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Tooth Anatomy

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Gross Anatomy

Composition

The tooth anatomy includes the crown, which is the portion of the tooth exposed to the oral cavity, and one or more roots, which are enveloped in bone and the periodontium.

The crown of each tooth has 5 surfaces, as follows:

- Buccal (facing the cheek or lip)
- Lingual (facing the tongue)
- Mesial (between the teeth)
- Distal (between the teeth)
- Chewing (occlusal for molars and premolars, incisal for incisors and canines)

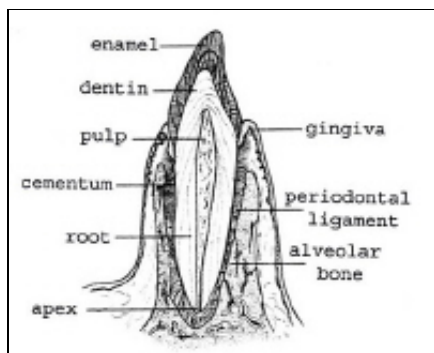
Transverse section

In the transverse section, the tooth has 3 distinct layers, as follows:

- A surface enamel layer covering only the crown
- An inner layer of dentin in both the crown and the root
- The core area, known as the pulp, which contains nerves, arteries, and veins

Radiographically, the layers are easily identifiable because they have different radiopacities. Enamel is the most mineralized of the calcified tissues of the body, and it is the most radiopaque of the 3 tooth layers. Dentin is less radiopaque than enamel and has a radiopacity similar to that of bone. The pulp tissue is not mineralized and appears radiolucent.^[1]

The anatomy of the tooth is displayed in the image below.



Tooth anatomy.

Primary (ie, deciduous) teeth number 20, and secondary (ie, adult) teeth number 32. A phase of mixed dentition exists, depending on the age of the patient (typically, 6-14 y). This phase is associated with simultaneous exfoliation or the eruption of primary and secondary teeth (see Tables 1-2).

Table 1. Calcification and Eruption Sequence of Primary Dentition ([Open Table in a new window](#))

	Primary Teeth Calcification Begins (Weeks In Utero)	Enamel Completed (Months after Birth)	Eruption (Months after Birth)
Maxilla			
Central incisor	13-16	1.5	8-12
Lateral incisor	14.5-16.5	2.5	8-13
Canine	15-18	9	16-22
First molar	14.5-16.5	6	13-19
Second molar	16-23.5	11	25-33
Mandible			
Central incisor	13-16	2.5	6-10
Lateral incisor	14.5-16.5	3	10-16
Canine	16-18	9	17-23
First molar	14.5-17	5.5	14-18
Second molar	17-19.5	10	23-31

Table 2. Calcification and Eruption Sequence of Secondary Dentition ([Open Table in a new window](#))

	Permanent Teeth Calcification Begins (Months)	Eruption (Years)
Maxilla		
Central incisor	3-4	7-8
Lateral incisor	10-12	8-9
Canine	4-5	11-12
First premolar	8-21	10-11
Second premolar	24-27	10-12
First molar	0-1	5-6
Second molar	30-36	12-13
Mandible		

Central incisor	3-4	6-7
Lateral incisor	3-4	7-8
Canine	4-5	9-10
First premolar	21-24	10-12
Second premolar	27-30	11-12
First molar	0-1	5-6
Second molar	30-36	12-13

Contributor Information and Disclosures

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References

1. Gray H, Lewis WH. *Gray's Anatomy of the Human Body*. 20th Ed. New York, NY: Bartleby; 2000:[[Full Text](#)].

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