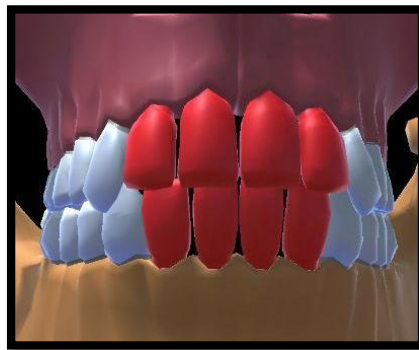


Permanent maxillary incisors

The maxillary incisors are four in number. the maxillary central incisors are centered in the maxilla, one on either side of the median line, with the mesial surface of each in contact with the mesial surface of the other. The maxillary and mandibular central incisors are the only neighboring teeth in the dental arches with mesial surfaces in contact. The right and left maxillary lateral or second incisors are distal to the central incisors.

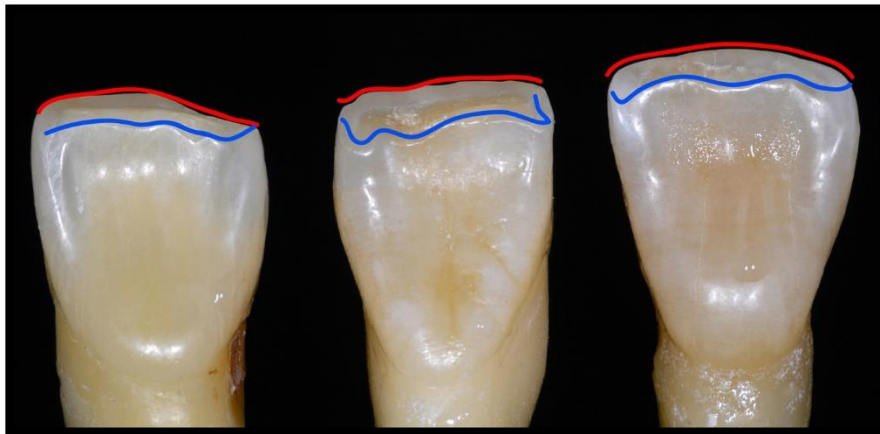
The maxillary central incisor is larger than the lateral incisor. These teeth supplement each other in function, and they are similar anatomically. The incisors are shearing or cutting teeth. Their major function is to punch and cut food material during the process of mastication. These teeth have incisal ridges or edges rather than cusps such as are found on the canines and posterior teeth.



It might be good to differentiate between the two terms incisal ridge and incisal edge.

The incisal ridge is that portion of the crown which makes up the complete incisal portion. When an incisor is newly erupted, the incisal portion is rounded and merges with the mesio-incisal and disto-incisal angles and the labial and lingual surfaces. This ridge portion of the crown is called the incisal ridge.

The term edge implies an angle formed by the merging of two flat surfaces. Therefore, an incisal edge does not exist on an incisor until occlusal wear has created a flattened surface linguo-incisally, which surface forms an angle with the labial surface.



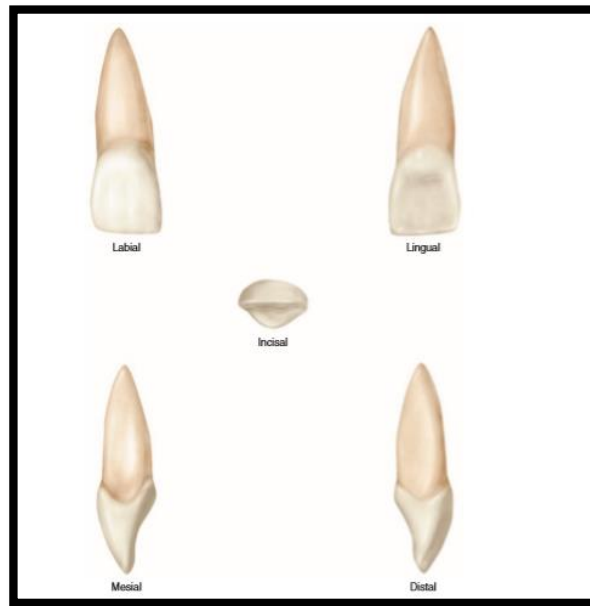


Maxillary Central Incisor

General description:

1. The maxillary central incisor is the widest mesio-distally of any of the anterior teeth.
2. The labial face is less convex than that of the maxillary lateral incisor or canine, which gives the central incisor a square or rectangular appearance.
3. From the labial aspect, the crown nearly always looks symmetrical and regularly formed, having a nearly straight incisal edge, a cervical line with even curvature toward the root, a mesial side with straight outline, the distal side being more curved. The mesial incisal angle is relatively sharp, the distal incisal angle rounded.

4. Although the labial surface of the crown is usually convex, especially toward the cervical third, some central incisors are flat at the middle and incisal portions. The enamel surface is relatively smooth.
5. When the tooth is newly erupted or if little wear is evident, mamelons will be seen on the incisal ridge.
6. The portions of the lingual area is concave. Mesial and distal marginal ridges border the concavity, the lingual portion of the incisal ridge, and the convexity apically to the cingulum.
7. There are two basic forms: the first is relatively wide at the cervix, when viewed from the labial aspect, in comparison with the mesio-distal width at the contact areas; the second form is relatively narrow at the cervix, where the root joins the crown, in comparison with the mesio-distal width at the contact areas.

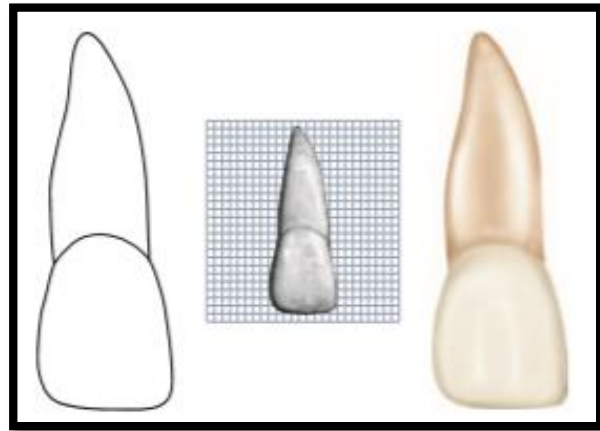


DETAILED DESCRIPTION OF THE MAXILLARY CENTRAL INCISOR FROM ALL ASPECTS

Labial Aspect

1. The crown of the average central incisor will be 10 to 11 mm long from the highest point on the cervical line to the lowest point on the incisal edge.
2. The mesio-distal measurement will be 8 to 9 mm wide at the contact areas. The mesio-distal measurement, where the root joins the crown, will be 1.5 to 2 mm less.
3. The crests of curvature mesially and distally on the crown represent the areas at which the central incisor contacts its neighbors. Any change in the position of this crest of contour affects the level of the contact area.
4. The mesial outline of the crown is only slightly convex, with the crest of curvature (representing the contact area) approaching the mesio-incisal angle.
5. The distal outline of the crown is more convex than the mesial outline, with the crest of curvature higher toward the cervical line.
6. The disto-incisal angle is not as sharp as the mesio-incisal angle, the extent of curvature depending on the typical form of the tooth.
7. The incisal outline is usually regular and straight in a mesio-distal direction after the tooth has been in function long enough to obliterate the mamelons. The incisal outline tends to curve downward toward the center of the crown outline, so that the crown length is greater at the center than at the two mesial angles.
8. The cervical outline of the crown follows a semicircular direction with the curvature root-wise, from the point at which the root outline joins the crown mesially to the point at which the root outline joins the crown distally.

