بسمة الرحمن الرحيم
Components

- Two hard and two soft tissues
Gingiva

- **Marginal gingiva** forms a collar around the cervical margins of the teeth.

- **Attached gingiva** acts as a protective covering for the alveolar process.
Gingiva

- Contain **mechanoreceptors** for touch and pressure (Stereognosis).

- These receptors regulate mandibular movement & influence ability of edentulous patients to accommodate and use artificial dentures.
Cementum.

- It is an avascular mineralized connective tissue covering the dentin of roots. Cementum undergoes limited remodeling, and resists resorption under normal occlusal forces.
Alveolar process

- highly vascularized and mineralized connective tissue.
- Remodeling comprises change in number and orientation of bone trabeculae and change in mineralization.
**Periodontal Ligament**

- It is a layer of highly active, vascularized, and innervated connective tissue rich of cellular elements.
- Cells of the ligament are osteoblasts, osteoclasts cementoblasts, fibroblasts, and epithelial and undifferentiated mesenchymal cells.
Functions of periodontal ligament

- Attachment of tooth root to its bony socket.
- Absorption of occlusal force.
- Permission of adaptive tooth movements.
- Provision of sensory input to control mandibular movements.
Sensory input of the periodontal ligament

- Two receptors
  - pain receptors
  - mechanoreceptors

- Two neurons
  - Multiple objects
  - Single object
Functions of the Mechanoreceptors

- Tactile sensibility. 10 micron for natural
- Load sensibility. 1:8 (ant. : post.)
- Sudden disocclusion.
- Silent period initiation. (muscle pausing)
- Limit the maximal clenching force that can be developed between antagonistic teeth.
- Modification of the mandibular closure.
- Modify swallowing patterns, habits and speech
THANK YOU