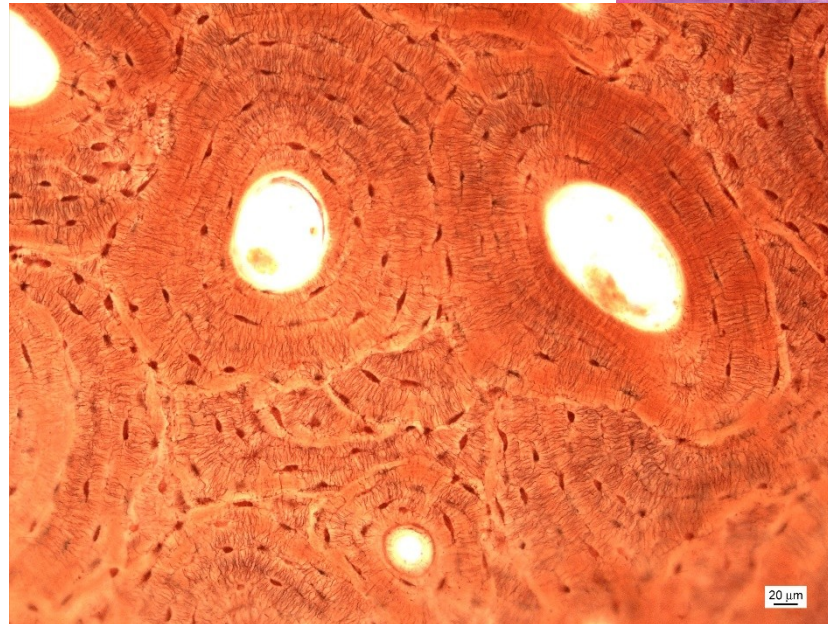
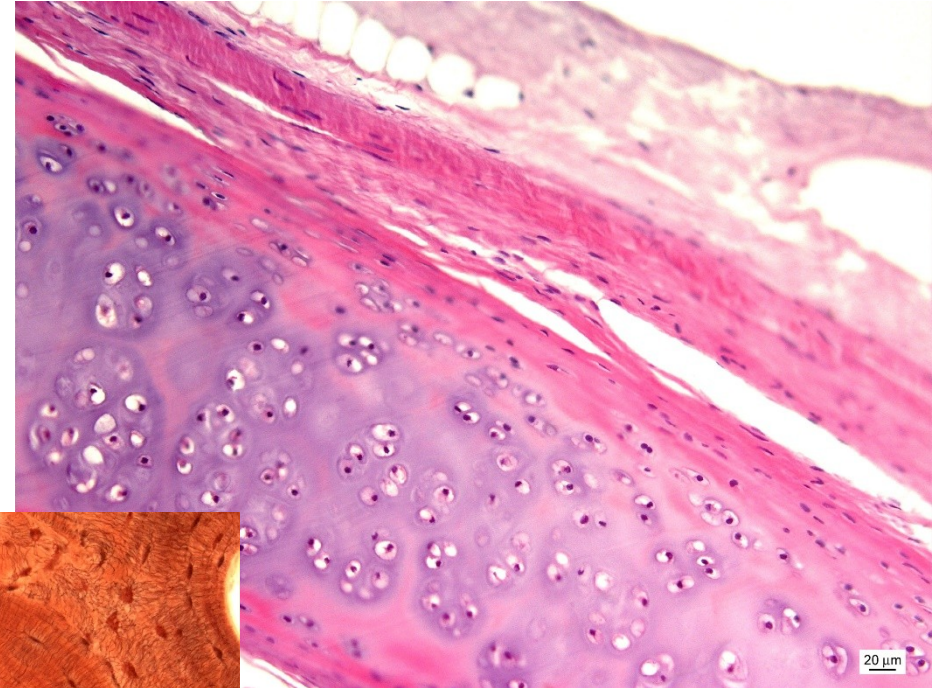
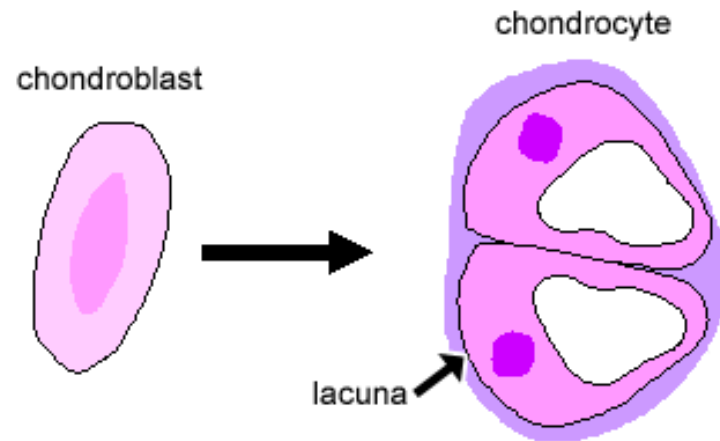
