

HISTOLOGY LAB 3

CARTILAGE+ BONE

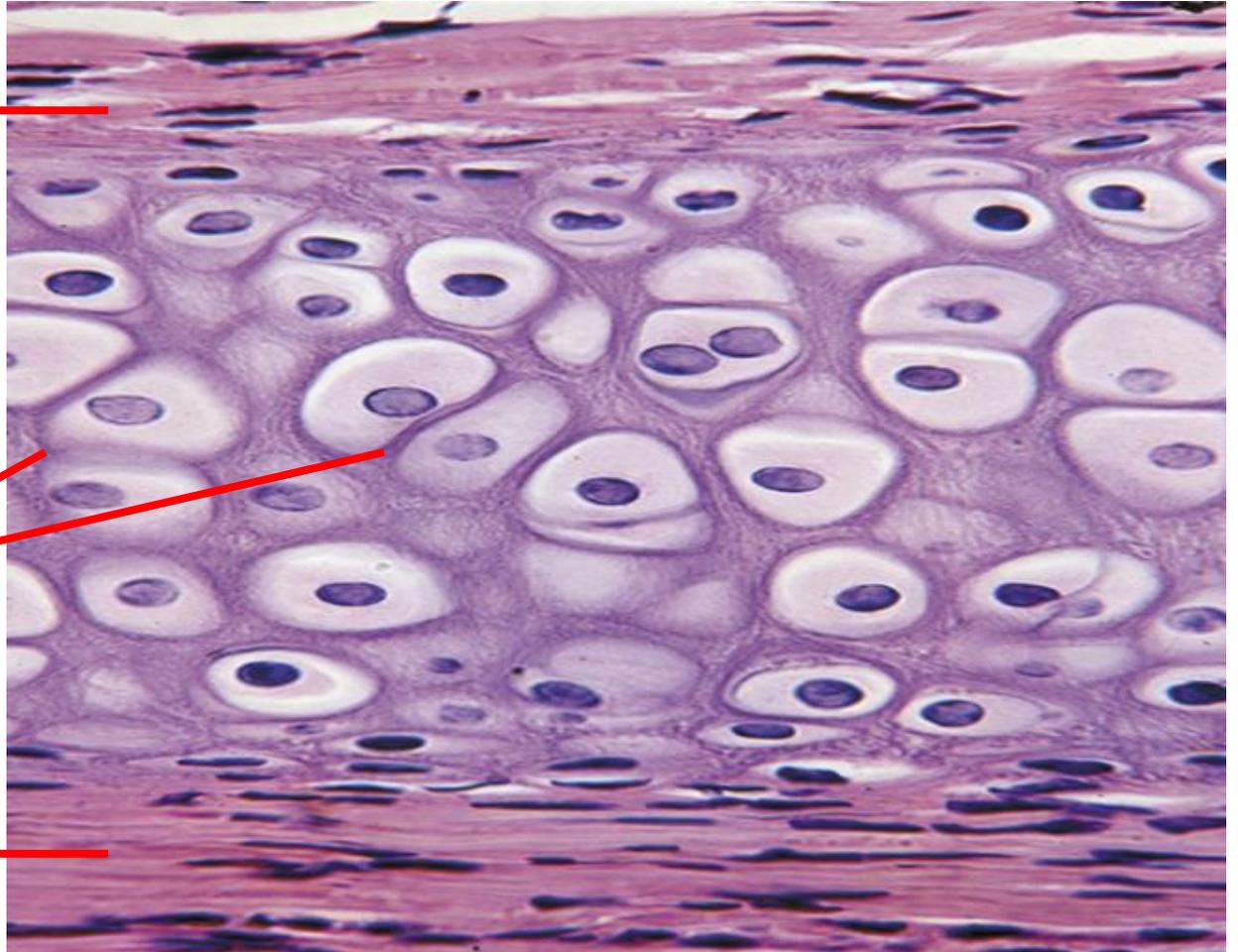
Ass. Prof Dr. Heba Hassan Abd El-Gawad

Hyaline cartilage

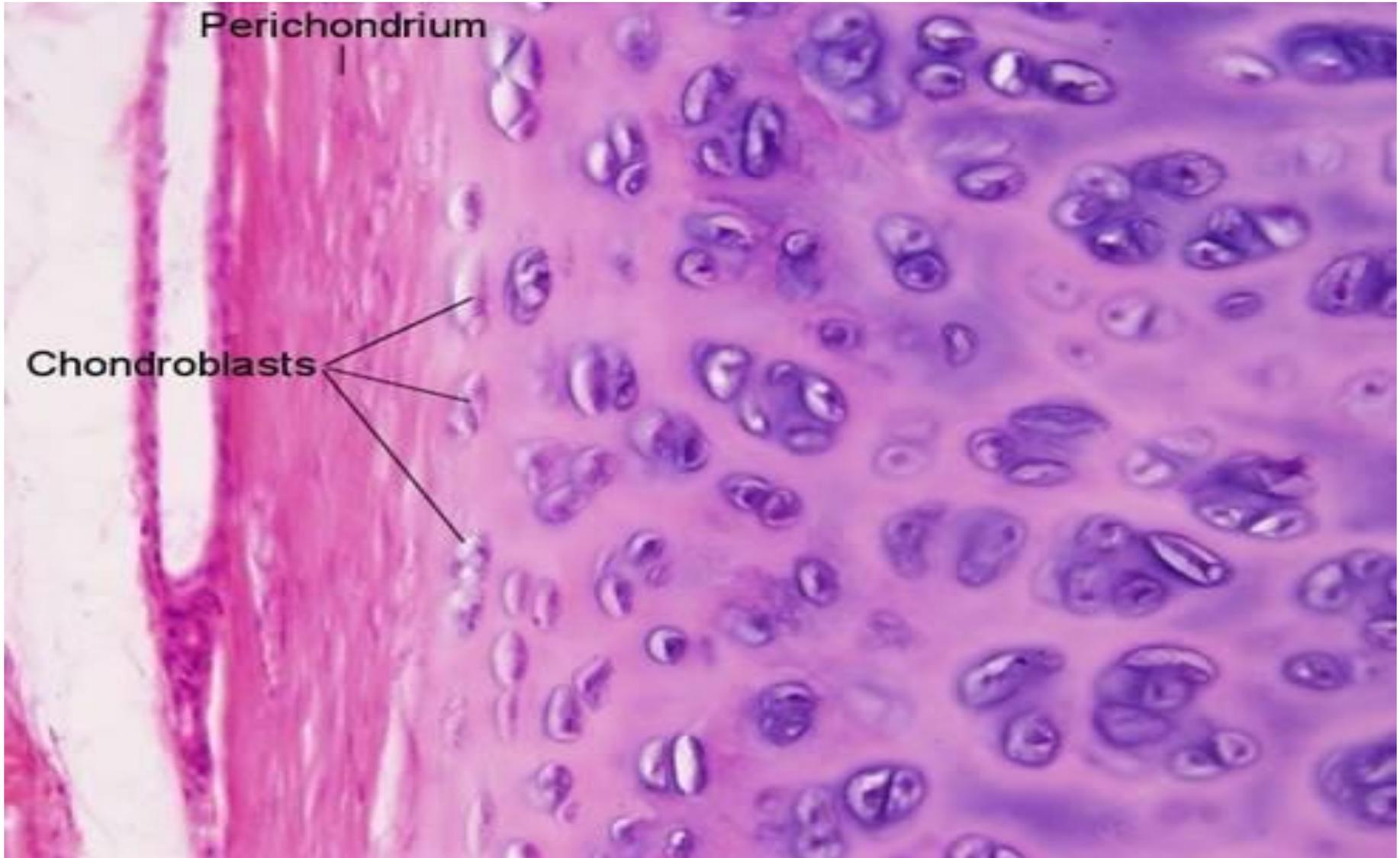
Perichondrium
(collagen I)

