

Structure and function of Connective Tissues

Part -4



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Types of Connective Tissues



On the basis of nature of matrix, connective tissues are of three types

1. Connective Tissue proper
2. Skeletal connective tissue
3. Vascular connective tissue

Types of Connective Tissues (Bone) ..*contd.*..



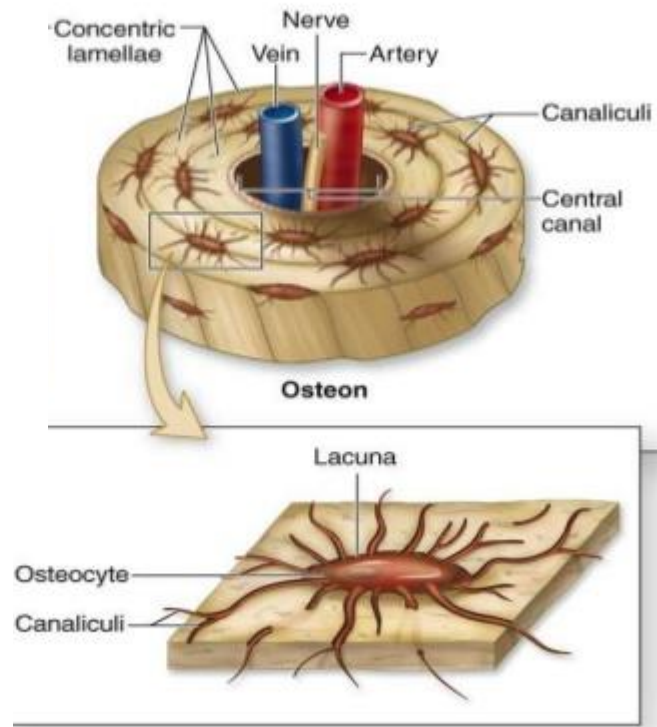
Classification of Bone

According to the density and hardness , bone is of two types

- **Compact Bone**

- Compact bone consists of closely packed osteons or haversian system
- The osteon consists of a central canal called the haversian canal, which is surrounded by concentric rings (lamellae) of matrix
- Between the rings of matrix the bone cells , osteocytes are located in spaces called lacunae
- Small channels (canaliculi) radiate from the lacunae to the haversian canal to provide passage through the hard matrix
- In compact bone, the haversian system are packed tightly together
- The osseous canal contain blood vessels that are parallel to the long axis of the bone

Structure of Compact Bone



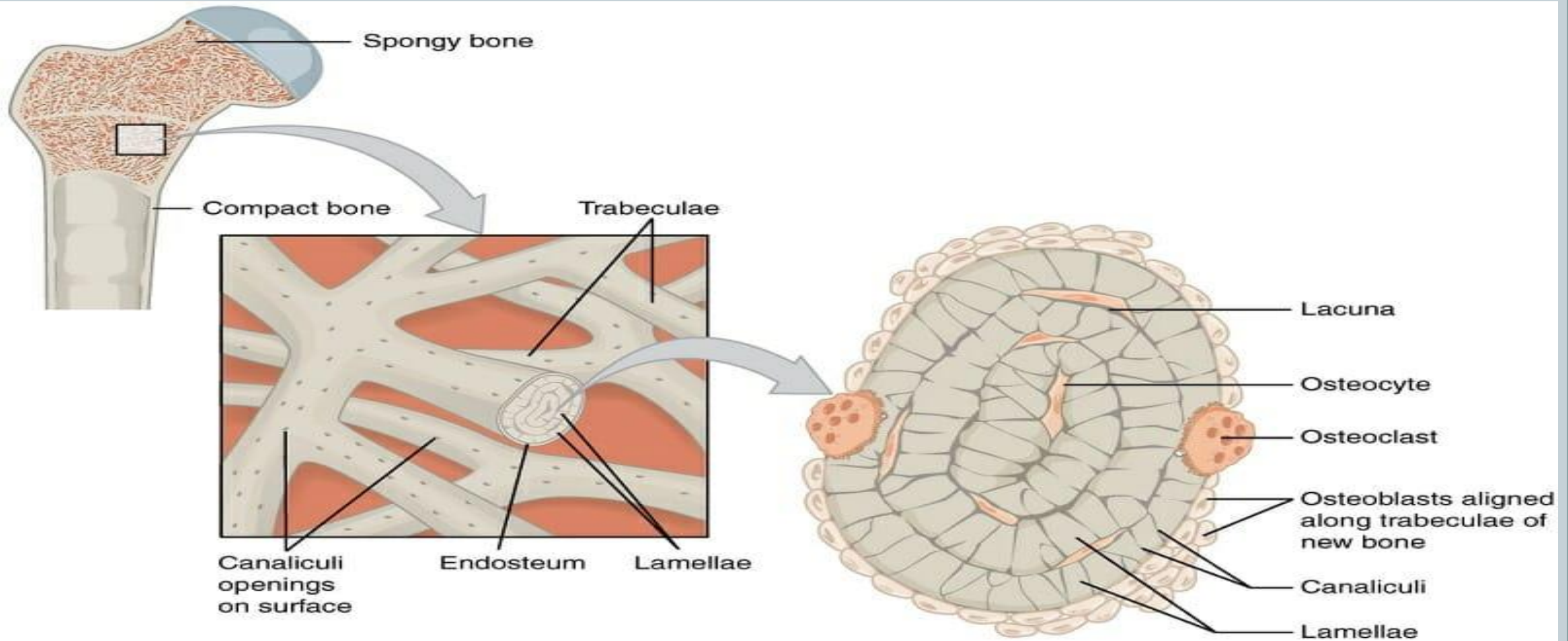
Types of Connective Tissues (Bone) ..*contd.*..



- **Spongy Bone**

- Spongy bone is lighter and less dense than compact bone
- It consists of trabeculae and bars of bone adjacent to small irregular cavities that contain red bone marrow
- The canaliculi connect to the adjacent cavities to receive their blood supply
- The trabeculae of spongy bone follow the lines of stress and can realign if the direction of stress changes
- Spongy bone forms the inner layer of all bones and also found at the end of long bones

Structure of Spongy Bone



Types of Connective Tissues (Bone) ..*contd.*..



Function of Bones

Bones have many functions

- They support the body structurally by providing a frame to support the body. Muscle , tendons and ligaments are attached to bones. Without anchoring to bones muscles can not move the body
- They protect our vital organs , such as cranial bones protect the brain, Vertebrae protects the spinal chord and the rib cage protects the heart and lungs
- They provide an environment for bone marrow where the blood cells are created and they act as a storage area for minerals, particularly calcium and phosphorus
- Bones can absorb heavy metals and other toxic elements from the blood

Thank You

