3-Supportive Connective Tissue

Cartilage and Bone

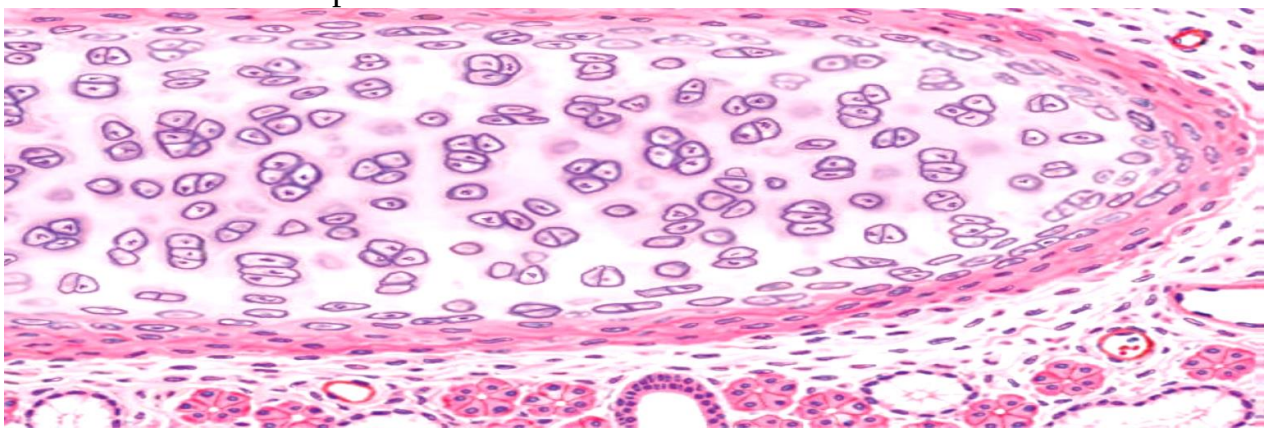
- **Cartilage** is a special form of connective tissue.
- Cartilage consists mainly of cells called **chondrocytes** and **chondroblast**.
- The Cells Lie In Small Chambers Called **Lacunae.**

Types Of Cartilage

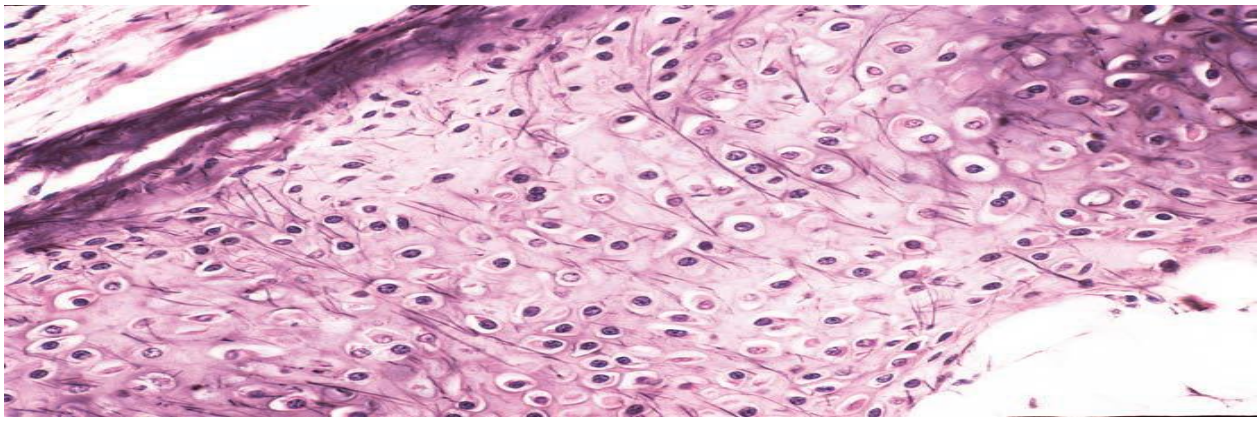
There are three main types of cartilage in the body:

