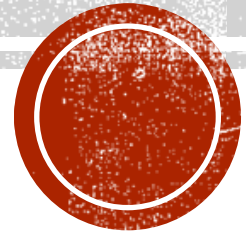
PERMANENT CANINES

Omyma Mohamed



CANINES' CHARACTERSTICS

- The maxillary and mandibular canines bear a close resemblance to each other, and their functions are closely related.
- The four canines are placed at the "corners" of the mouth; each one is the third tooth from the median line, right and left, in the maxilla and mandible.
- They are the longest teeth in the mouth; and the single roots are longer than those of any of the other teeth.
- The middle labial lobes have been highly developed incisally into strong, well-formed cusps.

- the extra anchorage in maxilla aquired by

1-the long, strongly developed roots.

2- high labiolingual thickness of crown and root and the anchorage in the alveolar process of the jaws by developmental depression in roots, these teeth are perhaps the most stable in the mouth.

- They are very valuable teeth because of

1-This self-cleansing quality, along with the efficient anchorage in the jaws, tends to preserve these teeth throughout life. When teeth are lost, the canines are usually the last ones to go.

2- it is valuable as it is considered as units of the natural dental arches for tearing and esthetic. Loss of canines makes it extremely difficult, if not impossible, to make replacements that restore that natural appearance of the face

3- the canine eminence, have a cosmetic value. They help form a foundation that ensures normal facial expression at the corners of the mouth.

Upper permanent canine

Labial

Incisal

Lingual

Mesial

Distal

MAXILLARY CANINE

First evidence of calcification	4–5 mo
Enamel completed	6–7 yr
Eruption	11–12 yr
Root completed	13–15 yr

MAXILLARY CANINE

❖**Labial Aspect**

- **Geometric outline: trapezoid**
- **Outline form:**

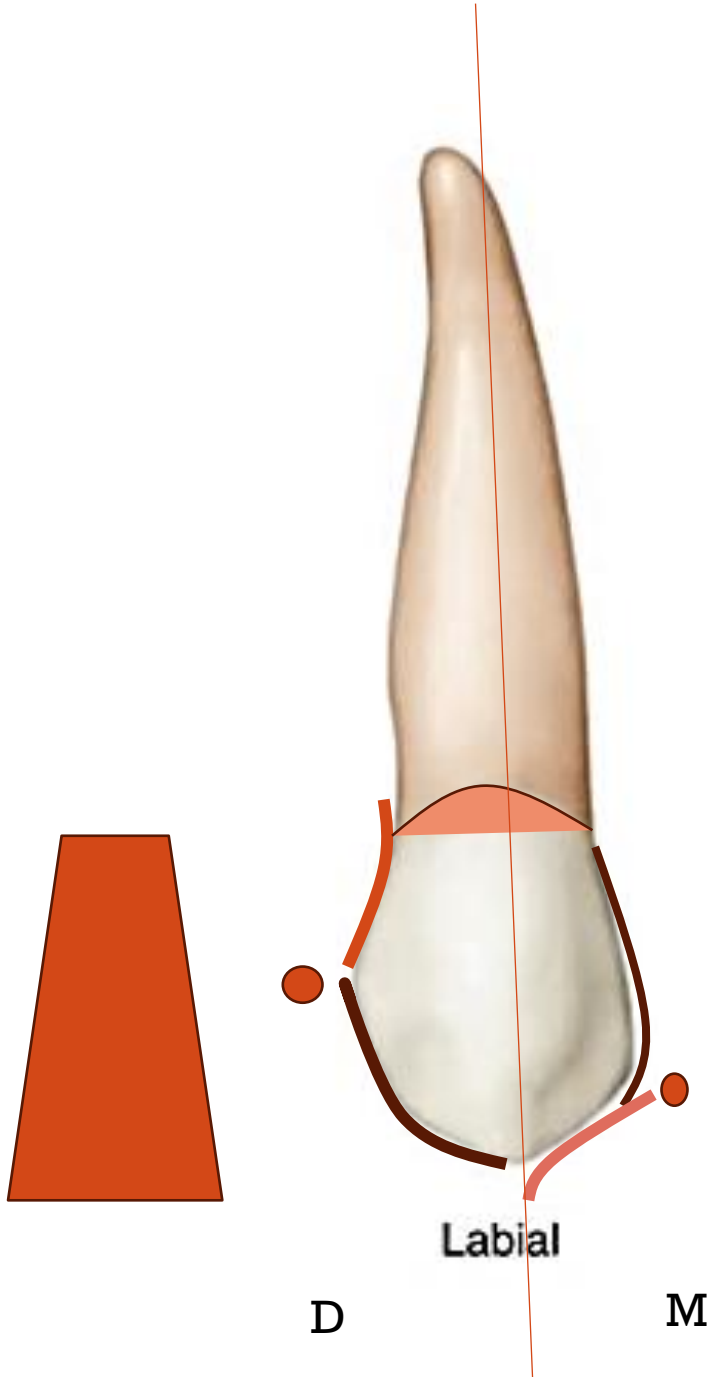
○ **Mesially: convex from the cervix to contact area, a slight concavity above the contact area to cusp tip.**

