ConnectiveTissue

Lab :5

Stage : 1st

Course : 1st

By Assistant lectur

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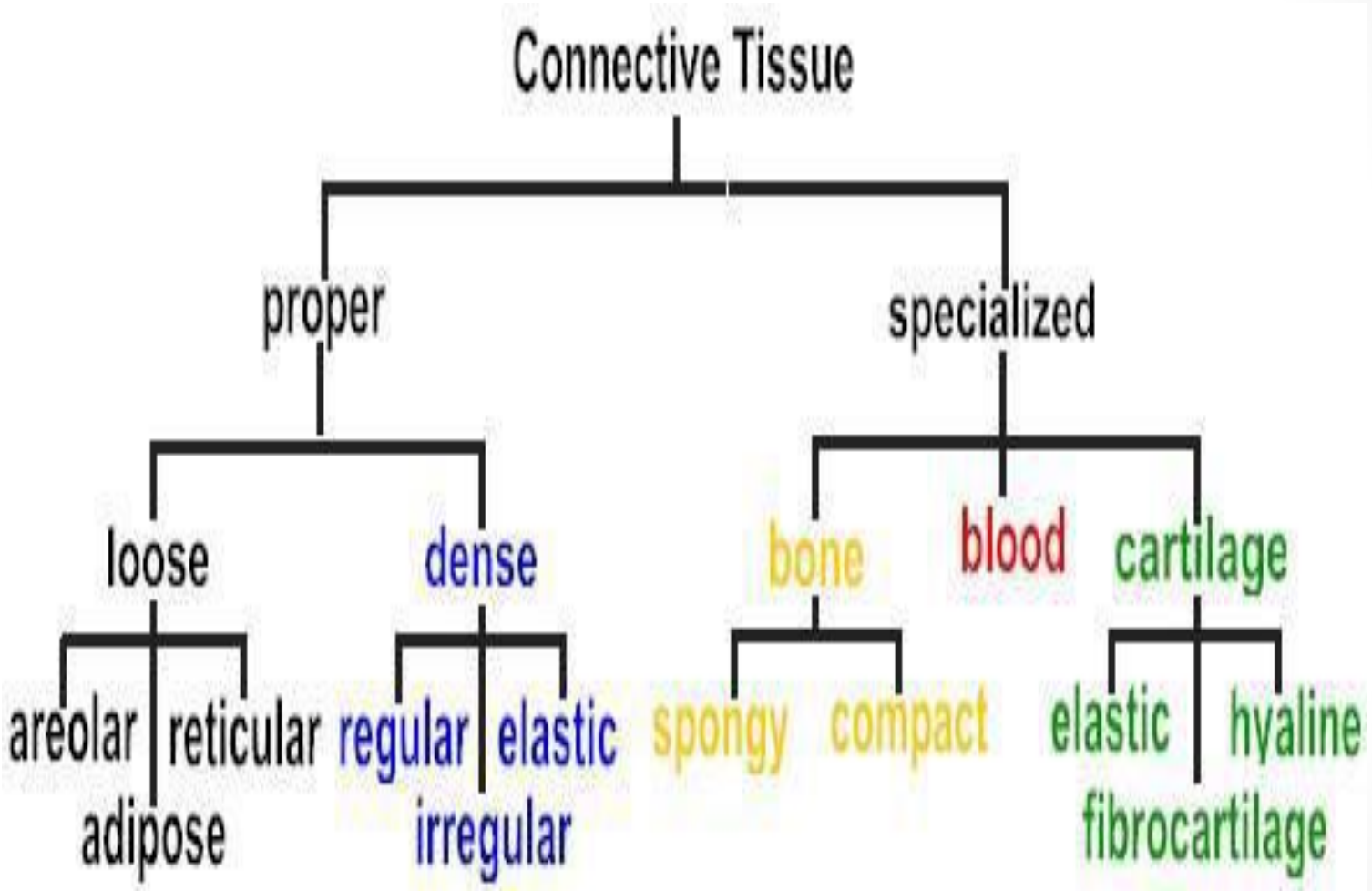
CONNECTIVE TISSUES

Connective tissue: is one of the basic tissues which gives structural and metabolic support to the organ and other tissue of the body. It connects other tissues.

