

Dental Anatomy

Anterior Teeth



This study guide will help you review the characteristics of permanent anterior teeth.

Maxillary Central Incisor- Facial View

Crown:root	11:13
Mesial-incisal corner	Sharp 90
Distal-incisal corner	Round
Mesial contact	Incisal third
Distal contact	Junction
MD size	Widest anterior tooth
IC size	Longest crown
Mesial outline	Straight
Distal outline	Slightly rounded
Purpose	Esthetics, phonetics, and incising/cutting
Development	Initiation of calcification is between 3 and 4 months. The completion of enamel formation is 4 to 5 years. The eruption is between 7 and 8 years. Root development is completed in 10 years.

Maxillary Central Incisor- Lingual View

Marginal ridges size	Moderate
Comparing MMR and DMR	MMR > DMR
Cingulum size	Moderate
Cingulum location	Distal
Fossa depth	Moderate
Root taper	Tapers to lingual

Maxillary Central Incisor- Proximal View

Incisal edge vs. Root axis line	Facial
CEJ	Deeper on mesial
Root- mesial surface	Flat; depression
Root- distal surface	Convex; no depression
Facial surface	Flat

Maxillary Central Incisor- Incisal View

Incisal edge	Relatively straight with only a slight curve distally
MD vs. FL	MD > FL
Geometry	Triangular

Maxillary Lateral Incisor- Facial View

Crown:root	10:13
Mesial-incisal corner	Rounder
Distal-incisal corner	Very round
Mesial contact	Junction
Distal contact	Middle
MD size	Less than Max Central Incisor
IC size	Less than Max Central Incisor
Mesial outline	Round
Distal outline	Very round
Other facts	Most variable anterior tooth Most likely tooth to be missing

Maxillary Lateral Incisor- Lingual View

Marginal ridges size	Moderate; more than #8/9
Comparing MMR and DMR	MMR > DMR
Cingulum size	Moderate; more than #8/9
Cingulum location	Centered
Fossa depth	Moderate

Maxillary Lateral Incisor- Proximal View

Incisal edge vs. Root axis line	Facial
CEJ	Deeper on mesial
Root- mesial surface	Flat; depression
Root- distal surface	Flat; no depression
Facial surface	Round

Maxillary Lateral Incisor- Incisal View

Lingual anatomy	Round
MD vs. FL	MD is greater than or equal to FL
Geometry	Round geometry

Mandibular Central Incisor- Facial View

Crown:root	9:13
Mesial-incisal corner	Sharp 90
Distal-incisal corner	Sharp 90
Mesial contact	Incisal third
Distal contact	Incisal third
MD size	Very small
Incisal edge	Straight
Mesial outline	Straight
Distal outline	Straight
Root curve	Curves distally

Mandibular Central Incisor- Lingual View

Marginal ridges size	Not pronounced
Comparing MMR and DMR	MMR = DMR
Cingulum size	Very small
Cingulum location	Centered
Fossa depth	Very shallow

Mandibular Central Incisor- Proximal View

Incisal edge vs. Root axis line	Lingual
CEJ	Deeper on mesial
Root- mesial surface	Convex; depression
Root- distal surface	Flat; more depression
Facial surface	Flat
Root taper	Tapers lingually

Mandibular Central Incisor- Incisal View

Lingual anatomy	Shallow; indistinct
MD vs. FL	MD < FL
Geometry	Diamond
Incisal Edge	Bisects tooth F:L

Mandibular Lateral Incisor- Facial View

Crown:root	9:13
Mesial-incisal corner	Sharp
Distal-incisal corner	Less sharp
Mesial contact	Incisal third
Distal contact	Incisal third but more cervically
MD size	Less than Mn CI
Incisal edge	Slant towards distal
Mesial outline	Straight
Distal outline	Straight

Mandibular Lateral Incisor- Lingual View

Marginal ridges size	Not pronounced
Comparing MMR and DMR	MMR > DMR
Cingulum size	Very small
Cingulum location	Distal
Fossa depth	Shallow