○ **the contact area mesially is approximately at the junction of middle and incisal thirds of the crown.**

○ **Distally: usually concave between the cervical line and the distal contact area. Convex from contact area to cusp tip.**

○ **The distal contact area is usually at the center of the middle third of the crown.**

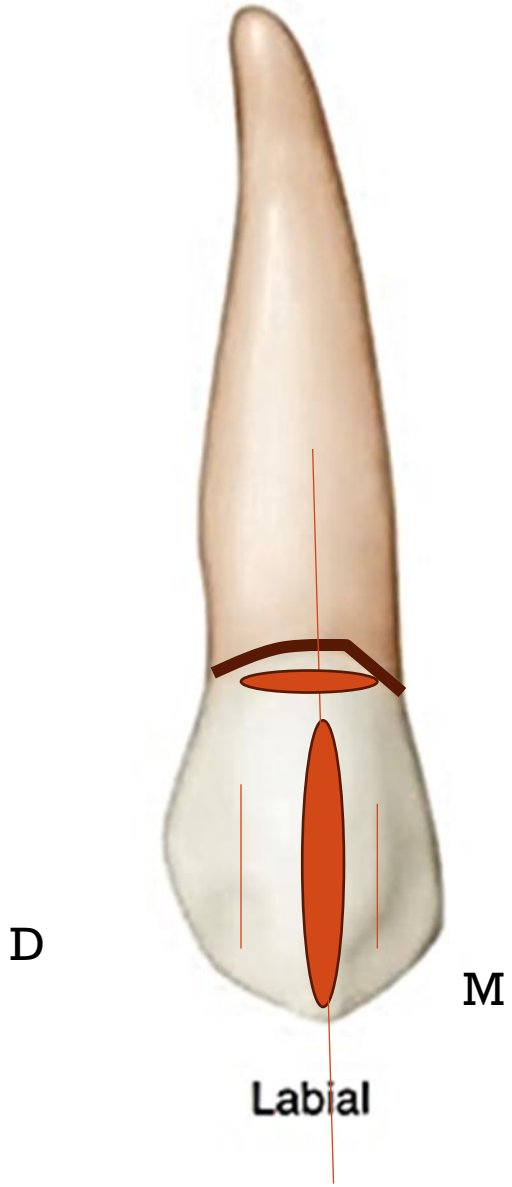
○ **The cusp has a mesial slope and a distal slope, the mesial slope being the shorter of the two.**



LANDMARKS

The labial surface of the crown is smooth

- with shallow depressions mesially and distally, dividing the three labial lobes.
- Labial ridge: The middle labial lobe shows much greater development than the other lobes. This produces a ridge on the labial surface of the crown.
- Cervical ridge



- Cervical line: labially is convex, with the convexity toward the root portion
- Root form: The root of the maxillary canine appears slender from the labial aspect when compared with the bulk of the crown; it is conical in form with a bluntly pointed apex , curved distally.