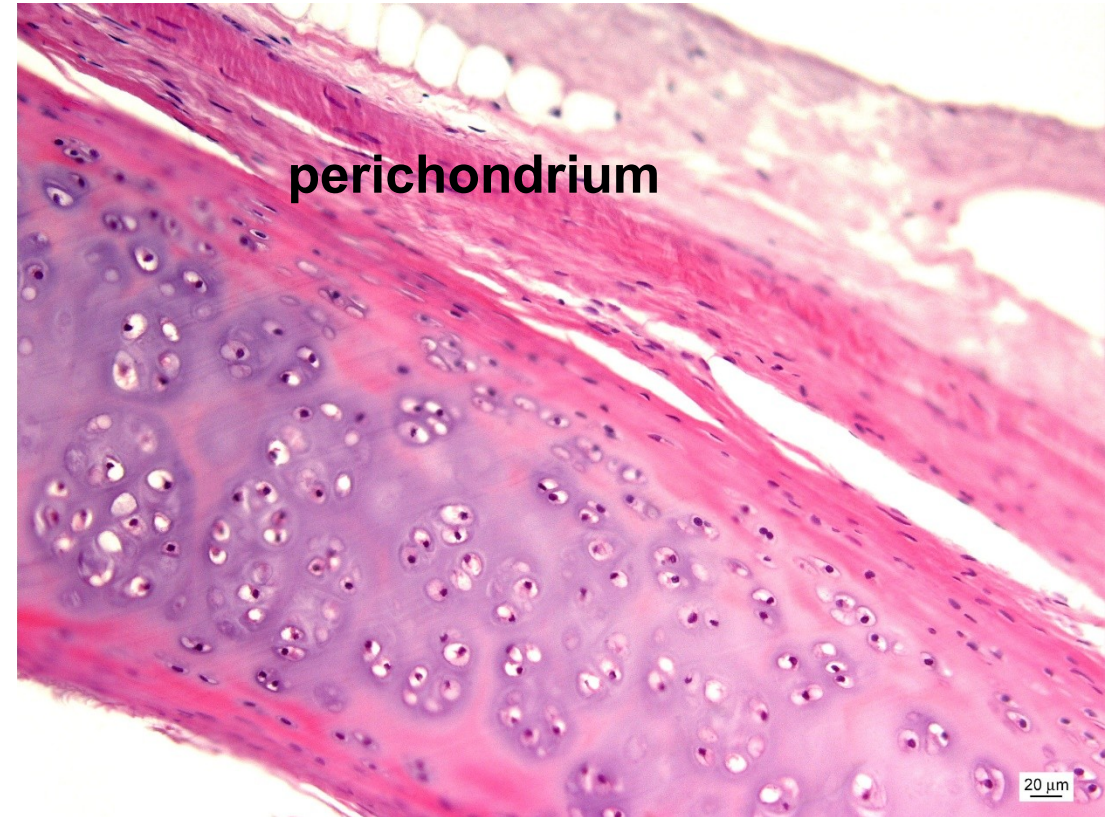
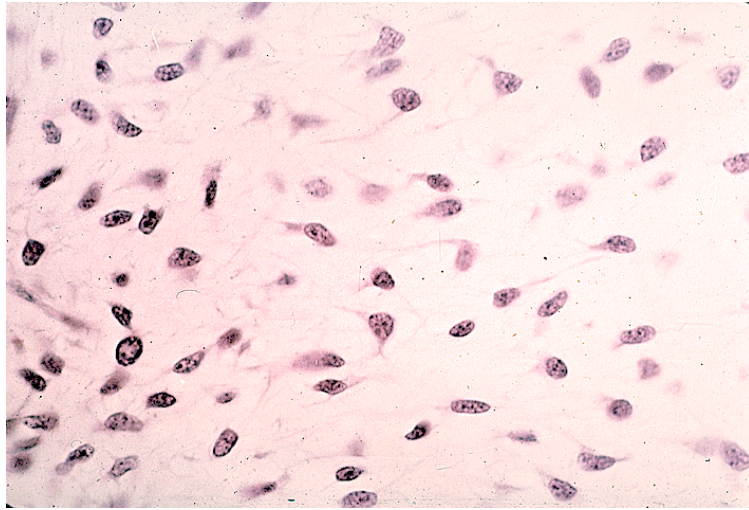