Mandibular Lateral Incisor- Proximal View

Incisal edge vs. Root axis line	Lingual
CEJ	Deeper on mesial
Root- mesial surface	Convex; depression
Root- distal surface	Flat; more depression
Facial surface	Flat
Root taper	Tapers lingually

Mandibular Lateral Incisor- Incisal View

Lingual anatomy	Shallow; indistinct
MD vs. FL	MD < FL
Geometry	Diamond
Incisal Edge	(Distal Twist) Twist to distal; follows arch

Maxillary Canine- Facial View

Crown: Root	10:17
Cusp vs. Root Axis	In line
Cusp tip angle	More steep (105 degrees)
Cutting arm length	M < D
Size: MD vs IC	MD < IC
Mesial outline	Convex in middle; straight in cervical
Distal outline	S-shaped; convex in middle; concave in cervical
Mesial contact area	Junction
Distal contact area	Middle
Facial Ridge	Follows root axis with a more mesial inclination; M and D depression on either side of the ridge
Root length	17 mm
Purpose and other facts	With incisors to support lip and facial muscles; cut, pierce, and shear food Guideposts- lateral excursions- long large roots with depression. When you move the jaw side to side, the maxillary canine goes over the lingual mandibular canines Most stable tooth; aesthetically important- canine eminence Cusp tip takes up $\frac{1}{3}$ of crown

Maxillary Canine- Lingual View

Lingual ridge	Prominent- extend from cingulum to the cusp tip
Fossae	2 fossae- M and D
Marginal ridges	Moderately pronounced MMR > DMR (length) MMR < DMR (elevation)
Cingulum	Centered; large
Root taper	Tapers to lingual
Lingual ridge vs MR	L ridge > DMR > MMR
Other facts	Wear facets: lingual surface becomes smooth due to wear

Maxillary Canine- Proximal View

Cusp tip vs. Root axis	Facial
Facial profile	Convex
CEJ	Deeper on mesial
Crown	Thicker than Max CI; generally the thickest anterior tooth
Root: mesial	Depression
Root: distal	More depression
Root size	Broad/thick root

Maxillary Canine- Incisal View

Geometry	Diamond
MD vs. FL	MD < FL
Mesial profile	Convex
Distal profile	Stretched– distal pinch

Mandibular Canine- Facial View

Crown: Root	11:16
Cusp vs. Root Axis	In line
Cusp tip angle	Less steep (120 degrees)
Cutting arm length	M < D; M cutting arm almost horizontal
Size: MD vs IC	MD < IC; longer and narrower crown than Max Canine
Mesial outline	Straight; crown does not bulge past root outline
Distal outline	Crown tilts slightly distal
Mesial contact area	Incisal
Distal contact area	Junction
Facial Ridge	Less prominent than Max canine; slight mesial inclination
Purpose and other facts	With incisors to support lip and facial muscles; cut, pierce, and shear food Guideposts- lateral excursions- long large roots with depression. Most likely anterior tooth to have 2 roots Cusp tip doesn't take up 1/3 of crown

Mandibular Canine- Lingual View

Lingual ridge	Less pronounced than Max canine
Fossae	Shallow
Marginal ridges	Less pronounced MMR > DMR (length) MMR < DMR (elevation)
Cingulum	Distal or centered; less pronounced
Root taper	Tapers to lingual
Lingual ridge vs MR	DMR > L ridge > MMR

Mandibular Canine- Proximal View

Cusp tip vs. Root axis	Lingual
Facial profile	Convex (less than maxillary)
CEJ	Deeper on mesial
Root: mesial	Depression
Root: distal	More depression
Root facts	Most likely anterior tooth to have 2 root canals More pointed root tips Mesial depression on the root is more pronounced than the Maxillary canine

Mandibular Canine- Incisal View

Geometry	Asymmetric Diamond
MD vs. FL	MD < FL; more symmetric than Max canine
Cusp Slope M vs. D	M < D cusp slope; cutting arms not straight Mesial is straight but distal is angled to follow an arch
Distal profile	Stretched– distal pinch
Cusp tip vs. Root Axis	Lingual to root axis