LINGUAL ASPECT

- The crown and root are narrower lingually than labially.
- The cervical line from the lingual aspect differs somewhat from the curvature found labially and shows a more even curvature.

❖Land marks

- elevations

1-The cingulum is large and, in some instances, is pointed like a small cusp.

2-strongly developed marginal ridges.

3-Occasionally, a well-developed lingual ridge is seen that is confluent with the cusp tip; this extends to a point near the cingulum.

4- mesial and distal incisal ridges

- Depressions

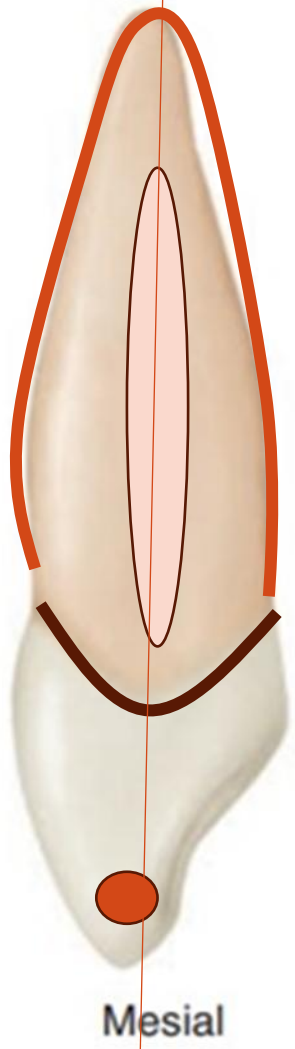
mesial and distal lingual fossae

Lingual

MESIAL ASPECT

- **greater labiolingual measurement than any of the other anterior teeth**
- **Geometric outline of the crown is wedge-shaped OR triangular shaped, the maximum convexity at the cervical third and the apex at the tip of the cusp.**
- **the labial outline may be slightly convex the crest of curvature at the cervical third .**
- **The lingual outline of the crown from the mesial aspect may be represented by a convex line describing the cingulum, which convexity straightens out as the middle third is reached (lingual ridge), becoming convex again in the incisal third**

- The outline of the root from this aspect is tapered to bluntly pointed apex.
- The root may curve labially toward the apical third.
- The mesial surface of the root appears broad, with a shallow developmental depression for part of the root length.
- Developmental depressions on the heavy roots help anchor the teeth in the alveoli and help prevent rotation and displacement.
- Cervical line: convex toword crown
- Contact area: at the junction between incisal one third and middle one third



DISTAL ASPECT

- The distal aspect of the maxillary canine shows somewhat the same form as the mesial aspect, with the following variations:
- the cervical line exhibits less curvature
- the distal marginal ridge is heavier and more irregular in outline.
- the developmental depression on the distal side of the root is more pronounced
- Contact area more cervical (middle of crown)

INCISAL ASPECT

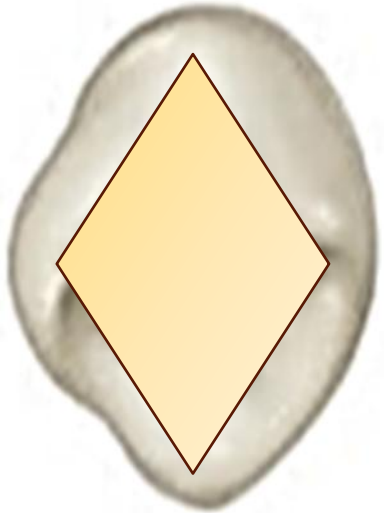
- Geometric outline: diamond
- The incisal aspect of the maxillary canine emphasizes the proportions of this tooth mesiodistally and labiolingually
- In general, the labiolingual dimension is greater than the mesiodistal.
- Lingual convergence
- the tip of the cusp is labial to the center of the crown labiolingually and mesial to the center mesiodistally.

