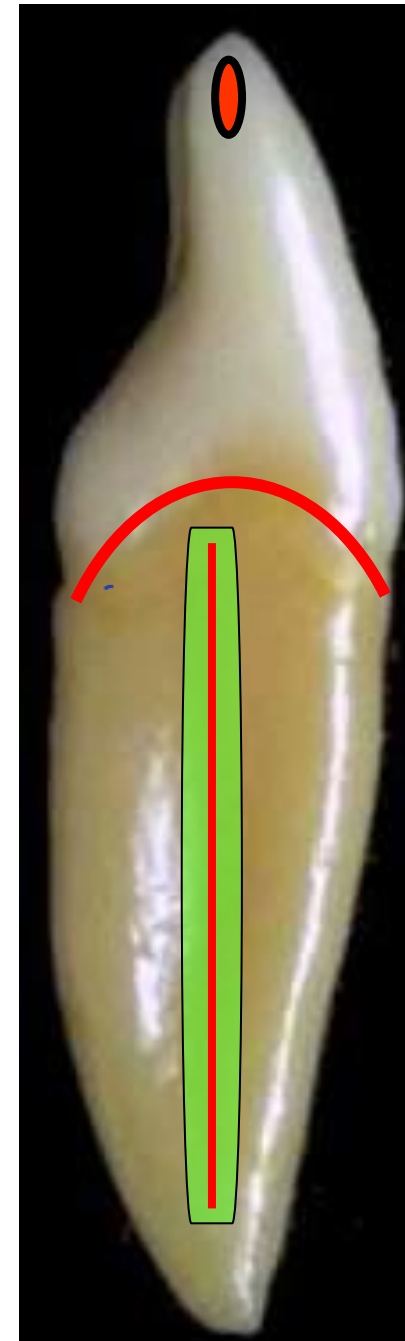
The root:

- The root outline is straight labially and lingually.
- It tapers in the middle third to a blunted or rounded apex.
- The root has a broad developmental depression.



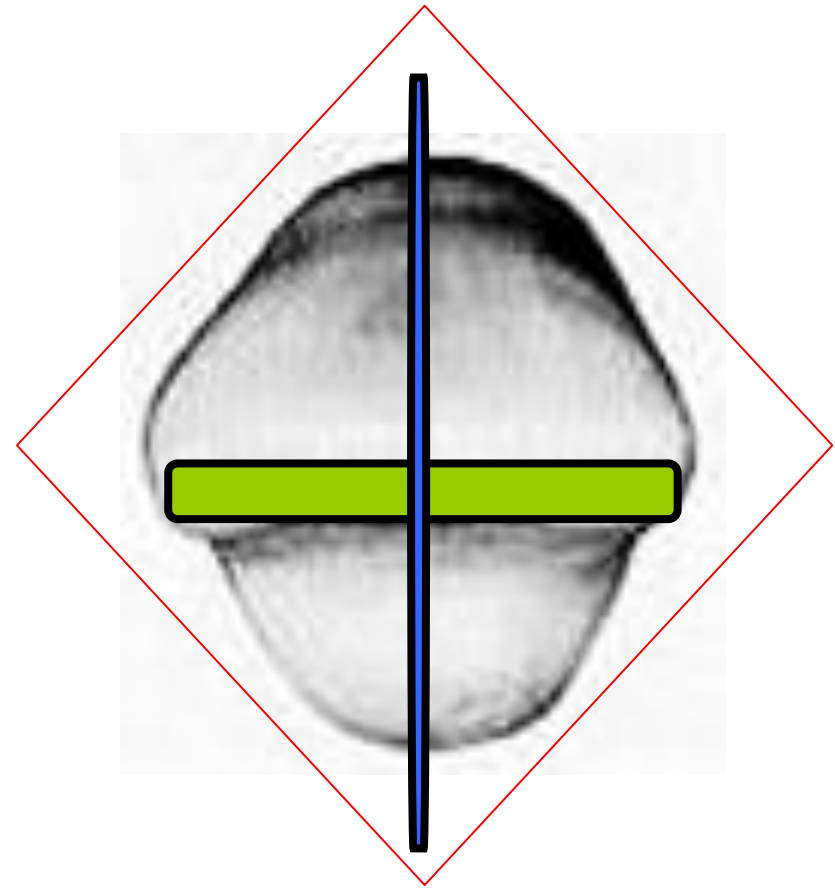
Distal aspect

- Similar to the mesial aspect but differ in.
 - The cervical line curvature is less than mesial (by 1 mm).
 - The distal contact area at the same level as the mesial surface.
 - The distal developmental depression on the root is **deeper** than mesial and may have developmental **groove**.