- ✓ **hyaline cartilage(**found in the nose and at the ends of the long bones and the ribs**).**
- ✓ **elastic cartilage(**is more flexible and is found, for example, in the framework of the outer ear**).**
- ✓ **fibro cartilage(**is found pads between the vertebrae in the backbone and the wedges in the knee joint)

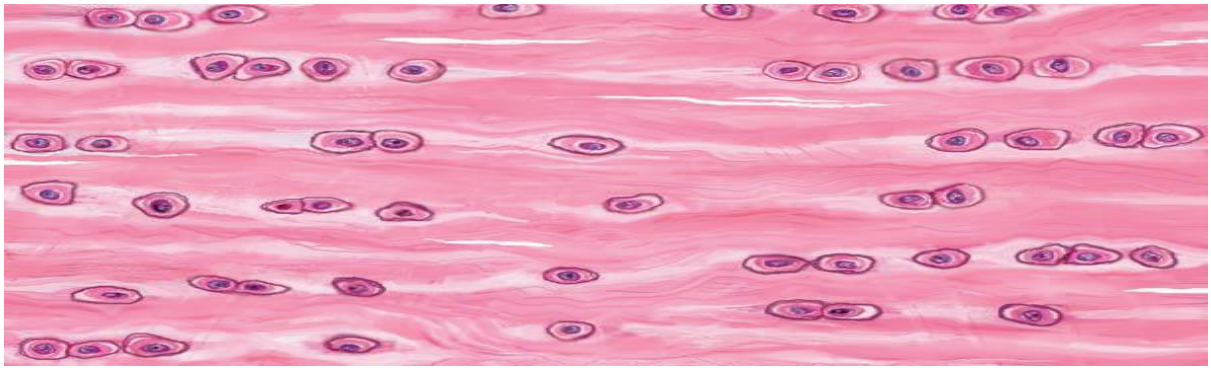
Their classification is based on the amount and types **of connective tissue fibers t**hat are present in the extracellular



Hyaline cartilage



Elastic cartilage



Fibro cartilage

Bone

The bone is specialized connective tissue .

There are three types of cell in the bone:

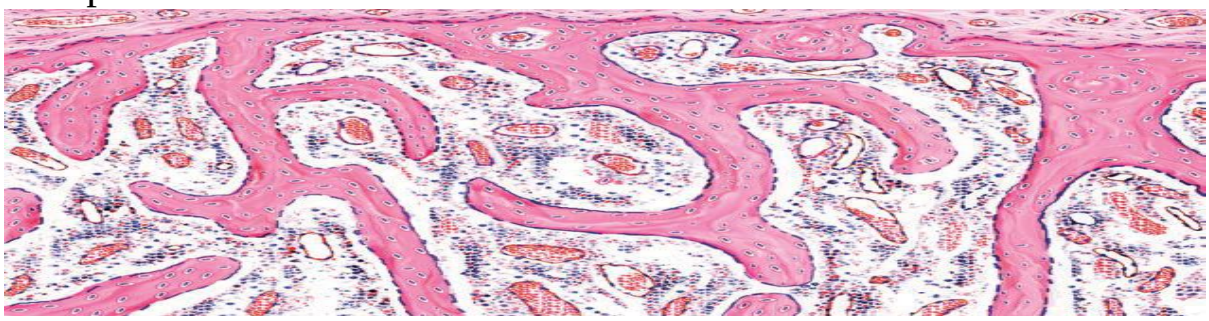
1. Osteoblast.
2. Osteocytes .
3. Osteoclasts.

The kind of the bone:

There are two kind of bone:

1- Spongy or trabecular bone .

2- Compact bone.