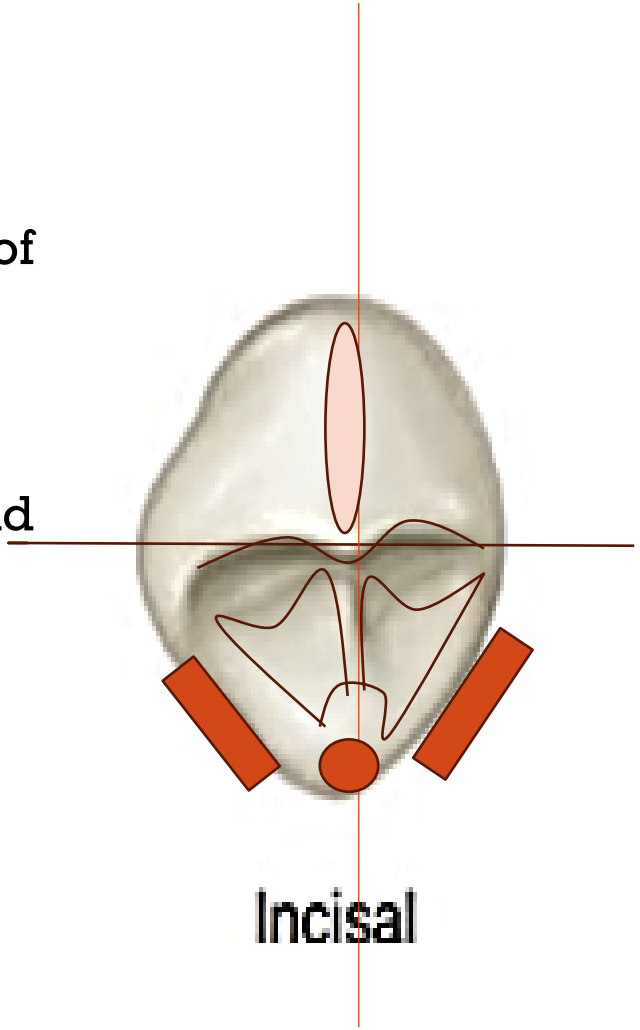
❖ elevations:

- Labial ridge
- Cusp tip, 2 cusp slopes
- Lingual ridge
- M,d marginal ridges
- Cingulum

❖Depressions:

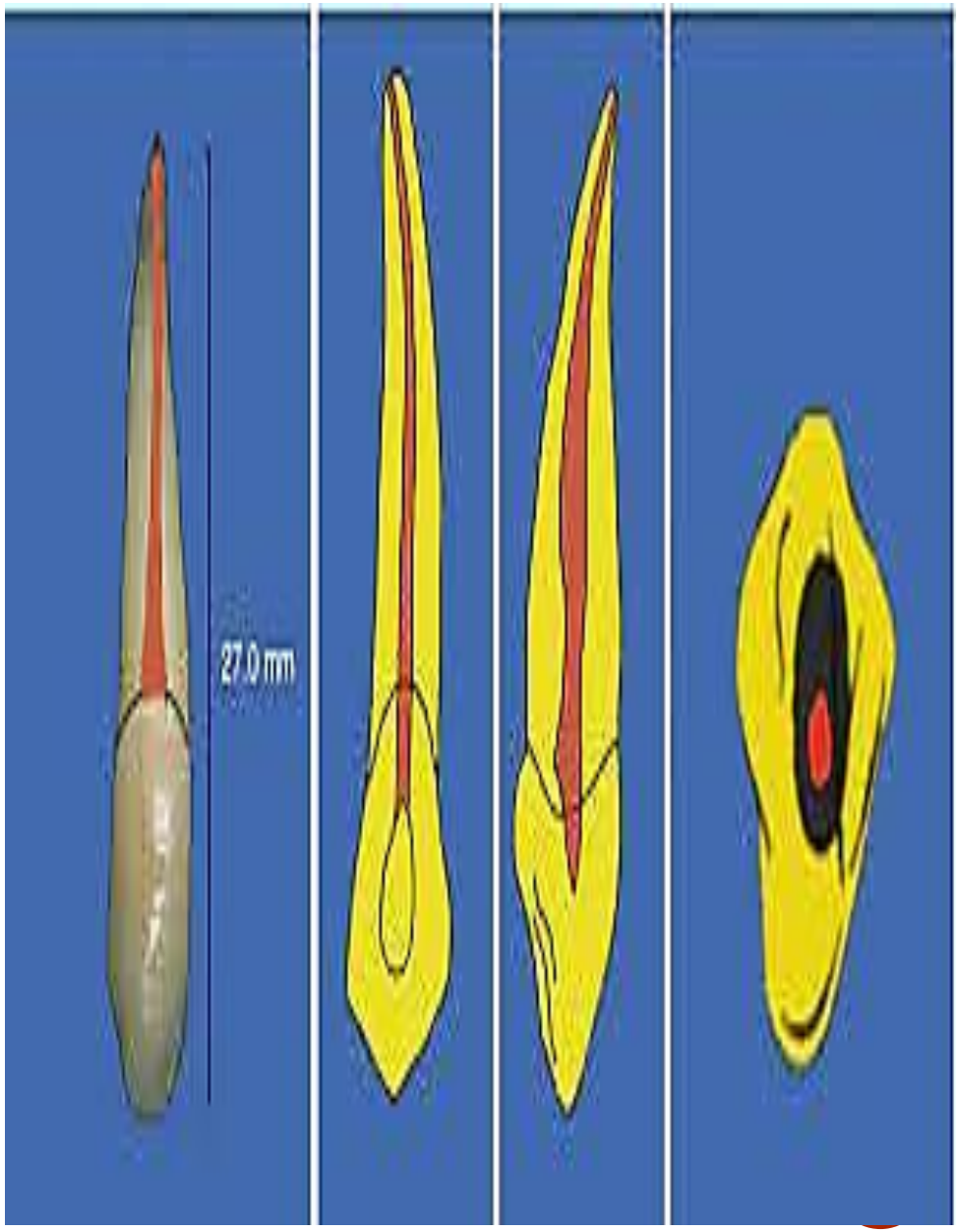
- M,d lingual fossae





PULP CAVITIES

- Mesiodistal section: The pulp chamber is narrower mesiodistally than labiolingually
- Labiolingual section: The maxillary canine has the largest labiolingual root canal dimension.
- A long narrow pulp horn corresponds to labial cusp
- Abrupt constriction of root canal in apical third
- Cervical cross section: oval