Incisal aspect

- Diamond in shape.
- The incisal edge is straight.
- The mesial and distal halves are identical.
- The incisal edge is perpendicular to a line bisecting the crown labiolingually.



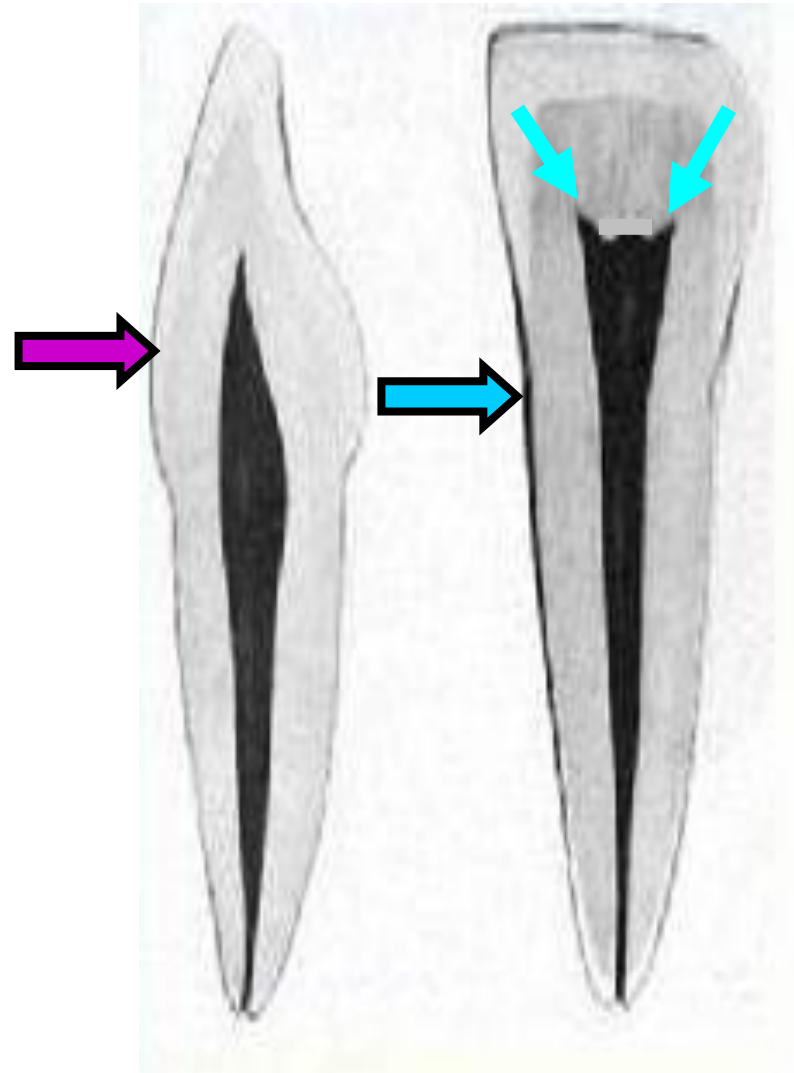
Pulp cavity

► Labio-lingual section

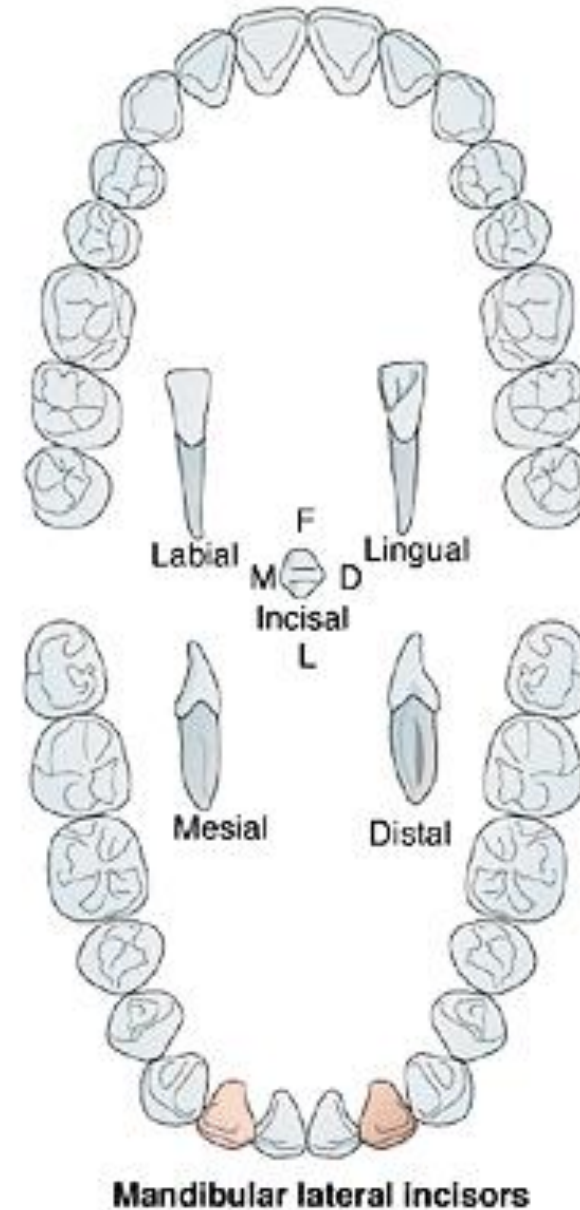
- The outline of the pulp cavity conform to the crown and root outline.

► Mesio-distal section

- The pulp chamber has 2 or 3 pulp horns.
- The root canal tapers to the apical foramen.



