# Chapter 2: THE PERMANENT INCISORS

## I. Introduction:

A. The permanent incisors are the first and second teeth from the midline. The incisor closest to the midline is termed the central incisor, while the second tooth from the midline is the lateral incisor.

B. **The central and lateral incisors** of the same arch resemble each other more closely **than** they resemble any incisor of the opposing arch.

**- In size**, the maxillary incisor crowns are generally larger **than** those of the mandibular incisors. In the maxillary arch, the central incisor crown is normally larger **than** the crown of the lateral incisor. However, in the mandibular arch, the lateral incisor crown and root are generally larger **than** those of the central incisor, although only very slightly.

C. The incisors as a group participate in all three of the major functions of the human dentition and have a greater role in esthetics and phonetics than any other group of teeth.

1. Mastication - They function by biting, cutting, incising and shearing, thus breaking the food particles into smaller pieces suitable for grinding.

2. Esthetics - Not only do the size, shape, color, and manner of placement of incisors directly contribute to a person's appearance, but they provide the support necessary for the normal profile of the lips and face.

3. Phonetics - They are necessary for the execution of certain sounds.

**D. Four features which aid in differentiating the crowns of incisors from the crowns of other permanent teeth, include:**

1. **Incisal Edge** - This flattened edge, or surface, differs greatly from the single cusp of canines, and the multi-cusped occlusal surfaces of posterior teeth.

2. **Mamelons** - marnelons are rounded extensions of enamel on the incisal ridge of recently erupted incisors, and most often are **three** in number.

Normally, mamelons **wear away** soon after the incisors come into active occlusion. However, they are occasionally seen in adult mouths, when the incisors have not been in functional occlusion.

3. **Position and angulation of marginal ridges** - The location and angulation of the marginal ridges of incisors (and canines) contrast markedly with the same features of the marginal ridges of posterior teeth.
***On incisors***, the marginal ridges are the mesial and distal terminations of the lingual surface, and are **more or less parallel** to the tooth's long axis, ***while on posterior*** teeth they are found on the occlusal surface, and are roughly at **right angles** to the long axis of the tooth.

4. **Lingual fossa and cingulum** - The crowns of the incisors exhibit a concavity which covers roughly the incisal half of the lingual surface. **Canines** normally have a lingual ridge which creates two fossae on the lingual surface, and **posterior teeth** display two or more fossae on their occlusal surfaces. The remainder of the lingual surface is occupied by a general convexity which has been previously defined as a cingulum. Canines normally exhibit a cingulum which is more prominent than that of incisors, but posterior teeth have no comparable structure.

# II. The Permanent Maxillary Incisors:

## A. Introduction:

When **compared to the mandibular incisors**, those in the maxillary arch have crowns which are generally larger in all dimensions, but especially mesiodistally. The crown area of the **maxillary central incisor** is normally much greater than that of the **maxillary lateral incisor**. The lateral incisor crown is similar in form to the crown of the central incisor, only on a smaller size scale in all dimensions.

## B. Permanent Maxillary Central Incisor:

### 1. General characteristics:

a. Arch position - The maxillary central incisors are the two teeth which are **adjacent to the midline** in the upper arch. They share a mesial contact area with each other, and have a distal contact with the lateral incisors.

b. Universal number:
Maxillary right central incisor - **#8**
Maxillary left central incisor - #9

c. General form and function - As viewed from the labial or lingual aspects, the crown is **trapezoidal in shape**, and the **widest mesiodistally** of any anterior tooth. As viewed from either proximal aspect, the crown is **triangular in shape**. The general crown size exceeds that of any other incisor in either arch.

The central incisors' functions in mastication are biting, cutting, incising and shearing. They also play an important role in the esthetics and phonetics functions of the human teeth.