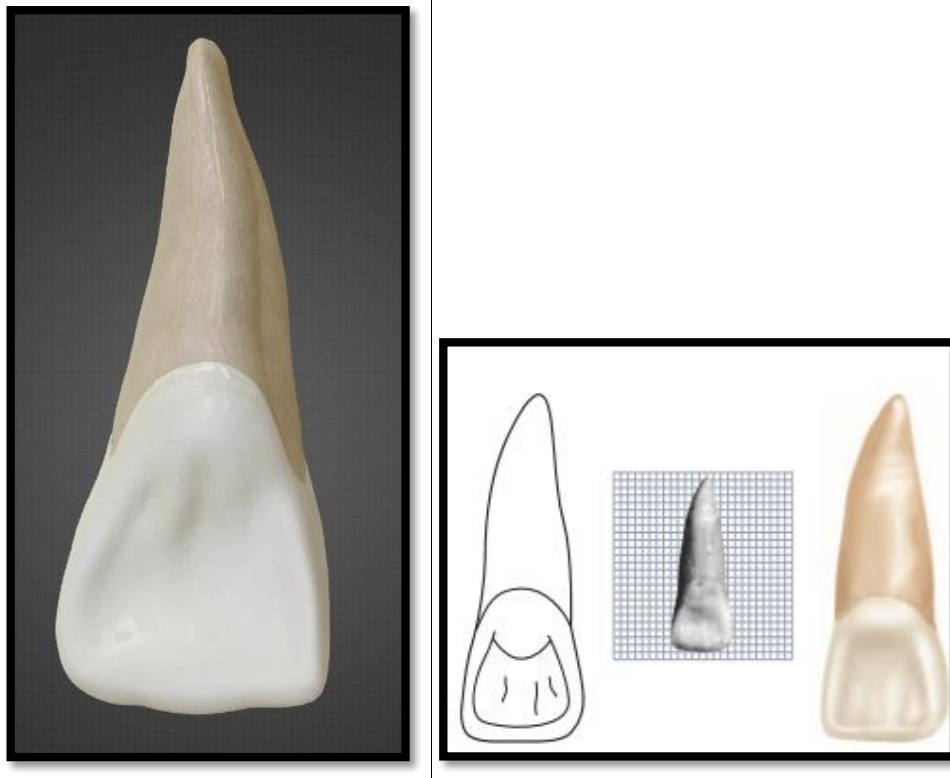
9. The root of the central incisor from the labial aspect is cone-shaped, in most instances with a relatively blunt apex, and the outline mesially and distally is regular. The root is usually 2 or 3 mm longer than the crown, although it varies considerably.
10. A line drawn through the center of the root and crown of the maxillary central incisor tends to parallel the mesial outline of the crown and root.



Lingual Aspect

1. The lingual outline of the maxillary central incisor is the reverse of that found on the labial aspect.
2. From the labial aspect, the surface of the crown is smooth generally. The lingual aspect has convexities and a concavity.
3. The outline of the cervical line is similar, but immediately below the cervical line a smooth convexity is to be found; this is called the cingulum.

4. Mesially and distally confluent with the cingulum are the marginal ridges.
5. Between the marginal ridges, below the cingulum, a shallow concavity is present called the lingual fossa. Outlining the lingual fossa, the linguo-incisal edge is raised somewhat, being on a level with the marginal ridges mesially and distally, completing the lingual portion of the incisal ridge of the central incisor. From the foregoing description, we note that the lingual fossa is bordered mesially by the mesial marginal ridge, incisally by the lingual portion of the incisal ridge, distally by the distal marginal ridge, and cervically by the cingulum.
6. Usually there are developmental grooves extending from the cingulum into the lingual fossa.
7. The crown and root taper lingually, so that the crown calibration at the two labial line angles is greater than the calibration at the two lingual line angles, and the lingual portion of the root is narrower than the labial portion.
8. A cross section of the root at the cervix shows the root to be generally triangular with rounded angles. One side of the triangle is labial, with the mesial and distal sides pointing lingually. The mesial side of this triangle is slightly longer than the distal side.