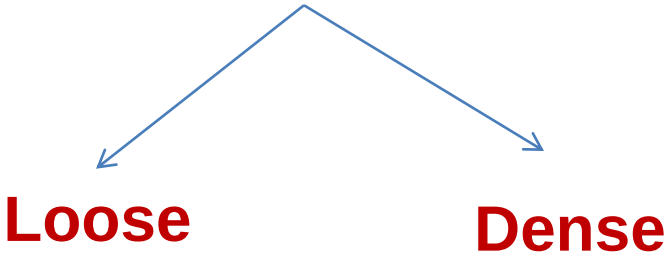
Functions

- Provides Protection
- Supports the body
- It connects all tissues of the body

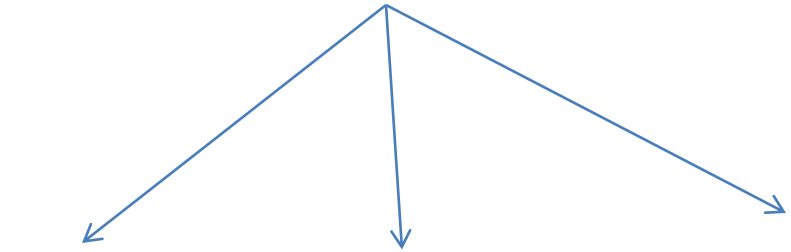
Types of Connective Tissue



1- Proper Connective Tissue



Loose Connective Tissue

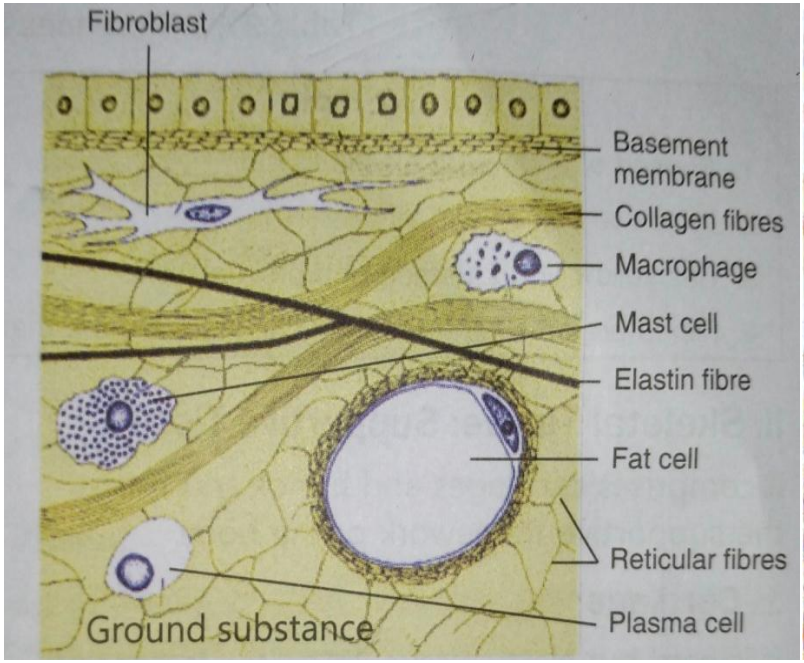


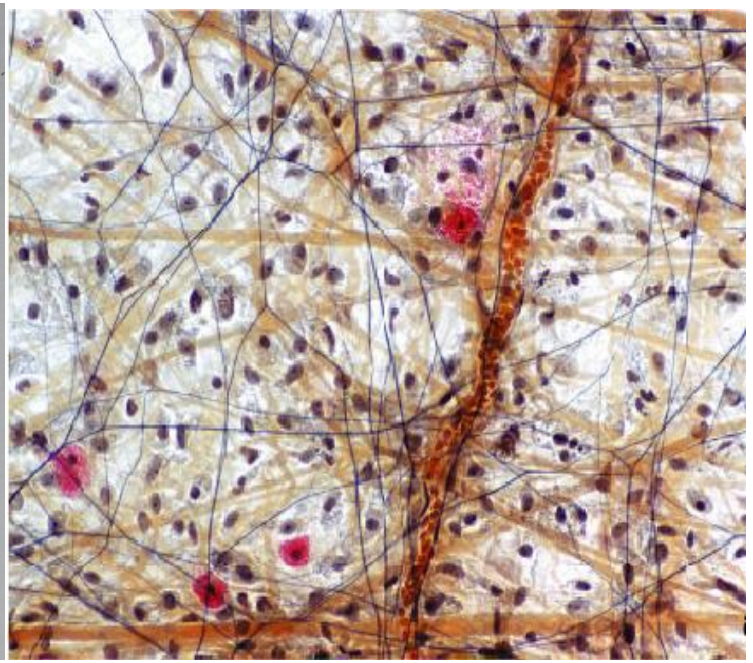
Areolar

Adipose tissue

Reticular

Loose (areolar) C.T.





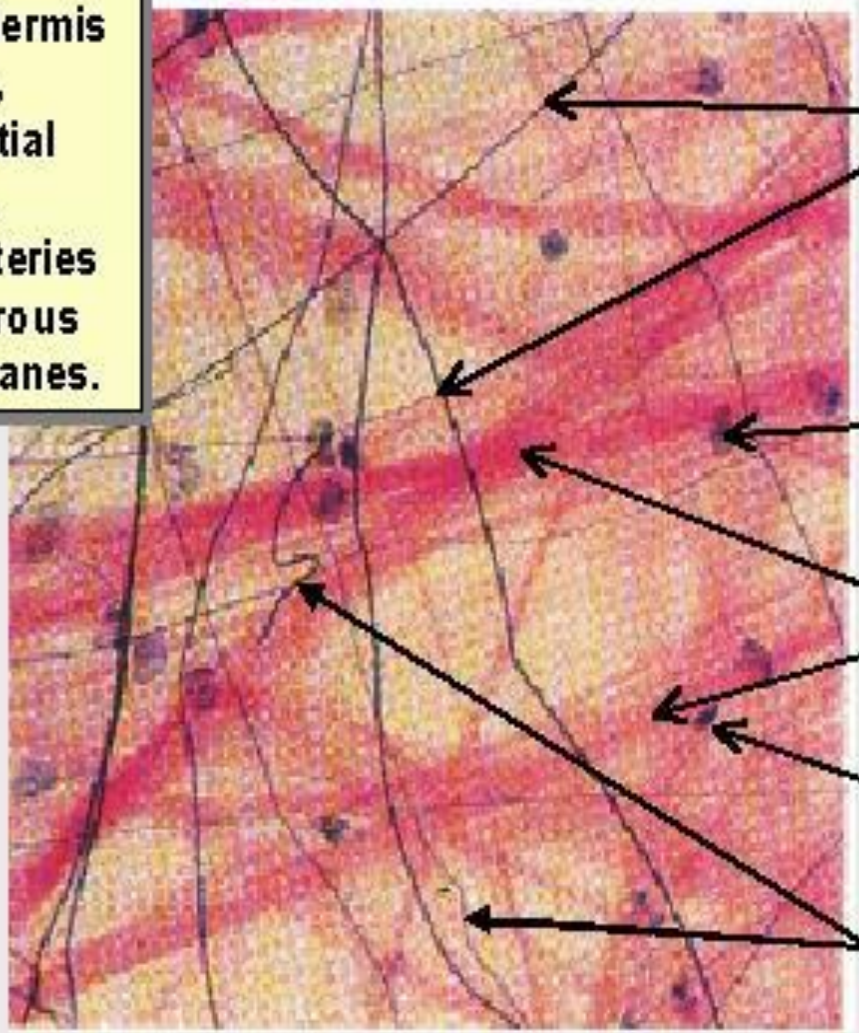
Location :

- Subcutaneous layer (skin) and muscles.
- Packages organs
- Surrounds capillaries

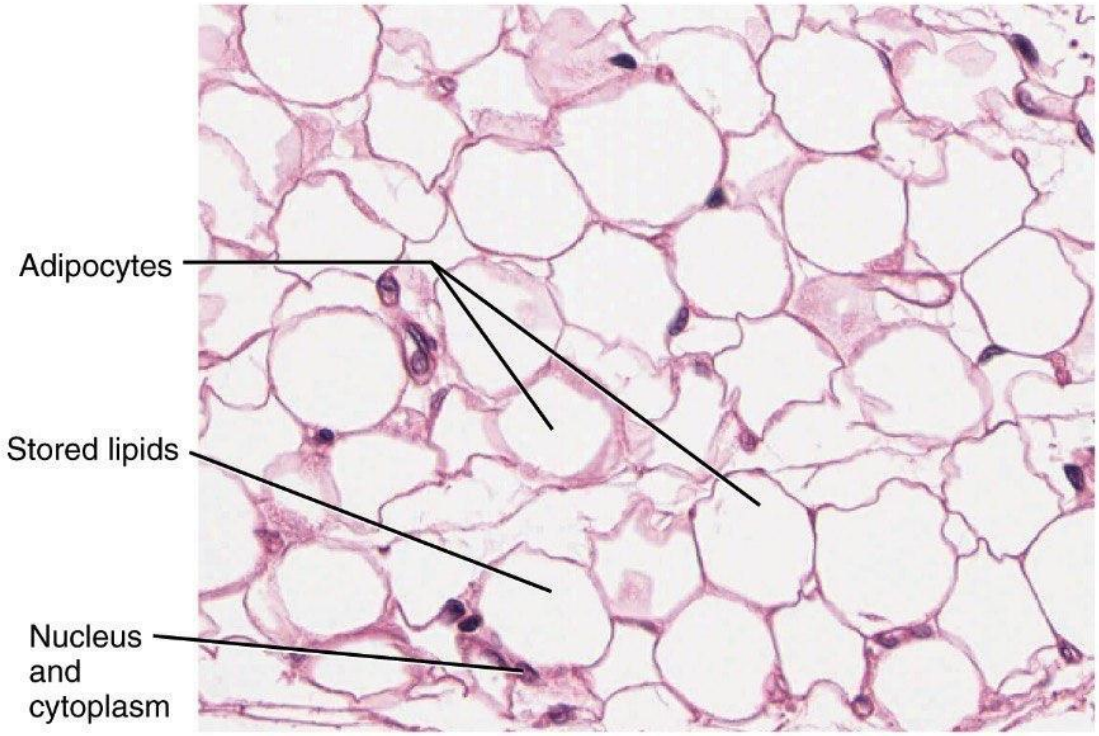
Areolar Tissue

Photomicrograph

Found in outer dermis of skin, interstitial tissue, mesenteries and serous membranes.