### 2. Development Table: (Maxillary central incisor)*

Initiation of calcification ..... 3 to 4 months
Completion of enamel ..... 4 to 5 years
Eruption ..... 7 to 8 years
Completion of root ..... 10 years

### 3. Labial aspect (of the crown):

a. General considerations - The basic geometric shape of the labial surface is trapezoidal, with the longer parallel side at the **incisal**, and the shorter side at the **cervical**. Although the crown is longer (incisocervically) than it is wide

(mesiodistally), these two dimensions are more nearly equal than for any other permanent incisor.
The labial surface is generally convex in both dimensions, mesiodistally and incisogingivally.

b. Mesial outline (margin) - The mesial outline of the crown is slightly convex, but can be nearly straight, with the crest of curvature at the contact area in the incisal third near the mesioincisal angle. The mesioincisal angle is rather sharp.

c. Distal outline - This outline is also convex, but more rounded than on the mesial, as is the distoincisal angle. The crest of curvature is associated with the contact area, which is located in the incisal third very near the junction of the incisal and middle thirds, and so is farther cervically than it is on the mesial.

d. Incisal outline - The incisal outline may exhibit mamelons. Without mamelons, the outline is generally straight, and nearly perpendicular to the long axis of the tooth.

e. Cervical margin (or CEJ) - The CEJ curves evenly toward the root. The crown is narrower mesiodistally at the cervical margin than at the incisal.

f. Other considerations:
Developmental depressions - Two straight, shallow depressions, which extend from the incisal edge toward the gingival, and fade out in the middle third. They are termed, mesiolabial and distolabial developmental depressions, and as has already been pointed out, they represent the division of the three labial lobes.

Imbrication lines - Faint, curved lines which roughly **parallel** the CEJ in the cervical third of the surface. They are not always present.
Height of contour - The labial crest of curvature is located in the cervical third.

## 4. Lingual aspect:

a. General considerations - The lingual surface is also roughly trapezoidal. It is slightly narrower mesiodistally than is the labial, since both mesial and distal surfaces converge slightly toward the lingual, a feature which is also true of all other anterior teeth. It has both convexities and a concavity. The incisal half to two-thirds of the surface is a large, usually shallow, concavity, termed the lingual fossa, while the convex structure in the cervical portion is known as the cingulum.

b. Mesial and distal outlines- These two margins are similar to their labial counterparts, except that they converge slightly more toward the gingival.

c. Incisal margin - The incisal margin is also similar to that of the labial aspect.

d. Cervical margin - The cervical outline has a slightly greater depth of curvature apically than on the labial surface, and is asymmetrical, with its area of maximum curvature **offset** to the distal.

e. Other considerations:

Lingual fossa - The lingual fossa is the shallow concavity found in the incisal half to two-thirds of the crown, which includes the largest area of the lingual surface. It. is bounded by **four** convexities; on the mesial and distal by the mesial and distal marginal ridges, on the incisal by the incisal edge, and on the cervical by the cingulum. The fossa is most often smooth.

Cingulum - The cingulum is the bulky convexity located in the cervical portion of the lingual surface. It is generally smooth. Sometimes there is a groove, the linguogingival groove, which separates the cingulum and the lingual fossa. On occasion, there may also be a lingual pit located between the cingulum and fossa. The pit may be found near the center of the linguogingival groove, if that structure is present. The linguogingival groove and lingual pit are much more commonly found on maxillary laterals **than** on maxillary centrals.

Marginal ridges - The marginal ridges mark the mesial and distal borders of the lingual fossa, as well as the lingual surface. They are linear, and extend from their respective incisal angles to the cingulum.

Height of contour - The lingual crest of curvature is located in the cervical third, at the greatest convexity of the cingulum.

## 5. Mesial aspect:

a. General considerations - From this aspect, the central incisor crown is roughly triangular in shape, and the incisal edge, at the apex of the triangle, lies over the long axis of the tooth. The mesial surface is generally convex in both dimensions, incisocervically and labiolingually.

b. Labial outline - The labial outline is convex, with the height of contour and the greatest convexity located in the gingival third. Some specimens may exhibit a flat outline incisal to the crest of curvature.

c. Lingual outline - The lingual margin is somewhat convex in the incisal portion, and convex in the gingival portion, The crest of curvature of the lingual outline is found in the cervical third at the prominence of the cingulum.

d. Cervical margin - The CEJ curves evenly toward the incisal. It exhibits the greatest depth of curvature of any tooth surface in the mouth.

e. Incisal outline - It is usually pointed or slightly rounded in newly erupted incisors due to the convergence of the labial and lingual surfaces. In teeth with incisal wear the outline is straight, but slopes from labial to lingual.

Before proceeding, the difference between two similar terms should be clarified. The incisal ridge is the projection of enamel on newly erupted teeth, which is the incisal termination of the tooth. In a proximal view, it is normally pointed, or slightly rounded. **After the tooth enters into occlusion**, this ridge is blunted and flattened, resulting in a sloping, straight outline from the proximal aspect. This flattened area is termed the incisal edge.

f. Other considerations:

Height of contour - The mesial height of contour is located in the incisal third at the contact area.