P. Mandibular lateral Incisor



Chronology

First evidence of calcification

3-4 m

Enamel completed

4-5 y

Eruption

7-8 y

Root completed

10 y

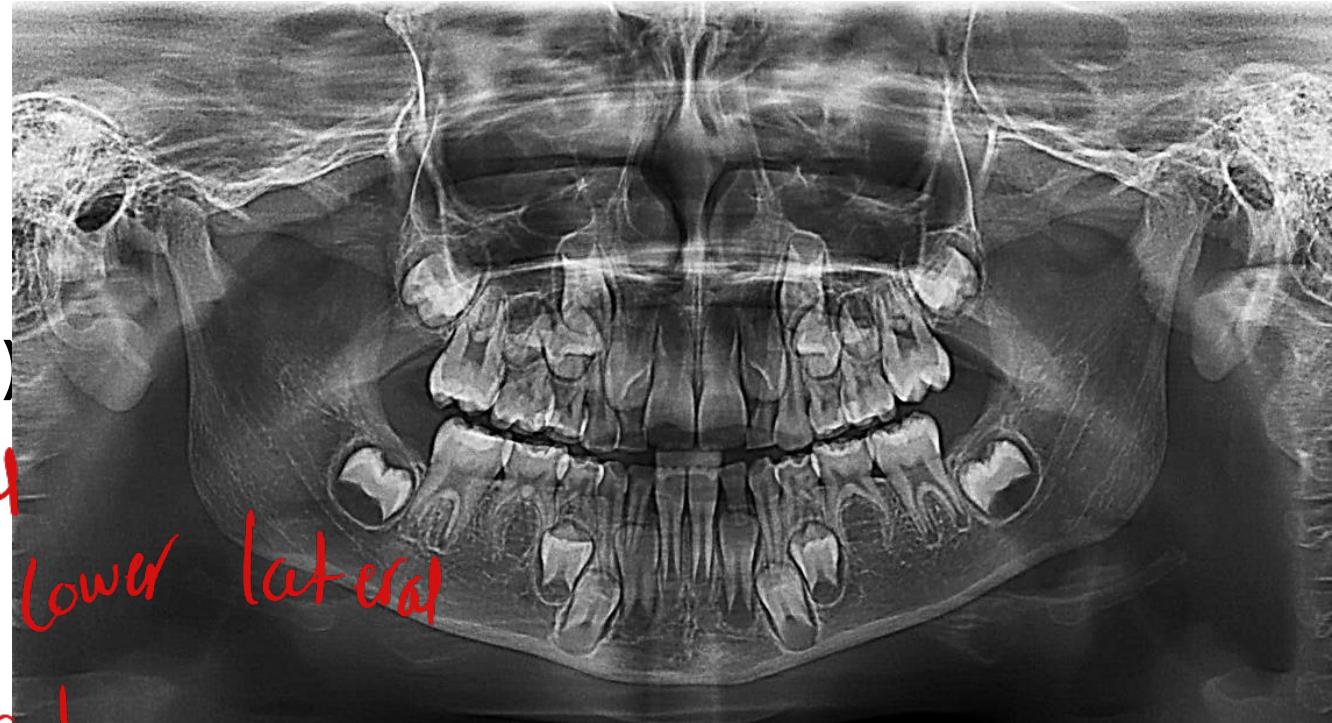
Type and function

incising food as well as esthetic.

No. of lobes

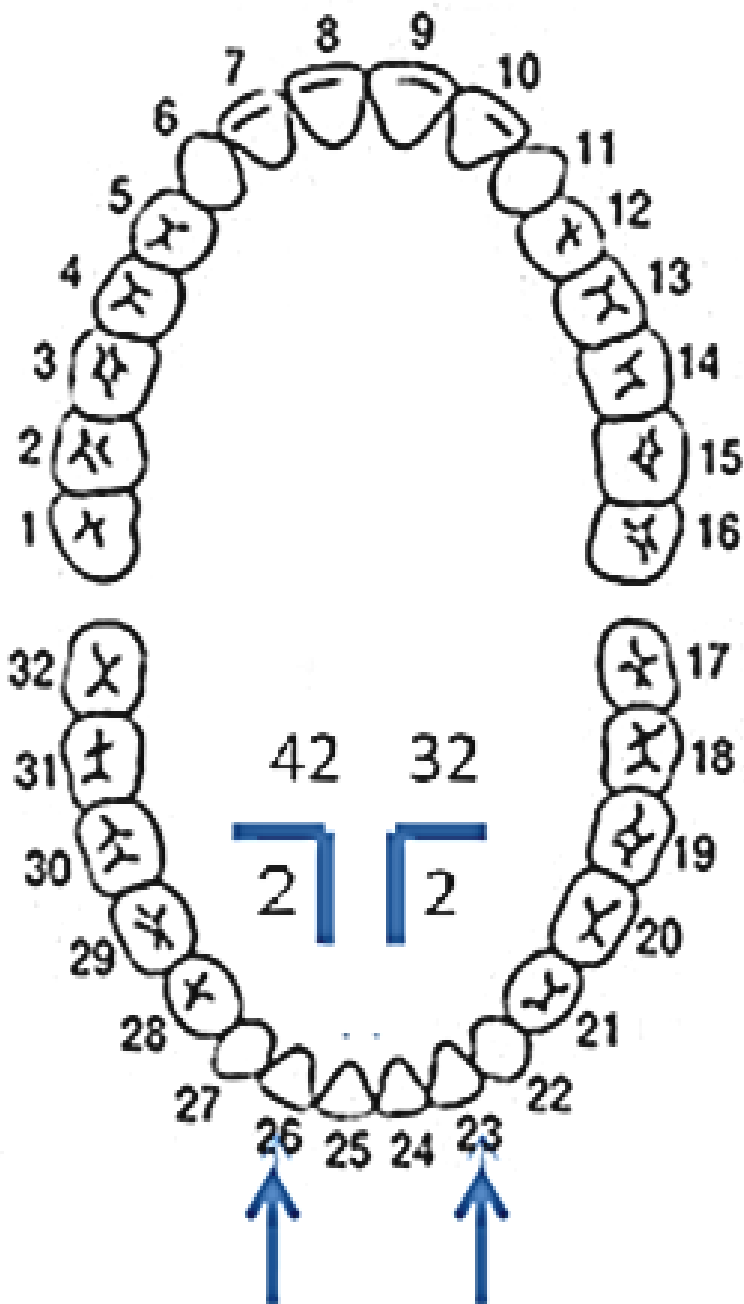
It has 4 lobes (3 mamelons & cingulum)

6-7 ← Lower central
7-8 ← upper central & lower lateral
8-9 ← upper lateral



- Numbering system**

	Mandibular right lateral incisor	Mandibular left lateral incisor
universal system	# 26	# 23
Two-digit system	42	32
Palmer notation system	<div>2</div>	<div>2</div>



Relation

The lateral incisors make contact **mesially** with the distal surface of the central incisors and **distally** with the mesial surface of the canines.



