INCISORS

Dr. Madhusudan Astekar, MDS, PhD.,
Prof. & Head, Dept. of Oral Pathology,
Institute of Dental Sciences, BIU, Bareilly (U.P.).

TRIAT CATEGORIES

- A triat is distinguishing characteristic quality, peculiarity, or attribute.

1. SET TRAITS: distinguish teeth in the primary from secondary dentation
2. ARCH TRAITS: distinguish maxillary from mandibular teeth.
3. CLASS TRAITS: distinguish the 4 categories of teeth, namely incisors, canines, premolars and molars
4. TYPE TRAITS: differentiate teeth within one class like central and lateral incisors.

Class Traits

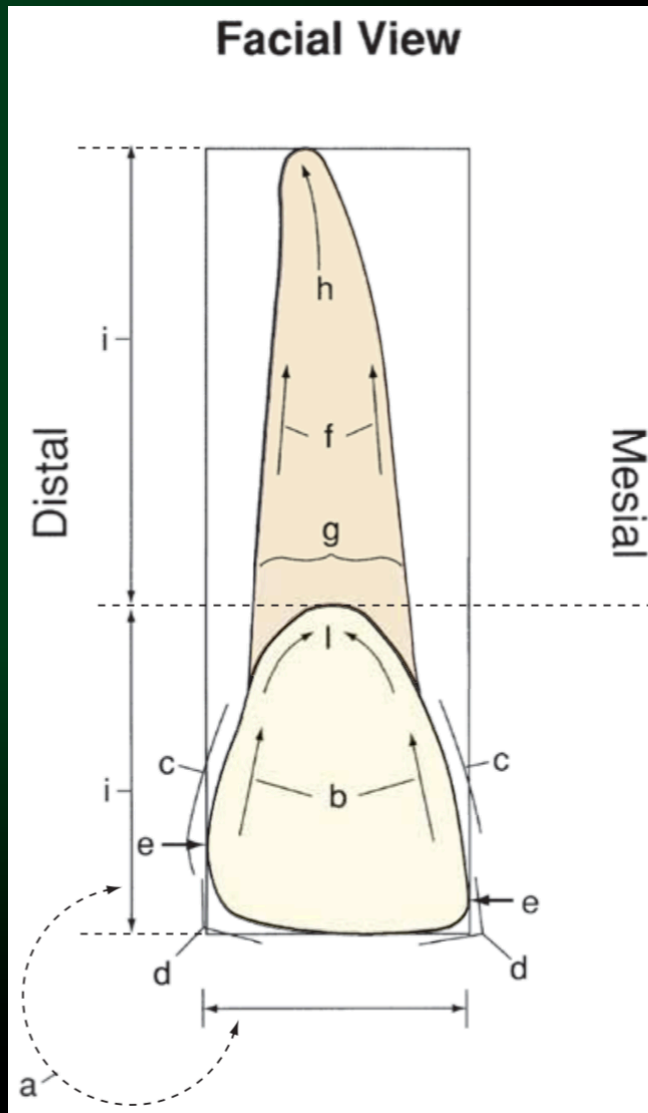
General Characteristics of All Incisors

a. Crown shapes are rectangular; longer incisogingivally than mesiodistally.

b. Crowns taper from the contact areas to cervical lines.

c. Crown outlines on the distal are more convex than on the mesial EXCEPT mandibular central incisors, which are known for their symmetry.

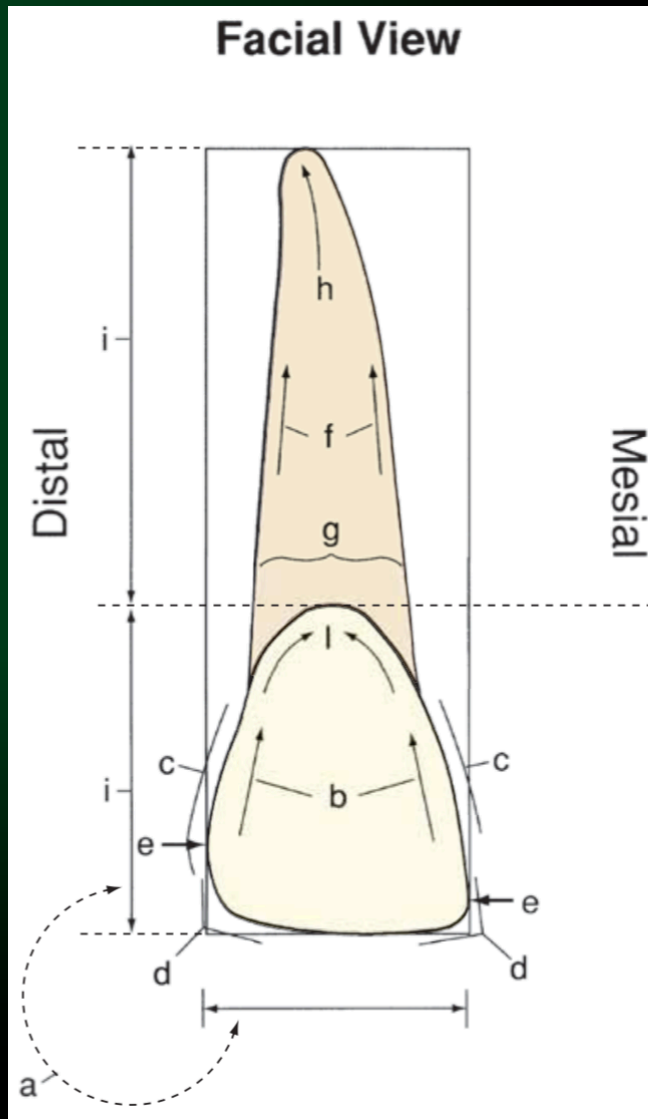
d. The mesioincisal angles are more square (or acute) than the distoincisal angles which are more obtuse.



Class Traits

General Characteristics of All Incisors

e. Mesial contact areas are in the incisal third; distal contact areas are more cervical EXCEPT on mandibular central incisors where mesial and distal contacts are at same height due to their symmetry.

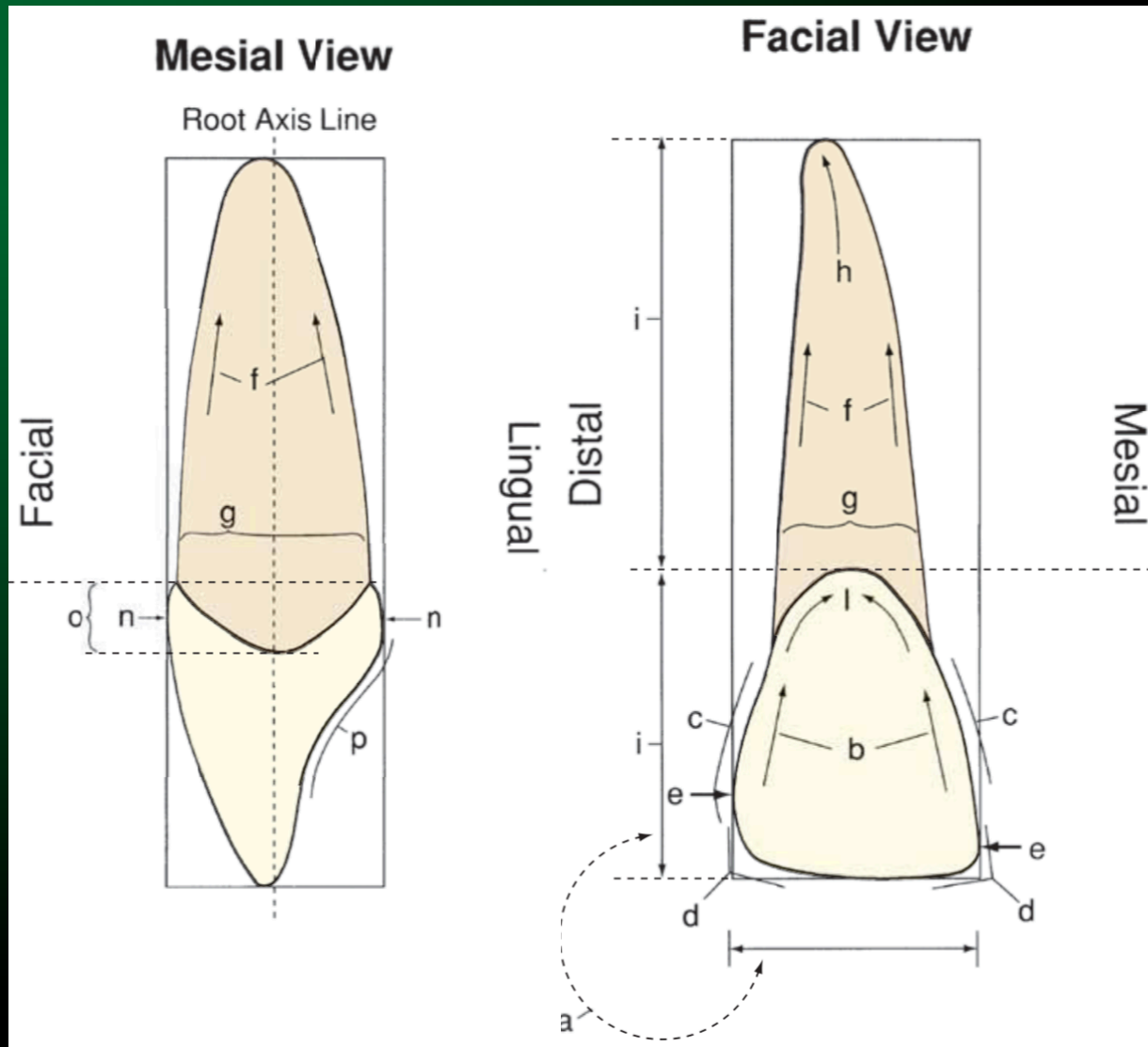


Class Traits

General Characteristics of All Incisors

f. Roots taper from the cervical line toward the apex and from the facial toward the lingual.

g. Roots are wider faciolingually than mesiodistally EXCEPT maxillary central incisors where dimensions are about equal.