Contact area - The mesial contact area is located in the incisal third, near the incisal margin, and is centered labiolingually. It is roughly ovoid, long incisogingivally, and narrow labiolingually. It is the only proximal area in the maxillary arch where mesial surface contacts mesial surface.

## 6. Distal aspect:

The distal surface closely resembles the mesial surface, with the following exceptions:

a. The distal surface is generally smaller than the mesial surface, because the incisocervical dimension is shorter.

b. The distal surface is more convex incisogingivally.

c. The cervical margin does not curve as far incisally.

d. Because it contacts the lateral incisor, which is a smaller tooth, the distal contact area is accordingly smaller in size. Its shape is still **ovoid**, It is also located farther gingivally, still in the incisal third, but very near the junction of the incisal and middle thirds.

## 7. Incisal aspect:

a. From the incisal aspect, the central incisor's outline is roughly triangular. The incisal edge is relatively straight mesiodistally. From this aspect, it can be seen that the lingual surface is narrower mesiodistally than the labial surface. It is also apparent that this tooth and its incisal edge are the widest mesiodistally of any of the permanent incisors.

b. The labial and lingual outlines are convex to differing extents. The labial outline is only slightly convex, while the lingual outline is quite convex, due to the prominence of the cingulum. Portions of the lingual fossa and cingulum are visible. Most often, the greatest contour of the cingulum is **offset** to the distal.

## 8. Root:

a. The root is single, conical, relatively straight, and tapers to a rounded apex.

b. A horizontal cross section of the mid root shows a rounded triangular outline. Normally, the root is wider at the labial, which is the base of the triangle, and narrower at the lingual which is the apex.

C. The root length is approximately one and a half times the crown length.

### 9. Variations and Anomalies:

a. Of all the crown surfaces, the lingual exhibits the greatest variation. As previously mentioned, a pit may occasionally be present, and the depth of the fossa has a considerable range.

b. When viewed from the labial or lingual aspects, a wide variation occurs in the amount of convergence of the mesial and distal surfaces toward the cervical. **When** there is little convergence, the outline of the surface resembles a rectangle, but **when** great convergence is present, it is more nearly triangular.

c. Root length may vary considerably, but deflections of the root are relatively rare. When the root is exceptionally short, in conjunction with an abnormal contour of the crown, this anomalous condition is referred to as dwarfed root, and the lack of root support may endanger the tooth's longevity in the mouth.

d. Hutchinson's incisors - Congenital syphilis sometimes manifests itself in the central incisor by producing a screwdriver shaped crown, when it is viewed from the labial aspect.

e. Talon cusp - A large accessory cusp on the lingual surface of maxillary incisors characterizes this anomaly. Involved teeth often bear a resemblance to a Phillips screwdriver.

f. The alveolar bone between the roots of the two central incisors is occasionally the site of supernumerary teeth or extra teeth, known as mesiodens.

## C. Permanent Maxillary Lateral Incisor:

### 1. General characteristics:

a. Arch position - The maxillary lateral incisor is the tooth in each maxillary quadrant of the permanent dentition which is second from the midline. Contact is shared with the permanent central incisor on the mesial, while the distal contact is with the deciduous canine until its exfoliation at about age 12, and then with the permanent canine.

b. Universal number:

Maxillary right lateral incisor - #7
Maxillary left lateral incisor - #10

c. General form and function - The lateral incisor supplements the central incisor in function.

It resembles the central incisor in all aspects, but on a smaller scale. In fact, it is smaller in all measurements, **except** root length, which is roughly the same. Its relative crown dimensions, and hence its shape, differ slightly from the central, however. It is relatively longer incisocervically and narrower mesiodistally. It also is generally a **more round** tooth than the central incisor.

The upper lateral incisors display greater variation in form than any other permanent tooth, except the third molars.