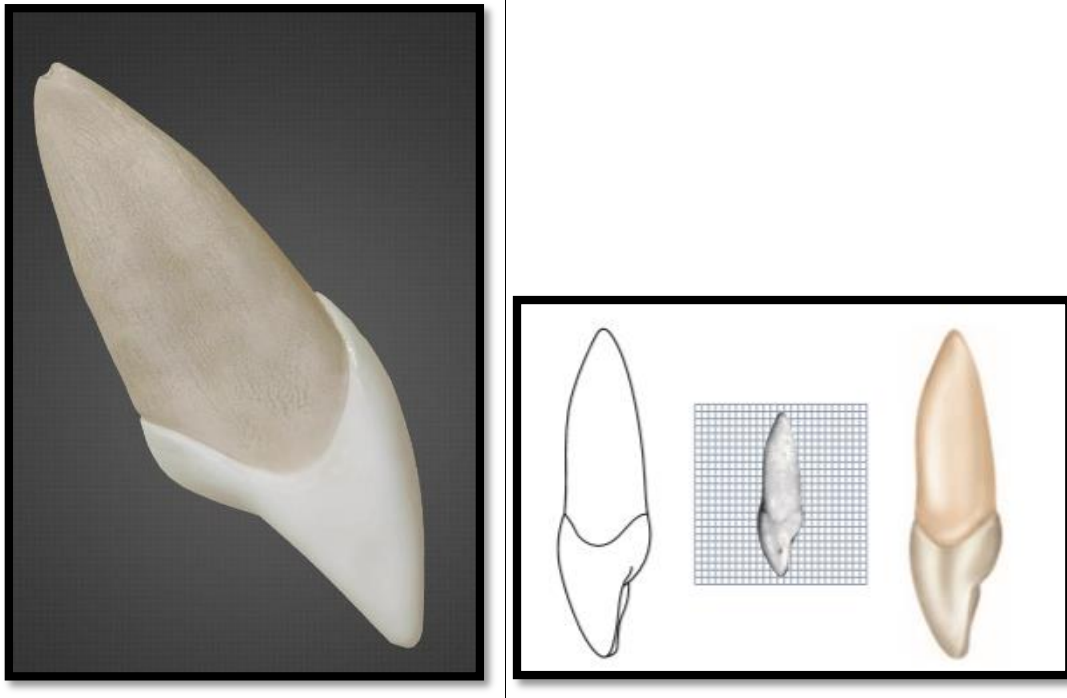


Mesial Aspect

1. The mesial aspect of this tooth has the fundamental form of an incisor. The crown is wedge-shaped, or triangular, with the base of the triangle at the cervix and the apex at the incisal ridge.
2. Usually a line drawn through the crown and the root from the mesial aspect through the center of the tooth will bisect the apex of the root and also the incisal ridge of the crown. The incisal ridge of the crown is therefore on a line with the center of the root. This alignment is characteristic of maxillary central and lateral incisors. A straight line drawn through the center of the crown and root from the mesial or distal aspects will rarely if ever pass lingual to the