Spongy or trabecular bone

Compact bone

4-Liquid Connective Tissue

Blood

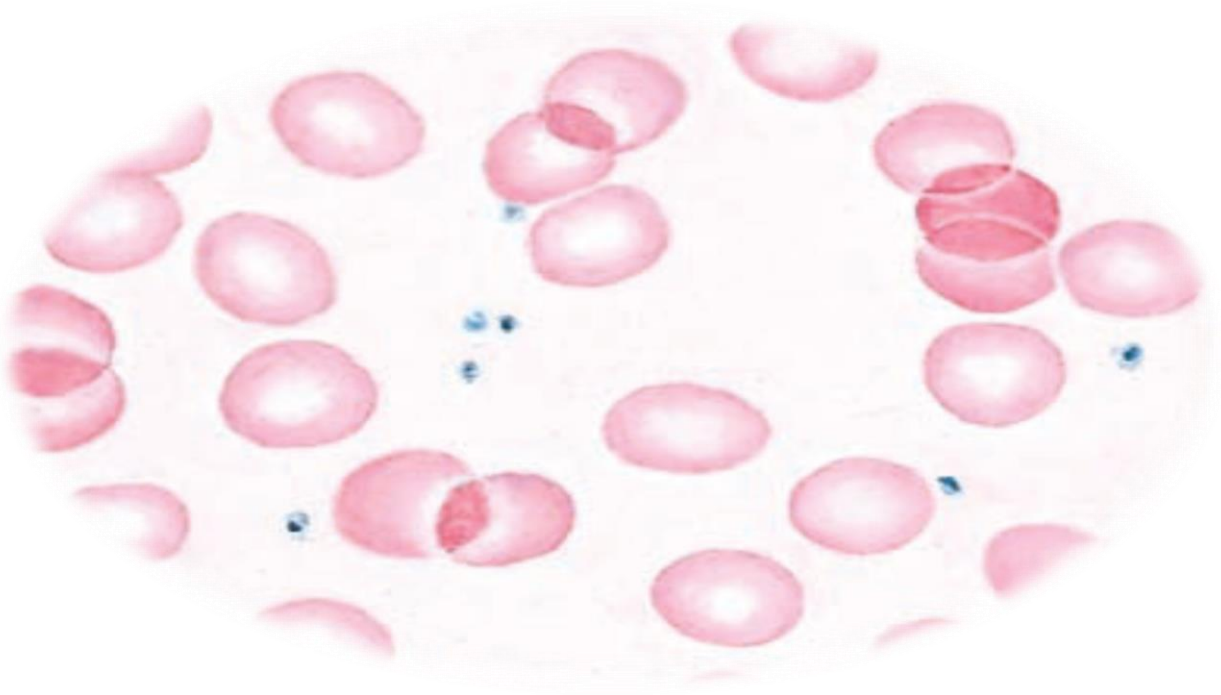
- **Consists of formed elements, erythrocytes, leukocytes, and platelets suspended in plasma.**

- **<u>Erythrocytes</u>**

• Erythrocytes are non nucleated cells that remain in the blood.

- **<u>Platelets</u>**

Function in blood vessels to promote blood clotting when blood vessel wall is damaged.