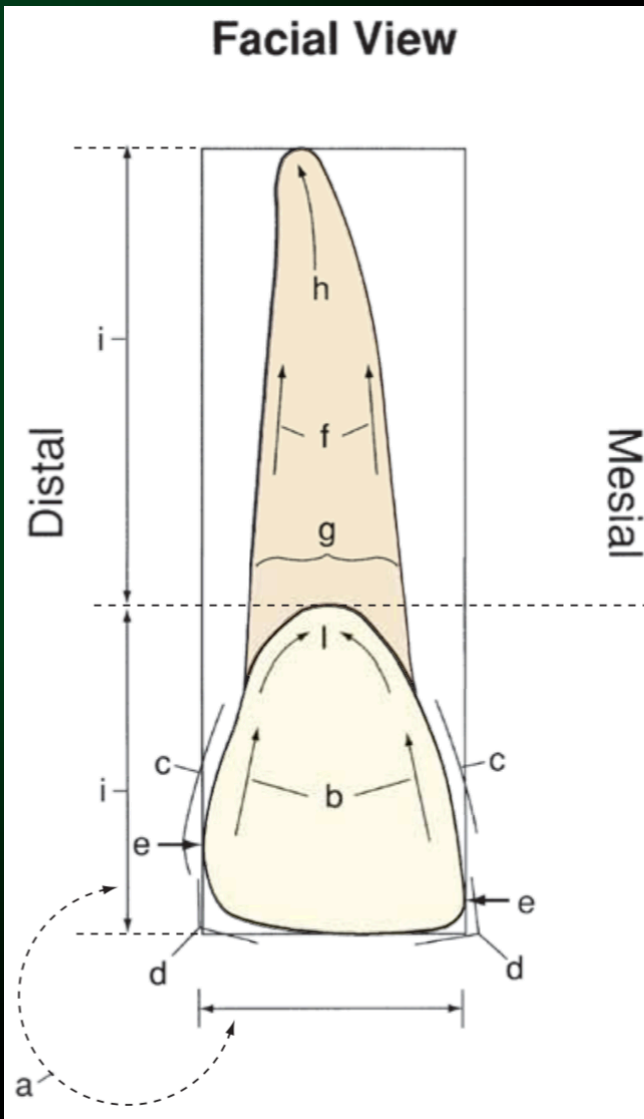


Class Traits

General Characteristics of All Incisors

h. When bent, roots often bend to the distal in the apical third

i. Roots are slightly to considerably longer than crowns.



Class Traits

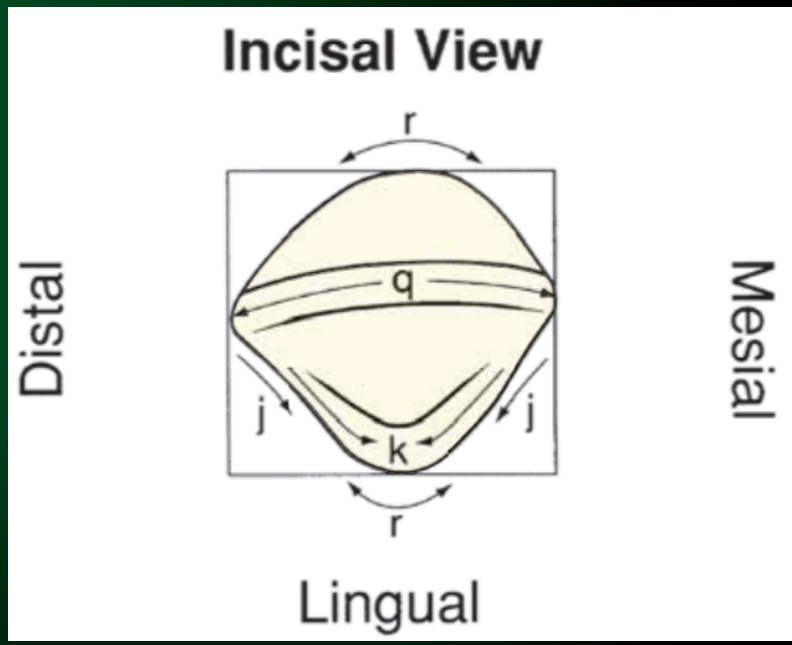
General Characteristics of All Incisors

j. Crowns taper from proximal contact areas toward the lingual.

k. The mesial and distal marginal ridges converge toward the lingual cingulum.

q. Incisal edges terminate mesially and distally at the widest portion of the tooth crown.

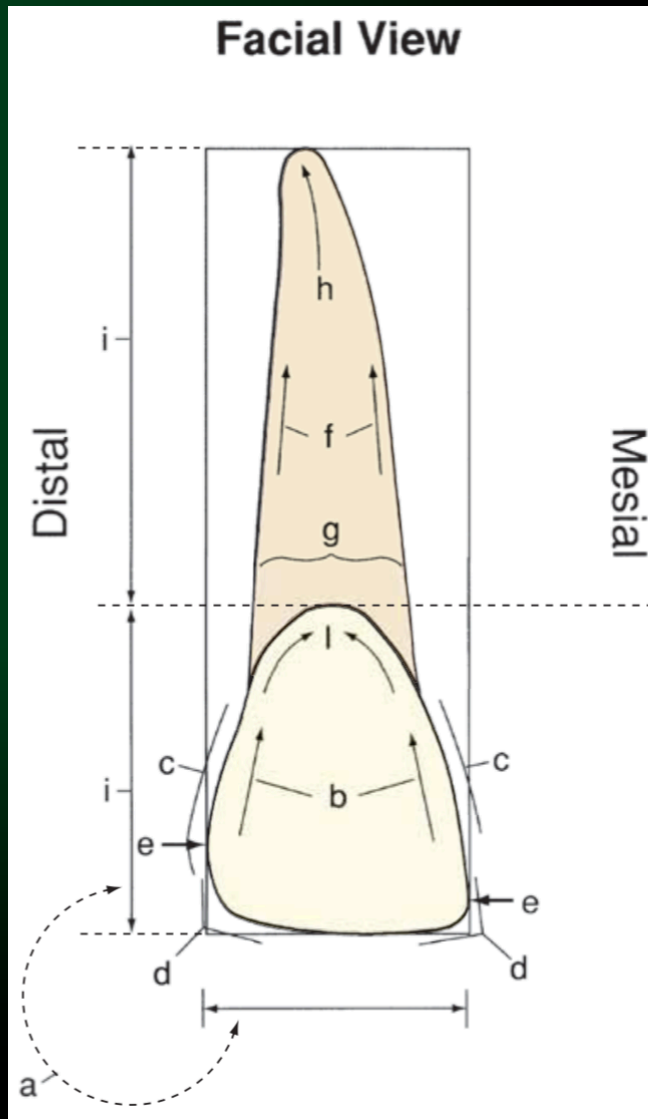
r. Facial outlines are less convex (broader) than lingual outlines.



Class Traits

General Characteristics of All Incisors

1. Cervical lines on the facial (and lingual) surfaces are convex (curve) toward the apex.



Class Traits

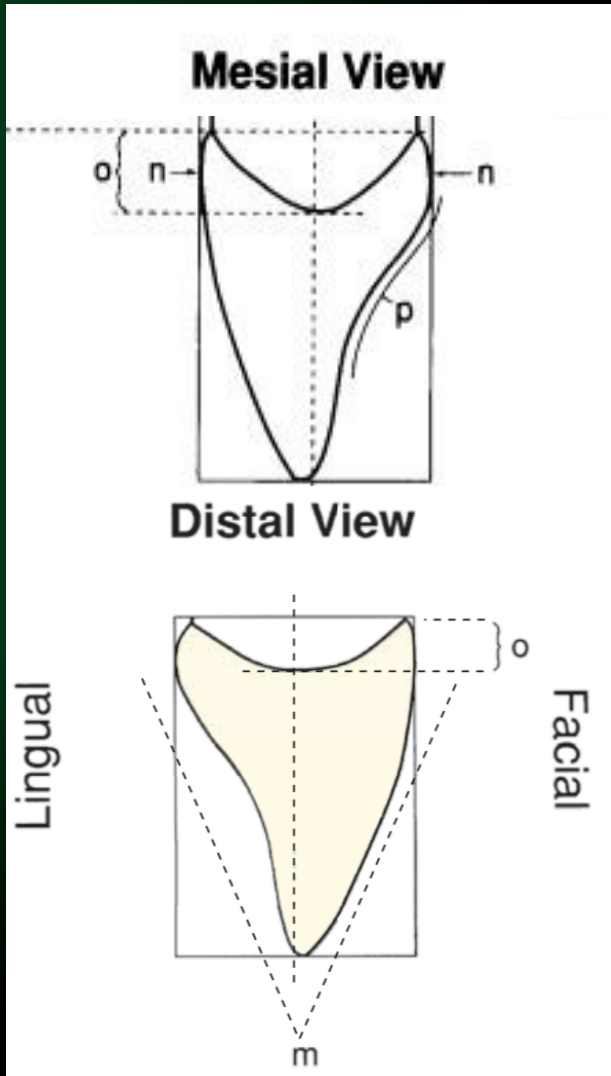
General Characteristics of All Incisors

m. Proximal outlines are wedge shaped.

n. Facial and lingual crests of curvature are in the cervical third.

o. Proximal cervical lines are convex (curve) toward the incisal AND more so on the mesial than on the distal surfaces (compare mesial versus distal views).

p. Lingual outlines are "S" shaped with a concave lingual fossa and convex cingulum, with the lingual outline of the marginal ridges more vertical than horizontal (proximal views).