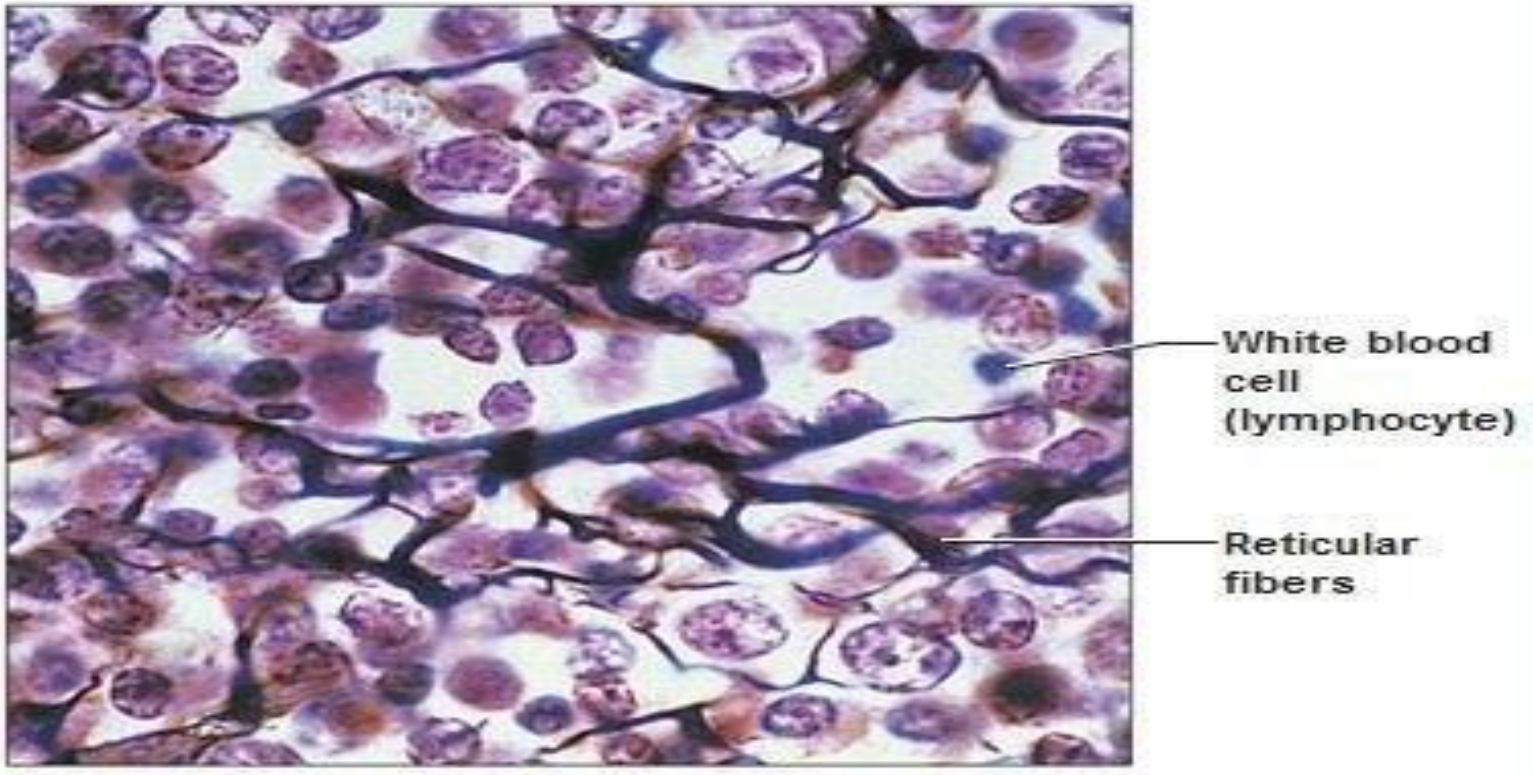
Loose (Adipose tissue) C.T.



location:

- Under skin
- Within abdominal wall.
- Female breast , around the kidney.
- Eye ball, bones

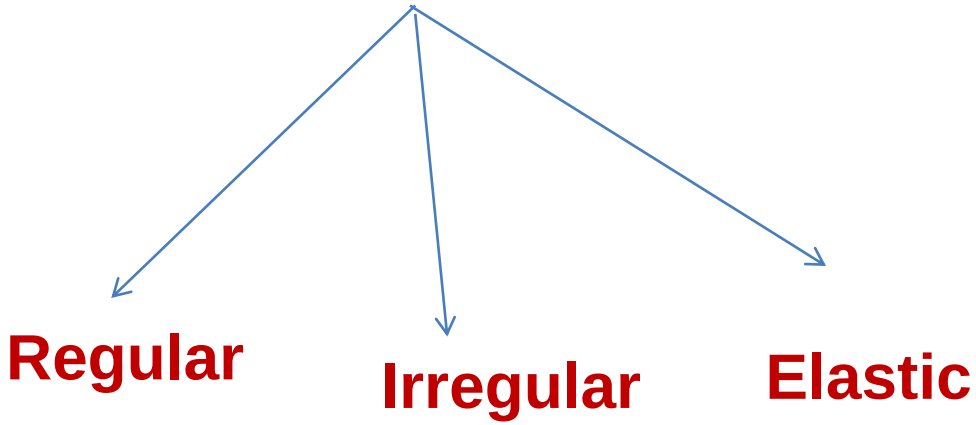
Loose (Reticular tissue) C.T.



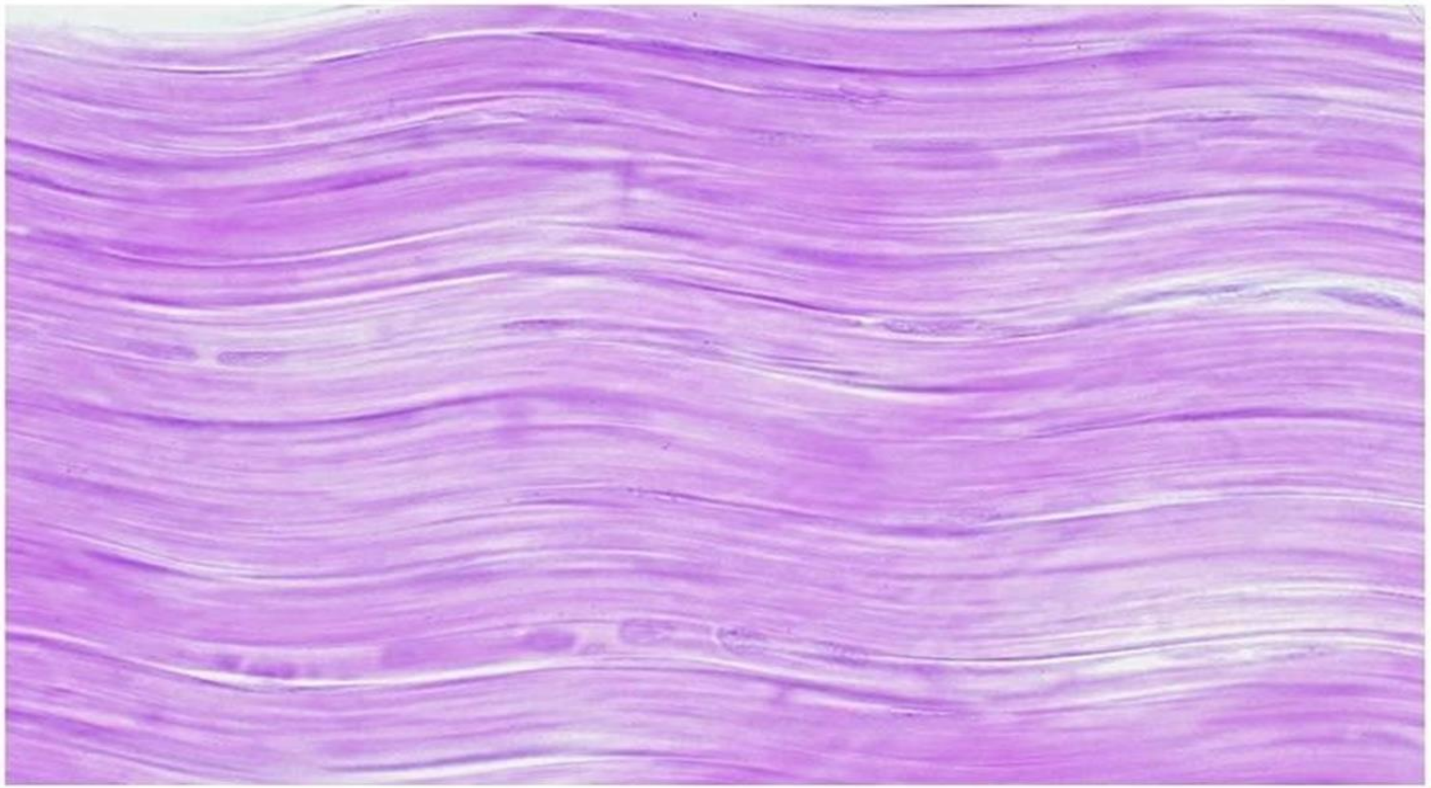
Location:

•lymphoid organs: [liver , lymph node , bone marrow and spleen]

Dense Connective Tissue



Dense Regular Connective Tissue

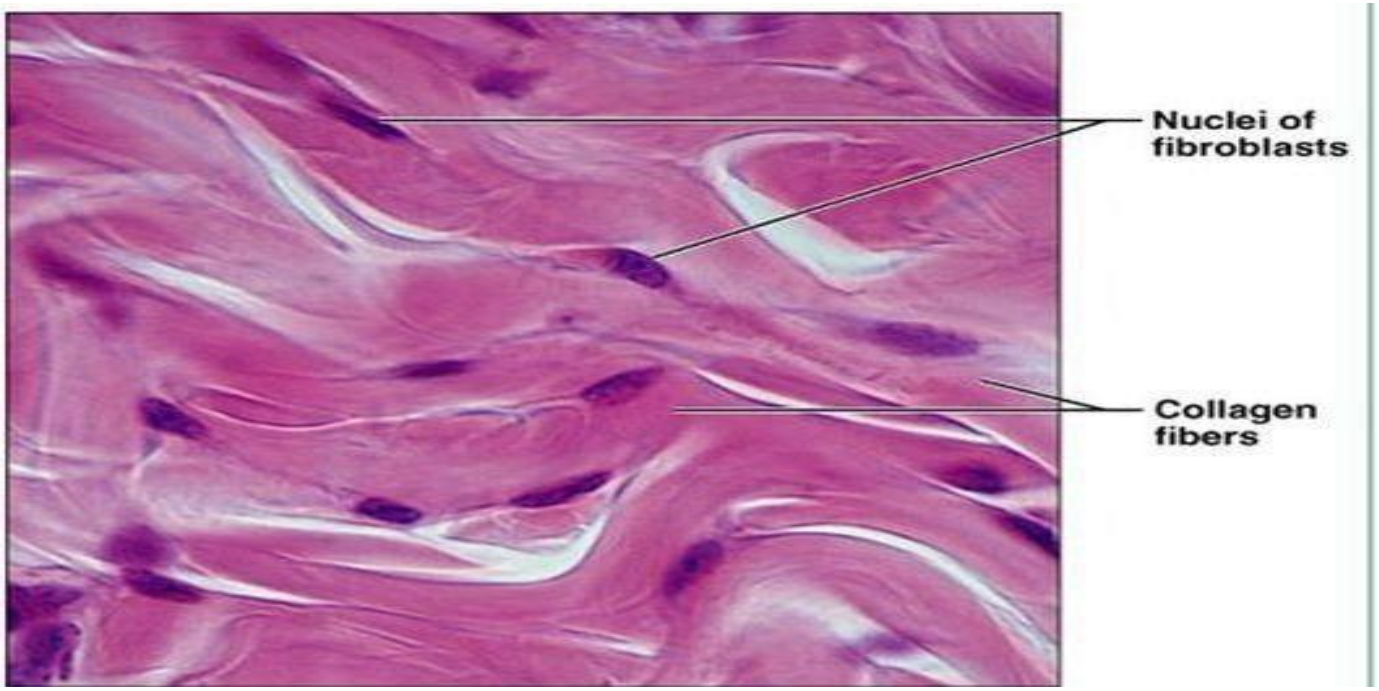


Locations

1.Tendons

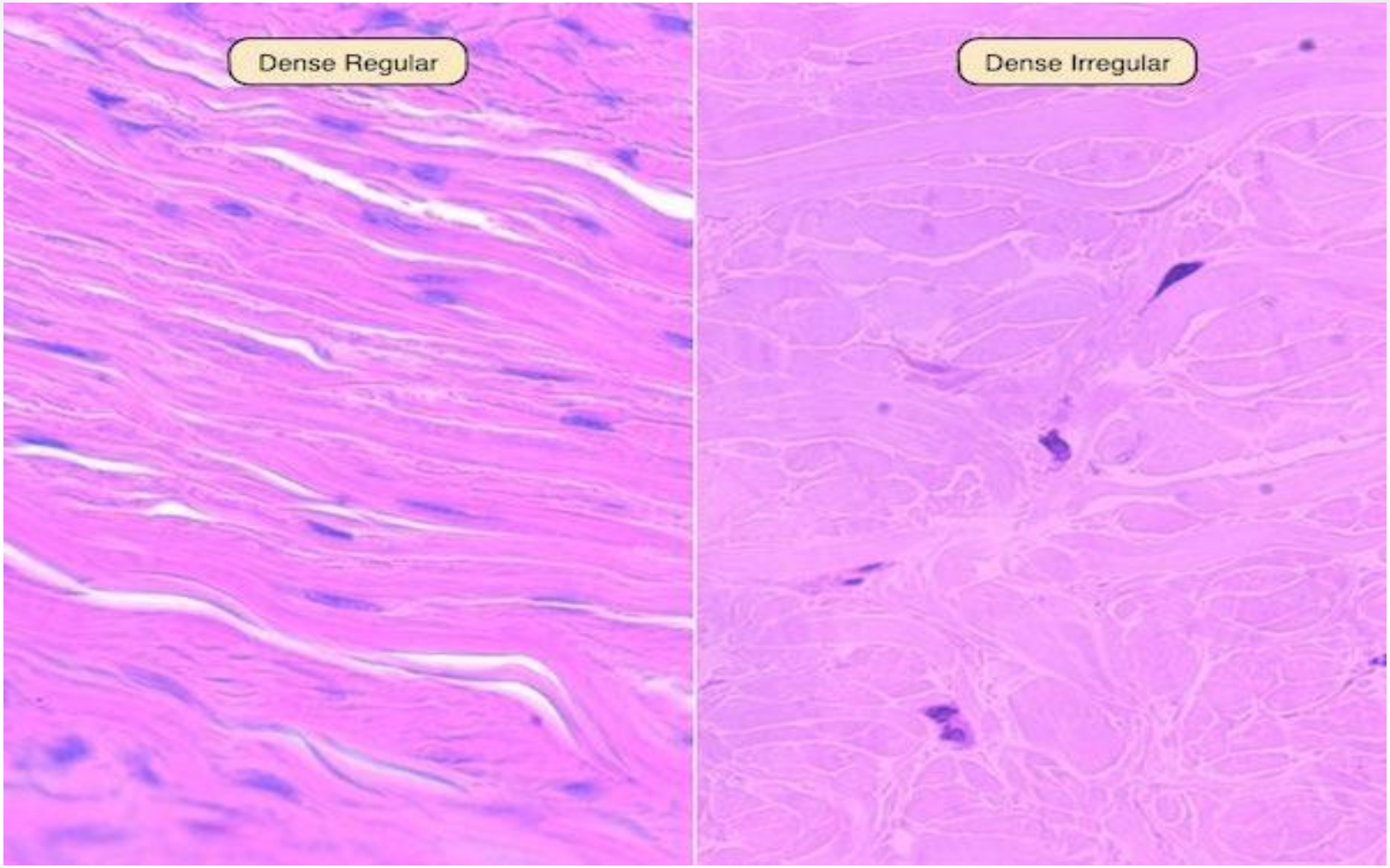
2.Ligaments

Dense Irregular Connective Tissue



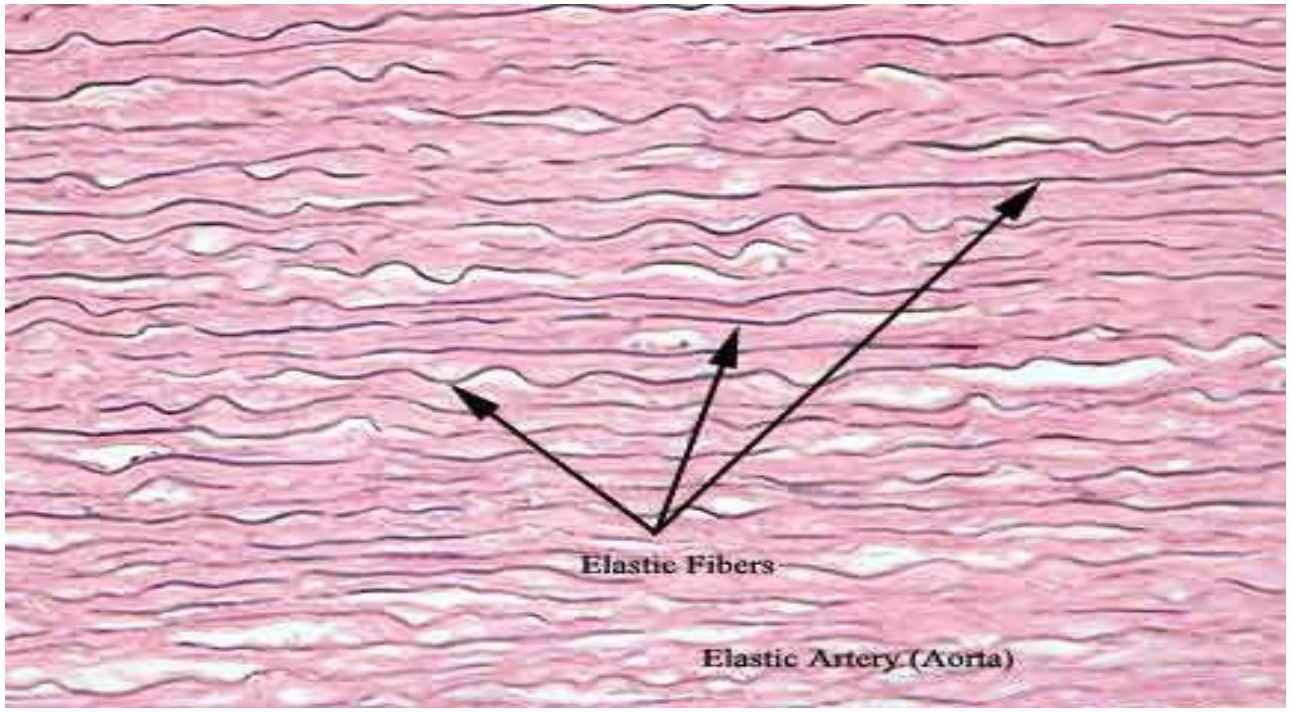
Locations

1.Skin , around cartilages (perichondrium) , Around bones (periosteum)
2.Form capsules around some organs (e.g. testes , liver, kidneys)
3.Submucosa of digestive tract
4.Dermis of the skin