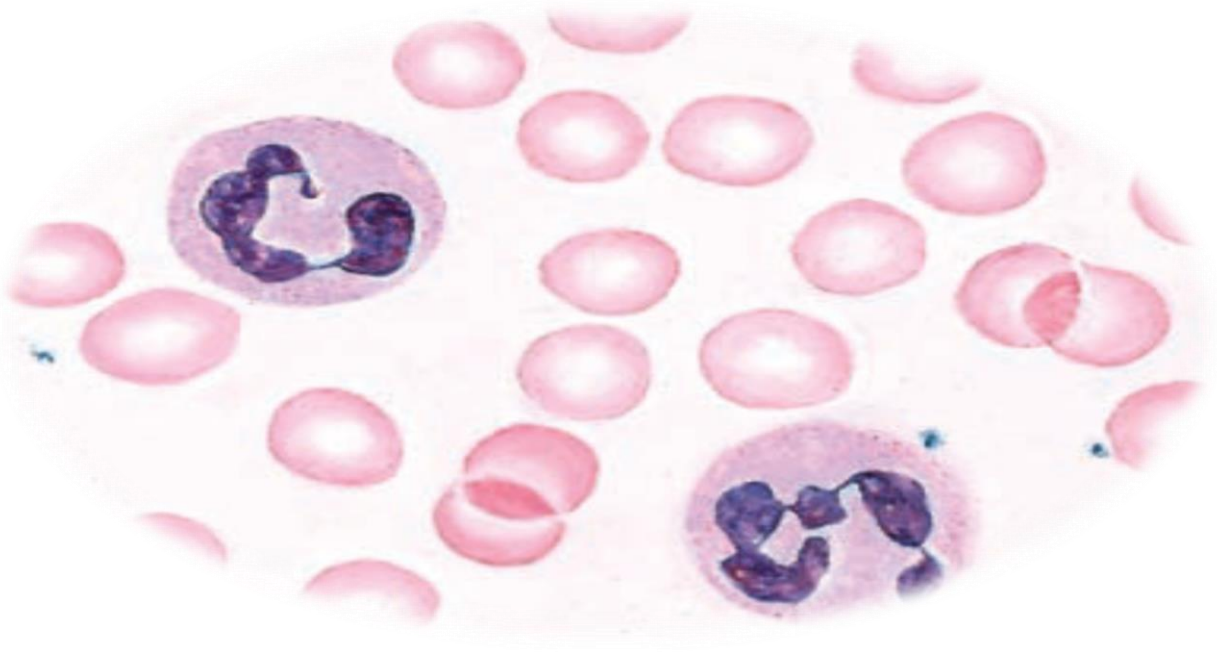
- **<u>Leukocytes</u>**

- **Granulocytes contain cytoplasmic granules; they are neutrophils, Eosinophils , and basophils**

- **A granulocytes are without cytoplasmic granules; they are monocytes and lymphocytes.**

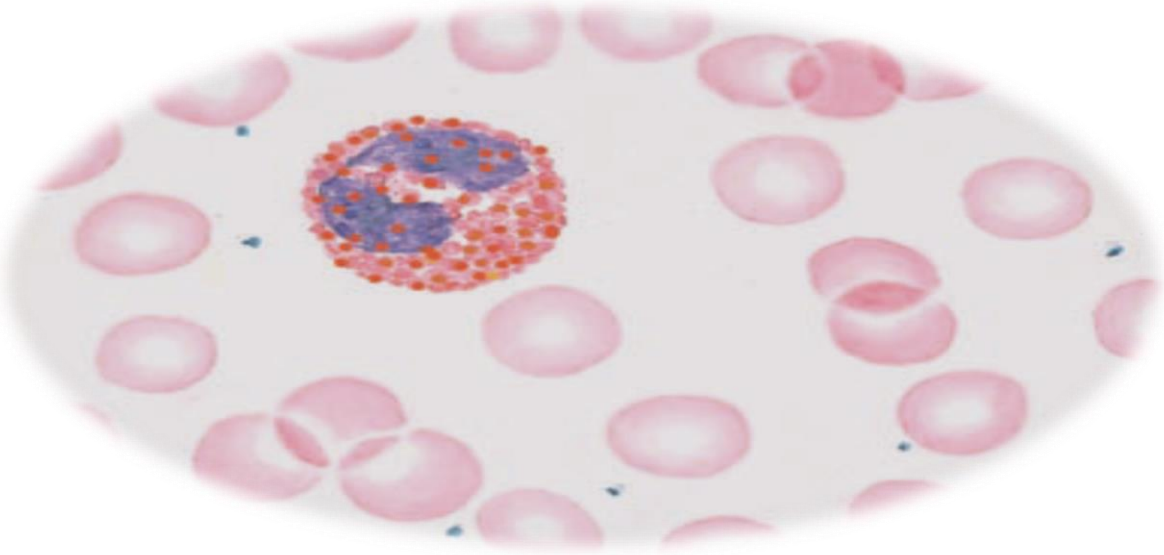
✓ **Neutrophils**

- **Cytoplasm appears clear under microscope**
- **Nucleus contains several lobes connected by thin chromatin strands**



