Western European Journal of Medicine and Medical Science
Volume 1, Issue 4, December, 2023
https://westerneuropeanstudies.com/index.php/3
ISSN (E): 2942-1918 Open Access| Peer Reviewed

MORPHOLOGICAL FEATURES OF THE ANATOMY OF TEMPORARY AND PERMANENT TEETH

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Abstract: The permanent tooth has the largest diameter at the equator. Baby teeth have thinner hard tissue due to their reduced mineralisation. Permanent teeth are more mineralised, so their hard tissue is thicker. The cavity of a deciduous tooth is more extensive than that of a permanent tooth

Key words: permanent and deciduous teeth, morphological features

Introduction. Teeth are hard organs that ensure the chewing of food. They are also necessary for the process of broadcasting and fulfil a certain aesthetic function. Teeth are located in the oral cavity and occupy about 20% of its surface. In a tooth we distinguish between the crown, the root, the part that is placed in the cavity (alveolus) of the jaw and the neck of the tooth - the place of transition of the crown to the root. Inside the tooth there is a cavity, which is divided into the crown part and root canals, and in the area of the apex ends with the apex (apical) hole. The place of transition of the crown part into the canals is called the mouth of the root canal. The tooth pulp is placed in the tooth cavity.

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Dental crowns have 5 surfaces:

-1.Vestibular, which is returned to the pre-wall of the oral cavity. In frontal teeth it is also called the lip surface, in lateral teeth it is called the cheek surface.

- 2.Oral, which faces the oral cavity proper. In the teeth of the lower jaw it is also called lingual, in the teeth of the upper jaw - palatine.

- 3. Aproximal or contact surfaces are the lateral surfaces of the teeth. The anterior surface facing the midline is called medial, and the posterior surface is called distal or lateral.

- 4. Chewing.

Four groups of teeth are distinguished for their form and function:

- 1. The incisors are the anterior teeth, 4 on each jaw. Their function is to bite food.

- 2. canines - 2 on each jaw, used to bite off food.

- 3. Premolars - 4 on each jaw in the permanent dentition, no premolars in the deciduous dentition. They are used for crushing, coarse grinding of food.

- 4. Molars - 6 teeth on each jaw in the permanent dentition and 4 in the deciduous dentition. Designed for grinding and crushing food.

The order of the teeth is shown by the dental formula.

- In the clinic, the dental formula for permanent teeth is written in Arabic numerals and for deciduous teeth in Roman numerals:

- Permanent teeth formula

-8765432112345678

-8765432112345678

- The formula of the deciduous teeth is:

- V IV III III II I ½ I II III IV V V

- V IV III II I ½ I II III IV V

- The horizontal line indicates whether the

The horizontal line indicates whether the tooth belongs to the upper or lower jaw, and the vertical line indicates whether the tooth belongs to the right or left side.

- The World Health Organisation (WHO) has suggested a slightly different form of recording the dental formula. In addition to each tooth having a numerical designation, the sides of the upper and lower jaw are also indicated by numbers. When recorded in this way, the icon that identifies one or the other half of the jaw is not referred to, only the number is referred to.

WHO formula for permanent teeth:

- 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

- 48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

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WHO formula of deciduous teeth:
- 55 54 53 52 51 61 62 63 64 65
- 85 84 83 82 81 71 72 73 74 75

Teeth that have erupted, occupying a certain position in the jaw, have a number of signs that can be followed to identify their belonging to the corresponding jaw and side (right or left). The principal signs are three:
- 1) the signs of the angle of the crown;
- 2) the sign of the curvature of the crown;
- 3) signs of root deviation

The crown angle characteristic is that the angle of the tooth crown formed by the medial-aproximal surface and the incisal edge is sharper than the angle formed by the distal-aproximal surface and the incisal edge. This feature is particularly clear in the central and lateral incisors and the maxillary premolar.

The crown curvature characteristic is expressed by the fact that the most convex part of the vestibular (lip, cheek) surface of the dental crown is located closer to the medial-aproximal surface. This sign is more clearly shown when the tooth is viewed from the chewing surface or the incisal edge.

The sign of root deviation is the curvature of the entire root or its tip in relation to the longitudinal axis of the tooth: incisors and laterally, and premolars and molars posteriorly.

This sign should be taken into account in the process of enlarging the important root canals and opening the apex of the tooth.

- In the maxilla, 21 | 12 have more pronounced signs of angle and crown curvature, while root deviation is only slightly pronounced; all three signs are well pronounced in 43 | 34, and more weakly in 5 | 5; in 7 | 6 | 6 7 the signs of crown curvature and root deviation are clearly pronounced, but the sign of angle is insignificant.

Temporary teeth of the maxilla:

Upper jaw crown:

- Central incisor. chisel-shaped, root well developed, cone-shaped, with pointed apex. The cutting edge is smooth. On the vestibular surface of the crown, near the neck, there is a characteristic enamel roll. On the lingual surface, also close to the tooth neck, there is a tubercle, which passes along the centre line of the crown into a small roller. The cavity of the tooth is wide, its crown part passes into a single root canal without a sharp border.
- Lateral incisor. The crown is chisel-shaped, similar in shape to the central incisor, but much smaller, the surface is convex. The lateral edge of the crown is rounded, the medial edge has a more acute angle. The enamel roll is clearly visible in the neck area. The lingual tubercle is only slightly pronounced. The root is single, with weakly pronounced longitudinal furrows on its lateral surfaces.
- Canine. The canine crown is diamond-shaped with well-defined lateral angles. On the convex vestibular surface there is an enamel roll. There is a small notch in the lateral facet area, which separates a small intermediate cusp. The lingual surface of the crown also has a pronounced

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roll, flanked by almost triangular-shaped notches. The root is cone-shaped, and on transverse sawing the root canal is oval in shape. The vestibular surface of the root is flattened and has a small longitudinal furrow. The tooth cavity is wide, without a noticeable border between the crown cavity and the root canal.

