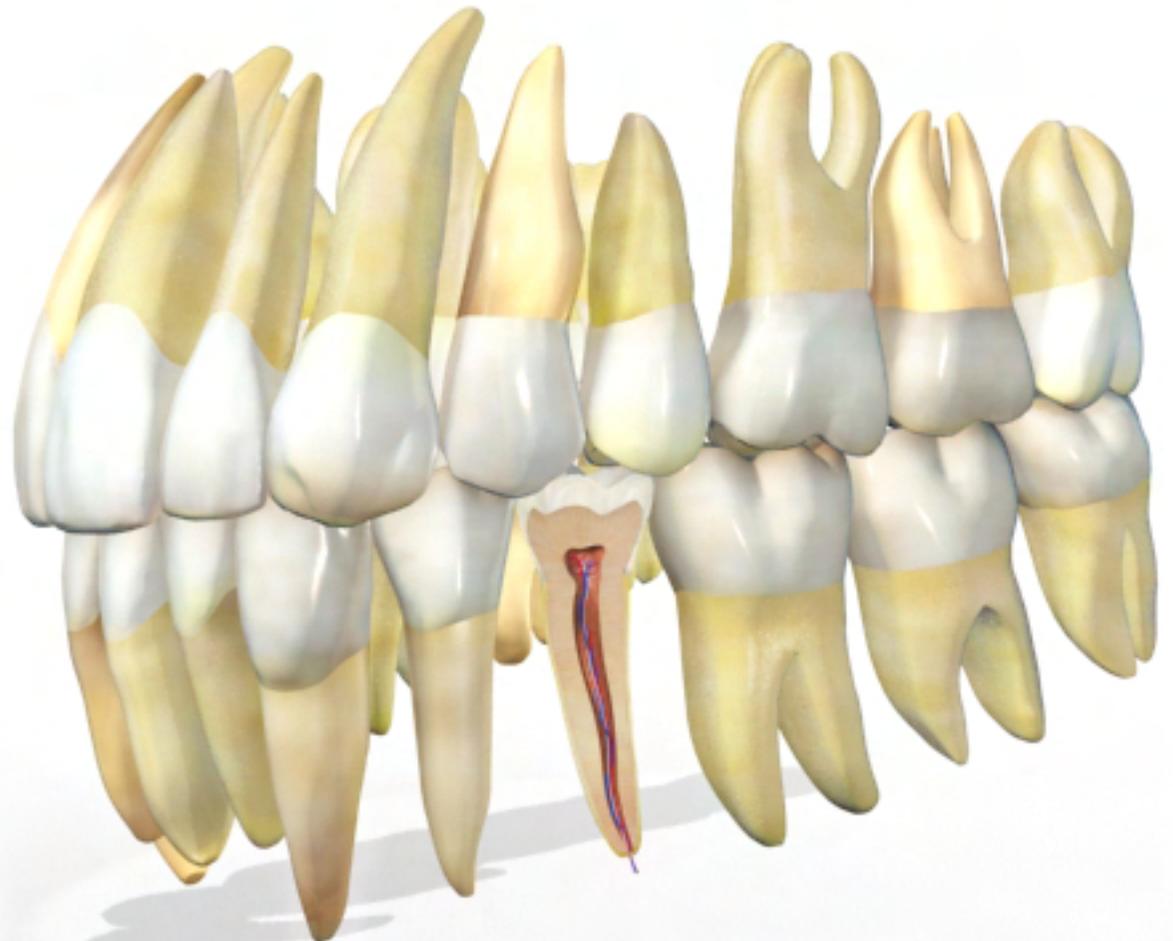
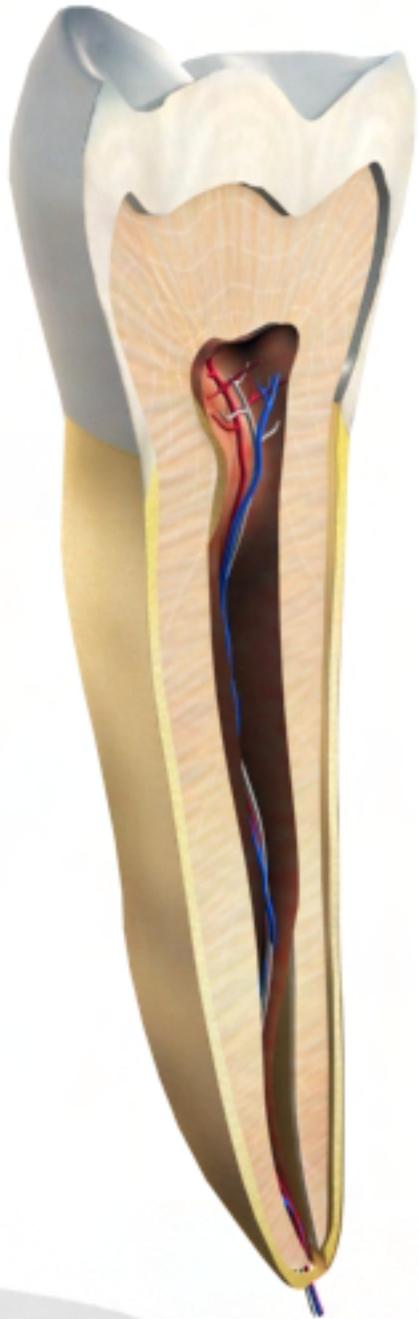


INTERACTIVE 3D DENTAL ANATOMY ATLAS

amberginc.ca



Compact transferable technologies facilitate anywhere/anytime valuable education

There is no question that we are experiencing a fierce pace of change in an increasingly global economy. The challenge for schools was stated quite clearly by Jack Welch, former CEO of General Electric when he said, and "If the rate of change inside an institution is less than the rate of change outside, the end is in sight."