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# Bone, Cartilage Ossification

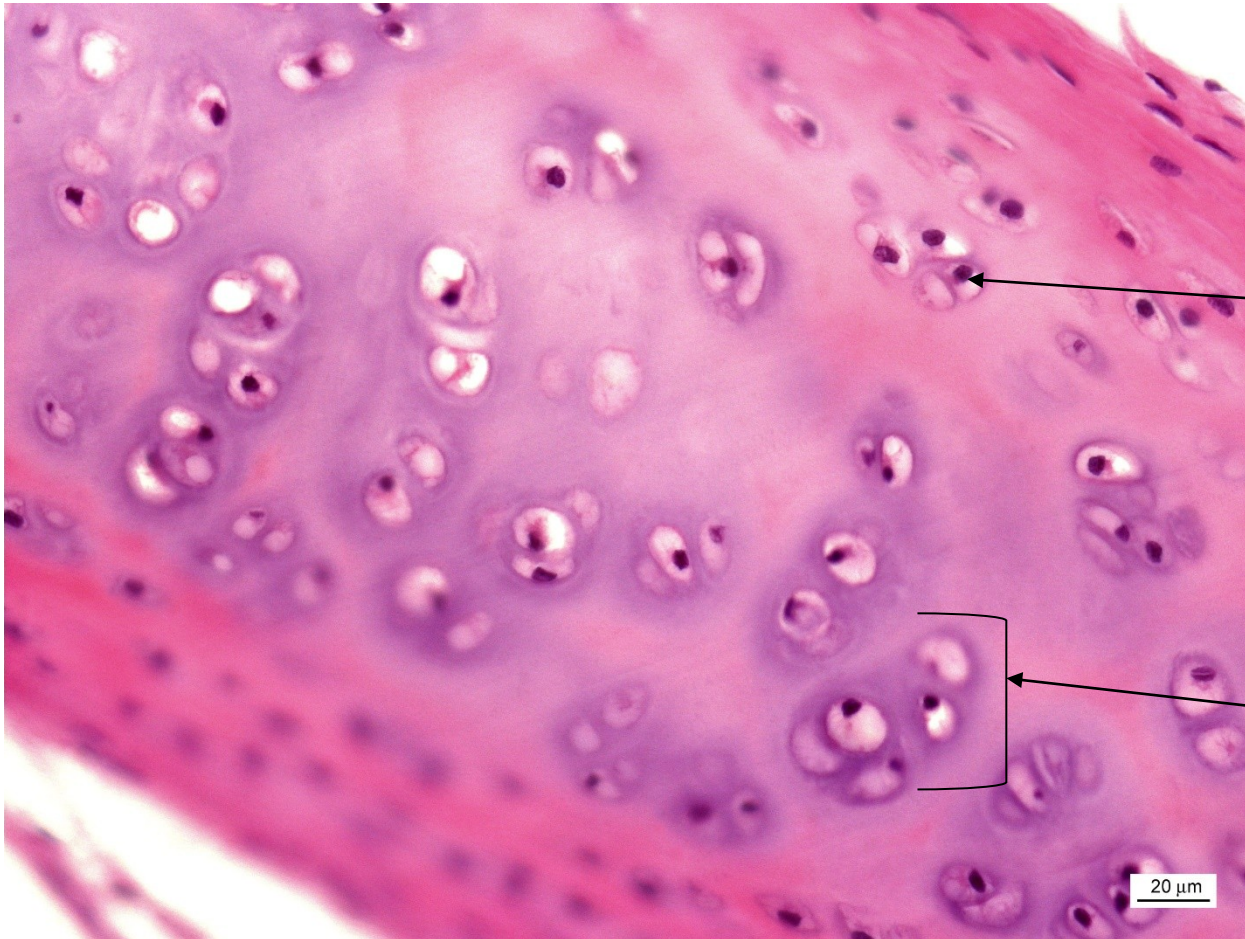


# Cartilage





# Hyaline cartilage



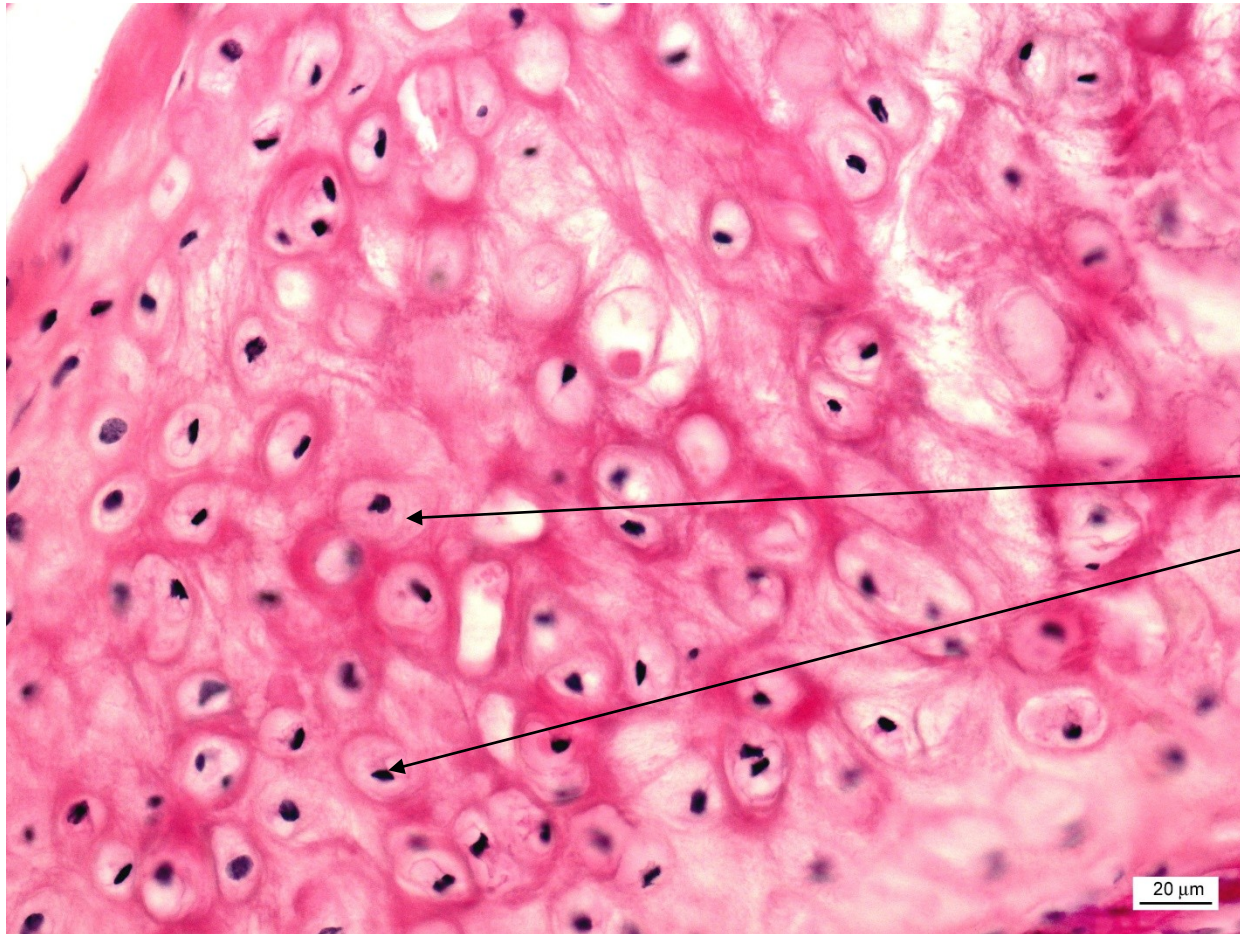
## Isogenous group

Results from mitosis of chondrocyte present in a lacuna.