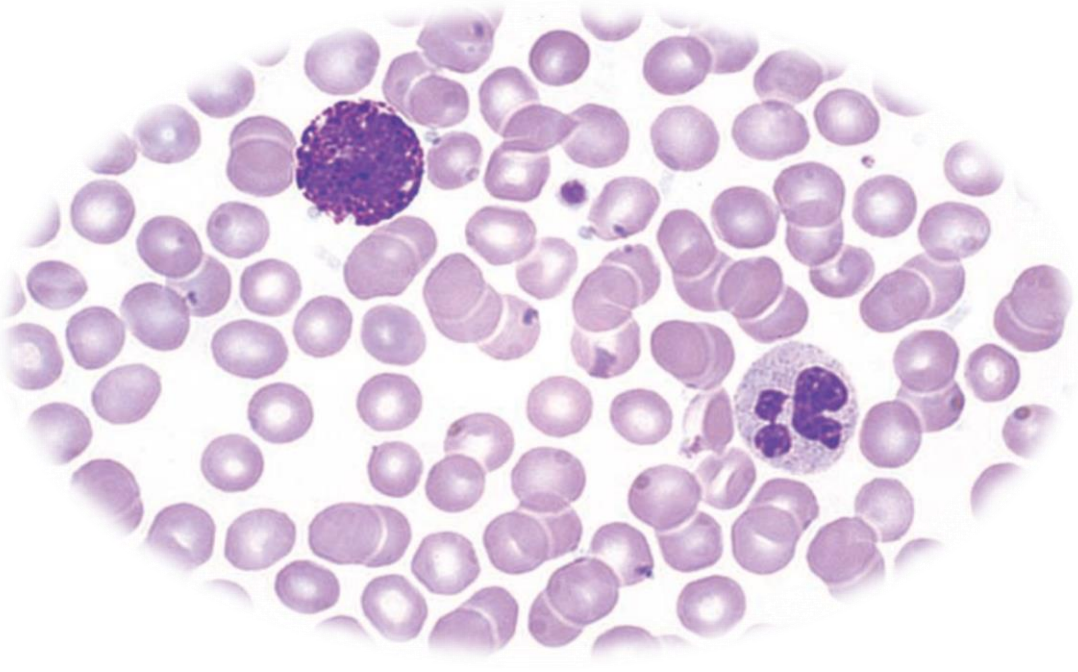
✓ **Eosinophils**

- **Cytoplasm filled with large pink or eosinophilic granules**
- **Nucleus typically bilobed**



✓ **Basophils**

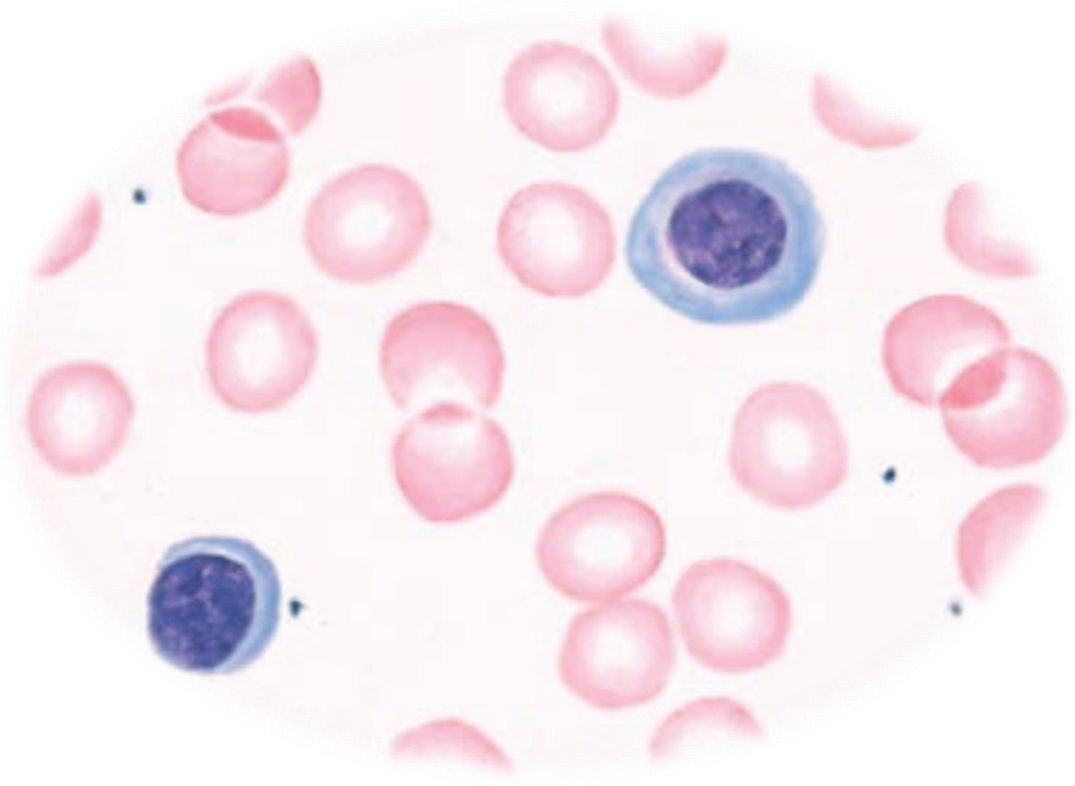
- **Cytoplasm contains dark blue or brown granules**