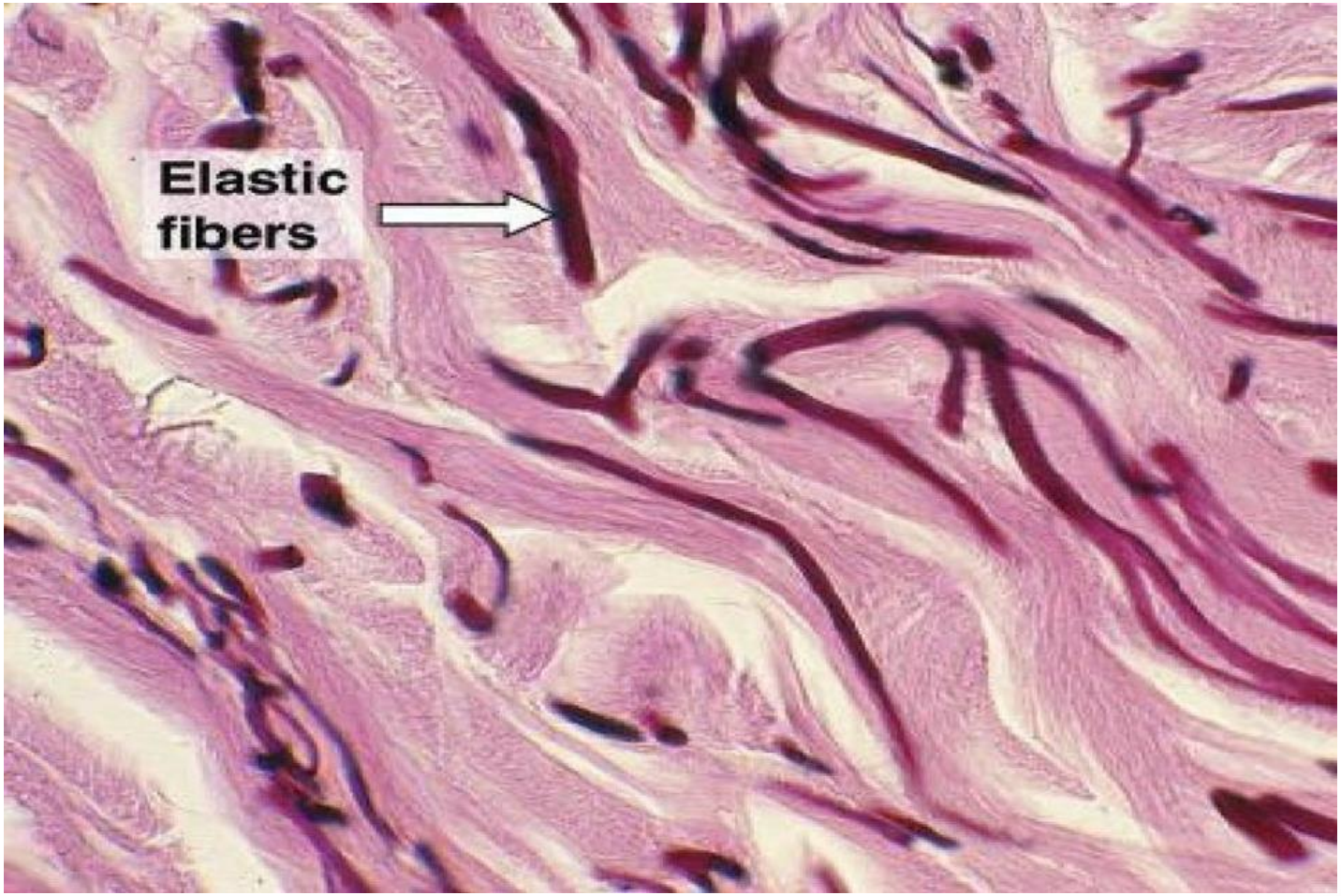
Dense connective tissue

Elastic Connective Tissue

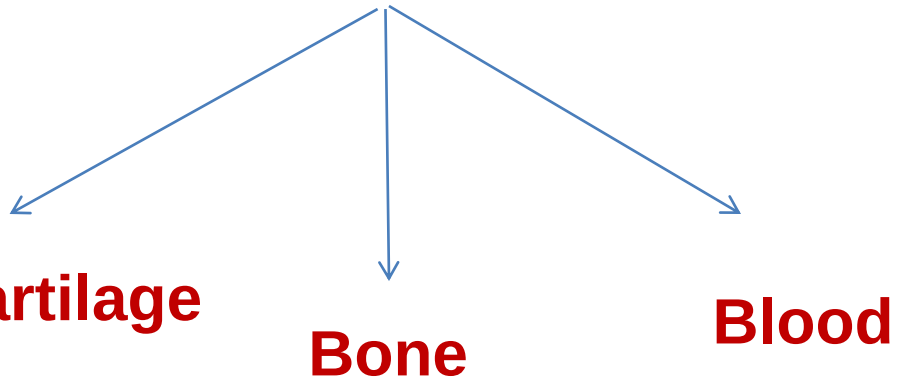


Locations

•lungs , walls of arteries, walls of bronchial tubes


Elastic
fibers

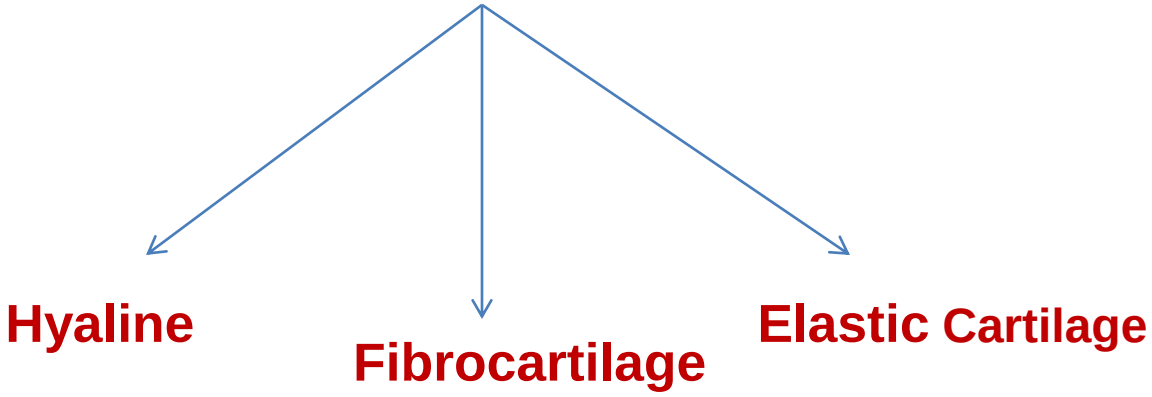
2- Specialized Connective Tissue



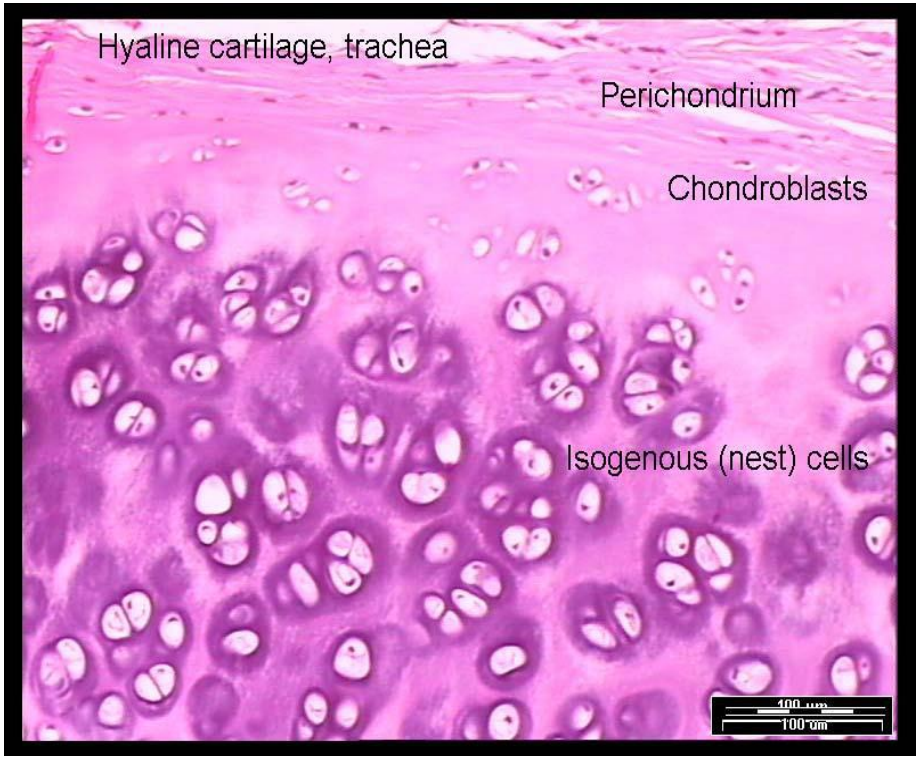
Cartilage

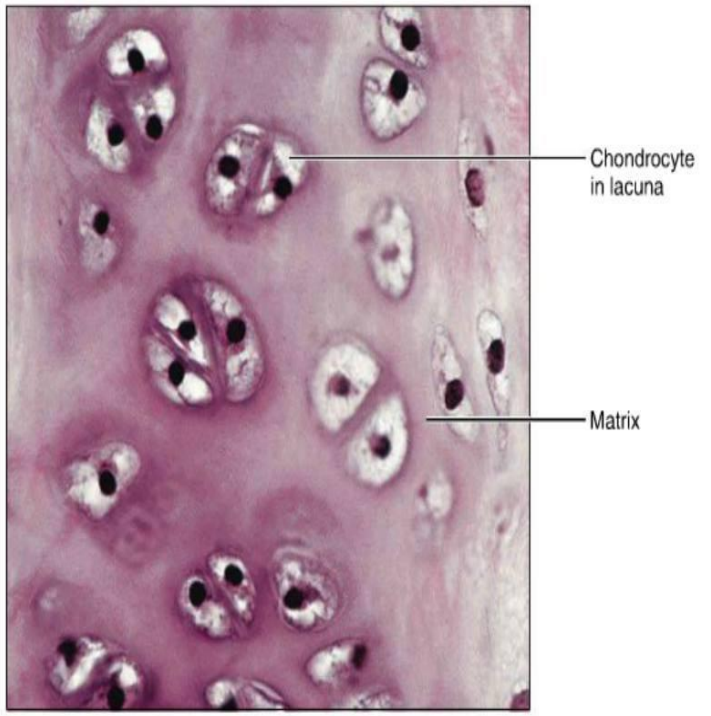
- Strong flexible C.T. protects joints and bones.
- The main cell types in cartilage are **chondrocytes,** the ground substance is chondroitin sulfate, and the fibrous sheath is called **perichondrium**
- Matrix contains up to **80%** water.