## Chondron

merged isogenous group

# Elastic cartilage

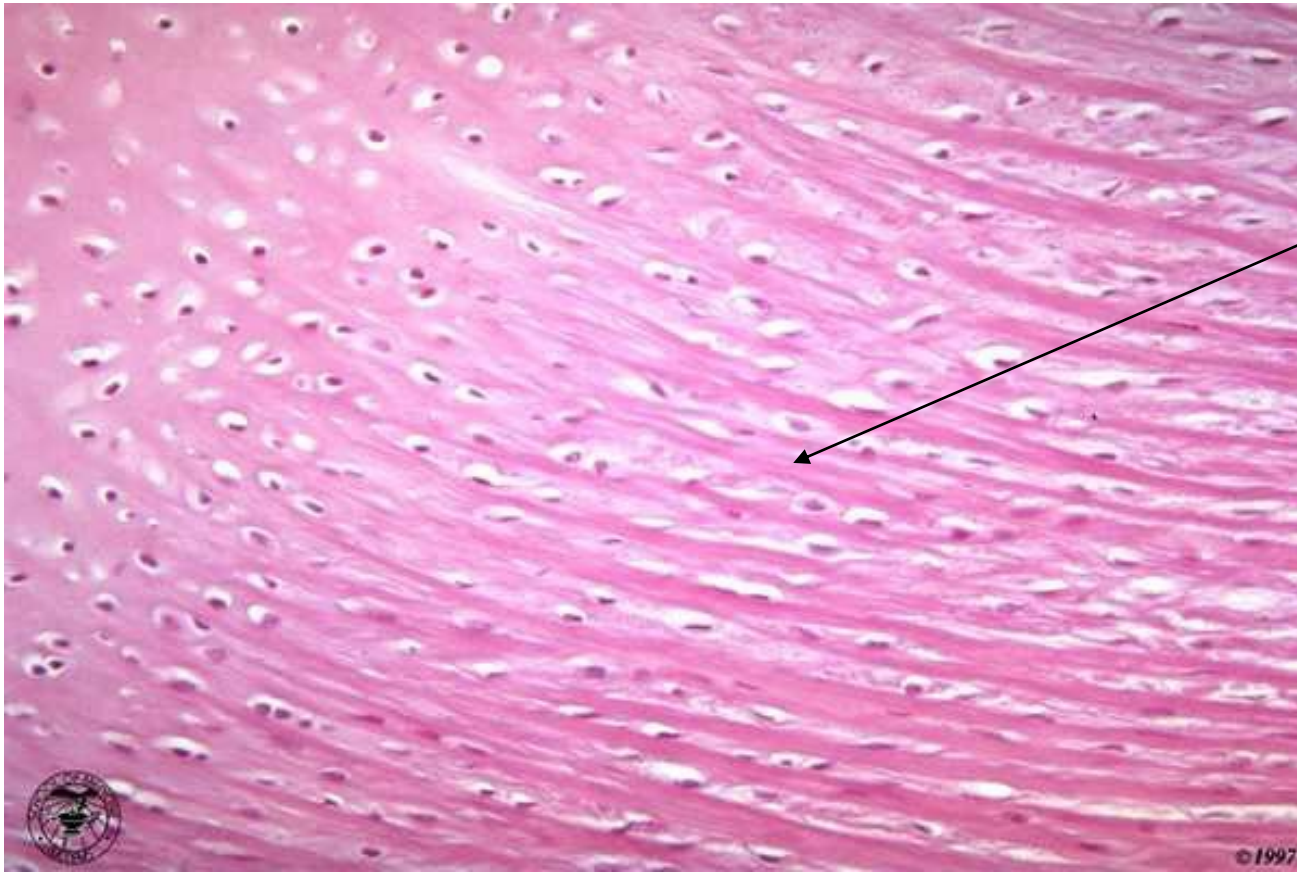


**Isogenous groups are absent**

**Chondrocytes are isolated**



# Fibrous cartilage



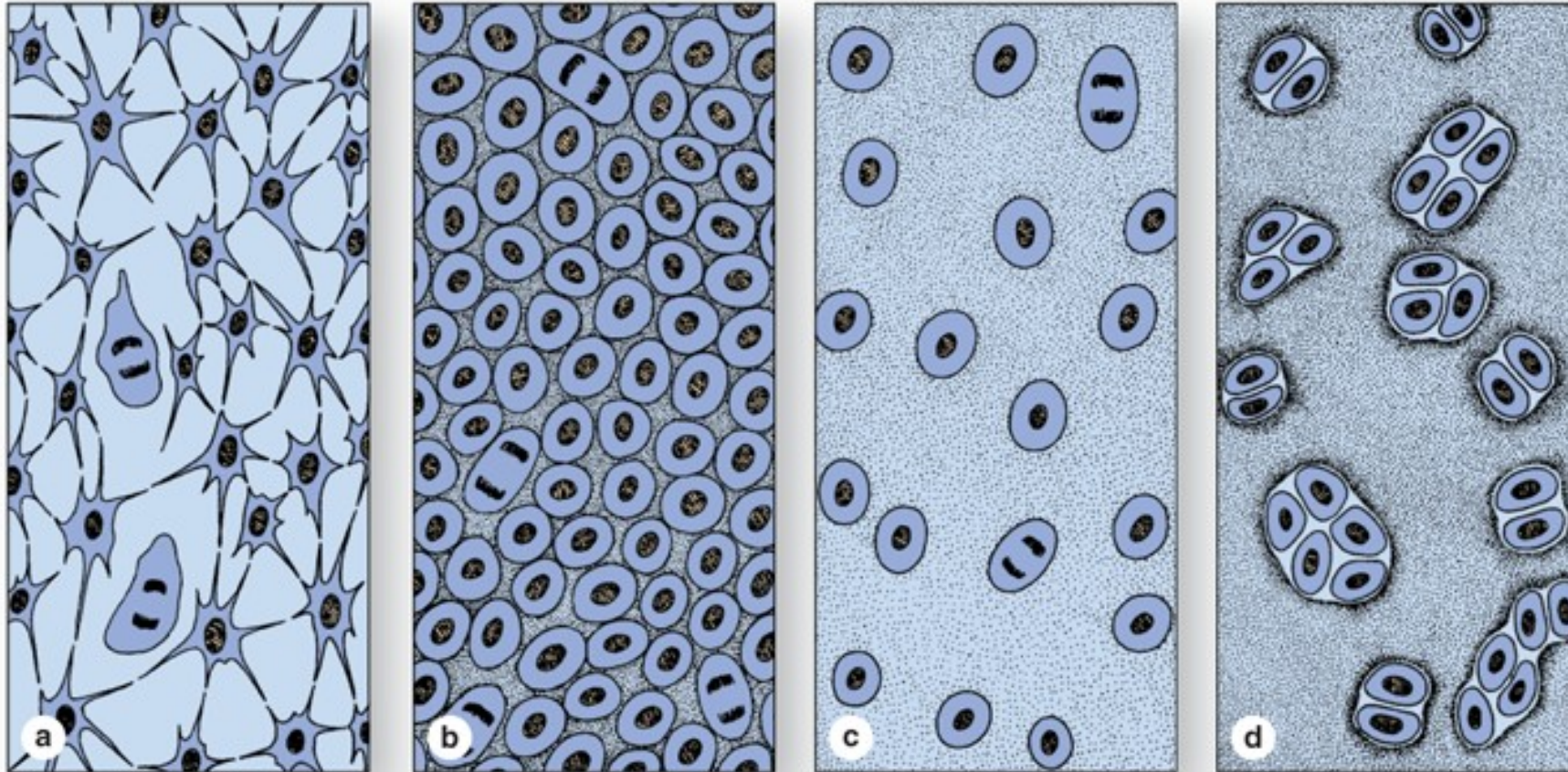