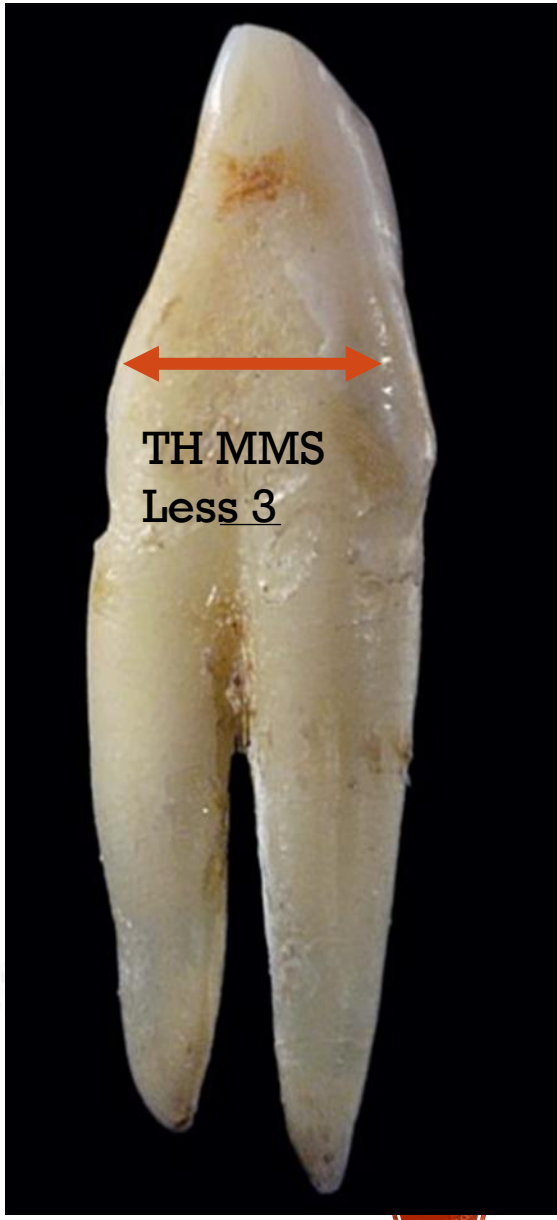


LOWER PERMANENT CANINE

Omyma Mohamed

First evidence of calcification	4–5 mo
Enamel completed	6–7 yr
Eruption	9–10 yr
Root completed	12–14 yr

- **The mandibular canine crown is narrower mesiodistally than that of the maxillary canine and longer by 0.5 to 1 mm.**
- **The mandibular canine thickness is less than upper canine**
- **The root may be as long as that of the maxillary canine.**
- **The lingual surface of the crown is smoother, with less cingulum development**
- **A variation in the form of the mandibular canine is bifurcated roots.**



Labial Aspect

From the labial aspect, the mesiodistal dimensions of the mandibular canine are less than those of the maxillary canine. The difference is usually about 1 mm.

The essential differences between mandibular and maxillary canines viewed from the labial aspect may be described as follows:

- The crowns of the mandibular canines appear longer.

but the effect of greater length is actually by the narrowness of the crown mesiodistally and the height of the contact areas above the cervix.

- The mesial outline of the crown of the mandibular canine is nearly straight, the mesial contact area being near the mesioincisal angle.

Distal outline: convex

- the cusp angle is on a line with the center of the root.
- as on the maxillary canine, The mesial cusp ridge is shorter.

- **The distal contact area of the mandibular canine is more toward the incisal aspect than that of the maxillary canine but is not up to the level of the mesial area.**

- **The cervical line labially has a semicircular curvature apically.**

- **The mandibular canine root is shorter by l or 2 mm on average than that of the maxillary canine, and its apical end is more sharply pointed and curved distally.**

LINGUAL ASPECT

- In comparing the lingual aspect of the mandibular canine with that of the maxillary canine, the following differences are noted.
- The lingual surface of the crown of the mandibular canine is flatter, simulating the lingual surfaces of mandibular incisors. The cingulum is smooth and poorly developed.
- The marginal ridges are less distinct.

❖Elevations

- Lingual ridge constricted to incisal one third
- cingulum
- M,D marginal ridges
- Incisal ridges