Chondrocytes
In lacuna

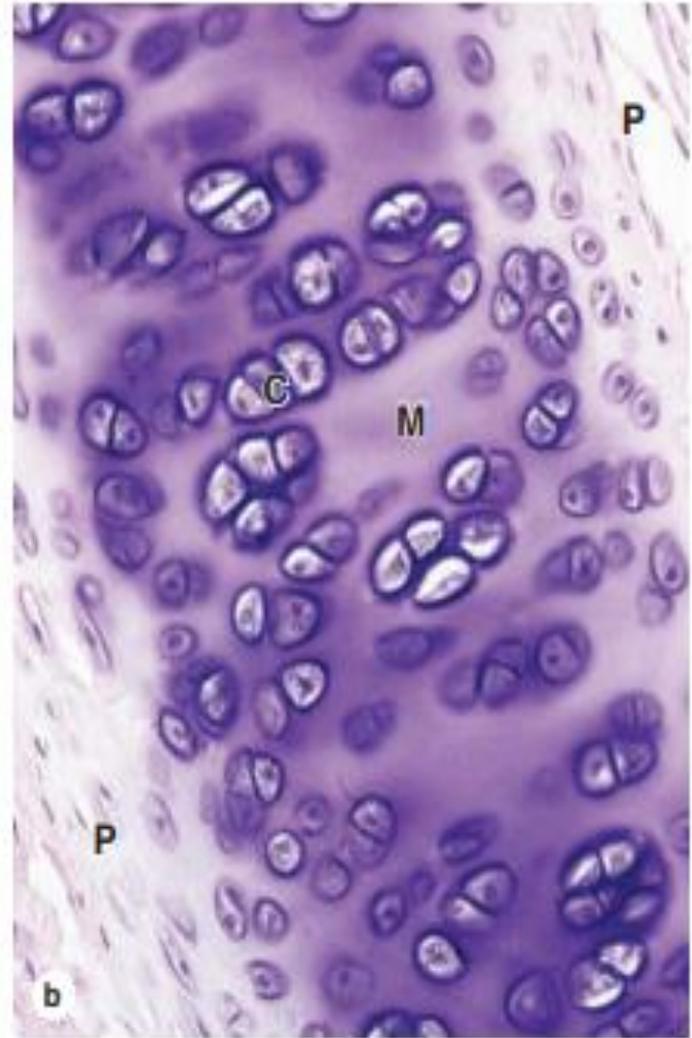
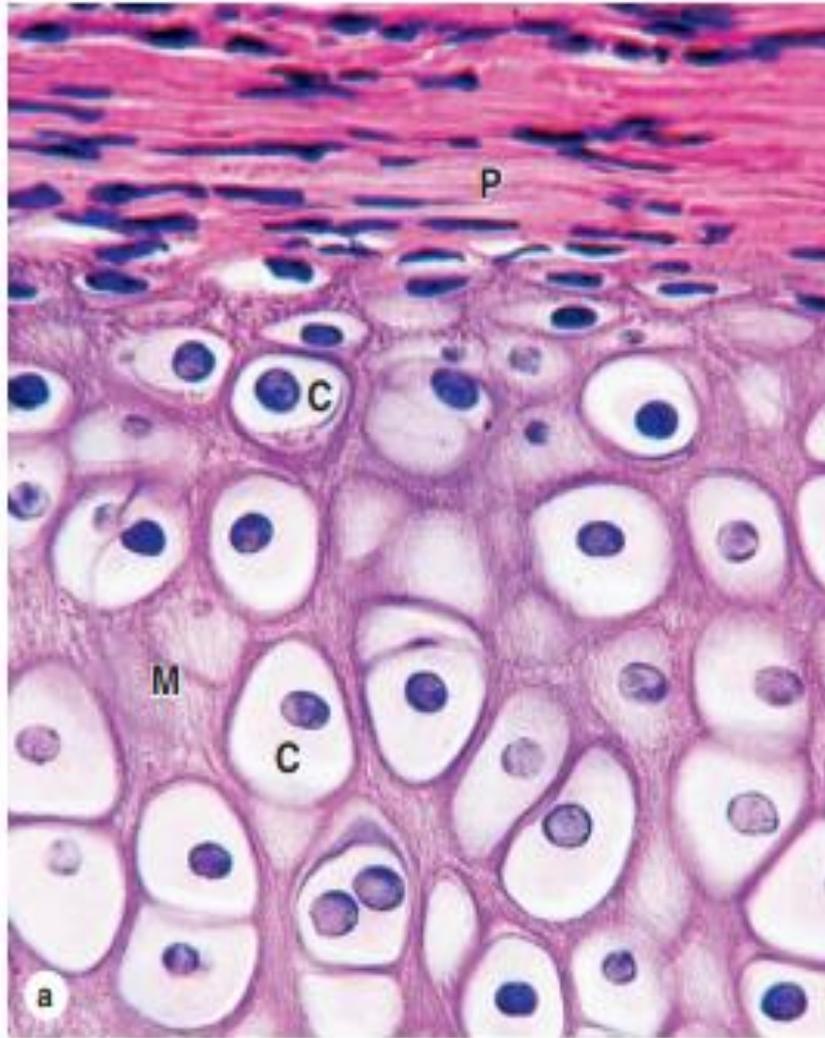
Perichondrium
(collagen I)