Cartilage



Hyaline Cartilage

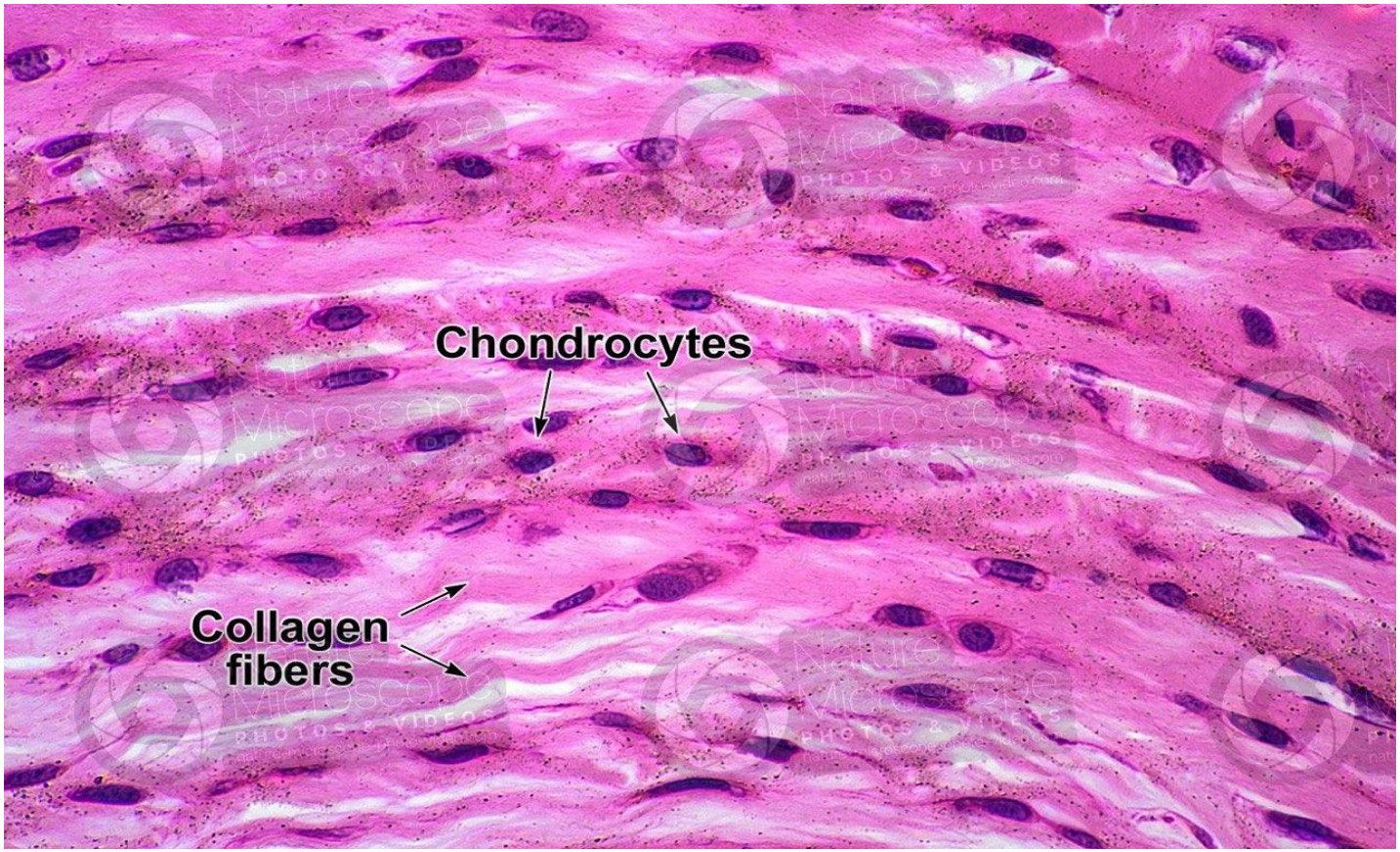




Location

- Costal cartilage of ribs, nose, larynx
- fetal skeleton, long bones in joint cavities

