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| 7B-5 |
| **Basic Science Question:** |
| What is the anatomy of a tooth? |
| **Report:** |
| Humans are diphyodonts, which means that we have a primary teeth which are later substituted by permanent teeth (Balic et al., 2018). There are four classifications for teeth. There are incisors, canines, premolars, and molars (Morris et al., 2020). There are two arches of teeth, one on top called the maxillary arch and one on bottom termed the mandibular arch.  A tooth has a crown and a root. The crown is divided into the anatomical crown and the clinical crown (Fuller et al., 2001). The anatomical crown is the portion of the tooth that is enclosed by enamel while the clinical crown is the portion that can be seen inside the mouth (Fuller et al., 2001). The root is also divided into an anatomical root and a clinical root. The anatomical root is the portion of the root that is covered by cementum while the clinical root is the portion of the root that can’t be seen inside the mouth (Fuller et al., 2001). The root has a tip at the end called the root apex and it has an opening called the apical foramen (Fuller et al., 2001).  Teeth are calcified. Enamel is the hardest substance in the body because it is mineralized by hydroxyapatite minerals (Morris et al., 2020). The enamel meets dentin at a point called the dentinoenamel junction (DEJ) (Fuller et al., 2001). Dentin is also mineralized but not as much as enamel (Morris et al., 2020). The enamel ends and the dentin goes from being covered by enamel to being covered by cementum at the cementoenamel junction (CEJ) (Fuller et at., 2001).  Teeth also have a pulp chamber which contains blood vessels and nerves which enter the root via the apical foramen (Morris et al., 2020). The whole internal space inside the pulp is called the pulp cavity (Fuller et al., 2001). The pulp cavity has a pulp canal inside which spans the entirety of the root (Fuller et al., 2001). The pulp chamber on the other hand is the portion that is located in the anatomical crown and it has extensions called pulp horns (Fuller et al., 2001).  There are a lot of structures that support teeth in the socket. The alveolar process are the bony processes of the maxillary and mandibular bone (Fuller et al., 2001). The socket created by the alveolar processes is called the alveolus (Fuller et al., 2001). The periodontal ligament is a connective tissue that supports the teeth inside the socket by holding onto the cementum of the tooth and attaching it to the alveolar bone (Fuller et al., 2001). The gingiva of a tooth is the soft tissue that surrounds the teeth (Fuller et al., 2001).  A tooth has a mesial surface closest to the midline, a distal surface away from the midline, a lingual surface toward the tongue, and a labial surface towards the lips (Fuller et al., 2001). The labial surface is also referred to as the buccal surface in posterior teeth (Fuller et al., 2001). The top point of the tooth is called the incisal edge in anterior teeth and it turns into the occlusal surface in posterior teeth (Fuller et al., 2001). Teeth come in contact with each other at the proximal surface (Fuller et al., 2001).  Crowns of teeth have cusps, except for the incisors (Fuller et al., 2001). Cusps are outgrowth on the occlusal or incisal surface (Fuller et al., 2001). Anterior teeth also tend to have a cingulum, which is a circular projection on the lingual surface (Fuller et al., 2001).  There are also ridges on the crowns of teeth. The marginal ridges are on the mesial and distal portion of the tooth (Fuller et al., 2001). The triangular ridges are declines that slope down to the center of the tooth (Fuller et al., 2001).There is also a transverse ridge, which is where two triangular ridges meet (Fuller et al., 2001). Maxillary molars also have an additional ridge called the oblique ridge that spans aross diagonally (Fuller et al., 2001).  Teeth also have lines that are called grooves. The primary grooves are the lines that separate the lobes of a crown (Fuller et al., 2001). The secondary grooves are the lines that come off of the primary grooves (Fuller et al., 2001). |
| **References:** |
| Fuller, J. L., Denehy, G. E., & Schulein, T. M. (2001). *Concise dental anatomy and morphology*. IA City, IA: University of Iowa.  Balic A. Biology Explaining Tooth Repair and Regeneration: A Mini-Review. Gerontology. 2018;64(4):382-388. doi: 10.1159/000486592. Epub 2018 Mar 13. PMID: 29533942.  Morris AL, Tadi P. Anatomy, Head and Neck, Teeth. [Updated 2020 Jul 31]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK557543/ |