



Tooth Morphology

MANDIBULAR INCISOR

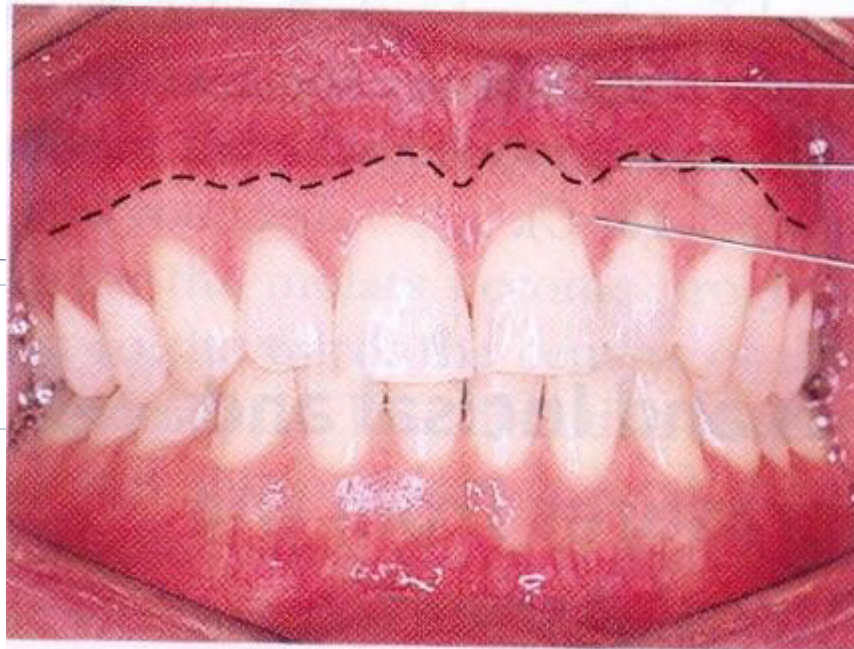
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- ▶ Chronological features of mandibular central incisors
- ▶ Various aspects of mandibular central incisors
- ▶ Identifying features of mandibular central incisors
- ▶ Differentiating features between right and left mandibular central incisors
- ▶ To carve permanent mandibular central incisors
- ▶ Differentiating features between mandibular central and lateral incisors



MANDIBULAR CENTRAL INCISORS



Introduction

- ▶ Mandibular incisors-Four in number
- ▶ Mandibular central incisors centered in mandible, one on either side of midline
 - with mesial surface in contact with each other
- ▶ Mand. CI & Max. CI –only neighboring teeth with mesial surface in contact



TABLE 7-1 Mandibular Central Incisor

| | |
|---------------------------------|--------|
| First evidence of calcification | 3-4 mo |
| Enamel completed | 4-5 yr |
| Eruption | 6-7 yr |
| Root completed | 9 yr |

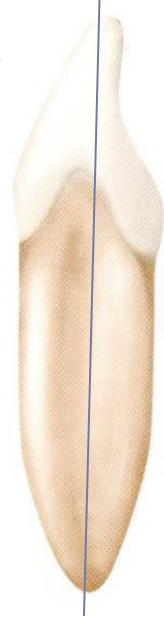
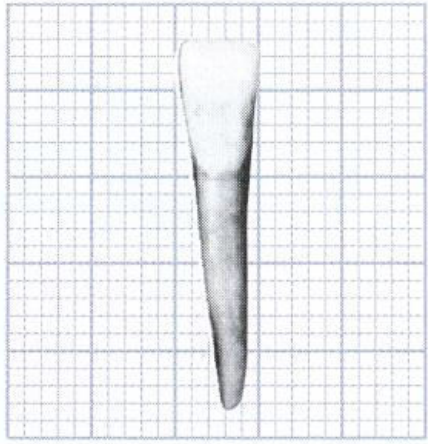
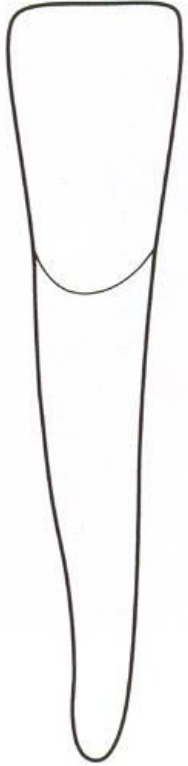
MEASUREMENT TABLE

| | CERVICOINCISAL LENGTH OF CROWN | LENGTH OF ROOT | MESIODISTAL DIAMETER OF CROWN | MESIODISTAL DIAMETER OF CROWN AT CERVIX | LABIO- OR BUCCOLINGUAL DIAMETER OF CROWN | LABIO- OR BUCCOLINGUAL DIAMETER OF CROWN AT CERVIX | CURVATURE OF CERVICAL LINE—MESIAL | CURVATURE OF CERVICAL LINE—DISTAL |
|---|--------------------------------------|-------------------|-------------------------------------|--|---|--|---|---|
| Dimensions* suggested for carving technique | 9.5 | 12.5 | 5.0 | 3.5 | 6.0 | 5.3 | 3.0 | 2.0 |

*In millimeters.