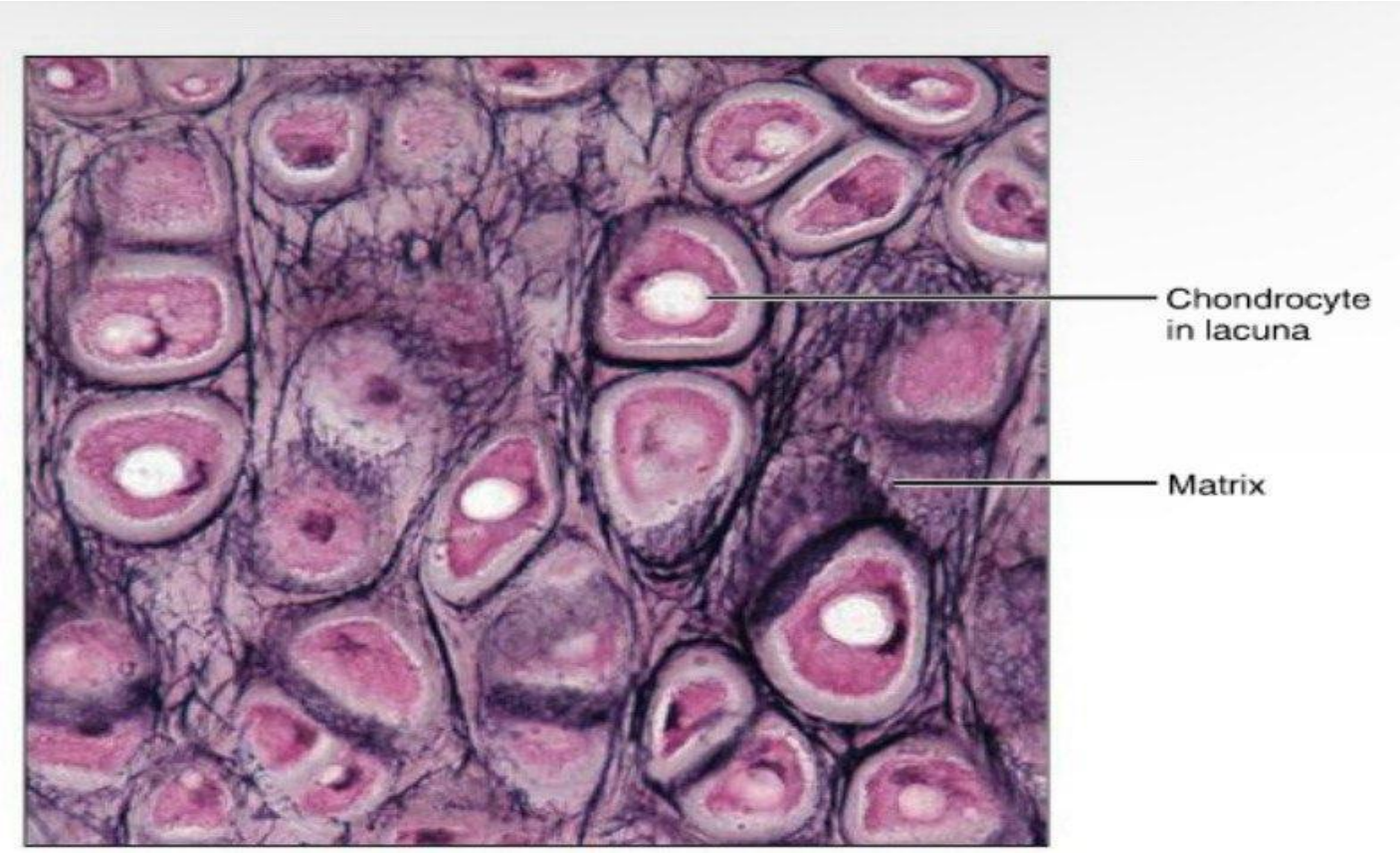
Fibrocartilage



Location

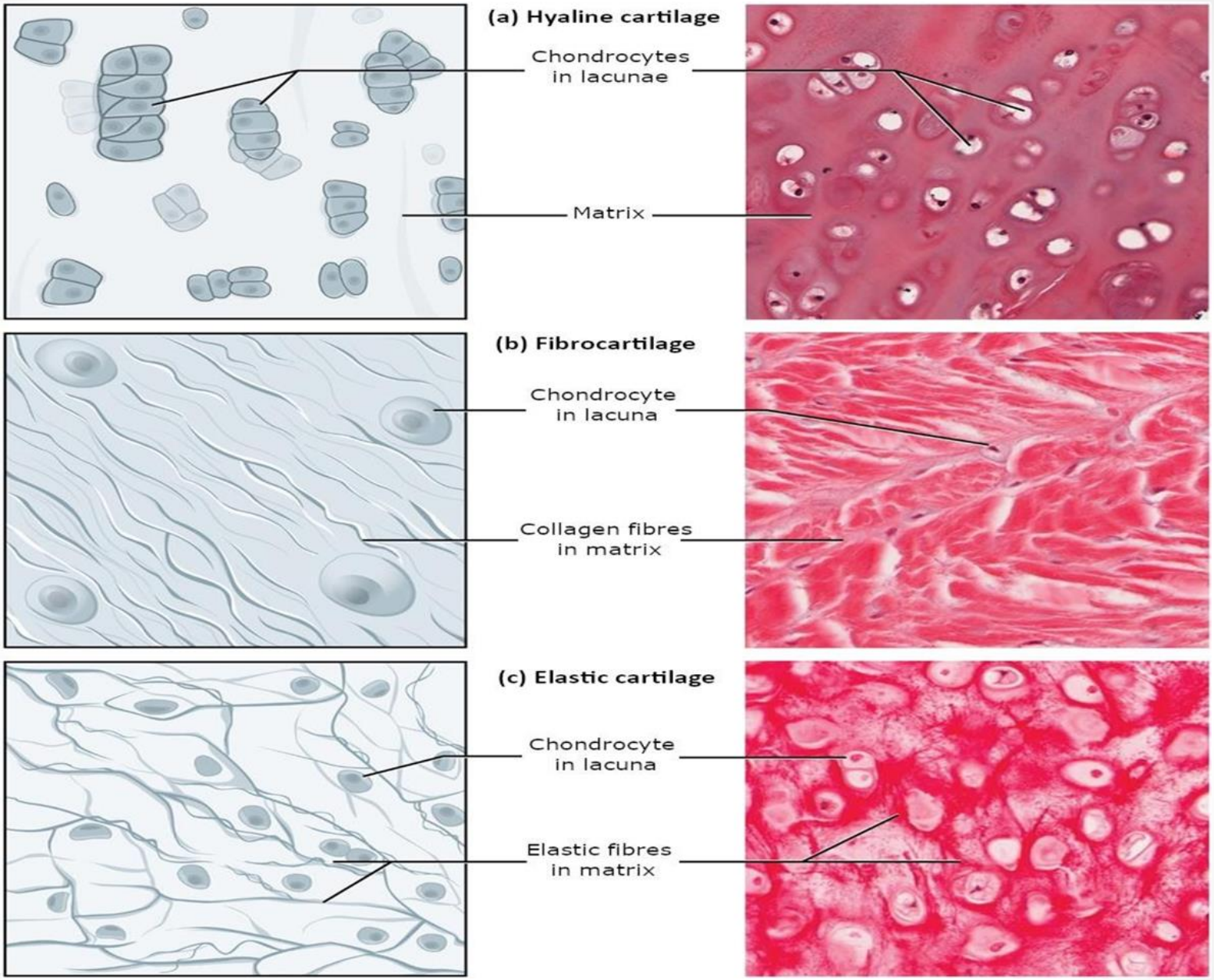
Intervertebral discs, Pads of knee joint

Elastic Cartilage



Location

external ear , Epiglottis


(a) Hyaline cartilage
Chondrocytes in lacunae
Matrix
(b) Fibrocartilage
Chondrocyte in lacuna
Collagen fibres in matrix
(c) Elastic cartilage
Chondrocyte in lacuna
Elastic fibres in matrix

Bone Tissue:

Structure