## Chondrocytes

arranged between thick collagen fibers and reduced amorphous ground substance.

**No perichondrium and  
no isogenous groups**

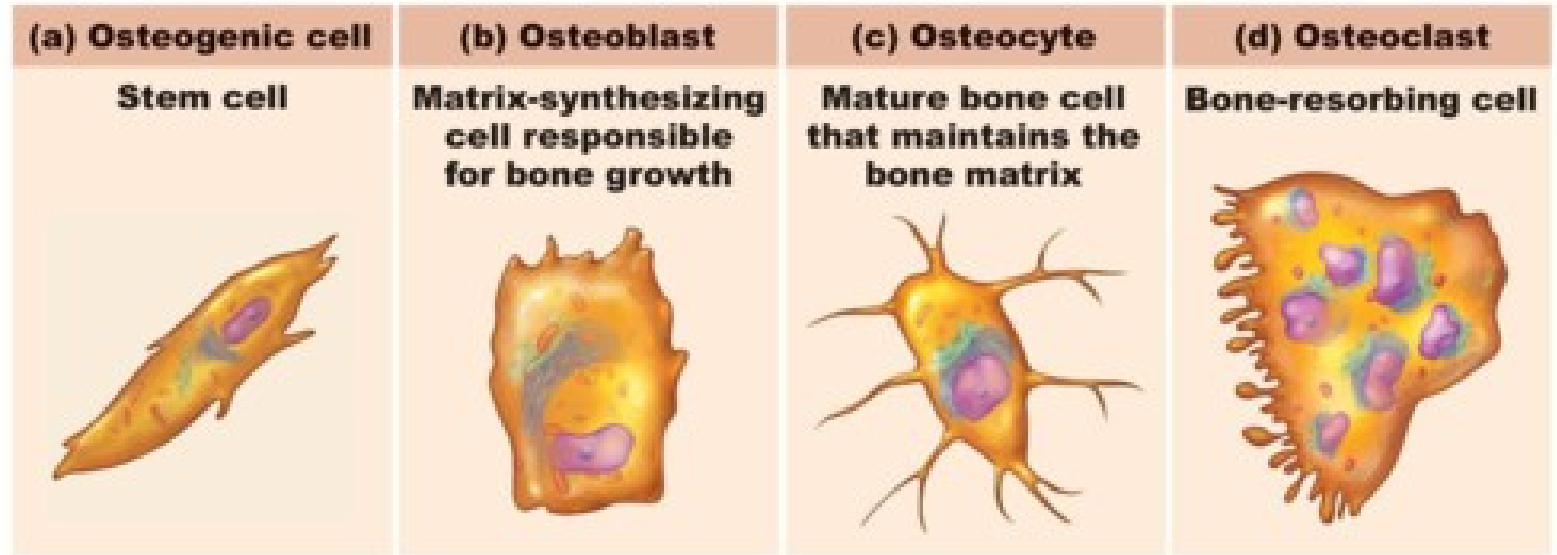
[https://kejmi.rajce.idnes.cz/Kosti\\_a\\_chrupavka/](https://kejmi.rajce.idnes.cz/Kosti_a_chrupavka/)