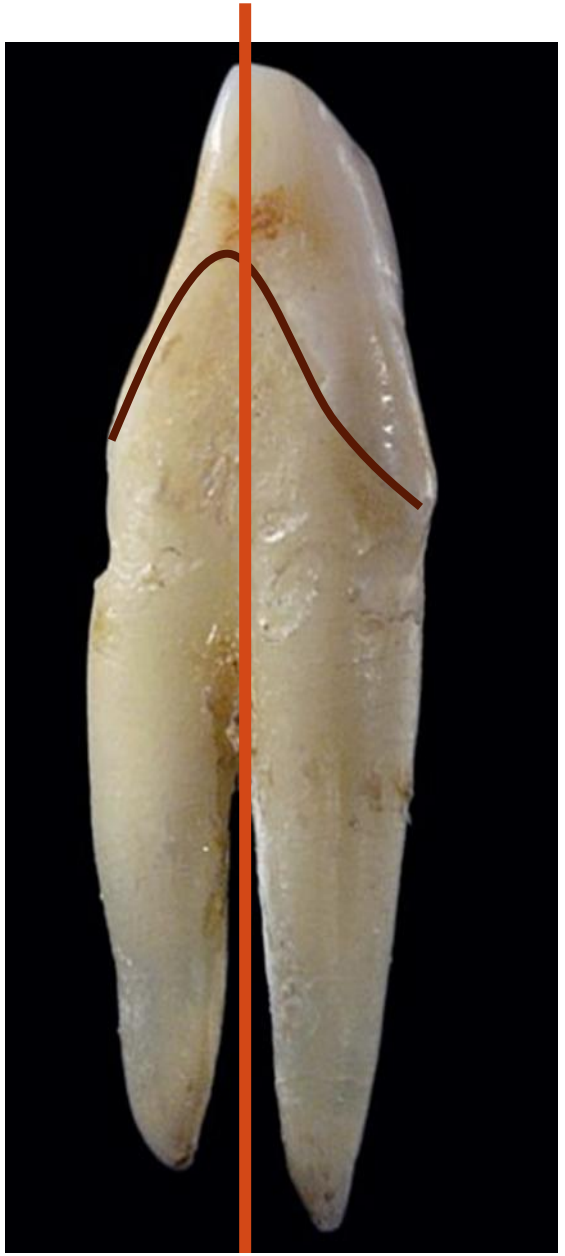
❖Depressions

- Lingual fossa

MESIAL ASPECT

- characteristic differences are:
- Labial aspect: less curvature with very little curvature directly above the cervical line.
- The lingual outline of the crown is curved in the incisal one third then concave to a slight degree then convex toword cingulum

- The cingulum is not as pronounced
- the cusp to appear more pointed
- The tip of the cusp is more nearly centered over the root, with a lingual placement.
- The cervical line curves more toward the incisal portion than does the cervical line on the maxillary canine.
- The roots of the two teeth are quite similar from the mesial aspect with the possible exception of a more pointed root tip on the mandibular canine.
- The developmental depression mesially on the root of the mandibular canine is more pronounced root may divided into 2 roots or bifid root.



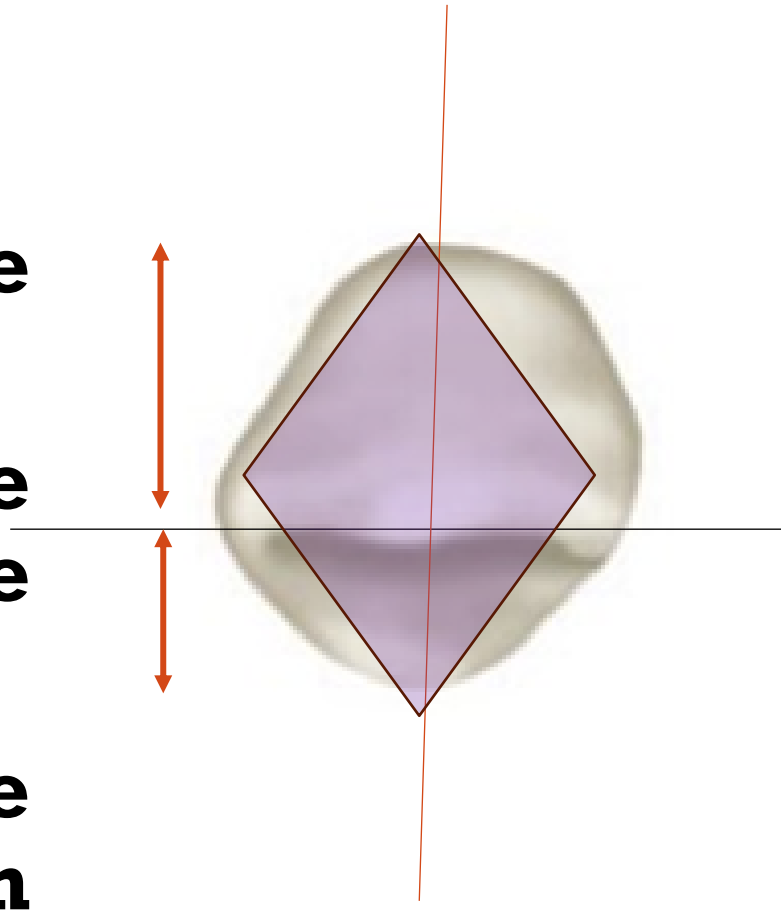
DISTAL ASPECT

- **Contact area: more cervical than mesial**
- **Cervical line shallower than mesial**