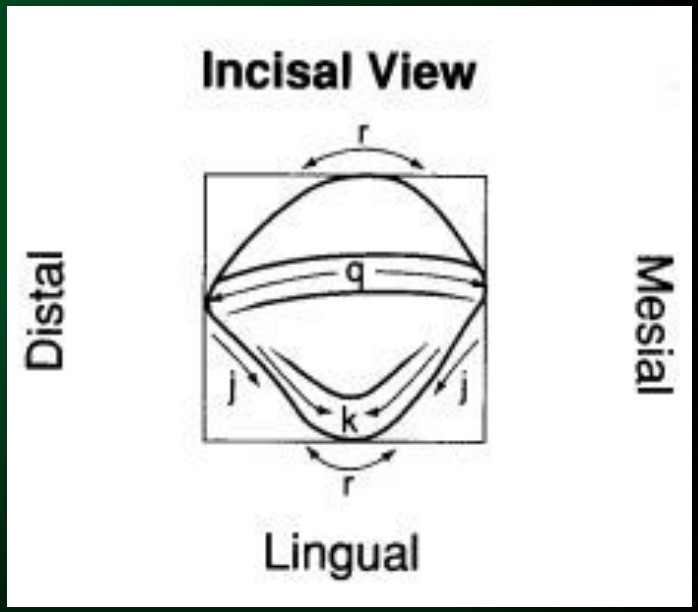


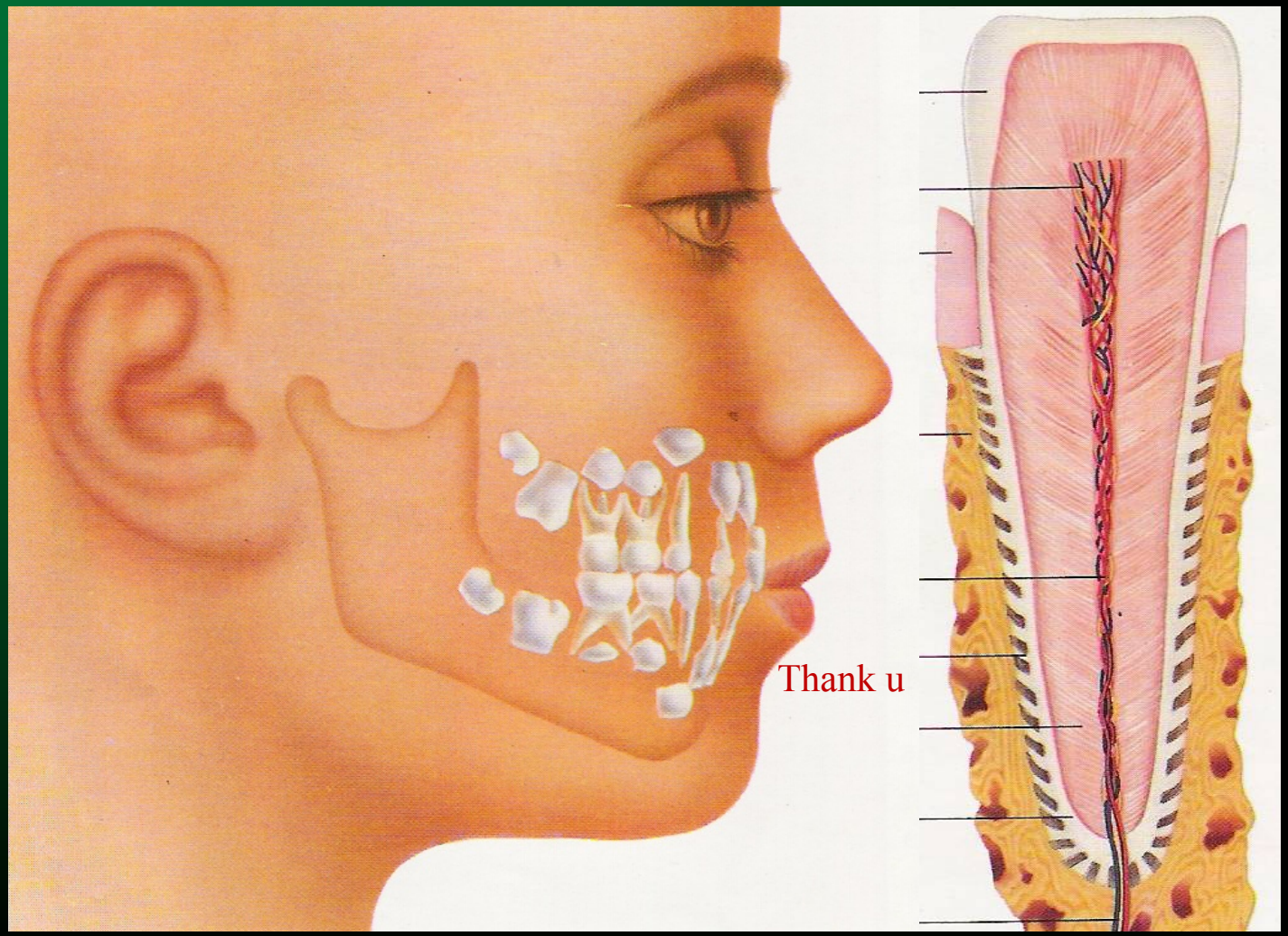
Class Traits

General Characteristics of All Incisors

q. Incisal edges terminate mesially and distally at the widest portion of the tooth crown.

r. Facial outlines are less convex (broader) than lingual outlines.

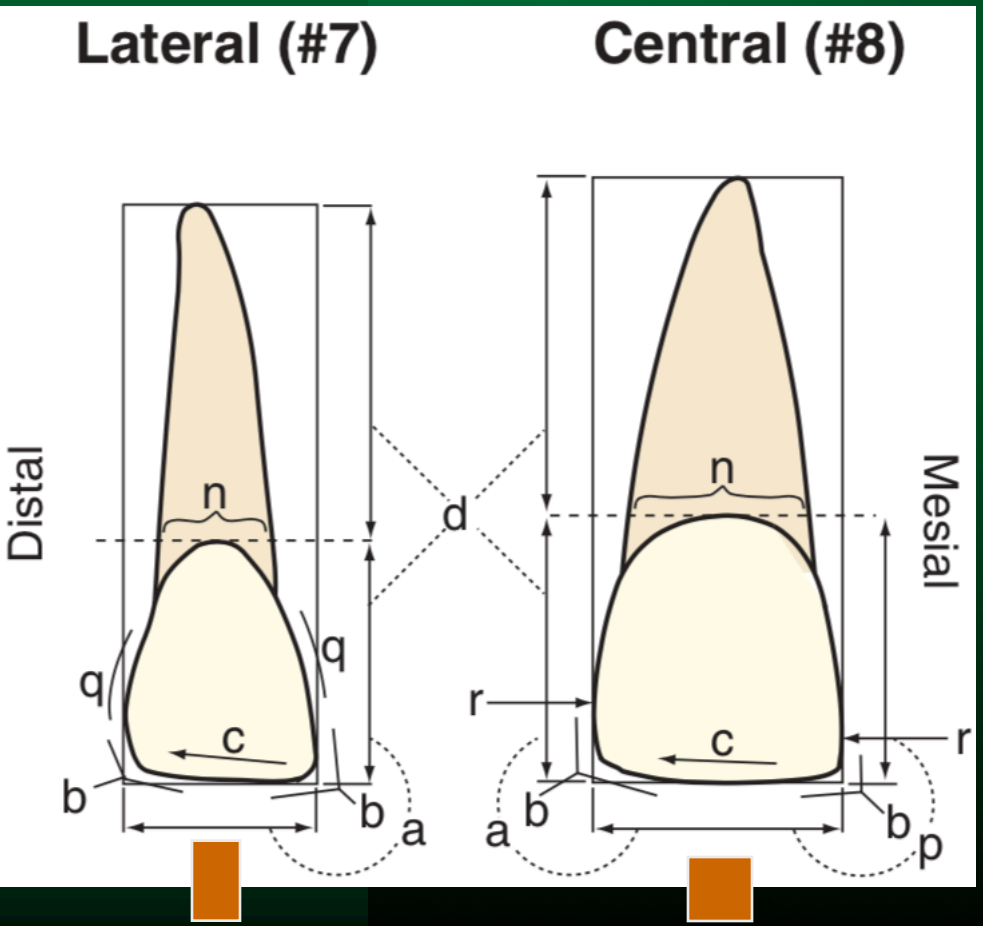



Thank u

BELUR, KARNATAKA

Type Traits

Maxillary Central Incisor Vs Maxillary Lateral Incisor

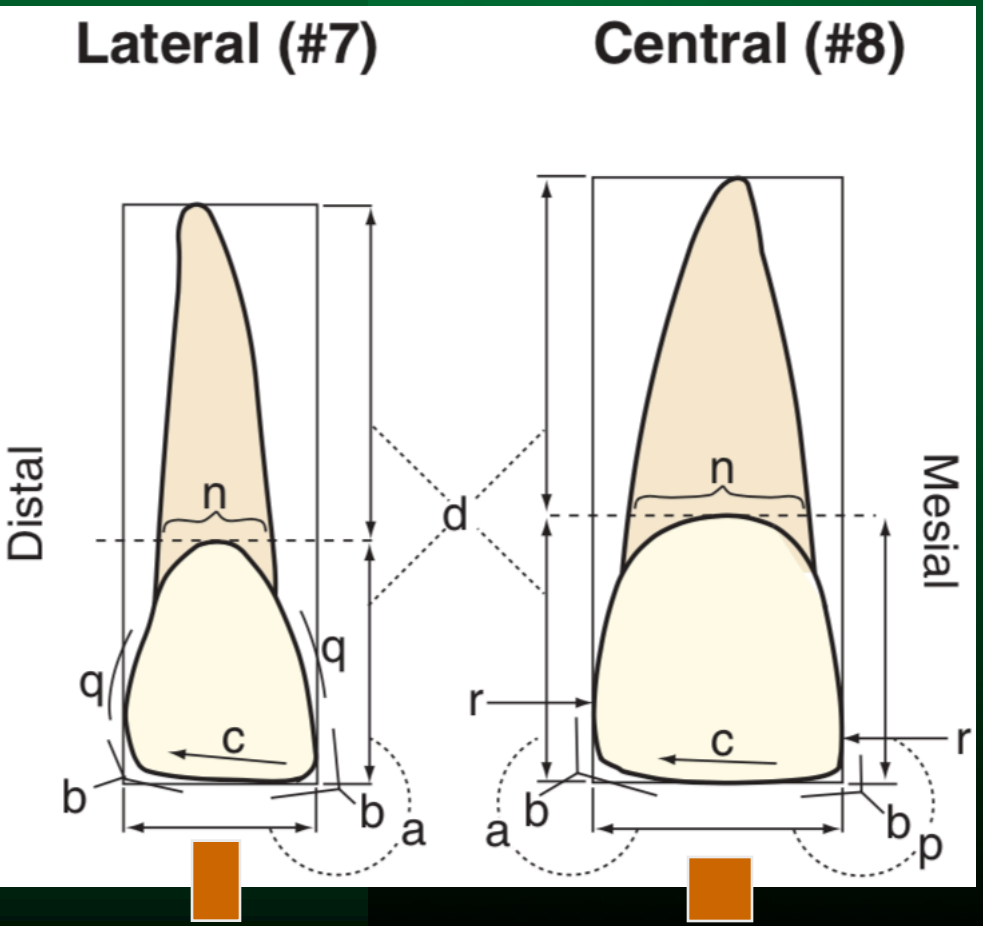


a. Although both have larger cervicoincisal dimension than mesiodistal, maxillary central incisors are closer to square. Lateral incisors are more oblong cervicoincisally.

b. On both maxillary incisors, the mesioincisal angles are close to 90; the distoincisal angles are more rounded, but both angles are more rounded on the lateral versus central incisor.

Type Traits

Maxillary Central Incisor Vs Maxillary Lateral Incisor

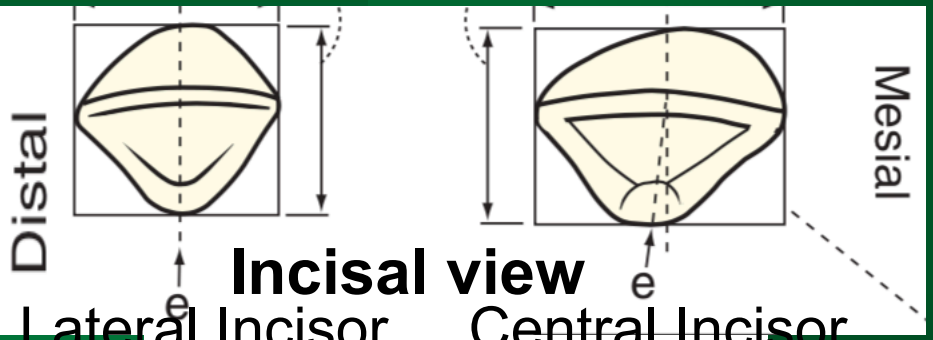


c. Incisal edges slope cervically toward the distal, more so on lateral incisors.