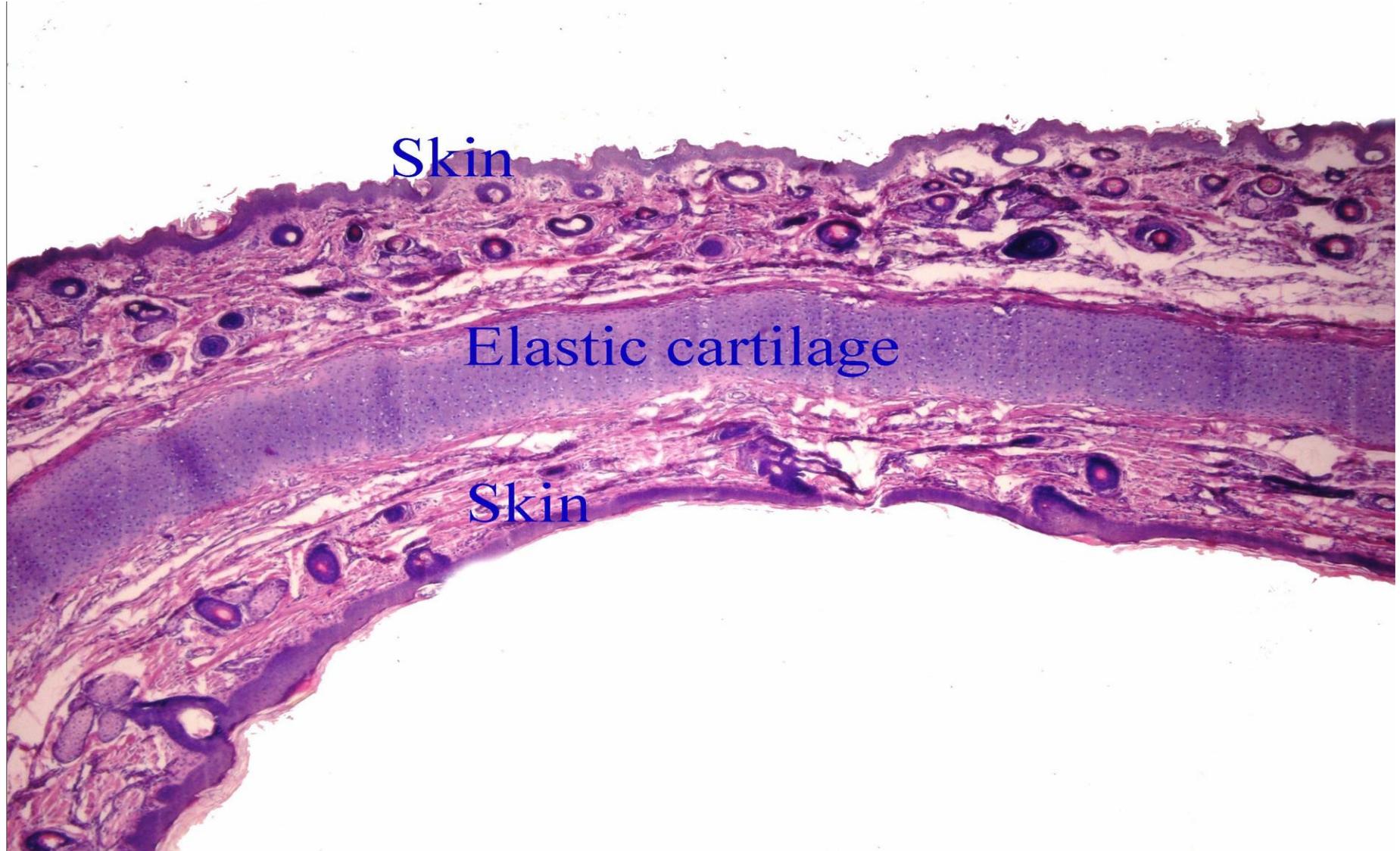
Hyaline cartilage



Hyaline cartilage



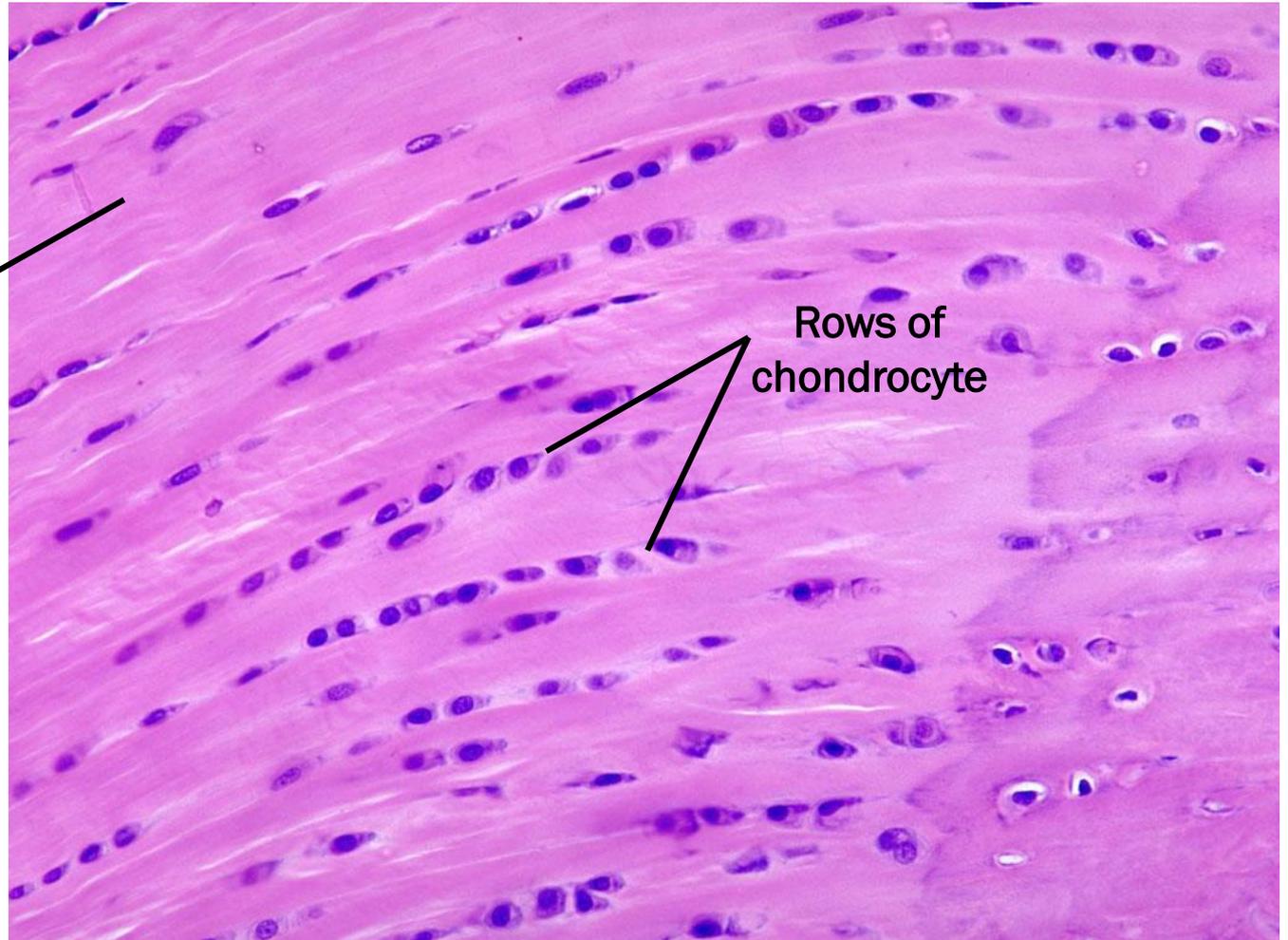
Elastic cartilage



FIBROCARTILAGE

Collagen
bundles
(collagen I)

Rows of
chondrocyte



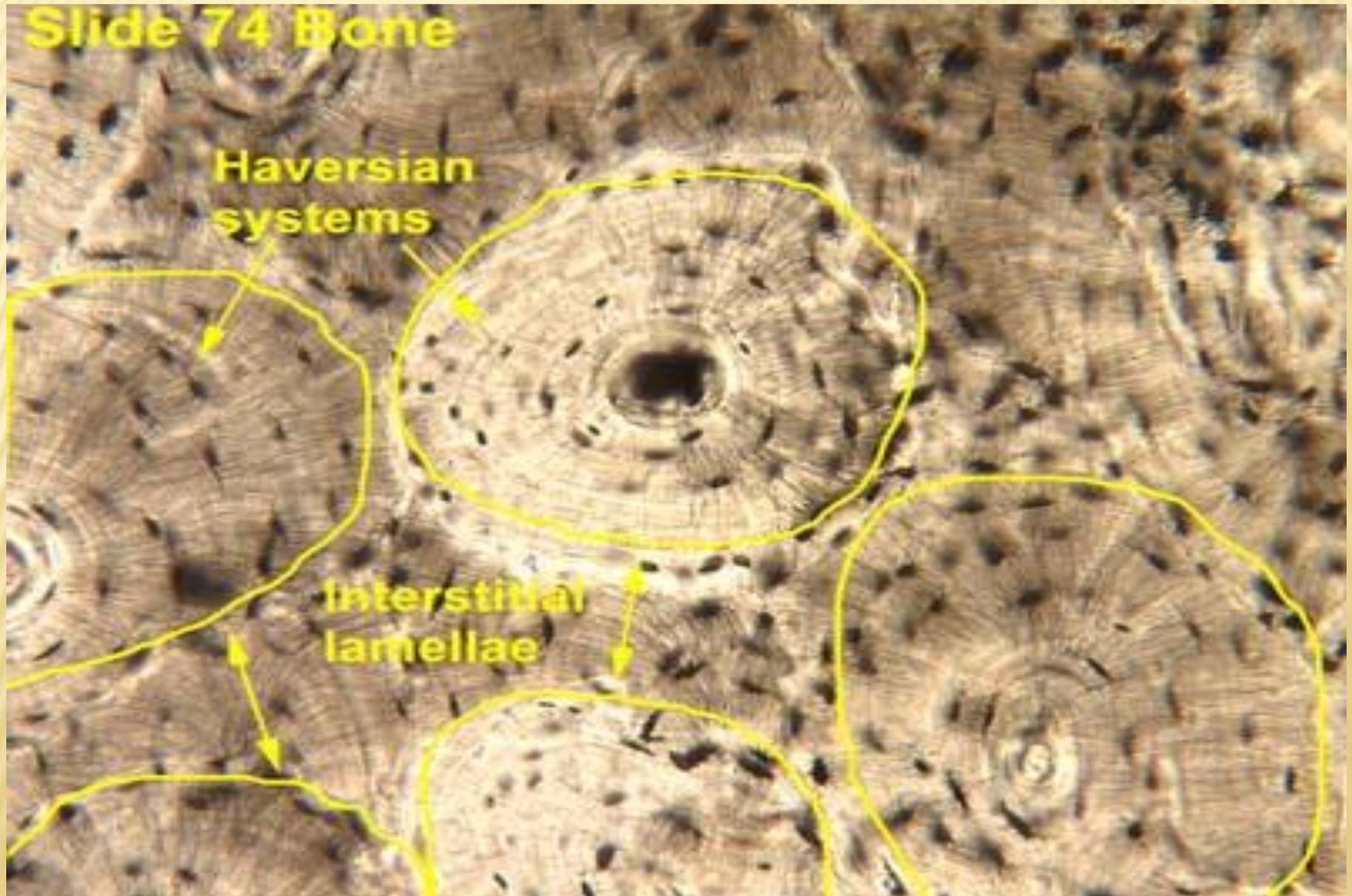
BONE

✘ Preparation of bone tissue for microscopic examination:

✘ Because bone is a hard tissue there are two methods to prepare it for microscopic study.

- **Decalcified sections:** the bone is treated with dilute acid solution (5% nitric acid) to remove the inorganic component. Then thin sections are prepared and stained in ordinary manner. In this method the cells and the organic components of bone are preserved.
- **Ground section:** It is carried out by grinding a thin piece of bone until it become transparent. Sections are obtained and examined with the microscope. No stains can be used and the bone cells are destroyed, so lacunae and canaliculi appear black due to the entrapped air.

Compact Bone (ground preparation)