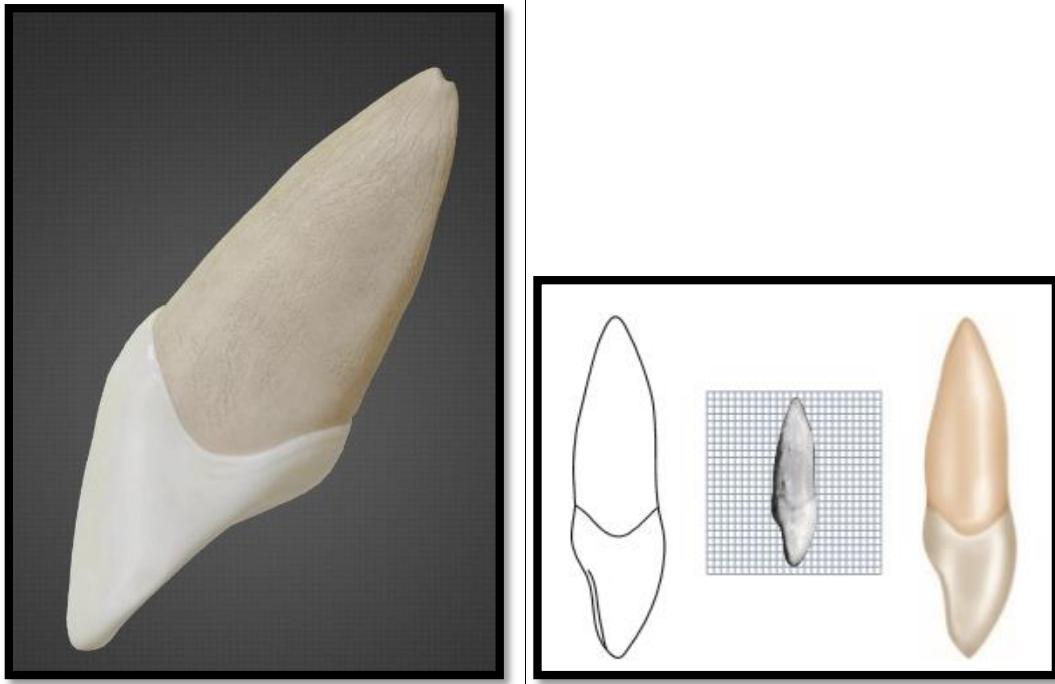
incisal edge. Maxillary incisors are occasionally seen with the incisal ridges lingual to the bisecting line.

3. Labially and lingually, immediately coronal to the cervical line are the crests of curvature of these surfaces. These crests of contour give the crown its greatest labiolingual measurement. Normally, the curvature labially and lingually is approximately 0.5 mm in extent before continuing the outlines to the incisal ridge.
4. The labial outline of the crown from the crest of curvature to the incisal ridge is very slightly convex.
5. The lingual outline is convex at the point where it joins the crest of curvature at the cingulum; it then becomes concave at the mesial marginal ridge and slightly convex again at the linguo-incisal ridge and the incisal edge.
6. The cervical line outlining the cemento-enamel junction (CEJ) mesially on the maxillary central incisor curves incisally to a noticeable degree. This cervical curvature is greater on the mesial surface of this tooth than on any surface of any other tooth in the mouth. The curvature varies in extent, depending on the length of the crown and the measurement of the crown labiolingually.
7. The root of this tooth from the mesial aspect is cone shaped, and the apex of the root is usually bluntly rounded.



Distal Aspect

1. Little difference is evident between the distal and mesial outlines of this tooth. When looking at the central incisor from the distal aspect, it may be noted that the crown gives the impression of being somewhat thicker toward the incisal third. Because of the slope of the labial surface disto-lingually, more of that surface is seen from the distal aspect; this creates the illusion of greater thickness. Actually, most teeth are turned a little on their root bases to adapt to the dental arch curvature. The maxillary central incisor is no exception.
2. The curvature of the cervical line outlining the CEJ is less in extent on the distal than on the mesial surfaces.



Incisal Aspect

1. The incisal edge is centered over the root. A view of the crown from this aspect superimposes it over the root entirely so that the latter is not visible. From this aspect, the labial face of the crown is relatively broad and flat in comparison with the lingual surface, especially toward the incisal third. Nevertheless, the cervical portion of the crown labially is convex, although the arc described is broad. The incisal ridge may be seen clearly, and a differentiation between the incisal edge and the remainder of the incisal ridge, with its slope toward the lingual, is easily distinguished. The outline of the lingual portion tapers lingually toward the cingulum. The cingulum of the crown makes up the cervical portion of the lingual surface. The mesio-labial and disto-labial line angles are prominent from the incisal aspect.
2. The crown conforms to a triangular outline reflected by the outline of the root cross section at the cervix mentioned earlier.