# Chondrogenesis

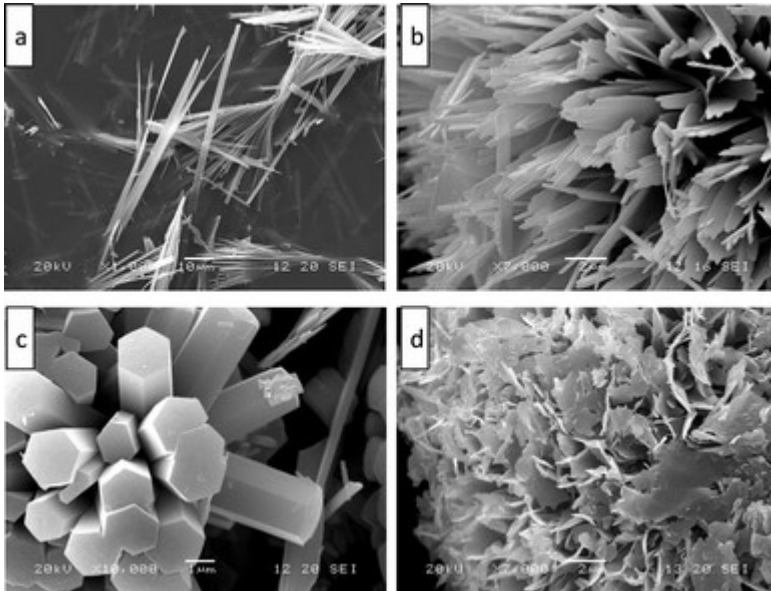




# Bone tissue

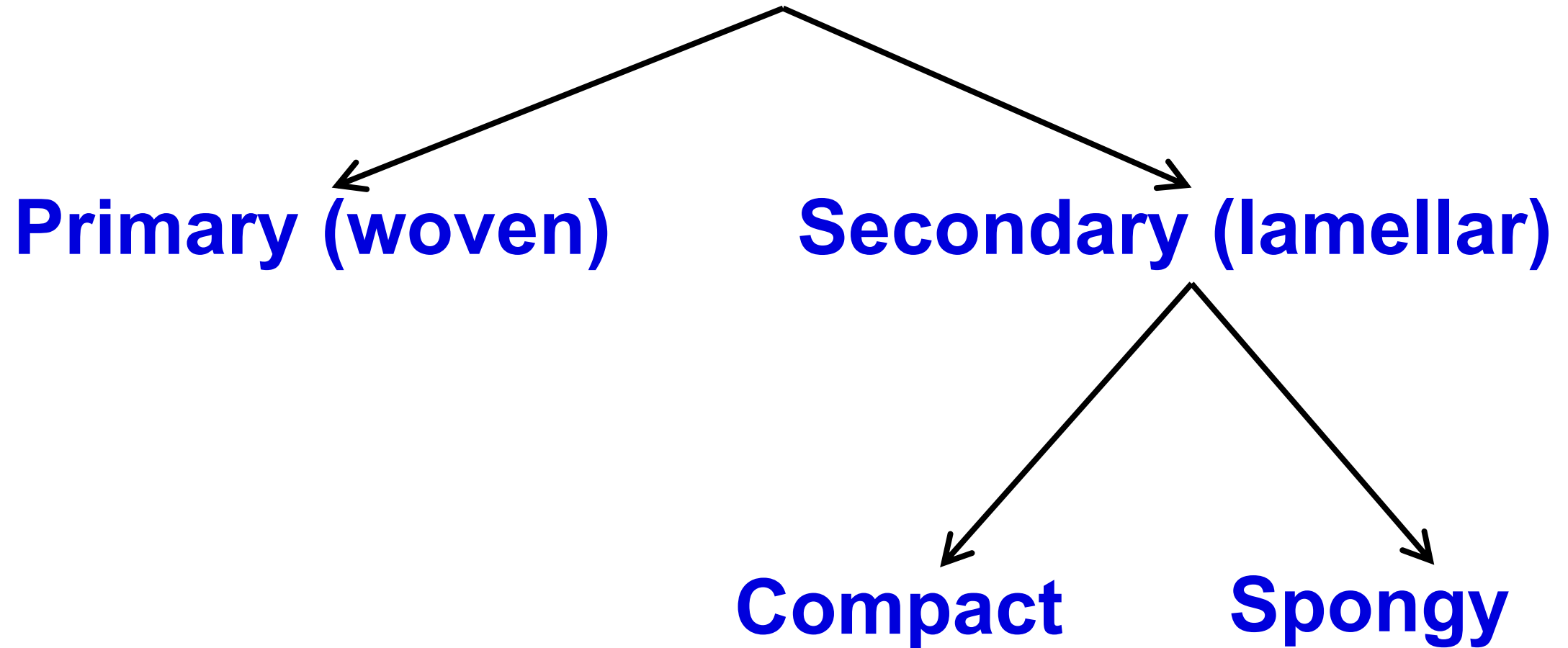


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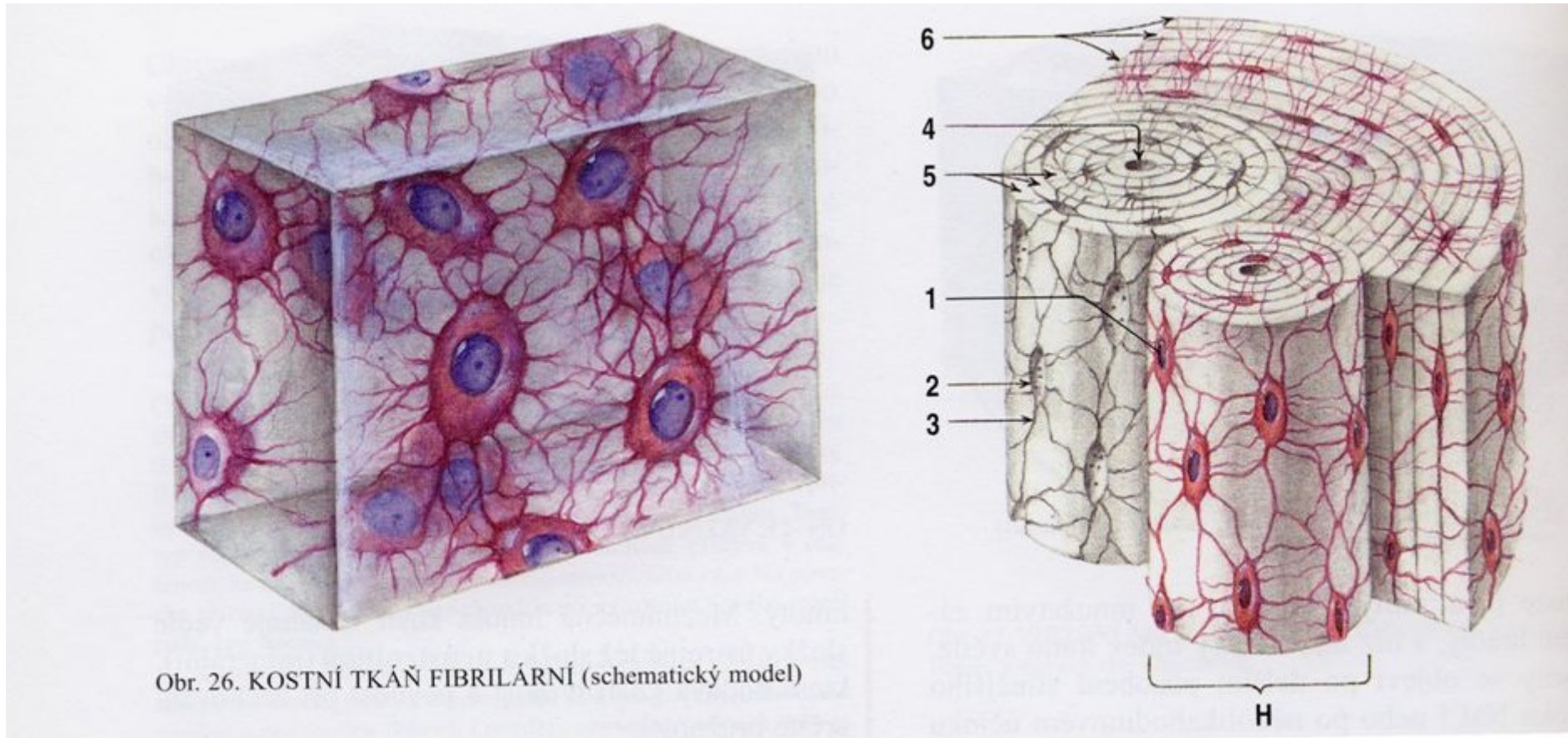
## Hydroxyapatite crystals