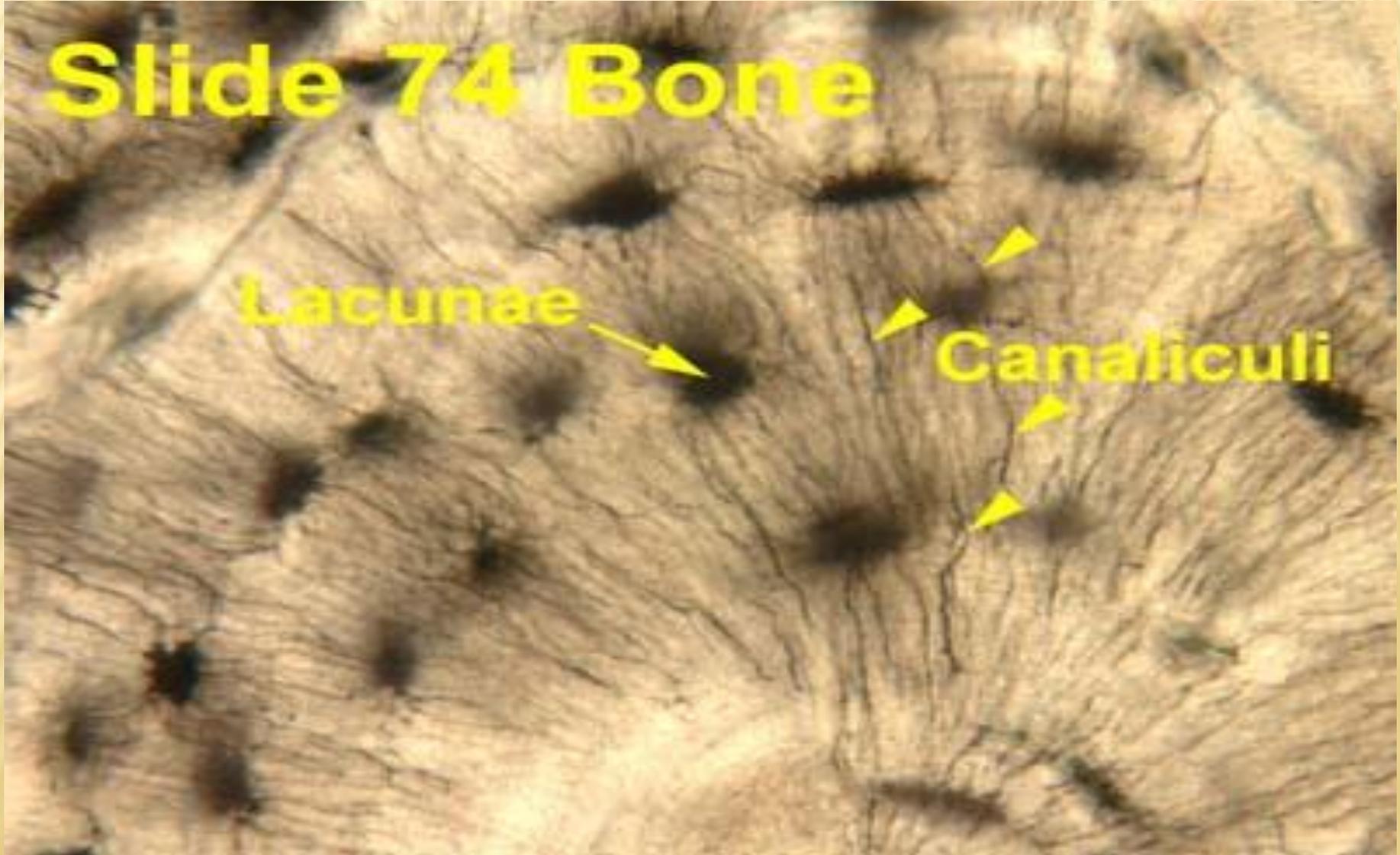


Compact Bone (ground preparation)