A new set of social cultural practices is emerging. Schools that chose to disregard the trends determining the today's life, tomorrow will cease to be relevant in the lives of their students, and will become obsolete. Transforming the institutions of learning to assure effective and up to date compact technology is a necessity in order to allow access to learning opportunities to take place anywhere.

This way we prepare the students for their expectations, not for our splendor and magnificence.

This document illustrates the interactive educational possibilities offered by a standard ISO format. The PDF/E format has been primarily used for engineering data. But it also has an enormous potential in the new challenges of teaching and elearning. The visual discrimination and interpretation, augmented by the student interaction with 3D media and animated visuals ensures better problem-solving skills and analytical decision.

This user controlled interaction adds additional worth and significance to elearning material, for an effective and enjoyable elearning experience.





AVERAGE DIMENSIONS:

Length overall	20.8 mm.
Crown height	7.7 mm.
M.D. dia. of crown	10.7 mm.
M.D. dia at cervix	7.5 mm.
Fa. Li. dia. of crown	11.8 mm.
Fa. Li. dia. at cervix	10.8 mm.
Curvature of cervical line	1.0 mm. M.; 0.0 mm. D.

FACIAL ASPECT:

1. The geometric outline of the crown is trapezoid, the occlusal surface being the longest parallel side.
2. The four major cusps, three roots and most of the distal surface are all visible from this view.
3. The mesial crest of convexity is sharply convex at the junction of the middle and occlusal thirds of the crown.
4. The mesial profile from the crest to the cervix is straight to concave.
5. The distal crest is a broad convexity cresting in the middle third, occlusal portion.
6. The distal profile is uniformly convex from crest to cervix; the disto-buccal concavity near the cervix is visible only on shaded drawings.
7. A centrally placed buccal developmental groove separates the buccal cusps, terminating at the center of the crown.
8. The mesio-buccal cusp is less pointed than the disto-buccal cusp.
9. The large mesio-buccal cusp tip appears midway between the two buccal cusps.
10. The buccal roots furcate 4 mm. up the root trunk, separate, and converge again apically.
11. The rather straight cervical line may dip apically as an incipient enamel extension into the developmental groove (shaded) which traverses the root trunk from cervical line to furcation.
12. The lingual root, visible between the two buccal roots, is the longest of the three.

MESIAL ASPECT:

1. The geometric outline of the crown is a trapezoid, the longest parallel side being the cervical border.
2. The cusp tips are well within the root base, the mesio-lingual cusp being in line with the long axis of the lingual root.
3. The mesio-lingual cusp is longer and more centrally located facio-lingually than the mesio-buccal cusp.
4. The intercusp space is approximately 5/9 of the facio-lingual dimension of the crown.

5. The facial profile is flat to concave from cusp tip to the crest of convexity, which is a rather abrupt bulge in the cervical third of the crown.
6. The lingual profile is a broad convexity from cusp tip to cervix with the crest appearing in the cervical portion of the middle third of the crown.
7. The mesial marginal ridge dips cervically about 1/5 of the crown length and is usually crossed by one or more supplementary grooves.
8. The broad mesio-buccal root and the long lingual root both extend beyond the facio-lingual diameter of the crown.
9. Whether well defined or not, the crusp of carabelli or its vestige adds substantial bulk to the mesio-lingual cusp.

OCCLUSAL ASPECT:

1. The geometric outline is rhomboidal, wider mesially than distally and wider lingually than buccally.
2. Five cusps (4 major and 1 minor) (phylogenetically, 3 primary and 2 secondary) are visible.
3. There is more lingual surface visible than facial surface.
4. The buccal and central developmental grooves radiate from the central pit at an obtuse angle to each other.
5. The oblique ridge connects the mesio-lingual and disto-buccal cusp tips dividing the occlusal table into two parts, the trigon and talon.
6. The transverse groove of the oblique ridge crosses oblique ridge from the central pit to the distal oblique groove.
7. The distal oblique groove is confluent with the lingual groove.
8. The mesion, an elongated ridge, extends from the mesial marginal ridge in a variable direction toward the central fossa.
9. Stuart's groove, a shallow concavity, extends mesio-lingually from the central pit.

LINGUAL ASPECT:

1. The lingual cusps are separated by the lingual groove which terminates in the middle of the lingual surface.
2. The mesio-lingual cusp occupies 3/5 of the mesio-distal diameter, the disto-lingual cusp the remaining 2/5.
3. The cusp ridges of the broad, larger mesio-lingual cusp form an obtuse angle.
4. The cusp ridges of the smaller disto-lingual cusp are more rounded.
5. The fifth cusp lies approximately 2 mm. cervical to the mesio-lingual cusp tip.
6. The lingual root has a bluntly rounded apex, and is long and broad.

DISTAL ASPECT:

1. A large part of the buccal surface is visible.
2. More occlusal surface is visible than from the mesial aspect.
3. The distal marginal ridge is shorter and less prominent than the mesial marginal ridge. It dips sharply cervically, exposing the oblique ridge.

4. The root furcation on the distal is more apically placed than on the mesial.
5. the small, round disto-buccal root is superimposed on the broad mesio-buccal root.