No. of surfaces

4 surfaces and incisal aspect.



Labial



Lingual



Mesial



Distal

No. of roots
one root.

Incisal



- It appear to have nearly the same form as the mandibular central incisor, **SO** direct comparison will be discussed.

Labial aspect

- It is **larger** than the central by about 0.5 mm in all dimensions.
- The **incisal edge** is straight and slop downward in a distal direction.
- The **distal angle** is rounded.
- The root is longer than the central incisor.

D

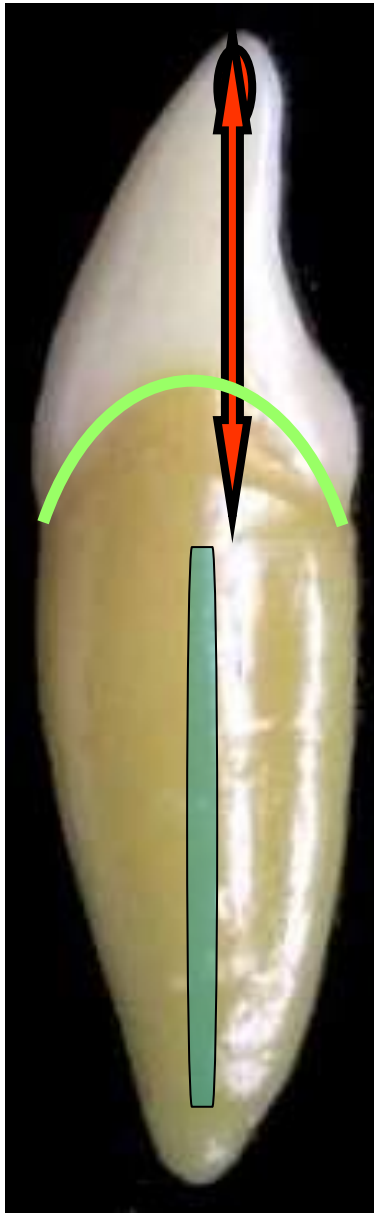
M



Lingual aspect

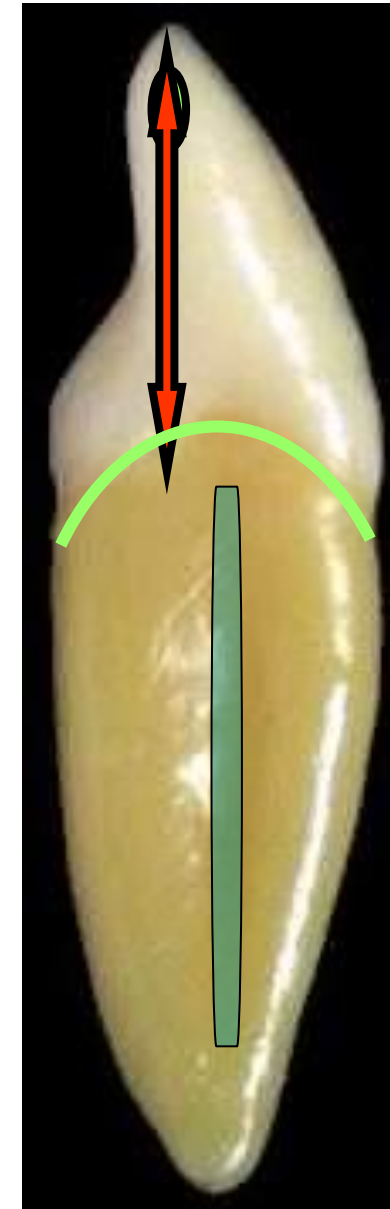
- The **mesial outline** is longer than the **distal outline**.
- The **mesial marginal ridge** is longer than the **distal marginal ridge**.
- The **cingulum** is deviated distal to the center of the lingual surface.