Slide 74 Bone

Lacunae

Canaliculi

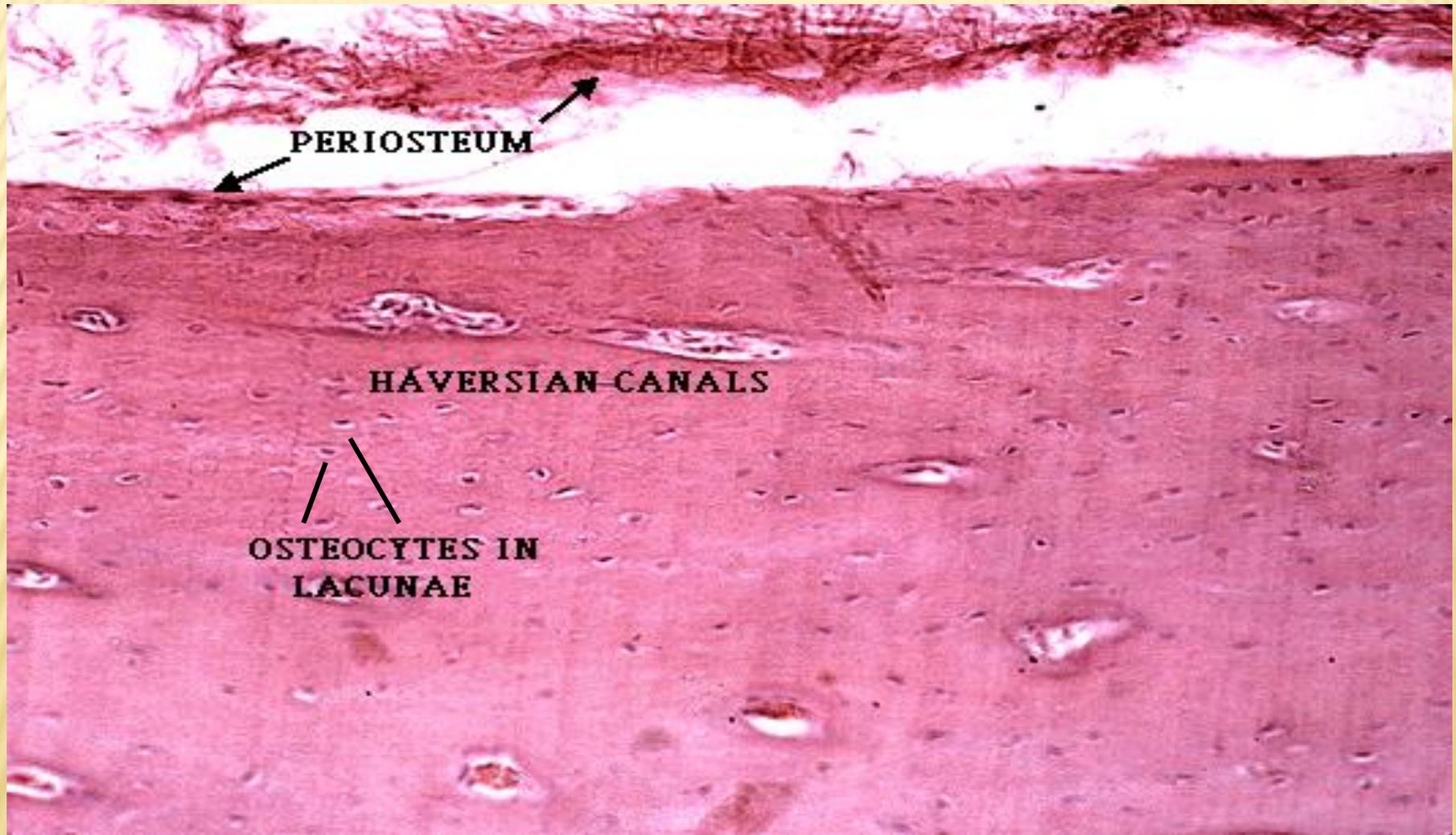


Decalcified Compact Bone

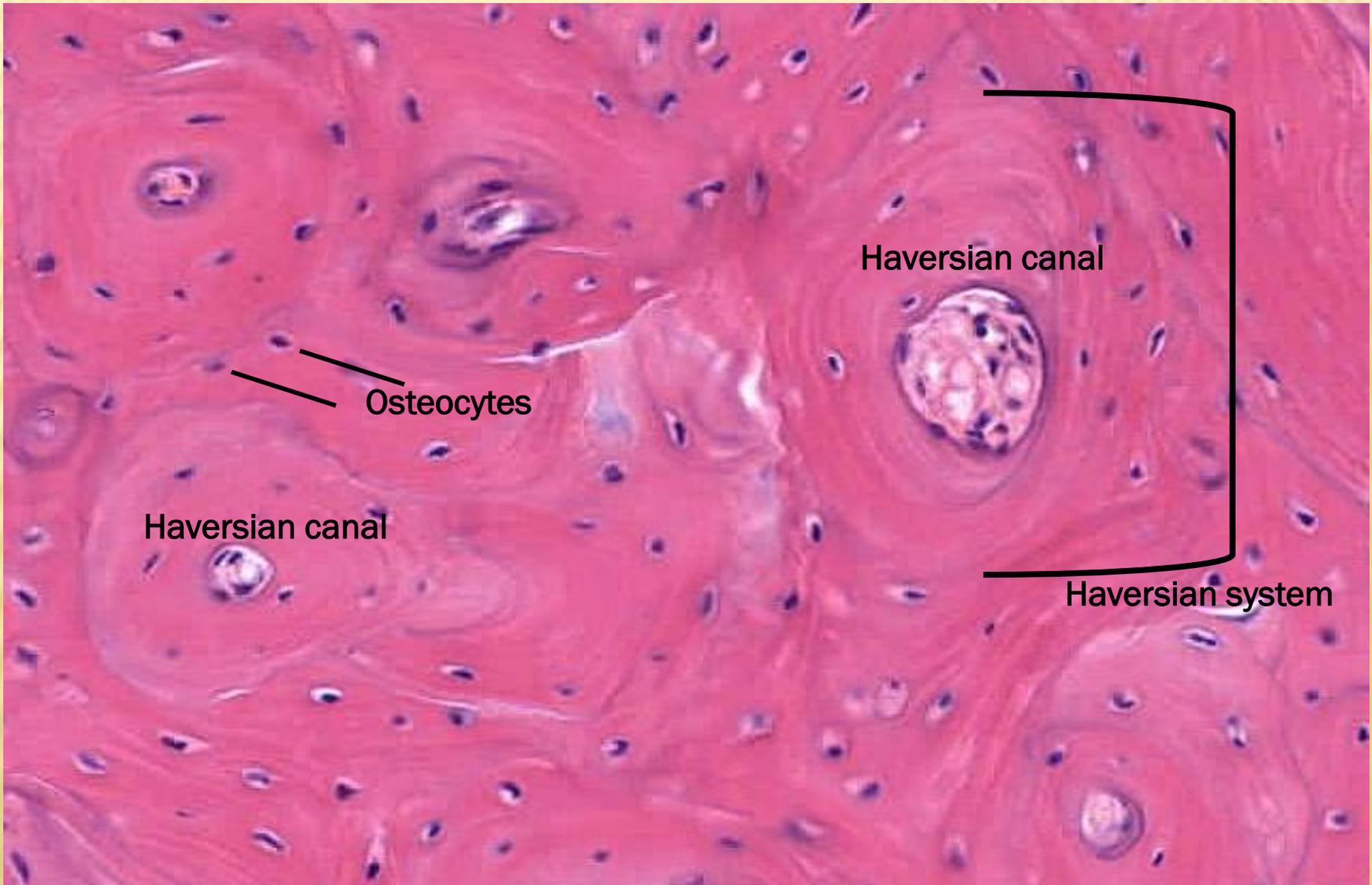
Slide 69 Bone, Femur



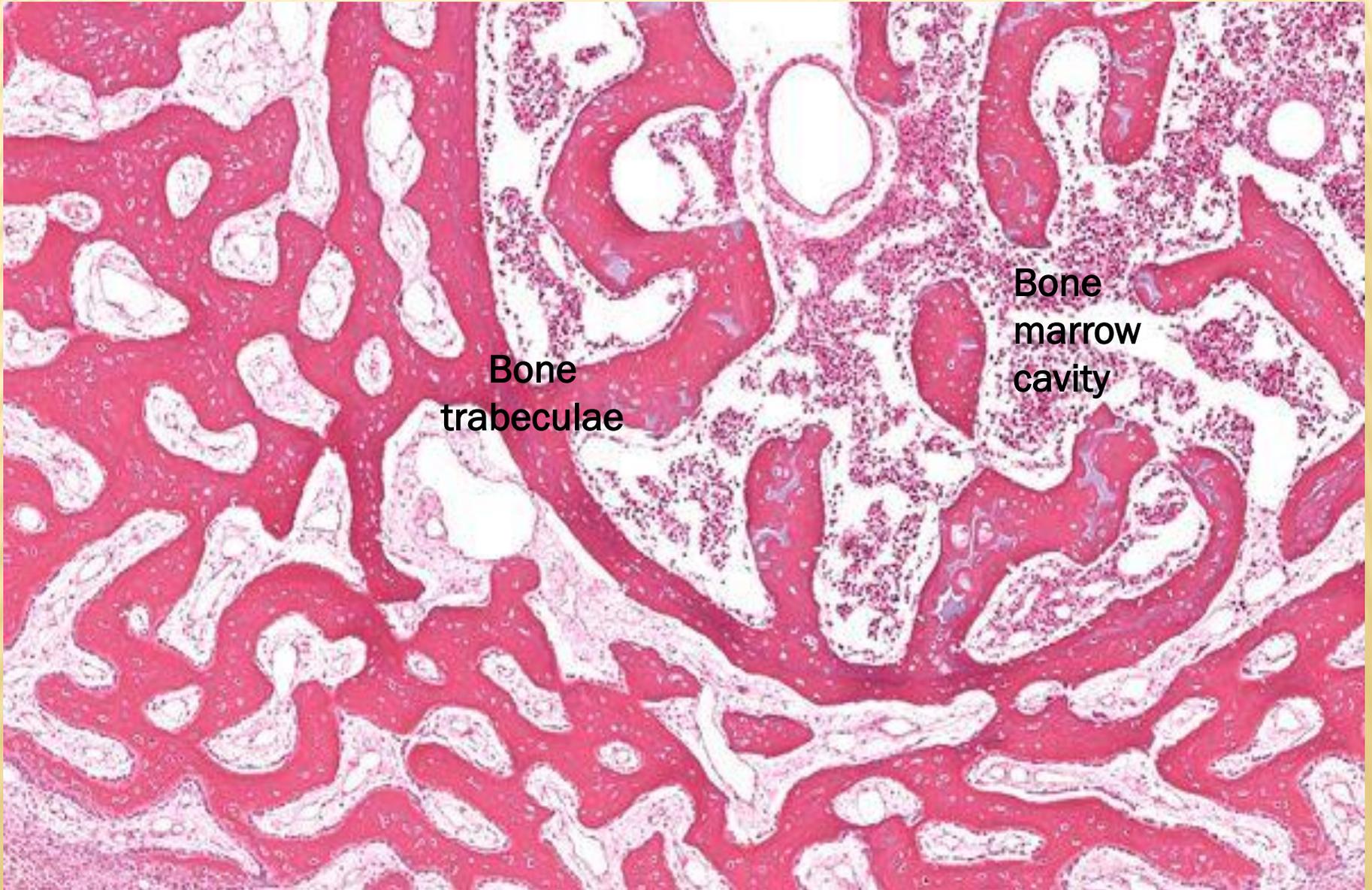
Decalcified Compact Bone