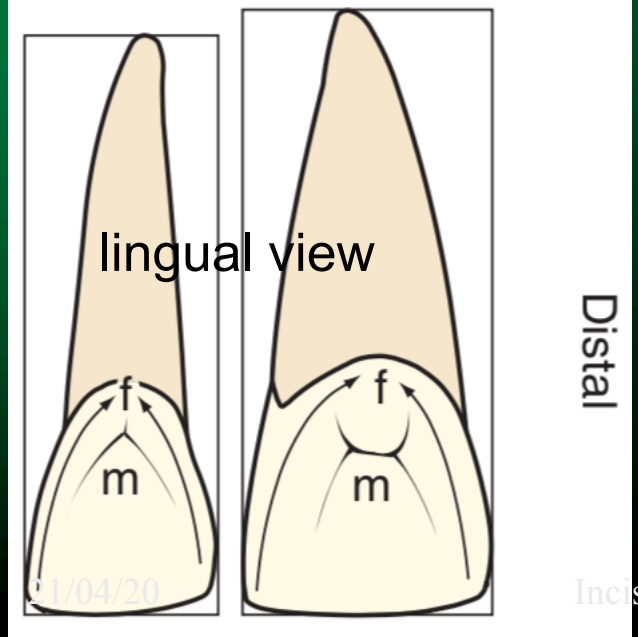
d. The roots of maxillary central incisors have crowns and roots closer to the same length. Lateral incisors have proportionately longer roots relative to crowns.

Type Traits

Maxillary Central Incisor Vs Maxillary Lateral Incisor



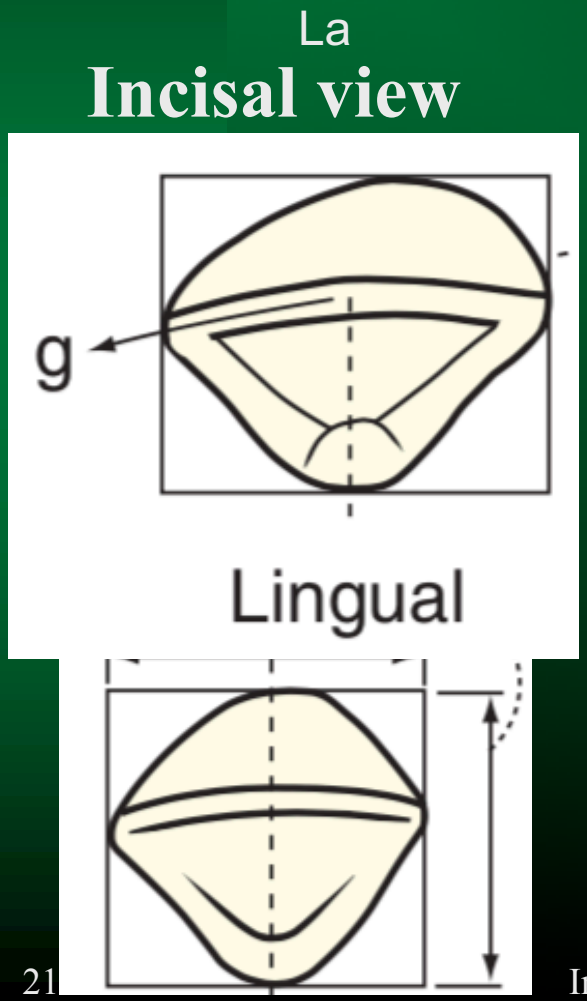
e. When the Incisal edges are aligned horizontally, cingula of maxillary central incisors are off-center to the distal versus cingula of lateral incisors which are centered.



f. Mesial marginal ridges are longer than the distal marginal ridges (in central incisors due to the distally displaced cingulum, and in lateral incisors, due to the cervical slope of the incisal edge to the distal).

Type Traits

Maxillary Central Incisor Vs Maxillary Lateral Incisor

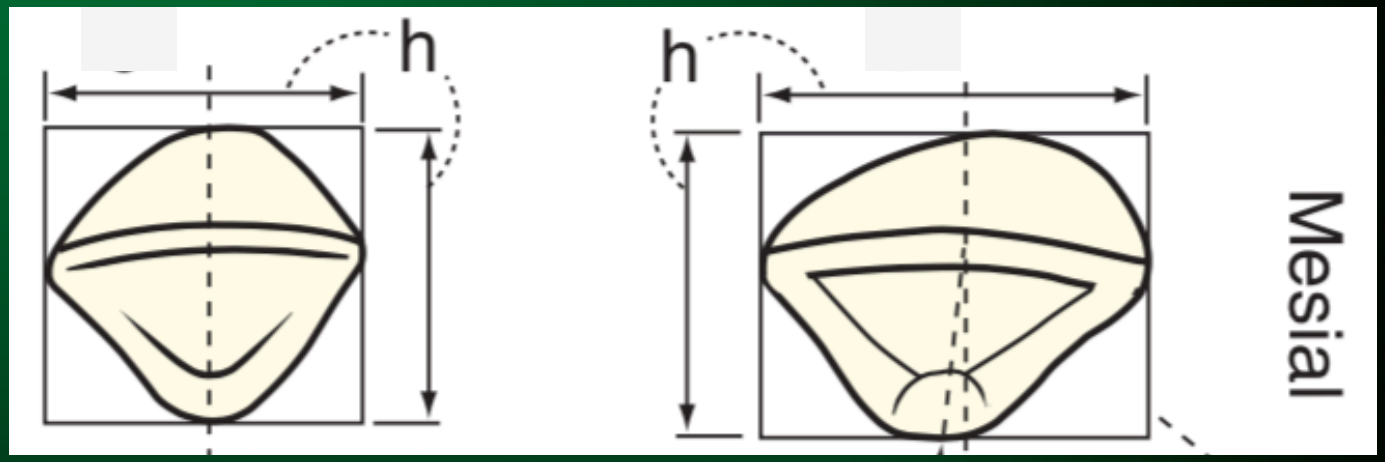


g. When the crest of curvature of the cingulum is positioned directly downward, the incisal edge of maxillary central incisors have a slight **distolingual twist** with the distoincisal corner more lingual than the mesioincisal corner.

Lateral incisor ridges run mesiodistally with no twist.

Type Traits

Maxillary Central Incisor Vs Maxillary Lateral Incisor



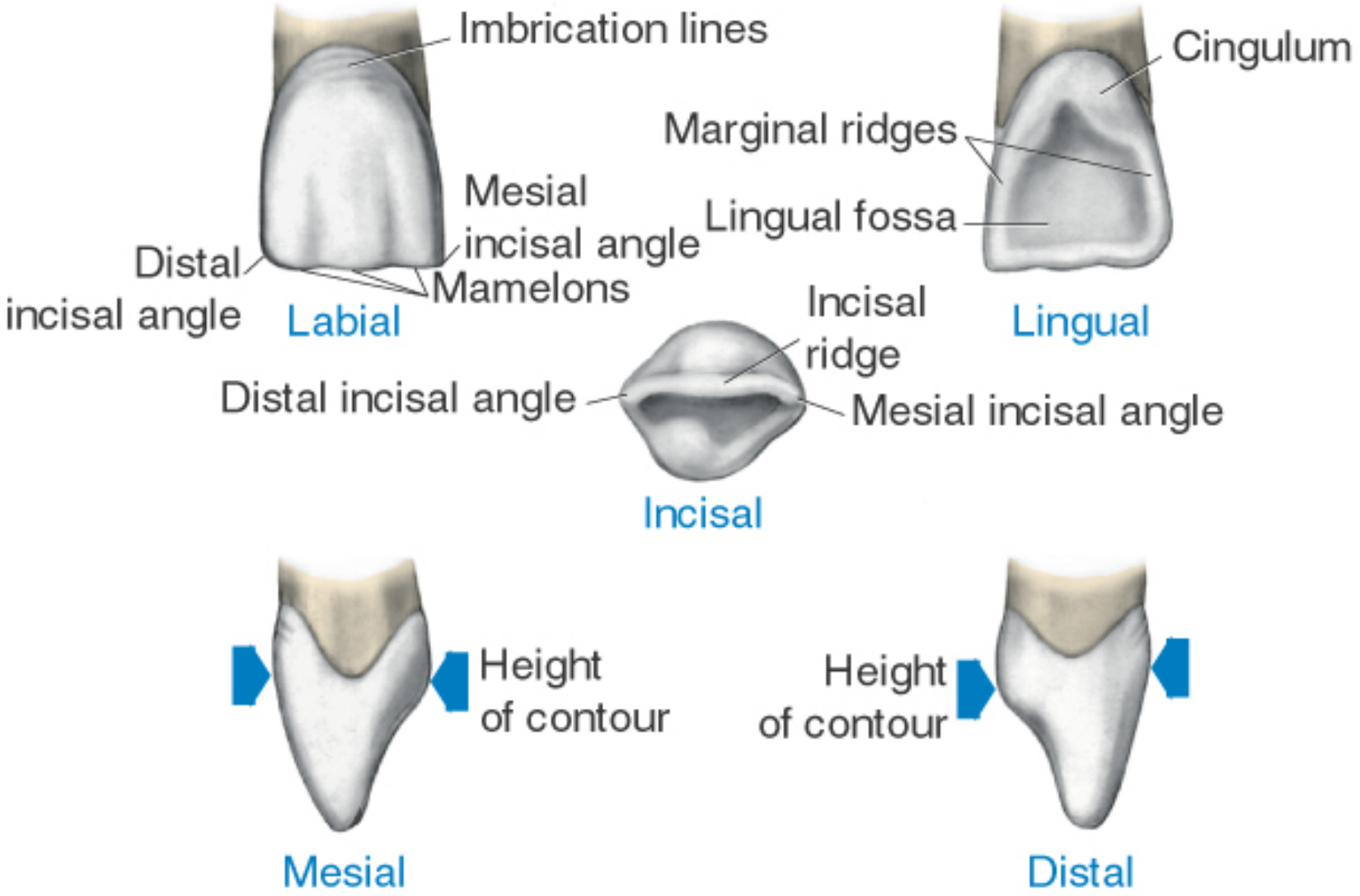
h. Mesiodistal dimensions on central incisors are considerably wider than faciolingual dimensions (rectangular shaped).

On lateral incisors these dimensions are more nearly equal (closer to square).