Mesial aspect

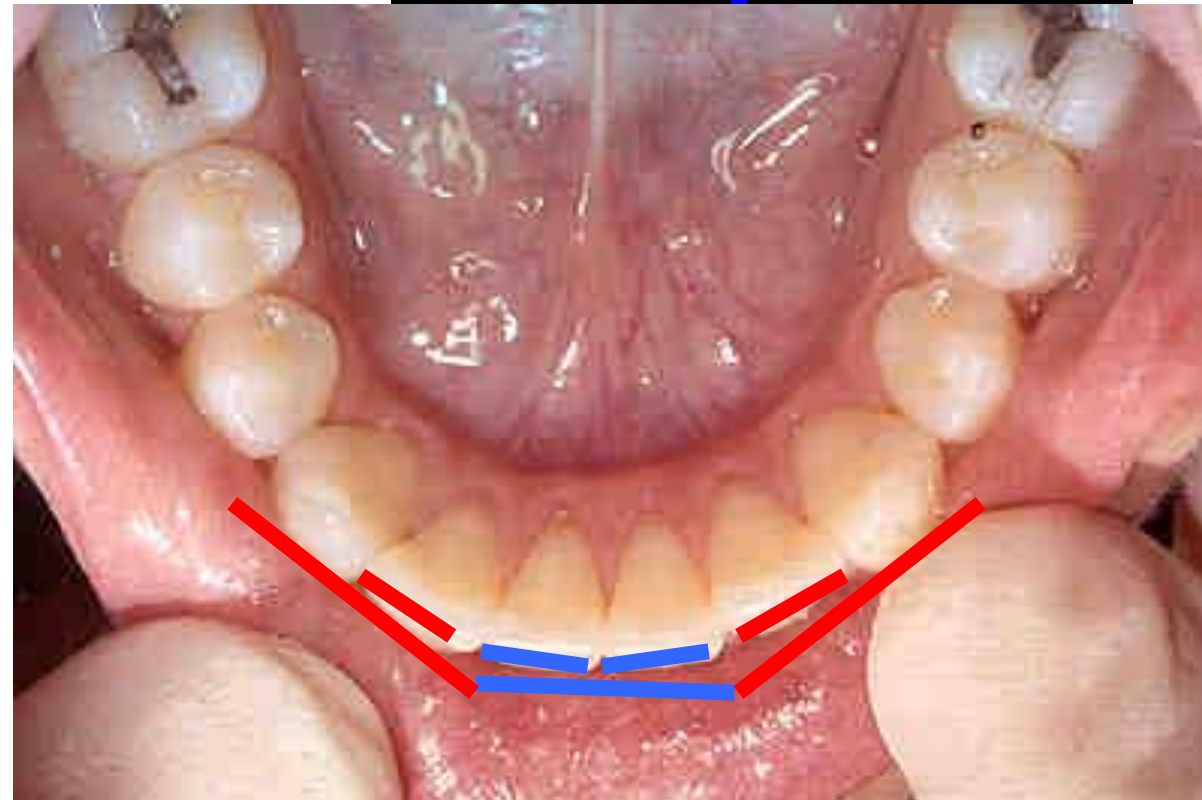
- The distal surface is shorter inciso-cervically.
- Both cervical lines are less than those of the central incisor.
- The **distal** contact area is more cervical than the **mesial** one.
- Root depressions are seen on both the mesial and distal surfaces.



Distal aspect

Incisal aspect

- The crown appear to be twisted on root.
- The distal lobe is larger than the mesial lobe.
- The **incisal edge incline** lingually.
- The cingulum deviated distally.
- This form to fit the mandibular arch.