# Bone tissue

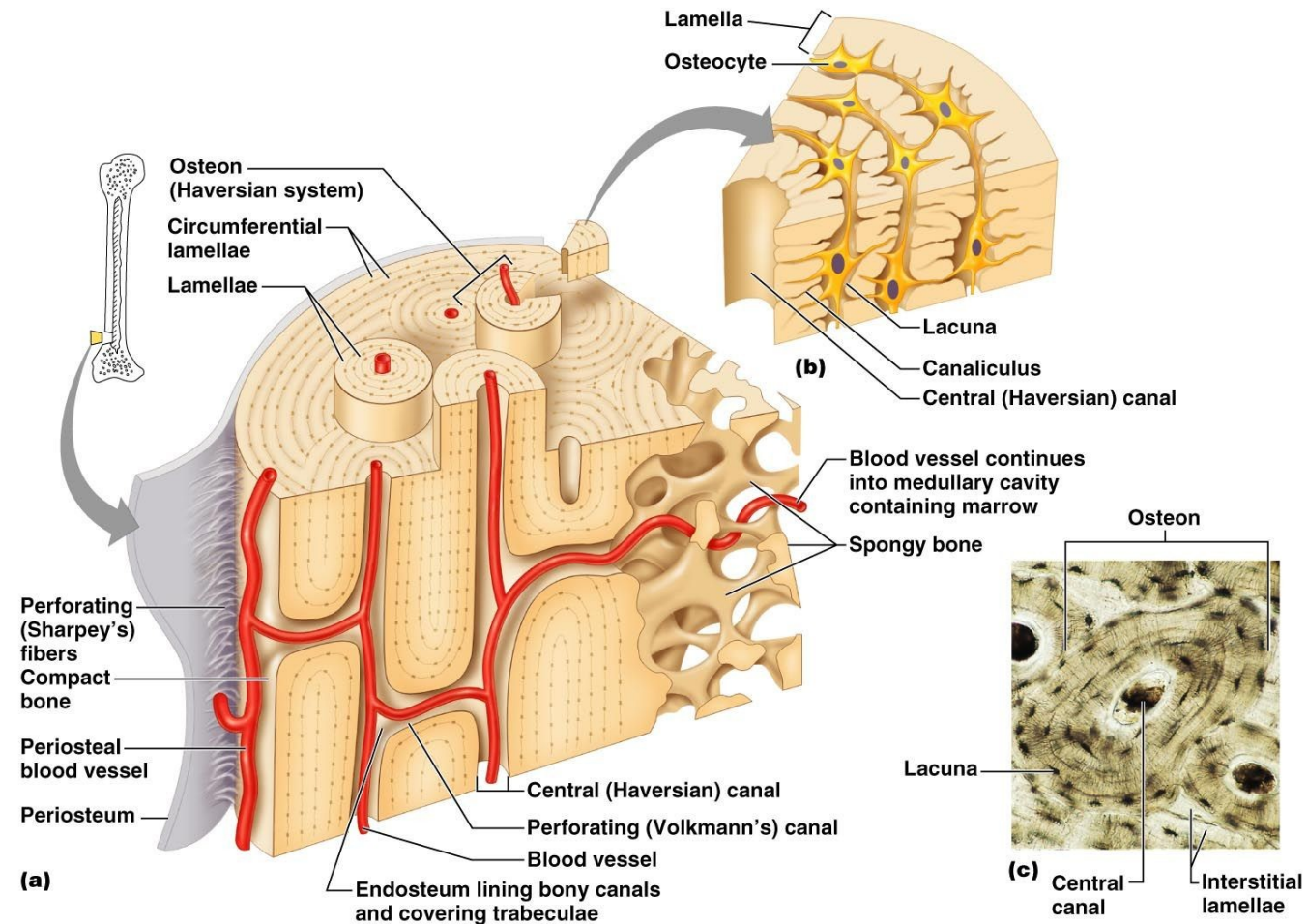
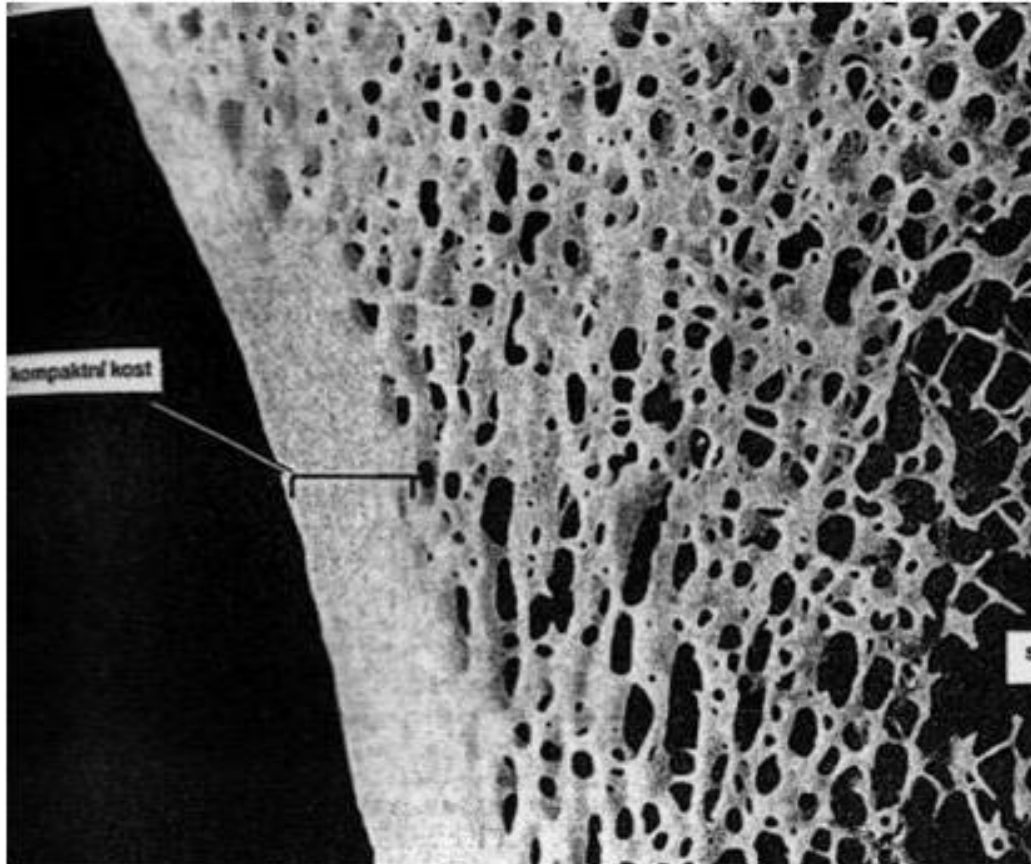




