

Editorial

Description of cementum

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EDITORIAL NOTE

Cementum is a calcified material that protects the tooth's root. The cementum is a component of the periodontium that anchors the periodontal ligament and connects the teeth to the alveolar bone. Cementocytes, or imprisoned cementoblasts, are the cement's cells. Each cementocyte is found in its own lacuna, comparable to the bone pattern. Canaliculi, or canals, run through these lacunae. These canals in cementum, unlike those in bone, do not contain nerves and do not extend outward. Instead, because the periodontal ligament is vascularized, the canals are orientated toward it and include cementocytic processes that absorb nutrients from it. Cementoblasts that do not become entrapped in cementum line up along the cemental surface along the length of the outer covering of the periodontal ligament after cementum apposition in layers. If the tooth is wounded, these cementoblasts can generate additional layers of cementum. Sharpey fibres are part of the periodontal ligament's main collagenous fibres that connect the tooth to the alveolus and are embedded in the cementum and alveolar bone. Cementum on teeth can indicate that the roots are exposed, indicating that the clinical crown is larger than the anatomical crown. Gingival recession is a common cause of this, and it could be a sign of periodontal disease. The existence or absence of cementocytes, as well as whether the collagen fibres are extrinsic or intrinsic, determine the distinct kinds of cementum. Extrinsic fibres are secreted by fibroblasts and some cementoblasts, while only cementoblasts secrete intrinsic fibres. The extrinsic fibres in acellular extrinsic fibre cementum move perpendicular to the surface of the root and allow the periodontal ligament, which is continuous with the cementodentinal junction, to bind the tooth to the alveolar bone. Extrinsic collagen fibres are the only

ones found in acellular cementum. Cellulose cementum, on the other hand, is thick and contains both extrinsic and intrinsic collagen fibres. Acellular extrinsic fibre cementum is the first cementum to form during tooth development. The acellular layer of cementum is living tissue without cells that typically predominates on the coronal half of the root, whereas cellular cementum is more prevalent on the apical half. Acellular Extrinsic Fibres Cementum (AEFC), Cellular Intrinsic Fibres Cementum (CIFC), and Mixed Stratified Cementum (MSC), which contains both cellular and acellular cementum, are the three basic forms of cementum. Cellular cementum comprises cells and serves as a medium for collagen fibres to adhere to the alveolar bone. It's also in charge of modest resorption repair via continuing deposition in order to keep the attachment apparatus intact. Acellular cementum is devoid of cells and serves primarily as an adaptive function.

Cementum is produced in the root of the tooth by cells called cementoblasts and is thickest near the root apex. Undifferentiated mesenchymal cells in the connective tissue of the dental follicle or sac give rise to cementoblasts. Cementoblasts manufacture cement at regular intervals, called incremental lines of Salter, signifying times of activity and periods of repose. The only hypercalcified incremental line in the tooth is the Salter line. This is because the organic portion of cementum is considerably larger than the inorganic portion, so when the Cementoblasts rest, they allow room for the inorganic portion. Because the inorganic portion of enamel ameloblasts and dentin odontoblasts is significantly more than the organic portion, when they rest, they leave a space for the organic portion and become hypocalcified.

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