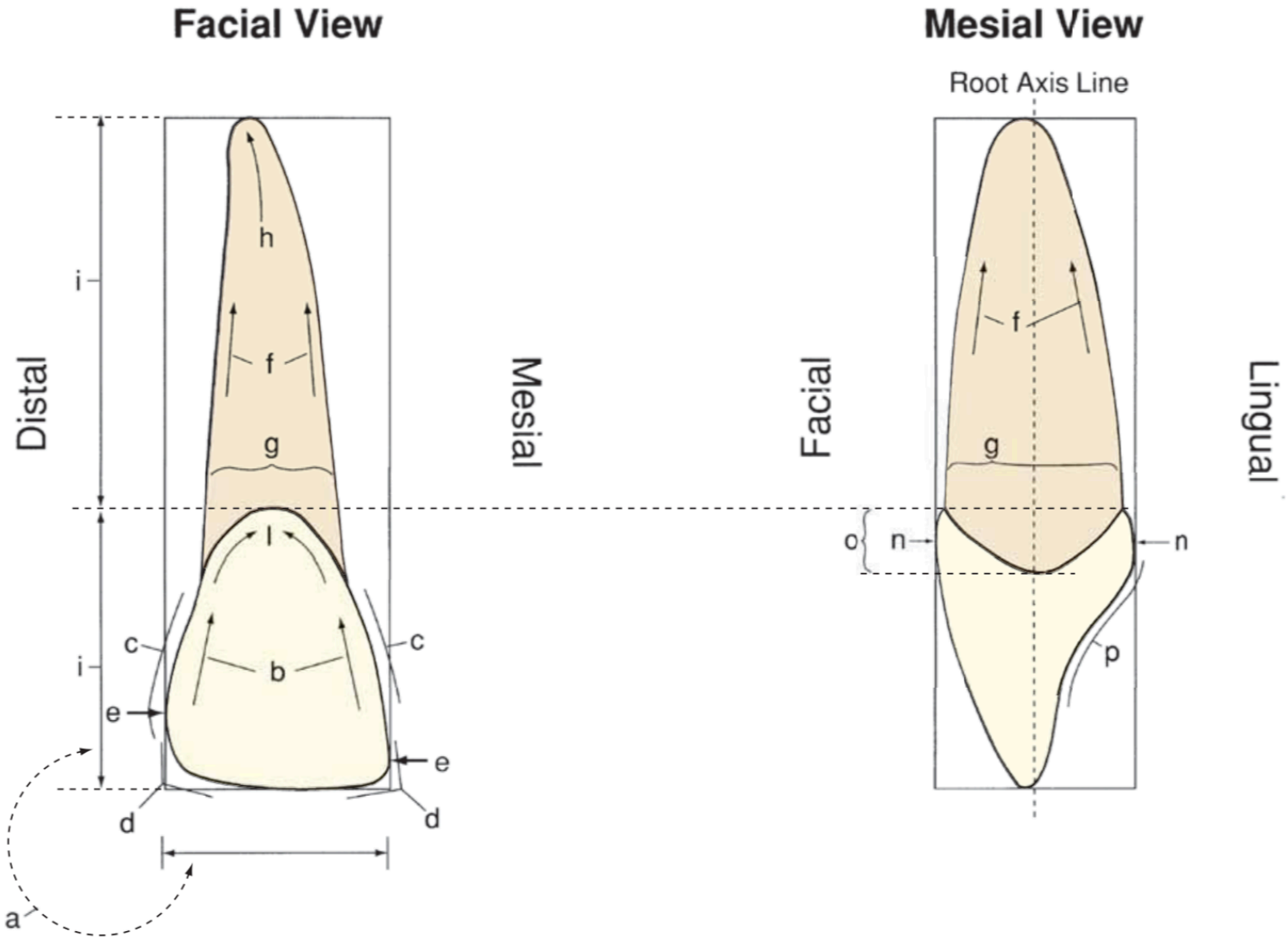
Thank u

Maxillary Central Incisors

- **Eruption age**:- 7-8 yrs
- **Root completion:-** 10 yrs
- **Crown completion**:- 3-4 yrs
- **Functions** :-
  1. Cutting food
  2. Enabling articulate speech.
  3. Helping to support lip and maintain good appearance.
  4. To help guide the mandible posteriorly during the final phase of closing just before the posterior teeth contact.

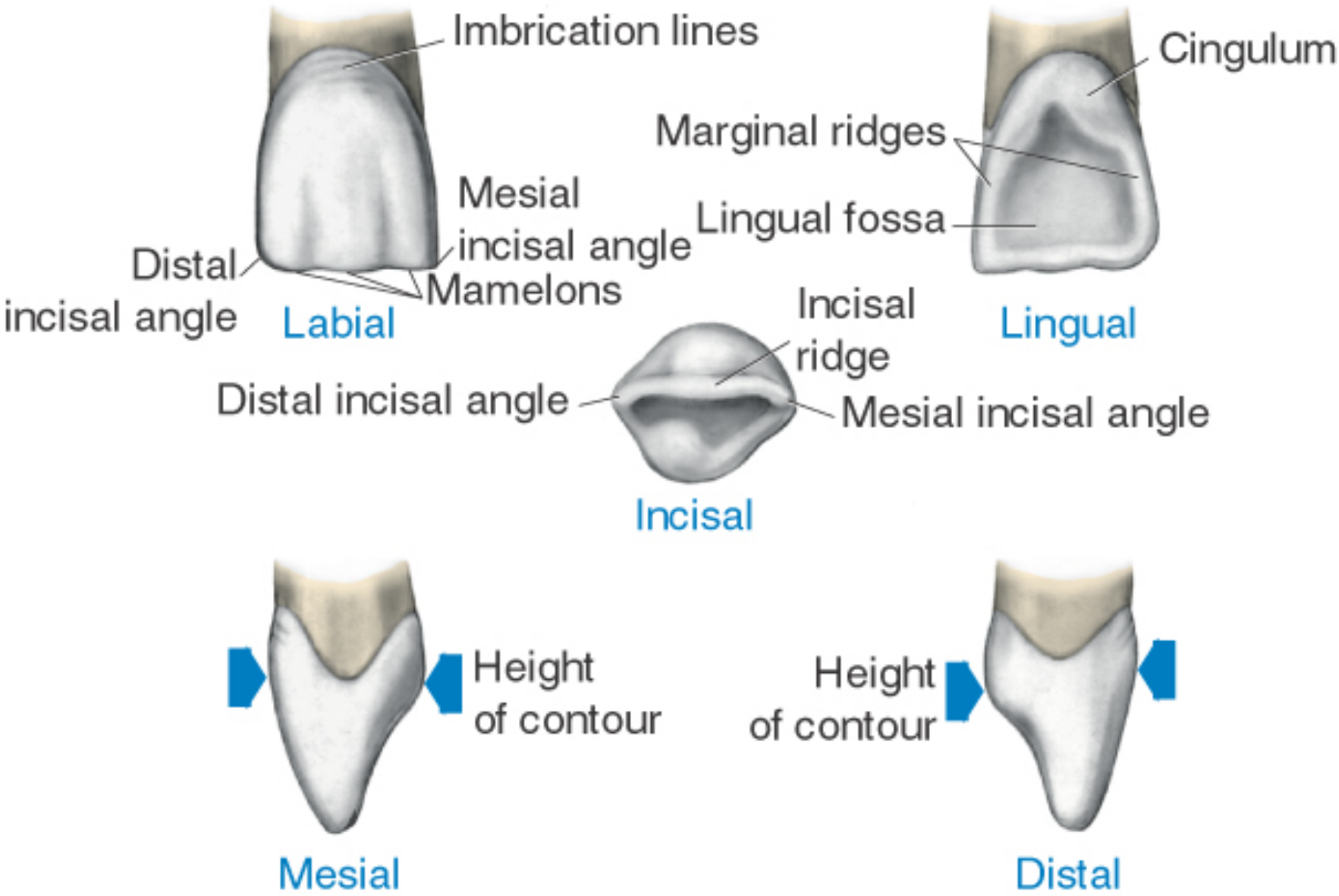


Copyright © 2003, Elsevier Science (USA). All rights reserved.


Facial View
Mesial View
Root Axis Line
Distal
Mesial
Facial
Lingual
h
i
f
g
l
c
b
e
d
a
o
n
p

Maxillary Lateral Incisor

- **Eruption age**:- 8-9 yrs
- **Root completion:-**11 yrs
- **Crown completion**:-4-5 yrs
- **Functions** :-
  1. Cutting food
  2. Enabling articulate speech.
  3. Helping to support lip and maintain good appearance.
  4. To help guide the mandible posteriorly during the final phase of closing just before the posterior teeth contact.



Copyright © 2003, Elsevier Science (USA). All rights reserved.


© ELSEVIER, INC. – NETTERIMAGES.COM

Introduction

- The maxillary lateral incisors are smaller than the central incisors in all dimensions except root length.
- They usually erupt after the maxillary central incisors.
- It has a single root that is relatively smooth and straight but may curve slightly to the distal.

- It **vary in form** more than any other tooth in the mouth, except the third molars, and frequently are congenitally missing.
- Hence present challenges during preventive, restorative, and orthodontic procedures.
- Often, *diastemas* occur in this area because of the variations in tooth size and position in the arch.

Dimensions:-

Crown length- 9.0mm

Root length-13.0mm

Overall length-22.0mm

Crown width(M-D)-6.5mm

Crown width(F-L)-6.0mm

Cervix width(M-D)-5.0mm

Cervix width(F-L)-5.0mm

Mesial cervical curve-3.0mm

Distal cervical curve-2.0mm

A. LABIAL ASPECT

CROWN:-

i. Crown shape and size-

a) More oblong cervicoincisally (more convex less flat mesiodistally)

b) Root longer, crown narrow, slender look

ii. Crown incisal proximal angles-

a) MI and DI angles are more rounded

b) MI angle more acute

c) DI angle more obtuse

iii. Crown contact areas from the labial view-

a) Mesial- In incisal 3rd or near the junction of incisal and middle 3rd

b) Distal- more cervical than mesial contact area (in the middle 3rd)

iv. Tooth proportion- root longer than crown and crown narrow mesiodistally than faciolingually

ROOT:-

a) apical end bent distally

b) root tapers towards rounded apex

B. Lingual aspect

Crown:-

i. Lingual fossa – a) smaller in area
b) more pronounced

ii. Cingulum- a) narrower than central incisor
b) centered on root axis line

iii. Marginal ridge – a) mesial- nearly straight, long
b) distal- curved, short

iv. Lingual anatomy – accessory lingual ridges may be present

Root :-

a) narrower

b) root depression present on mesial side

C. Proximal aspect (mesial and distal)

Crown:-

i. Incisal ridge – a) 1.5-2mm thick on F-L
b) labial to root-axis line
c) sloped cervically towards the lingual from its most labial portion

ii. Cervical line – a) 3.0mm mesial
b) 2.0mm distal

Root :-

i. Root outline – a) root tapers towards apex
b) slightly longer than central incisor

ii. Root depression – a) longitudinal depression present on mesial side
b) mesial surface- flattened
c) distal surface- convex