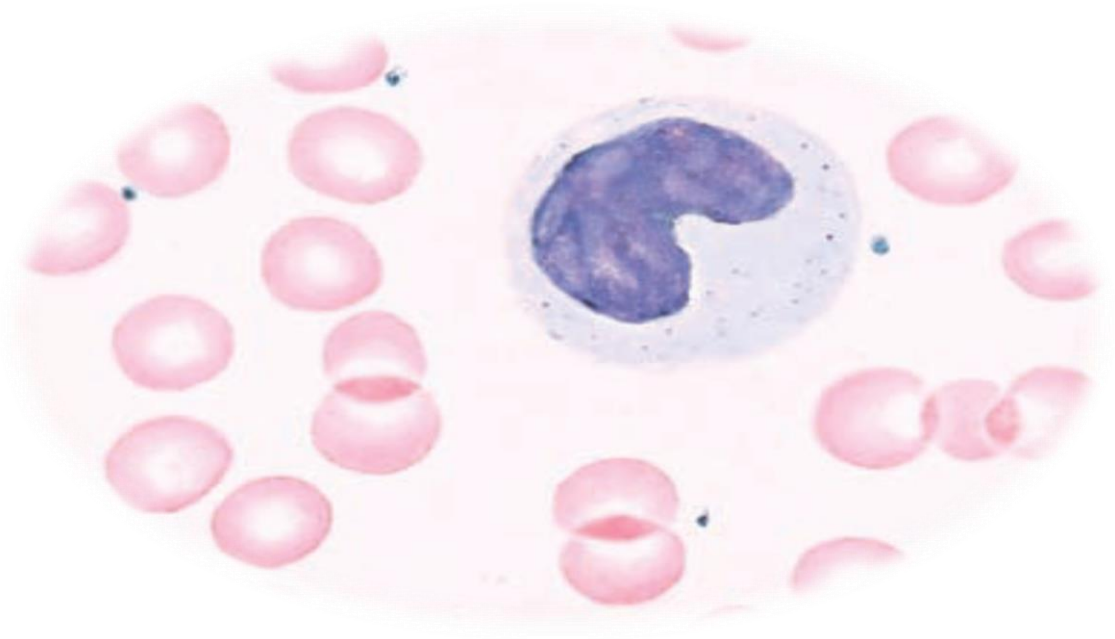


Agranulcytes

1-Lymphocytes

- **No granules in cytoplasm**
- **Dense-staining nucleus surrounded by a narrow cytoplasmic .**



2-Monocytes

- **Largest agranular leukocyte characterized primarily by horseshoe-shaped nucleus**