# Woven vs lamellar bone



# Compact vs Spongy bone



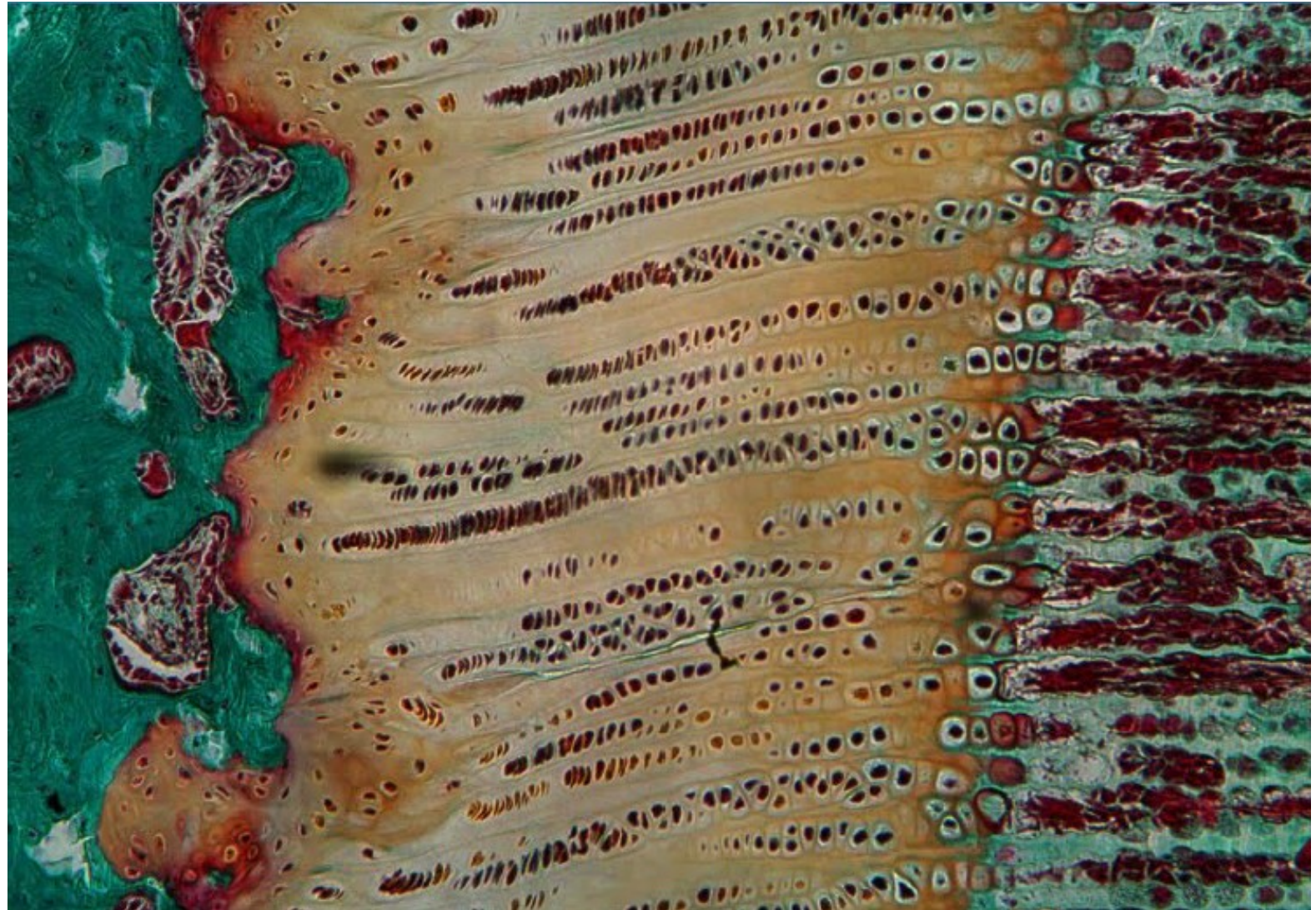
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# Ossification

1. Zone of resting cartilage
2. Zone of proliferation
3. Zone of hypertrophia
4. Zone of calcification
5. Zone of ossification

From right to left – cartilage is on the right, fibrillar bone on the left.





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2020