D. Incisal aspect

i. Crown proportions- a) M-D> L-L

ii. Crown outline – a) more rounded, oval than triangular
b) more narrow than central incisor
c) cingulum nearly centered

iii. Incisal ridge contour – a) straighter mesiodistally than central incisor

iv. Cingulum – centered on root axis line

v. Labial contour – a) more convex than central incisor

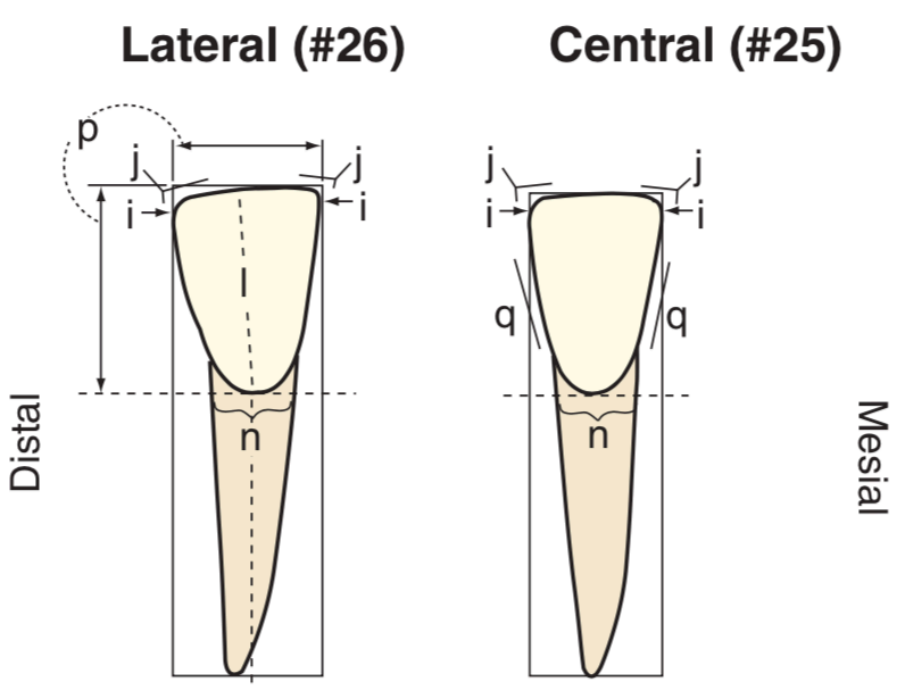
- Thank you

TYPE TRAITS

MANDIBULAR CENTRAL INCISOR V/s MANDIBULAR LATERAL INCISOR

i. Mandibular lateral incisors have the distal proximal contacts more apical than the mesial contacts. Central incisor contacts are at the same level.

j. Lateral incisors have the distoincisal angles more rounded than the mesioincisal angles. On central incisors the mesioincisal and distoincisal angles are quite similar.

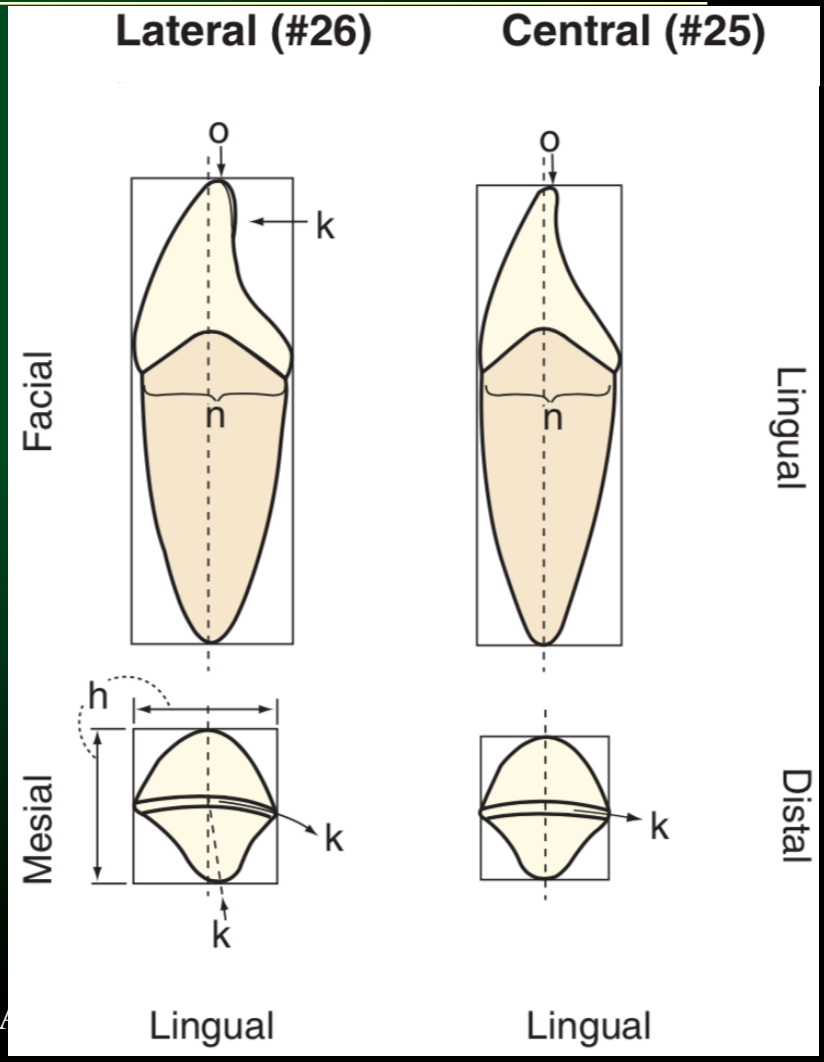


(Facial Views)

TYPE TRAITS

MANDIBULAR CENTRAL INCISOR V/s MANDIBULAR LATERAL INCISOR

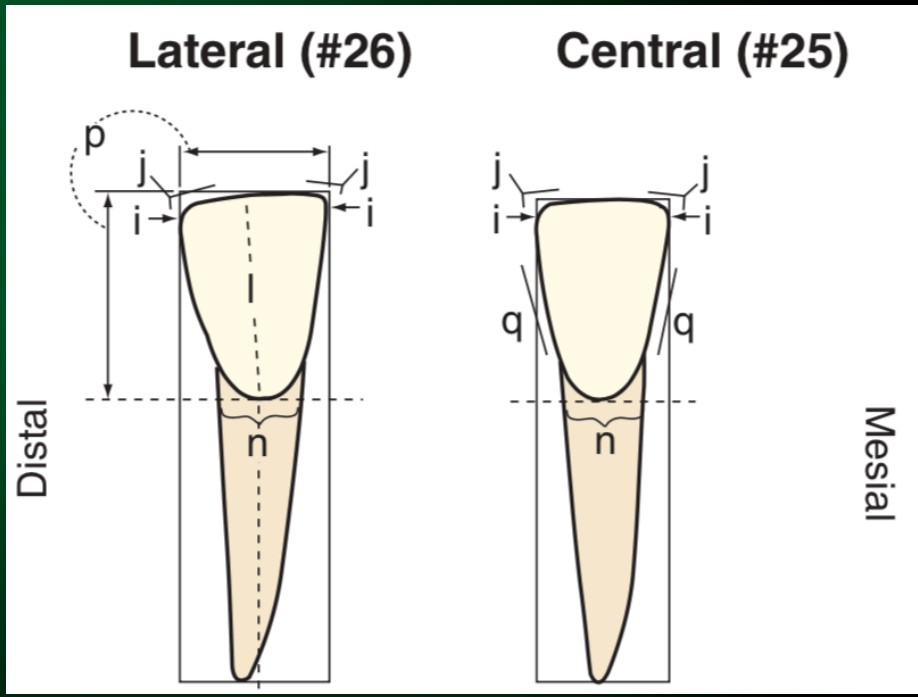
- k. Incisal edges of lateral incisors have a slight distolingual twist (relative to a line bisecting the cingulum). Central incisors have their incisal edges at right angles (with no twist) to this bisecting line.



TYPE TRAITS

MANDIBULAR CENTRAL INCISOR V/s MANDIBULAR LATERAL INCISOR

- 1. The crowns of the mandibular lateral incisor tip slightly to the distal relative to the root (facial views).



(facial views)

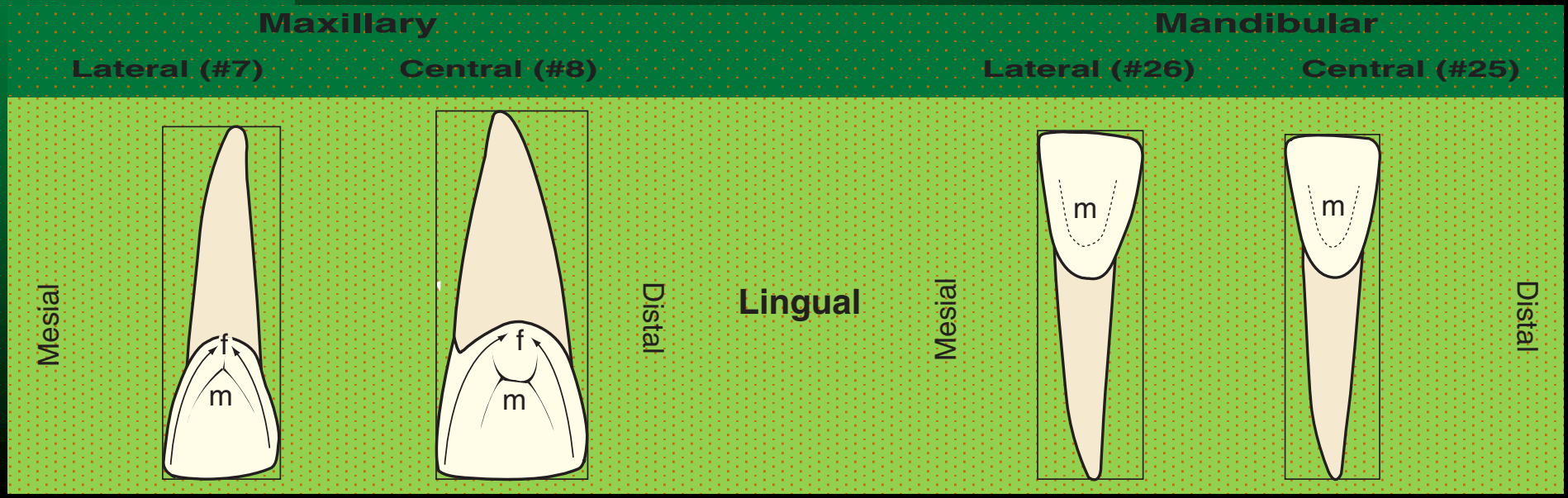
- Thank you,

ARCH TRAITS

MAXILLARY V/s MANDIBULAR INCISORS

m. Lingual fossae are more pronounced on maxillary incisors (often with a lingual pit, especially on the maxillary lateral incisor).