- First molar. The vestibular (cheek) surface of the crown and cusp has a well-defined enamel roll. There is a ridge on the chewing surface, flanked by furrows that divide the tooth surface into a series of additional small cusps. Transverse and longitudinal furrows from the chewing surface extend to the posterior surface of the crown. The tooth has strongly branched laterally molars: a palatine root and two cheek roots, the anterior cheek root and the posterior cheek root. The palatine root is larger, straight, cone-shaped, with a well-passable canal. The cheek roots are flattened on the sides, their tips are pointed, pinch-like curved and often difficult to pass.

- Second molar. It resembles the first molar in crown shape and number of roots, but unlike it is slightly smaller in size. The enamel roll in the vestibular area clearly contours the neck of the tooth. The lingual surface of the crown often contains an additional cusp. The palatine root is well developed with a longitudinal, well-defined sulcus on the inner surface. The cheek roots are flattened, their tips pointing inwards, the cavity of the dental crown is wide and corresponds to the shape of the tooth. The palatine root canal is wide and well-passable, the cheek roots may have a number of less accessible root canals and a number of openings.

Temporary teeth of the mandible.

- Central incisor. The tooth is small in size, with a short chisel-shaped crown and a single flattened root, with well-defined furrows on the lateral surfaces. The vestibular surface of the crown is slightly convex. The lingual tubercle is barely visible. On the incisal margin there are barely visible tubercles. The root is short, straight, with a slit-like canal in cross-section. The crown cavity without clear boundaries passes into the root canal.

- Lateral incisor. The tooth is larger than the central incisor. The crown is chisel-shaped, short. There is a longitudinal roll on the lingual surface, which reaches to the incisal edge. The roll on the lingual surface of the crown is slightly pronounced. The root is flattened, with shallow grooves on the lateral surfaces. The tooth cavity is wide, flattened in the crown area in the vestibulo-oral direction and in the root area in the medial-lateral direction.

- Canine. Comparatively smaller from the canine of the maxilla. The crown is rhomboidal, with slightly pronounced lateral angles. On the vestibular surface of the crown there is a longitudinal roll, which divides it into two unequal parts. On the sides of the shaft, almost triangular shaped areas are defined. On the lingual surface of the crown, there are two marginal ridges and a medial roll. The root is slightly flattened with weakly expressed lateral furrows. The root is oval or triangular in cross-section, the root canal is rounded.

- First molar. The prismatic crown has pronounced cheek and lingual cusps of approximately equal height. The fissures on the masticatory surface form a varied ornamentation. Sometimes the crown has an additional tubercle on the lingual surface, which gives the crown a triangular

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shape. In the vestibular area - the enamel roll is well defined. The two roots, anterior and posterior, are sharply flattened. The anterior root has two canals with numerous apical foramen.
- Second molar. The crown is cube-like, with 5 cusps on the masticatory surface. The system of grooves on the chewing surface is more complex than in permanent teeth. There is a clearly defined enamel roll that contours the neck of the tooth. Both roots (anterior and posterior) are flattened, with deep longitudinal furrows on the lateral surfaces. The two root canals are strongly branched. The posterior root is more straight and massive. There are 2 canals in the anterior and one well-passed canal in the posterior.

Timing of eruption and resorption of tooth roots

Tooth name Teeth eruption (in months) Timing of resorption (in years) Central incisors 6-8 mo. 6-7 years
Lateral incisors 8-12 months. 7-8 years
Canines 14-20 months. 10-12 years
First molar12-16 months. 9-11 years
Second molar20-30 months. 10-12 years

In addition to teething at the appropriate time (timeliness), physiological teething is characterised by other features. In addition to teething at the appropriate time (timeliness), physiological teething is characterised by other features. These include:
- 1) sequence of eruption - eruption of teeth in a certain order (first molar - central incisors - lateral incisors - first premolar - second premolar - canines - second molar) taking into account their belonging to the upper or lower jaw (teeth on the lower jaw erupt faster except for lateral incisors);
- 2) symmetry of eruption - teeth erupt simultaneously on the left and right side of the jaw;
- 3) parity of eruption - simultaneous eruption of the same name groups of teeth on the upper and lower jaws.

According to Eidman, permanent teeth begin to develop in the following terms:
- 1st molar in the embryo at 17 weeks
- incisors at 23 weeks of age
- canine at 25 weeks, while the rest of the teeth begin to develop after birth.

Conclusions: Thus, with the eruption of permanent, "adult" molars, the change of teeth begins, which lasts from 5-7 to 12-14 years of age. It is the first molars, which have no deciduous counterparts, that hold the bite, ensuring the correct positioning in the arch of the other permanent teeth

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