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- Mandibular incisors- smallest teeth in the permanent dentition
 - Mandibular CI smaller than Mandibular LI, opposite to Max. incisors
 - Labial faces inclined lingual so that incisal ridges are lingual to a line bisecting the root
 - Length of root more as compared to max.incisors





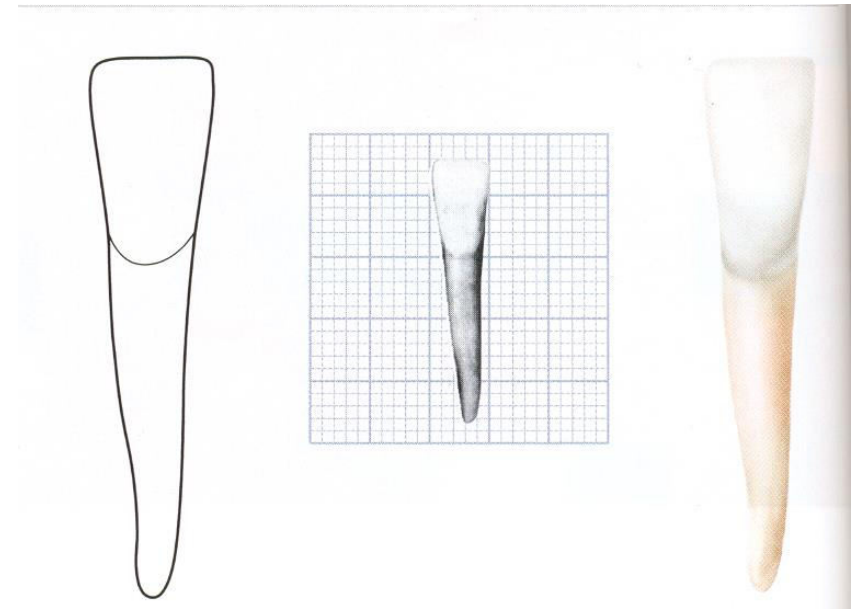
MANDIBULAR CENTRAL INCISOR

LABIAL ASPECT

- ➡ Labial aspect is regular tapering evenly from the relatively sharp mesial and distal incisal angles to the apical portion of the root.
- ➡ Incisal ridge is straight and approximately at right angles to the long axis of the tooth.



- ➡ Mesial and distal outlines are straight from the incisal angle to the contact areas and then taper evenly from the contact areas to narrow cervix.
- ➡ The root tapers (regular & convex) uniformly downwards with apex in most cases curving distally



-
- ▶ The labial face is smooth, with flattened surface at the incisal third, middle third is more convex



LINGUAL ASPECT

- ➡ Lingual surface of the crown is smooth with very slight concavity at the incisal third between the inconspicuous marginal ridges.
- ➡ Lingual surface becomes flat and then convex from incisal third to cervical third.



- ➡ No developmental lines mark the cingulum development on this tooth at the cervical third.
- ➡ The outlines and surfaces of the mandibular incisors are regular and symmetrical.



MESIAL ASPECT

- ➡ Curvature labially and lingually above the cervical line is less than that found on maxillary incisors.
 - ➡ The outline of the labial face of the crown is straight above the cervical curvature sloping rapidly from the crest of curvature to the incisal ridge.
-



Mesial

- ➡ Lingual outline is straight up to cingulum, convexity from where it joins a concave line in middle third then extends upwards to join the narrow incisal ridge.
- ➡ Cervical line curves incisally approximately one third the length of the crown.



Mesial

- ▶ The mesial surface of crown is convex & smooth at the incisal third & becomes broader & flatter at the middle third
- ▶ Cervical to the contact area, it becomes quite flat, with a tendency toward concavity below the middle third of crown & above the cervical line.



Mesial

➡ Root outline is straight up to middle third area from where it tapers rapidly to a bluntly rounded or a pointed root apex.

➡ Presence of developmental depression on the mesial surface of the root.



Mesial

A

DISTAL ASPECT

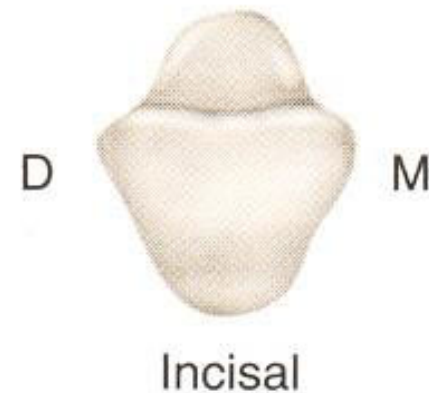
- ➡ Distal surface of the crown and the root is similar to mesial surface.
- ➡ Developmental depression on the distal surface of the root may be more marked with a deeper, more well defined developmental groove at its center.



Distal

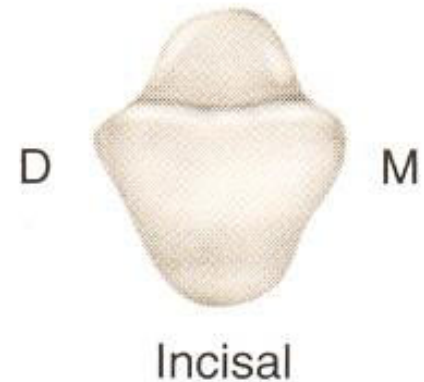
INCISAL ASPECT

- ➡ Mesial half of the crown from this aspect is almost identical with the distal half.
- ➡ Incisal edge is almost at right angle to a line bisecting the crown labiolingually.
- ➡ Labial surface is wider mesiodistally than the lingual surface.



➡ Crown is usually wider labially than lingually at the cervical third

➡ When seeing the crown from this aspect keeping the line of vision along the long axis of the tooth, more of the labial surface may be seen than the lingual surface.



Summary

- Various aspects of mandibular central and lateral incisors
- Identifying features of mandibular central incisors
- Differentiating features between right and left mandibular central incisors



BIBLIOGRAPHY

- Wheeler's Dental Anatomy, Physiology and Occlusion Ash, M. M. 6th edition.
- Oral Development and Histology Avery, j. K. 1st edition.
- Color Atlas And Text Book Of Oral Anatomy, Histology Berkovitz, B. 1ST edition.
- Dental Embryology, Histology & Anatomy. Marry Bath- Balogh Inergaret. 2nd edition.



Thank You!!!