## 2. Development Table: (Maxillary lateral incisor)

Initiation of calcification ..... 1 year
Completion of enamel ..... 4 to 5 years
Eruption ..... 8 to 9 years
Completion of root ..... 1 1 years

## 3. Labial aspect:

a. Mesial outline - This margin resembles that of the central incisor, but usually is more convex and has a more rounded mesioincisal angle. The crest of curvature, at the contact area, is located farther gingivally in the incisal third, quite near its junction with the middle third.

b. Distal outline - The distal margin is always more rounded than the distal outline of the central incisor, with a more cervically placed crest of curvature, usually at the junction of the incisal and middle thirds. The distoincisal angle is noticeably more rounded than its central incisor counterpart, and also more rounded than its own mesioincisal angle. In fact it is the most rounded incisal angle of any incisor in either arch.

c. Incisal outline - The incisal outline resembles the central incisor, but it is not so straight, partially because of the greater rounding of the two incisal angles. It exhibits the greatest rounding of any incisor.

d. Cervical outline - The cervical line curves in a regular arc apically, with only slightly less depth than in the central incisor.

e. Other considerations - The labial surface itself is more convex both mesiodistally and incisogingivally **than** the maxillary central.

Labial developmental depressions and imbrication lines are often present, similar to those of the central incisor.
The labial height of contour is located in the cervical third.

## 4. Lingual aspect:

a. Mesial margin - The mesial outline is similar to that of the central incisor.

b. Distal margin - This margin is also similar to its central incisor counterpart, and the distoincisal angle is much more rounded than is the mesioincisal angle.

c. Incisal outline - The incisal margin is similar to the labial aspect.

d. Cervical outline - The CEJ curves toward the apical.

e. Other considerations:

The mesial and distal marginal ridges, as well as the cingulum, are relatively more prominent, and the lingual fossa is deeper, when compared to the same structures of the central incisor.

A linguogingival groove is a **more** common finding in maxillary lateral incisors than in central incisors. A lingual pit, near the center of this groove, is also **more** common, and when present, is a potential site for caries.

Another groove, which is sometimes found on the lateral, but very rarely on the central incisor, is the linguogingival fissure. This groove usually originates in the lingual pit and extends cervically, and slightly distally, onto the cingulum.
The height of contour is associated with the greatest curvature of the cingulum in the cervical third.

## 5. Mesial aspect:

a. The mesial aspect is very similar to the central incisor, with lessened dimensions.

b. The contact area is also similar in shape to the contact of the central incisor. It is found in the incisal third very near the junction of the incisal and middle thirds.

c. The cervical line exhibits less depth of curvature than it does on the mesial of the central incisor.

## 6. Distal aspect:

a. The distal surface is smaller and more convex in all dimensions than the mesial surface.

b. The contact area is shorter and not as incisally placed, when compared to the mesial contact. It is normally located at the junction of the incisal and middle thirds.

c. The cervical line shows less curvature incisally than on the mesial surface.

## 7. Incisal aspect:

a. From the incisal aspect, the lateral generally resembles the central incisor **except** the cingulum is often more prominent.

b. The lateral incisor also exhibits relatively more convexity labially and lingually **than** the central incisor, and its outline may approach the rhomboidal appearance of the canine.

## 8. Root:

a. The lateral incisor root is single, and wider labiolingually **than** mesiodistally.

b. In comparison to the central, the root is **longer** in relation to the crown length. In actual length, the root is the same length or slightly shorter than that of the central.

c. The apex is relatively sharper than that of the central, and the apical third may be deflected, and if so it is most often toward the distal.

d. In both cervical and **midroot** cross sections, the outline is roughly ovoid, wider labiolingually than mesiodistally. The labial dimension is wider mesiodistally than is the lingual.

## 9. Variations and Anomalies:

a. The incisal portion of the cingulum may exhibit a tubercle.

b. The previously described linguogingival fissure may extend all the way onto the root surface from the adjacent cingulum.

c. Distorted crowns and unusual root curvatures are more commonly seen than with any other incisor.

d. Peg lateral - A diminutive peg-shaped crown form, which is relatively common, and is due to a lack of development of the mesial and distal "Peg" Crown portions of the crown.

e. Maxillary laterals sometimes are congenitally missing, i.e.: tooth buds do not form (agenesis).

f. The lingual pit of the maxillary lateral may be the entrance site where enamel and dentin have become invaginated in the tooth's pulp cavity, due to a developmental aberrancy called dens in dente.

