

The periodontal ligament is a connective tissue located between the ____ and ____ bone.

cementum, alveolar

The periodontal ligament is unique because it is the only ligament that connects two ____ tissues in the human body.

hard

The periodontal ligament (PL) is a complex vascular and highly cellular connective tissue that connects the tooth root to the ____ and the ____ bone.

inner wall of the alveolar, alveolar

The gingival connective tissue is continuous with the connective tissue of the gingiva and is bounded by ____ fiber bundles extending between the alveolar crest and the ____ cementum.

collagen, root

The PL cells are responsible for synthesizing and secreting a wide range of ____ and ____ essential for tissue remodeling.

regulatory molecules, maintaining homeostasis

One of the key features of PL is its ability to adapt to rapidly changing ____ and maintain a consistent ____ throughout life.

applied force, width of the PL space

The PL space is diminished around teeth that are ____ and ____ teeth, but increased in teeth subjected to ____.

not in function, unerupted, hyperfunction

The average width of the PL space is about ____ mm, and it varies according to age, functional characteristics, and ____ of eruption.

0.2, stage

The periodontal ligament helps to ____ the tooth to the bone and provides ____ for the tooth.

attach, support

One function of the periodontal ligament is to absorb ____ and resist the impact of ____ forces.

shock, occlusal

The orientation of the collagen fiber bundles in the periodontal ligament changes during the phase of tooth ____ and when the tooth is fully in function, they form ____ fibers.

eruption, well-oriented dentoalveolar collagen

In Lindhe's Clinical Periodontology, the principal fibers of the periodontal ligament are known as ____ fibers, which associate into groups when the tooth is in ____.

true periodontal ligament, occlusion

Collagen fibrils are produced by ____ in the loose connective tissue surrounding the ____ bud.

fibroblasts, tooth

The collagen fibrils embed into the newly formed ____ apical to the ____ junction.

cementum, cemento-enamel

During tooth eruption, the primary periodontal ligament fibers extend to the ____ and embed into the ____ bone.

alveolar bone, marginal alveolar

As the tooth reaches occlusion, the orientation of the fibers begins to ____ and brush-like fibrils extend from the ____ into the periodontal ligament space.

shape, cementum

In the periodontal ligament space, brush-like fibrils extend from the ____ into the ____.

cementum, periodontal ligament

On the surface of the alveolar bone, there are ____ and a thin layer of ____.

osteoblasts, collagen fibrils

The primary fibrils organize when the tooth becomes functional, leading to continuity between the ____ and ____.

bone, cementum

The most important elements of the periodontal ligament include principal fibers and ____ fibers, which are essential for tooth support.

Sharpey's

The terminal portions of principal fibers that are embedded into the ___ and ___ are called Sharpey's fibers.

cementum, alveolar bone proper

Sharpey's fibers become ___ in areas where they are embedded in bone and ___.

calcified, cementum

Sharpey's fibers help regulate ___ mineralization and contribute to the attachment of tissues under increased ___ stress.

hard tissue, biomechanical

The intermediate plexus formed by fibers from the bone and cementum disappears when the tooth becomes ___ and is associated with ___ proteins.

functional, non-collagenous

The principal fibers of the periodontal ligament are arranged in 6 groups: Alveolar crest, ___, Oblique, ___, Interradicular, and Transseptal fibers.

Horizontal fibers, Apical fibers

In the periodontal ligament, the six groups of principal fibers include Alveolar crest, Horizontal, ___, Apical, ___, and Transseptal fibers.

Oblique fibers, Interradicular fibers

The principal fibers of the PL include ___ fibers, ___ fibers, and ___ fibers.

Alveolar crest, Horizontal, Oblique

Alveolar crest fibers extend from the cementum to the ___ and help prevent ___ of the tooth.

alveolar crest, extrusion

The principal fibers of the periodontal ligament are arranged in 6 groups including ___ and ___.

Alveolar crest fibers, Horizontal fibers

Horizontal fibers extend at right angles to the long axis of the tooth from the ___ to the ___.

cementum, alveolar bone

The principal fibers of the PL are arranged in ___ groups, with the largest group being the ___ fibers.

6, oblique

Oblique fibers in the periodontal ligament extend from the cementum in a ___ direction to the ___.

coronal, bone

The principal fibers of the PL are arranged in ___ groups, with the apical fibers radiating from the cementum to the ___ at the apical region.

6, bone

Apical fibers do not occur on ___ formed roots and radiate in a rather ___ manner from the cementum.

incompletely, irregular

The principal fibers of the PL are arranged in ___ groups, including the ___ fibers that extend interproximally over the alveolar bone crest.

6, Transseptal

Transseptal fibers are embedded in the cementum of adjacent teeth and may be considered as belonging to the ___ because they do not have ___ attachment.

gingiva, osseous

The periodontal ligament contains various components including ___ and ___ cells.

fibroblasts, cementoblasts

In the extracellular matrix (ECM) of the periodontal ligament, you can find ___ fibers and ___ substances.

Type I collagen, glycosaminoglycans

Fibroblasts are primarily found in the ___ and are responsible for synthesizing ___ and proteoglycans.

PL, collagen

The process of collagen turnover is regulated by fibroblasts through ___ degradation and does not involve ___ action.

intracellular, collagenase