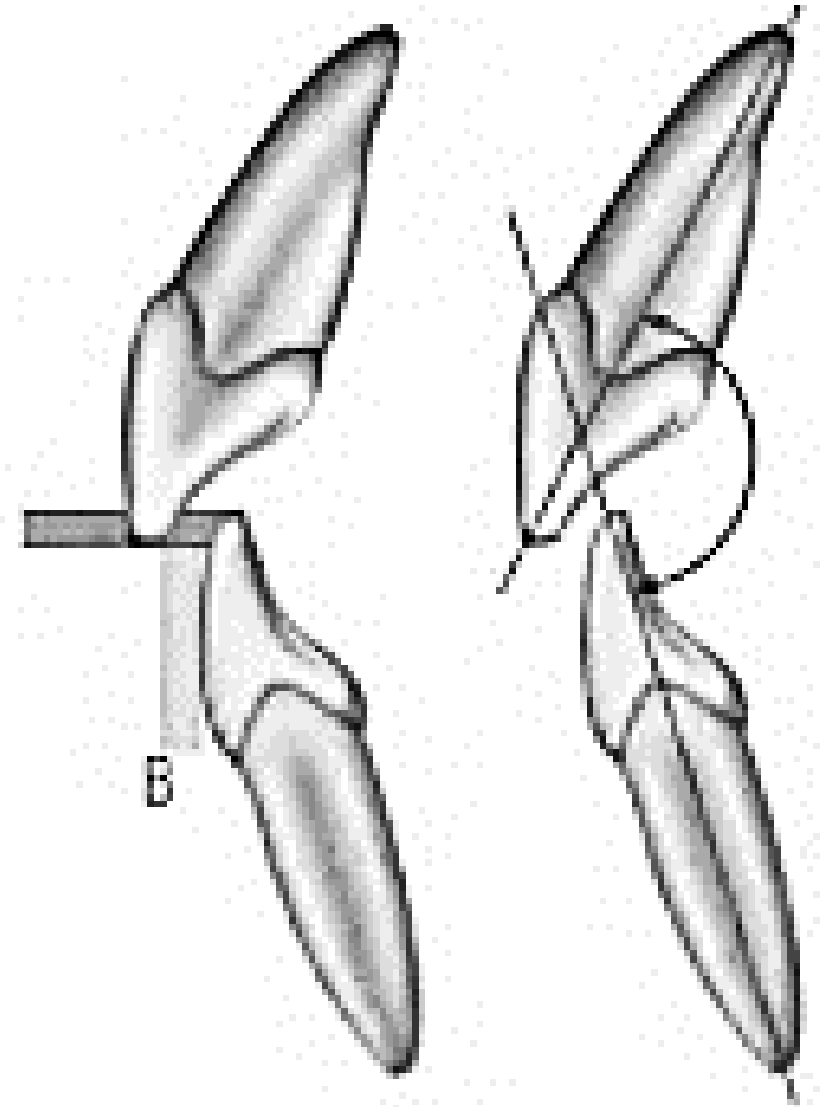
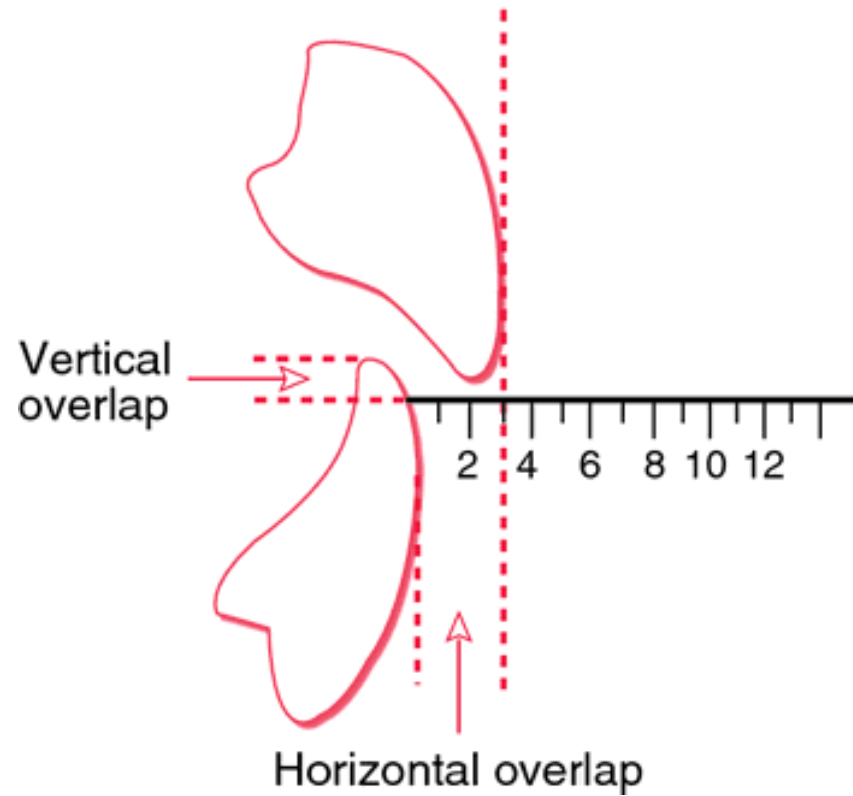
Clinical significance

Lingual inclination

- **Overjet** (horizontal overlap) & **Overbite** (vertical overlap).....