# Ill. The Permanent Mandibular Incisors:

## A. Introduction:

The mandibular incisors are the simplest and least variable teeth in the mouth. They are also the smallest permanent teeth. The central is slightly smaller than the lateral, **whereas** in the maxillary incisors the central is considerably larger. The mandibular incisors resemble each other to an even greater extent than do the maxillary incisors. Compared to the maxillary incisors, they reveal crowns which are relatively longer incisocervically, and markedly narrower mesiodistally.

## B. Permanent Mandibular Central Incisor:

### 1. General characteristics:

a. Arch position - The mandibular central incisors occupy the position adjacent to the midline in each mandibular quadrant. They share **a** mesial contact area with each other, while the distal contact is with the permanent lateral incisor.

b. Universal number:

Mandibular right central incisor - #25
Mandibular left central incisor - #24

c. General form and function - The mandibular central incisor normally has the narrowest mesiodistal dimension and the smallest crown size of any permanent tooth. The crown is also quite symmetrical, with mesial and distal halves nearly identical. These teeth function in biting, cutting. incising, and shearing, just as do their maxillary counterparts.

### 2. Development Table: (Mandibular central incisor)*

Initiation of calcification ..... 3 to 4 months
Completion of enamel ..... 4 to 5 years
Eruption ..... 6 to 7 years
Completion of root ..... 9 years

### 3. Labial aspect:

a. Mesial outline - The mesial margin normally tapers evenly toward the gingival in a nearly straight line. The mesioincisal angle is quite sharp, normally more so than any of the incisal angles of maxillary incisors. The height of contour is associated with the contact area in the incisal third, very close to the incisal margin.

b. Distal outline - Distally, the outline is straight and almost exactly like the mesial outline, with a similarly sharp distoincisal angle. The height of contour is also in the incisal third.

c. Incisal outline - When present, mamelons most always number three. After incisal wear has obliterated the mamelons, the incisal outline is straight, and at right angles to the long axis of the tooth.

d. Cervical outline - The cervical line is symmetrically curved toward the root.

e. Other considerations - The labial surface is generally convex both mesiodistally and incisogingivally, but not to the extent of the maxillary incisors, especially the maxillary lateral. However, like the maxillary incisors, the convexities are much greater in the cervical third. In fact, in some specimens the labial surface may be quite flat incisal to the height of contour. The surface outline is roughly trapezoidal, which in some cases approaches a rectangular shape.

Developmental depressions and imbrication lines are not normally present. Occasionally, there are very faint depressions which only occur near the incisal margin of the labial surface.

The height of contour is in the cervical third.

## 4. Lingual aspect:

a. Mesial, distal and incisal outlines -All three of these margins closely resemble those of the labial aspect.

b. Cervical outline - The CEJ curves evenly toward the root, but is located farther from the incisal edge **than** it is on the labial surface.

c. Other considerations - The lingual surface is relatively smooth, and its structures are generally **less prominent** than those of the maxillary incisors.
There is usually a slight concavity, or lingual fossa, bordered by indistinct marginal ridges on the mesial and distal. There are normally no grooves, fissures, or pits on the lingual surface.

A cingulum is normally present, although it is not so prominent as in the **maxillary** incisors. The height of contour is located in the cervical third of the surface, associated with the greatest convexity of the cingulum.

## 5. Mesial aspect:

a. Labial outline - The labial margin slopes in a straight to slightly convex line from the incisal ridge to the crest of curvature, and is then convex in the remainder of the gingival third.

b. Lingual outline - The lingual outline is concave in the incisal third and flat in middle third and convex in the cingulum area, or gingival third.

c. Incisal outline -The incisal edge is normally straight, but can be slightly rounded, and is located lingual to the center of the root. The profile of the incisal edge has an inclination toward the labial, which is opposite to the lingual slope of the maxillary incisors. This is due to the wear pattern between the upper and lower incisors.

d. Cervical outline - There is a marked, even curvature incisally of the cervical margin.

e. Other considerations - The mesial surface is roughly triangular, or wedge shaped, like all other anterior teeth. **Unlike** the maxillary incisors, the crown appears to be slightly offset toward the lingual.

The contact area is located about half way from labial to lingual, and in the incisal third, very close to the incisal edge. It has an ovoid shape, which is long incisogingivally and narrow labiolingually.

The height of contour, at the contact area, is in the incisal third.

## 6. Distal aspect:

a. The distal surface is similar in all respects to the mesial, **except** that the cervical margin curves slightly less toward the incisal. Even the contact area has a similar location, a fact which is unique among incisors.