Mandibular incisors have smoother lingual anatomy without grooves and pits (lingual views).

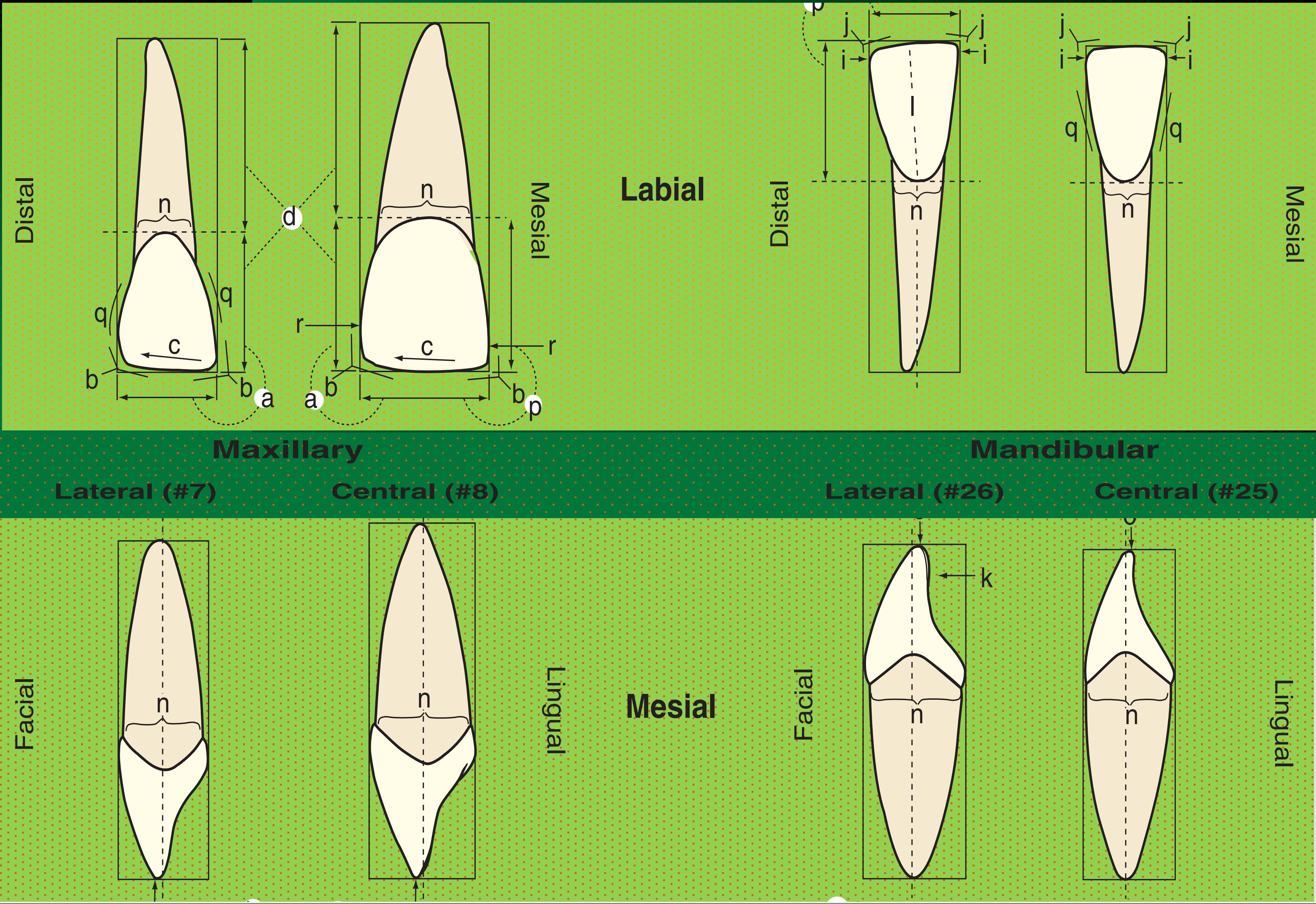


ARCH TRAITS
MAXILLARY V/s MANDIBULAR INCISORS

n. Maxillary incisors have roots that are closer to round in cross-section.

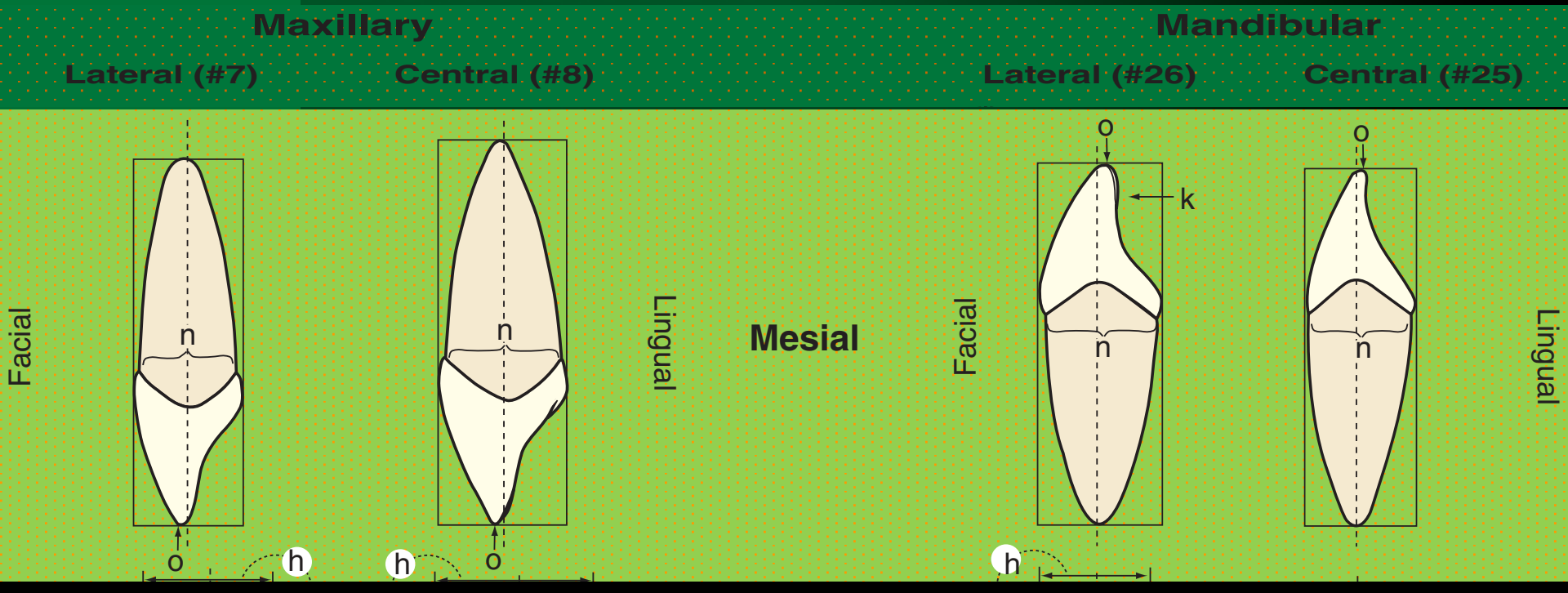
Mandibular incisors have roots that are more ribbon-like (that is, are thin mesiodistally and much wider faciolingually).

Compare proximal views to facial views.


Distal
Mesial
Labial
Distal
Mesial
Maxillary
Mandibular
Lateral (#7)
Central (#8)
Lateral (#26)
Central (#25)
Facial
Lingual
Mesial
Facial
Lingual
n
q
c
b
a
d
r
p
j
i
l
k

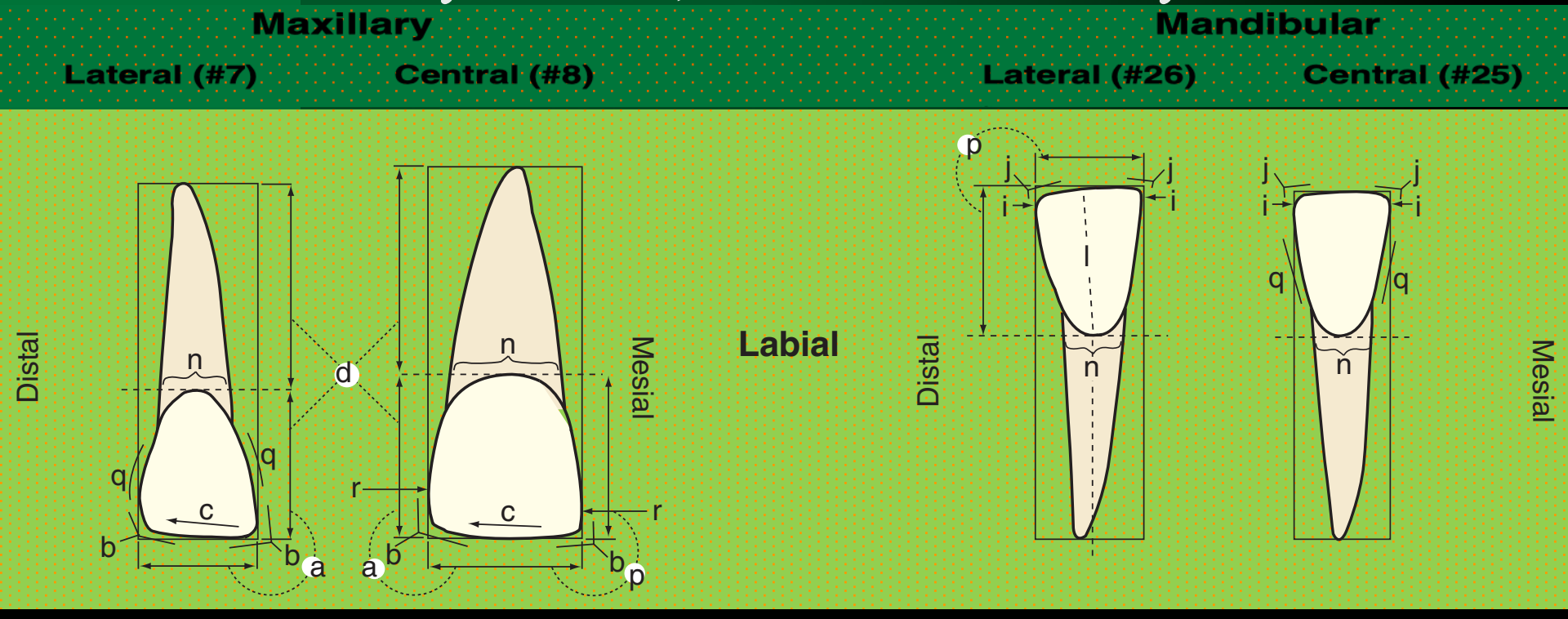
ARCH TRAITS
MAXILLARY V/s MANDIBULAR INCISORS