Decalcified Compact Bone



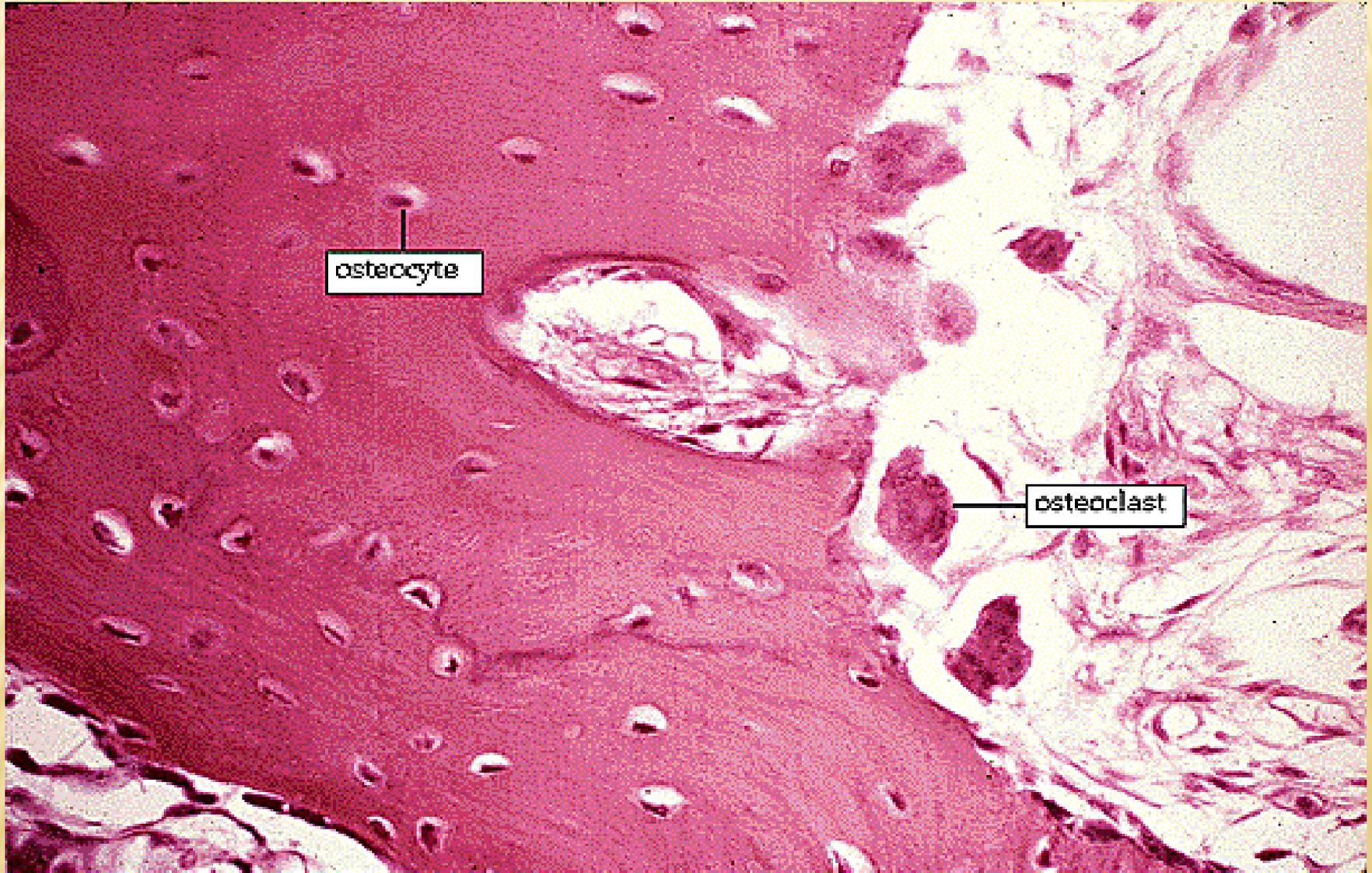
Cancellous Bone



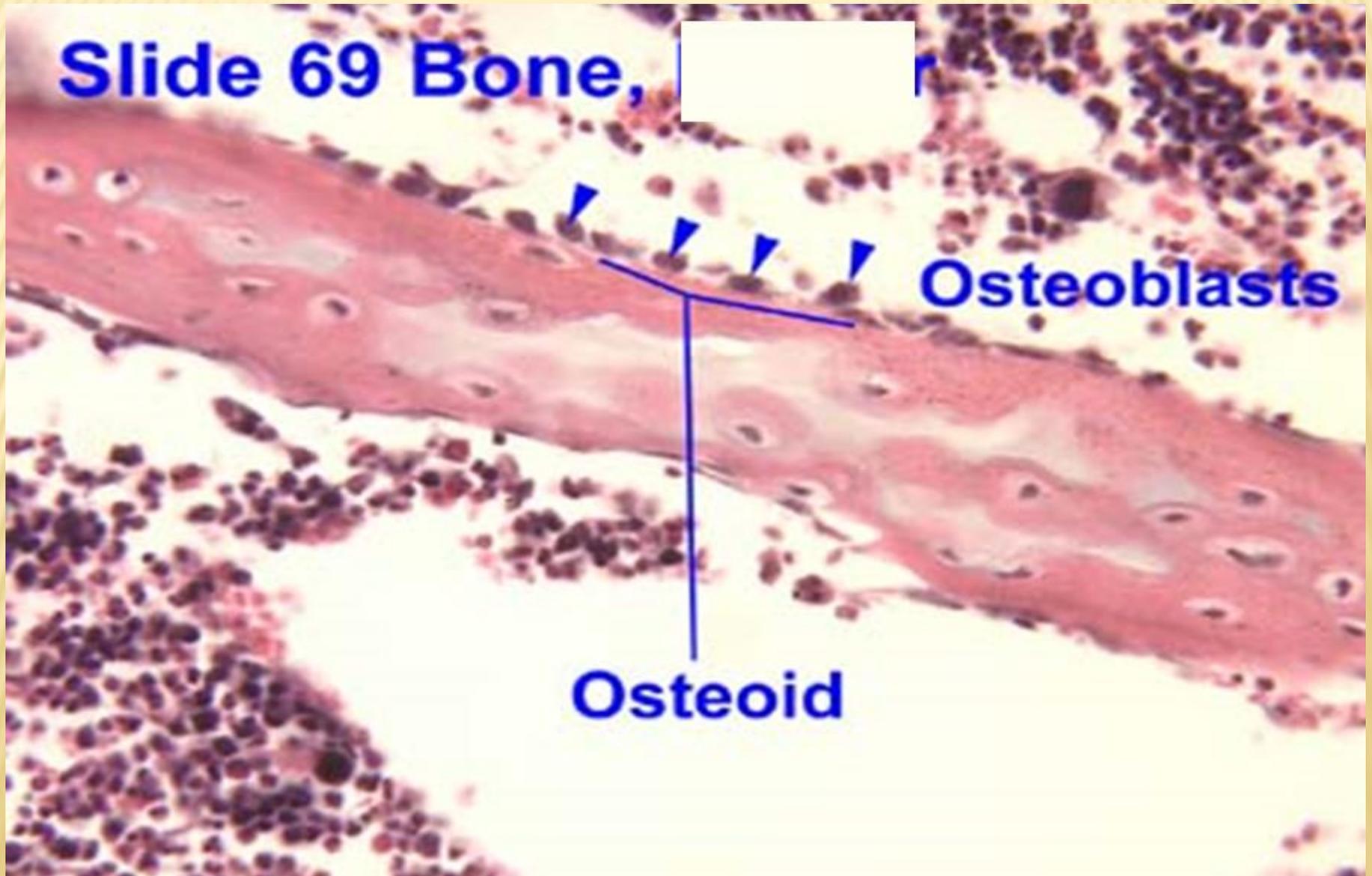
Bone
trabeculae

Bone
marrow
cavity

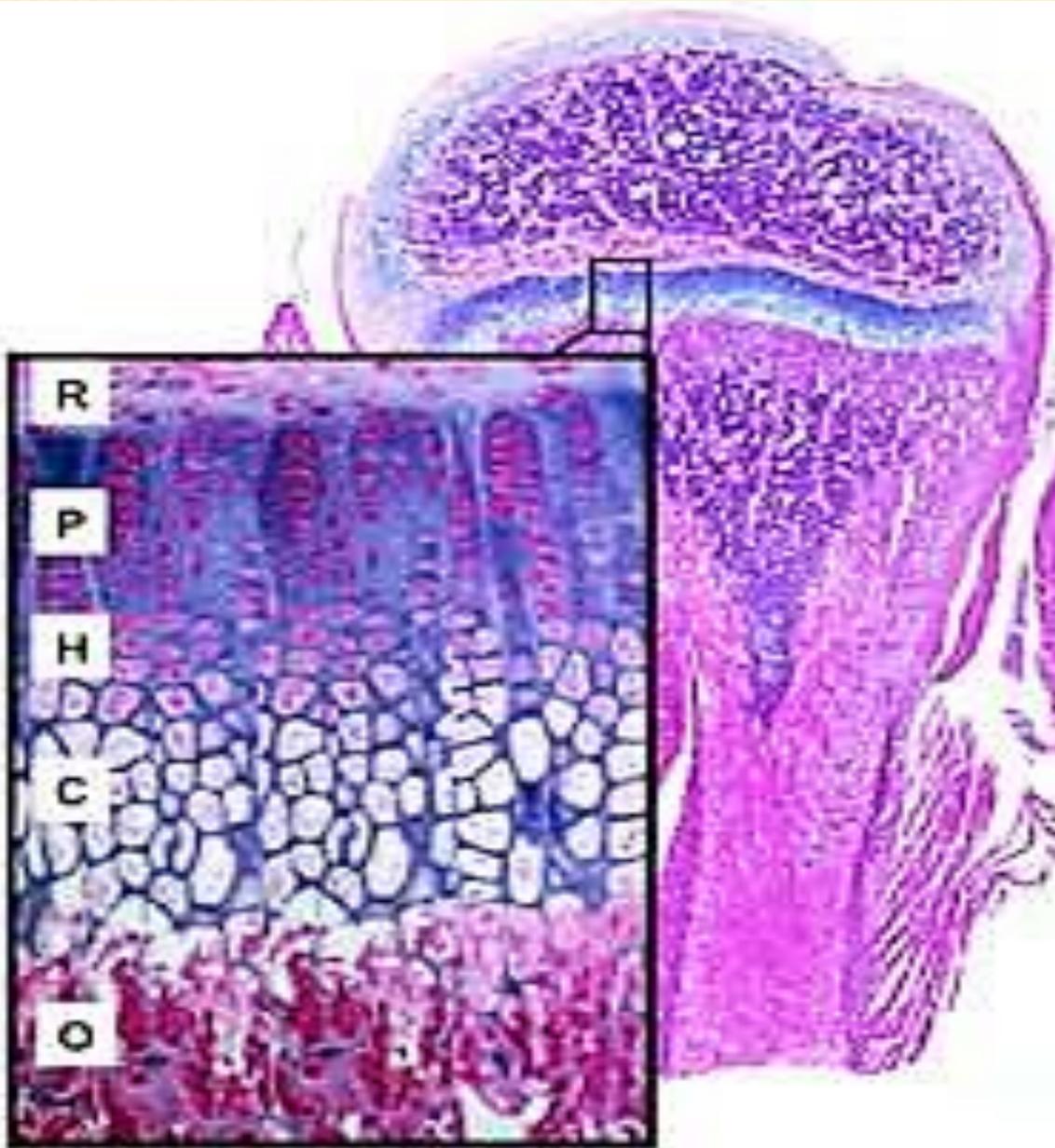
Cancellous Bone



Cancellous Bone



epiphyseal plate



R= resting zone

P= proliferative zone

H= hypertrophic zone

C= calcification zone

O= ossification zone

Endochondral ossification

THANK YOU

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