Prevent lip biting

Bite
over



Identify the aspect and tell THREE differences between the lateral and central incisor.

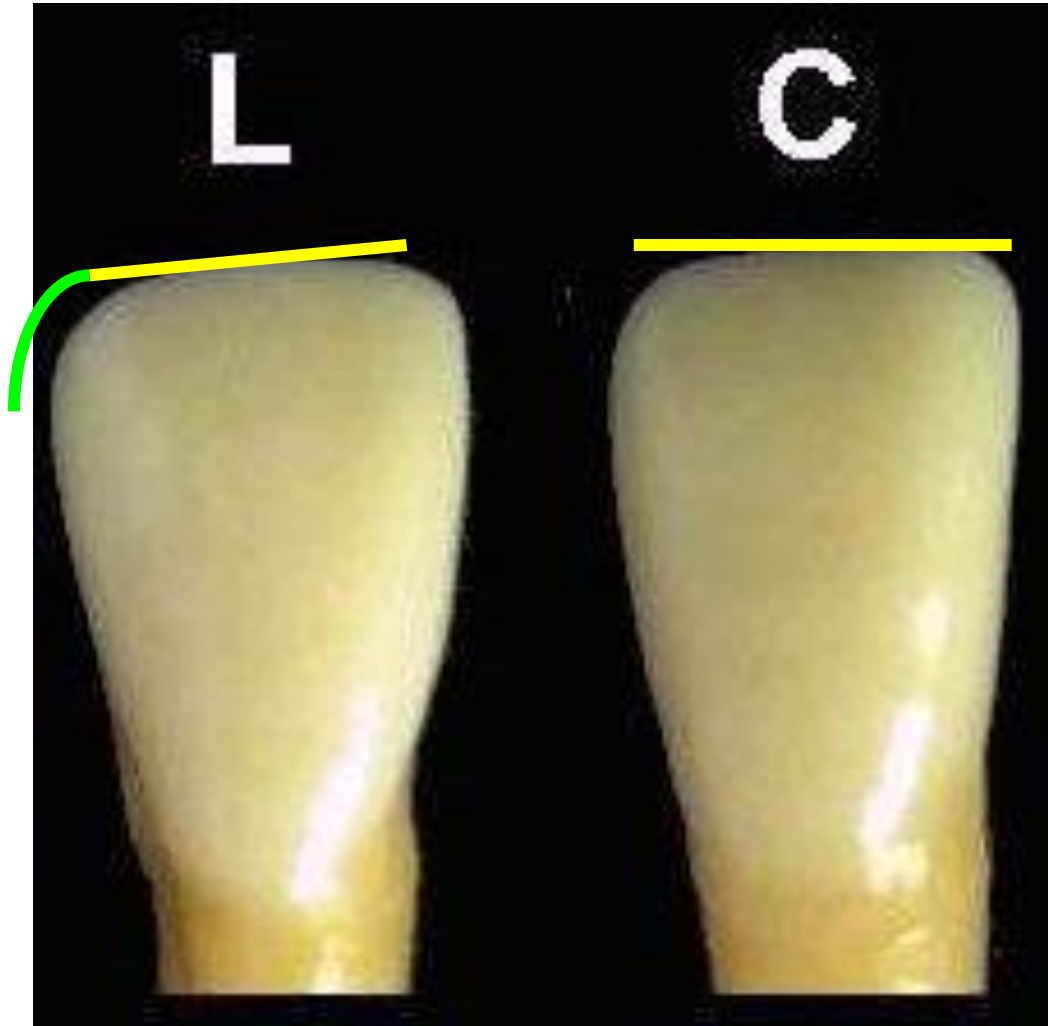
Answer

Labial aspect.

1- The size.

2- Incisal edge.

3- The incisal angles.



<u>Mandibular central Incisor</u>	<u>Mandibular lateral Incisor</u>
1- smaller with short root	Slightly larger with longer root
2- MCA and DCA are nearly at the same level in the incisal third	The DCA more cervical than MCA The MCA in the incisal third ‘ The DCA at the junction of middle and incisal third
3- Sharp mesioincisal and distoincisal angles	More rounded mesioincisal and distoincisal angles
4-The M and D outlines are in the same length	The D outline is shorter than the M outline
5- The incisal edge is straight	The incisal edge is sloped distally
6- The Cingulum is centered	The Cingulum is deviated distally



Thank you