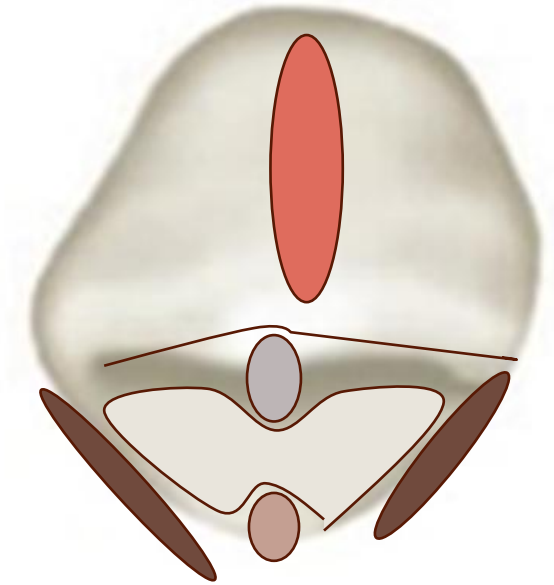
INCISAL ASPECT

- **Geometric out line: <u>Oblong diamond</u>**
- **The main differences from upper canine are as follow:**
- **The mesiodistal dimension of the mandibular canine is less than the labiolingual dimension.**

• The cusp tip and cusp ridges are more likely to be inclined in a lingual direction in the mandibular

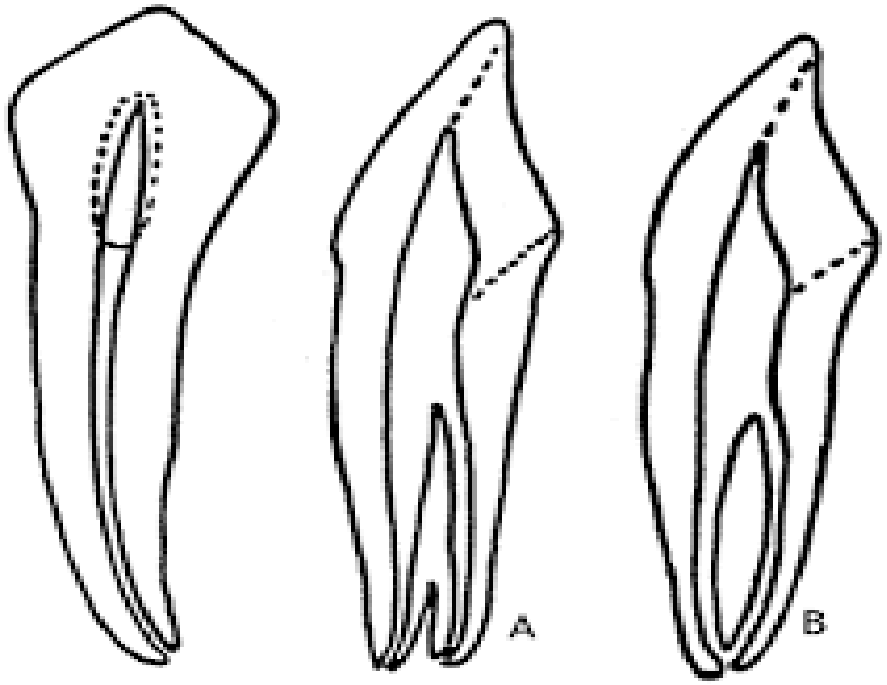


- **ELEVATIONS:**
  - INCISAL RIDGES
  - MARGINAL RIDGES
  - CINGULUM
  - LABIAL RIDGE
  - SHORT LINGUAL RIDGE
  - CONSTRICTED ON INCISAL 1/3



- **DEPRESSIONS**
  - SINGLE LINGUAL FOSSA

PULP CAVITIES



- Mesiodistal section:

Mesiodistal dimension is narrower than labiolingual dimension

- Labiolingual section: similar to upper canine but it characterized by

• dentinal island may be found

• Two separate root canals in single root may be found

Cervical cross section: ovoid

MENTION THE COLORED STRUCTUTE


Thank you