

TOPIC: GROSS ANATOMY OF BONE: PERIOSTEUM AND ENDOSTEUM

- Connective tissue provides, blood, nerves, attachment points, & bone stem cells.

- **Periosteum:** (*peri* = around, *osteum* = bone):

- Covers the _____ surface of bone; _____ layers.

1. **Fibrous Layer:** superficial layer - Dense irregular connective tissue.

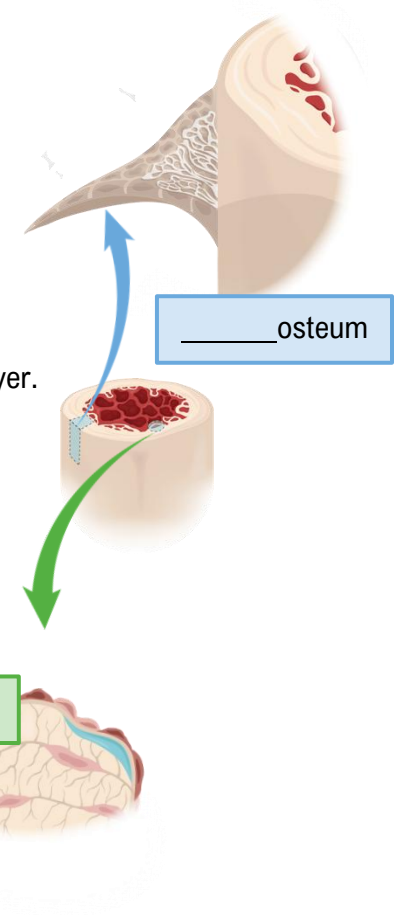
- _____ and innervated.
- Collagen from _____ and ligaments weave into fibrous layer.
- Perforating fibers: collagen fibers - _____ bone matrix.

2. **Osteogenic Layer:** layer of osteoprogenitor cells (bone stem cells).

- _____ bone outer surface.

- **Endosteum:** (*endo* = within, *osteum* = bone):

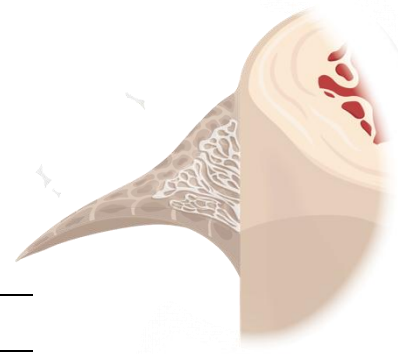
- Lines all _____ surfaces of bone
- _____ composition as osteogenic layer.



EXAMPLE: It's important that muscles and bone maintain extremely strong connections.

a) What material is most responsible for the strength of this connection?

b) What structural features aid in it performing this function?



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PRACTICE: True or False; if false, select the answer that best corrects the statement.

Endosteum is most similar to the fibrous layer of the periosteum.

- a) True, endosteum and fibrous layer have the same composition.
- b) False, the endosteum is most similar to the osteogenic layer of the periosteum.
- c) False, the endosteum contains thicker and more numerous collagen fibers than the fibrous layer.
- a) False, the endosteum is connective tissue while the periosteum is cartilage.

PRACTICE: True or False; if false, select the answer that best corrects the statement.

A function of the fibrous layer of the periosteum is to house osteogenic cells.

- a) True, the osteogenic cells reside in the fibrous layer of the periosteum.
- b) False, a function of the fibrous layer is to provide attachment sites for ligaments.
- c) False, a function of the fibrous layer is to provide a site for hematopoiesis.
- d) False, a function of the fibrous layer is to house osteocytes.