## 7. Incisal aspect:

a. The most notable features from the incisal aspect are the **symmetry** of the mesial and distal portions, and the straight incisal edge. Unlike the maxillary central, this tooth is **roughly four sided**, or diamond-shaped, from this aspect, and the tooth is normally wider labiolingually than mesiodistally.

b. Because the crown is offset toward the lingual, more of the labial surface than the lingual surface is visible from this aspect.

c. Even though the central incisor is described as symmetrical from the incisal aspect, careful scrutiny will reveal that the cingulum is very slightly offset toward the distal, an important feature when attempting to distinguish right from left mandibular central incisors.

## 8. Root:

a. The root is normally single and straight.

b. From the labial or lingual aspects, the root is generally symmetrical, and tapers gradually to a relatively sharp apex.

c. From the mesial or distal aspects, the root is much wider, and it is slightly convex cervicoapically on both labial and lingual margins. The central portion of the mesial and distal surfaces is usually flattened, or concave. When concave, the surface is said to have a root concavity which is also known as a longitudinal groove. Root concavities are found on the roots of other teeth, and usually extend the majority of the root length, but vary in both length and depth.

d. In cross section at the neck, the outline is roughly a rectangle with rounded corners, but it is slightly wider at the labial than at the lingual. When there are root concavities present, they are reflected as concavities in the mesial and distal outlines. The midroot cross section is similar to the cervical section, only more ovoid.

### 9. Variations and Anomalies:

a. There is great **variability in the lingual inclination** of the labial surface of mandibular central incisor specimens.

b. Anomalies are very rare. Occasionally a bifurcated root is found, which means there are two branches, which in mandibular incisors, have labial and lingual locations.

## C. Permanent Mandibular Lateral Incisor: -

### 1. General characteristics:

a. Arch position - The mandibular lateral incisor is the second tooth from the midline in each lower quadrant, and it shares a mesial contact area with the central incisor. The distal contact is with the deciduous mandibular canine until that tooth's exfoliation and then contact is shared with the permanent canine.

b. Universal number:

Mandibular right lateral incisor - #26
Mandibular left lateral incisor - #23

c. General form and function - The mandibular lateral incisor is slightly larger in all respects than the mandibular central incisor, but otherwise parallels it very closely in form. It also complements the central in function.

## 2. Development Table: (Mandibular lateral incisor)"

Initiation of calcification ..... 3 to 4 months
Completion of enamel ..... 4 to *5* years
Eruption ..... 7 to 8 years
Completion of root ..... 10 years

## 3. The mandibular lateral incisor so closely resembles the central incisor that a detailed description is unnecessary. Consequently, only the following comparisons need to be made.

a. Labial aspect - The incisal margin may slope slightly gingivally toward the distal, which results in a distoincisal angle that is more rounded than the same angle of the central incisor. This feature creates a slightly shorter distal margin, when compared to the mesial outline. The contact area on the distal is more cervically located than on the mesial, thus creating a more cervically located height of contour on the distal outline. Both heights of contour are still in the incisal third however.

b. Lingual aspect - The lingual outlines are similar to those of the labial aspect. The structures of the lingual surface are similar to their counterparts on the central incisor **except** the cingulum is more offset to the distal, and as a result the curvature of the cervical line is also offset distally.

c. Mesial and distal aspects - These two surfaces are similar to their counterparts on the central incisor, with a few minor exceptions. The lateral's distal surface is slightly shorter incisocervically **than** the mesial surface. Both cervical line curvatures are slightly less than their counterparts in the central, and as would be expected, the mesial cervical line shows greater incisal curvature **than** does the distal.

The distal contact area, and hence the height of contour, is more cervically located than on the mesial. Although still in the incisal third, the distal contact area is very near the junction of the incisal and middle thirds, and is the most cervically located of any mandibular incisor contact.

d. Incisal aspect - From this view, the incisal edge is not straight mesiodistally, as it is in the central; rather it curves toward the lingual in its distal portion. Furthermore, the lingual contour (cingulum) appears displaced toward the distal. These factors give the crown the appearance of being slightly twisted on its root. These are the best identifying features, when differentiating this tooth from the central incisor.

e. Root - Root length is normally a little greater than in the central incisor. The root is also slightly thicker and wider. Root concavities may be found on the mesial and distal root surfaces, and if present, the concavity in the distal is usually more pronounced.