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| **Name:** |
| Mitchell Splinter |
| **Group:** |
| 3B-3 |
| **Basic Science Question:** |
| What is the periodontal ligament? |
| **Report:** |
| The periodontal ligament is a thin connective tissue sheet that suspends and maintains the tooth in the alveolus. The periodontal ligament surrounds the entire root and occupies the space between the root and bone. It contains fibrous connective tissue bundles that attach the root cementum to the alveolar bone of the socket. Thickness of the periodontal ligament generally varies with age and function.  The periodontal ligament consists of cells such as fibroblasts, cementoblasts, and osteoblasts, as well as a rich gel-like extracellular matrix that contains the connective tissue fibers. The connective tissue fiber bundles are mainly Type-1 collagen fibers and are the largest component of the periodontal ligament. There are different types of bundle fibers based on location within the ligament and each has their own unique function in maintaining the tooth within the socket. These fiber bundle types include alveolar crest, horizontal, oblique, apical, and interradicular fibers. The fiber bundles are anchored to the cementum and alveolar bone by Sharpey’s Fibers. Additionally, there are blood vessels and a nerve supply coursing through the area to supply it with nutrients and sensation. |
| **References:** |
| Rose LF, Mealy BL. 2004. Periodontics: Medicine, Surgery, and Implants. St. Louis (MO): Elsevier Mosby. p. 1-30.  Berkovitz BK. 2004. Periodontal ligament: structural and clinical correlates. Dent Update. 31(1):46-50, 52, 54. |