0. Incisal edges of maxillary incisors are often labial to the root axis line. Mandibular incisal edges are often lingual to the root axis line (proximal



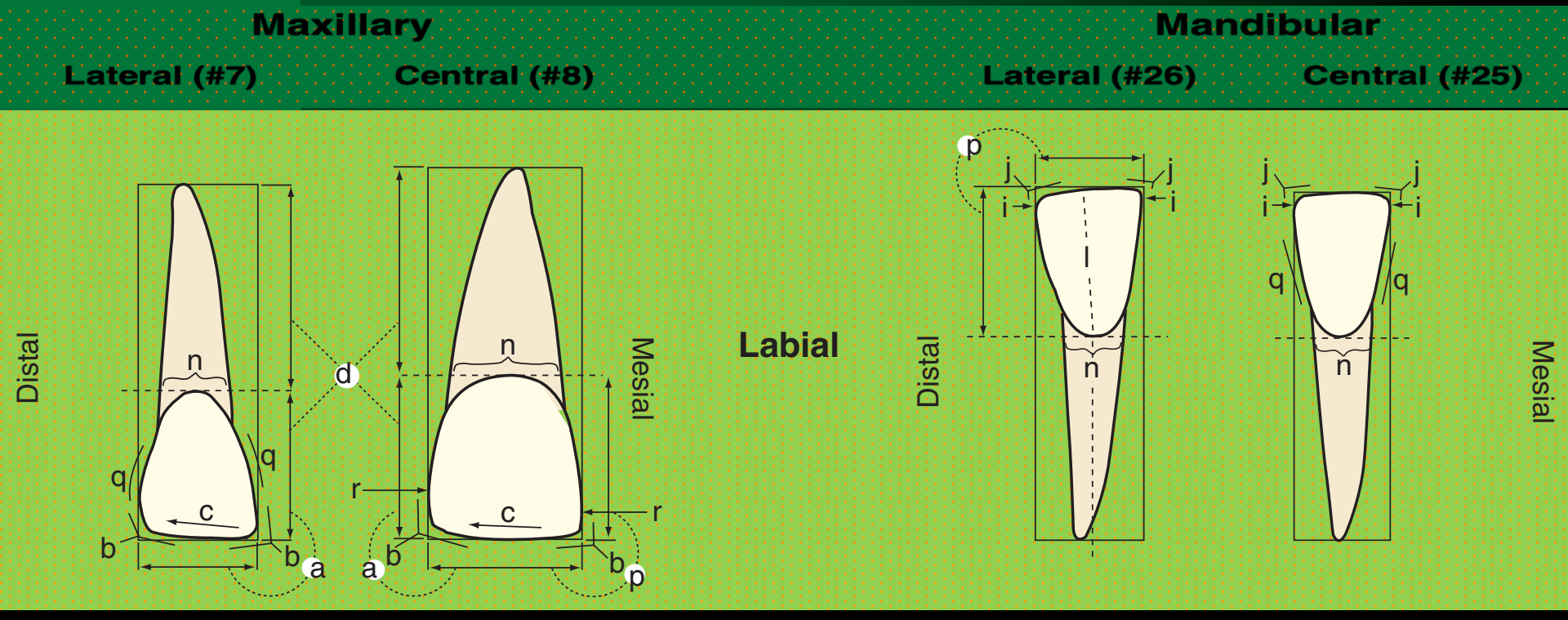
ARCH TRAITS
MAXILLARY V/s MANDIBULAR INCISORS

p. Mandibular crowns are smaller and narrower mesiodistally relative to the length compared to maxillary incisors, which are relatively wider.



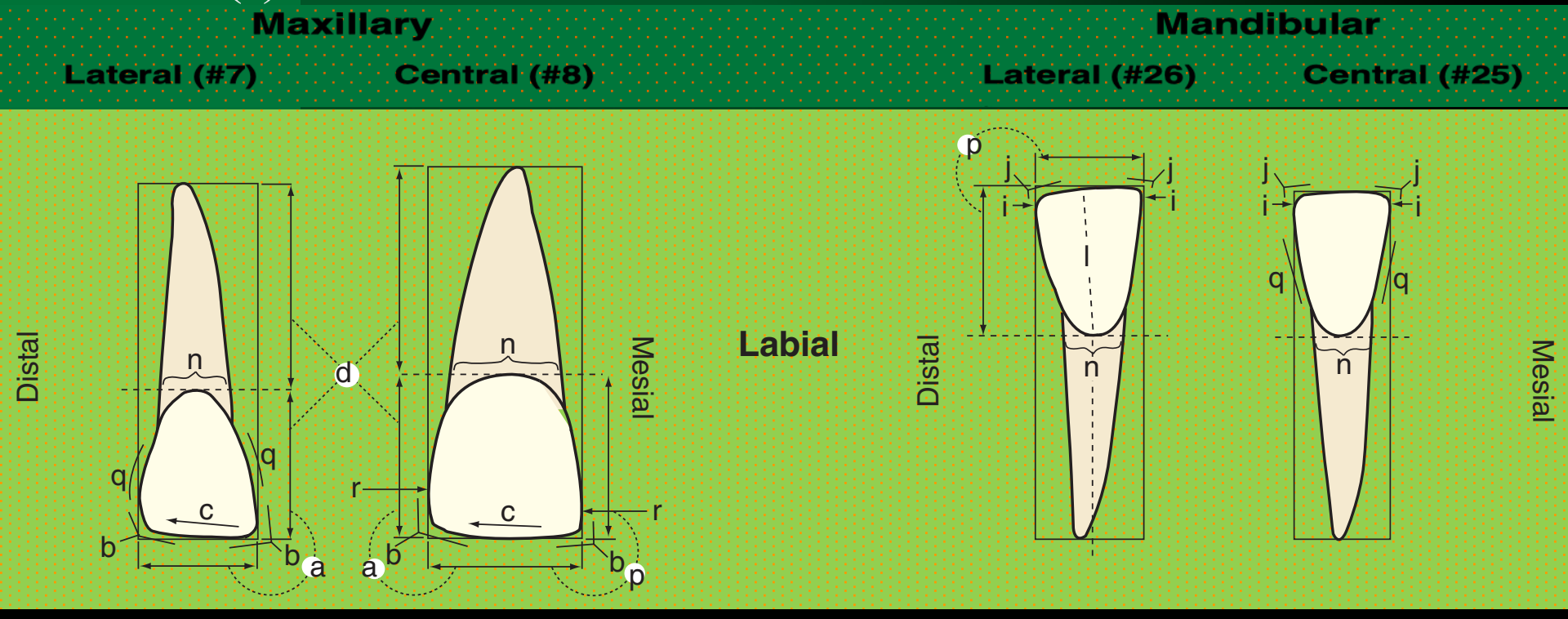
ARCH TRAITS
MAXILLARY V/s MANDIBULAR INCISORS

q. Mandibular crowns have outlines mesially and distally that are flatter than on maxillary incisors.



ARCH TRAITS
MAXILLARY V/s MANDIBULAR INCISORS

r. Proximal contact points are closer to the incisal edge on mandibular incisors (i) than on maxillary (r).....



ARCH TRAITS
MAXILLARY V/s MANDIBULAR INCISORS

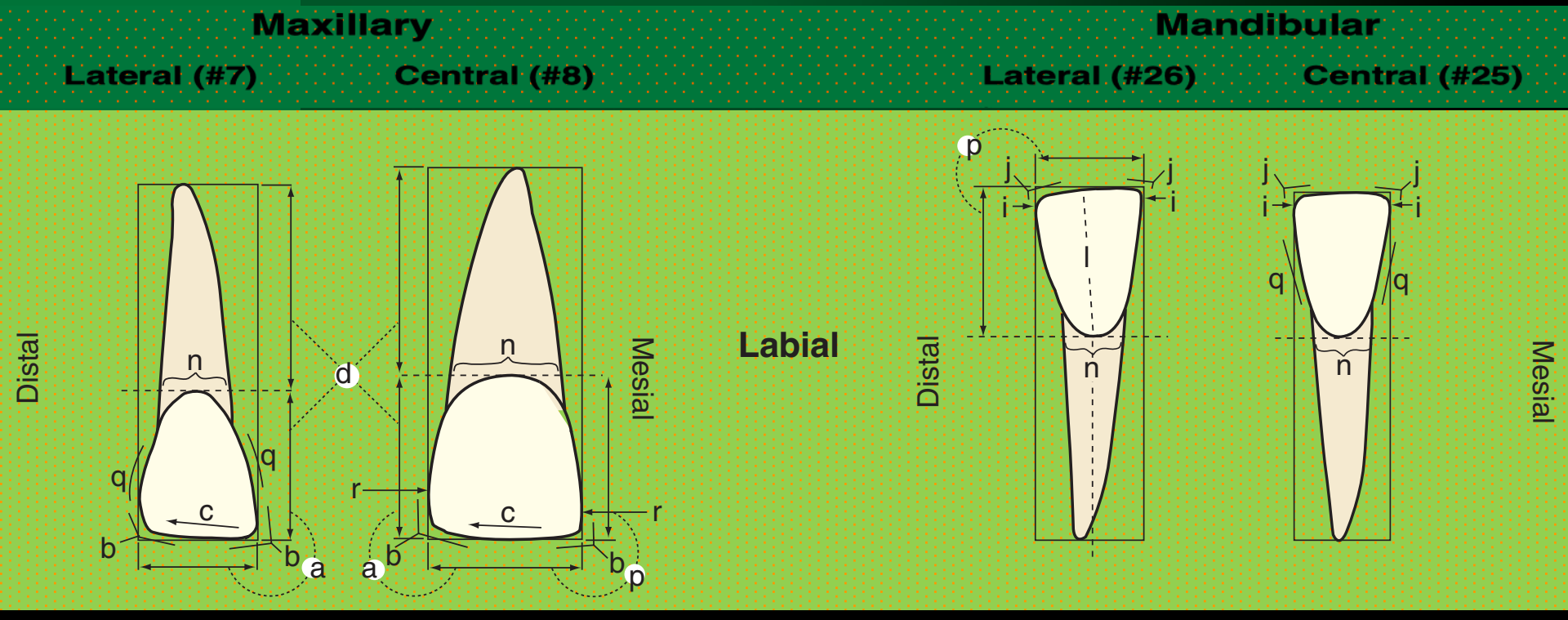
.....

Although incisor proximal contacts are in or close to the incisal third of the crowns [EXCEPT distal of maxillary laterals which are in the middle third], and

Distal contacts are more cervically positioned than mesial contacts [EXCEPT mandibular centrals].

ARCH TRAITS

MAXILLARY V/s MANDIBULAR INCISORS



- Thank you.