•Is the major structural and supportive C. T. of the body.

•Bone Tissue forms the rigid part of the bone organs that make up the skeletal system.

•**2 types – compact** and **spongy**

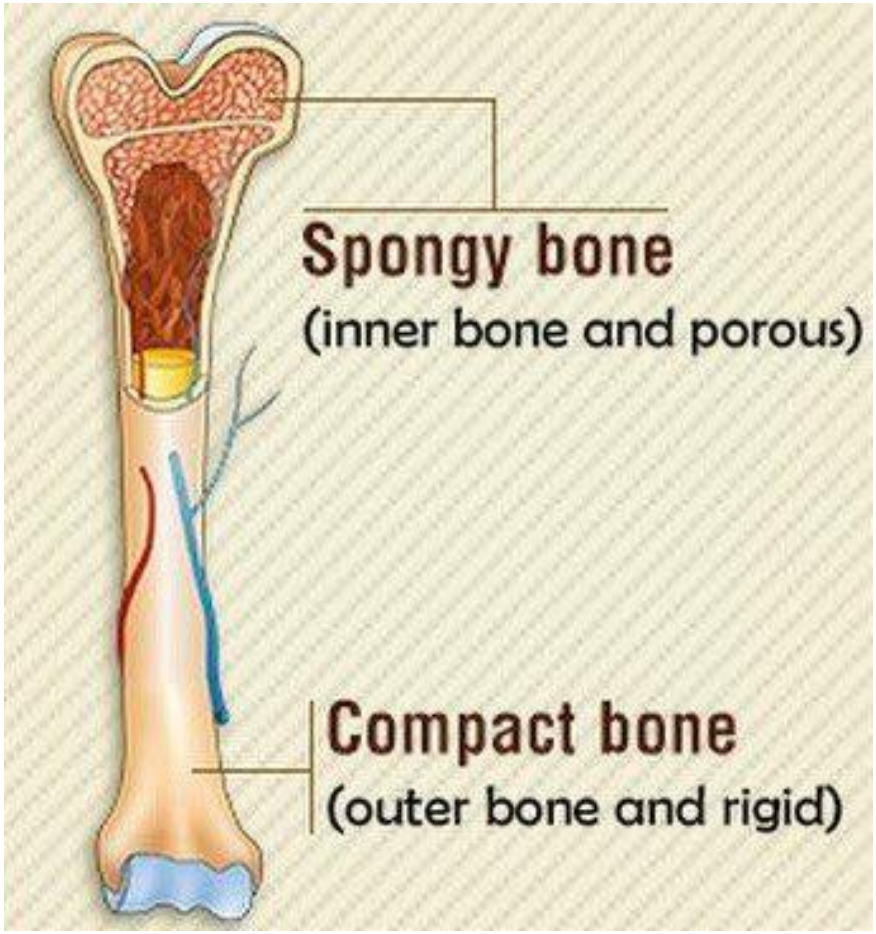
Functions:

•Support, movement and protection

•Calcium phosphate storage.

•houses bone marrow (produces blood cells and stores fat)

Spongy & Compact Bone



Spongy Bone

Inner bone andcontain marrow and has many open spaces that make bone

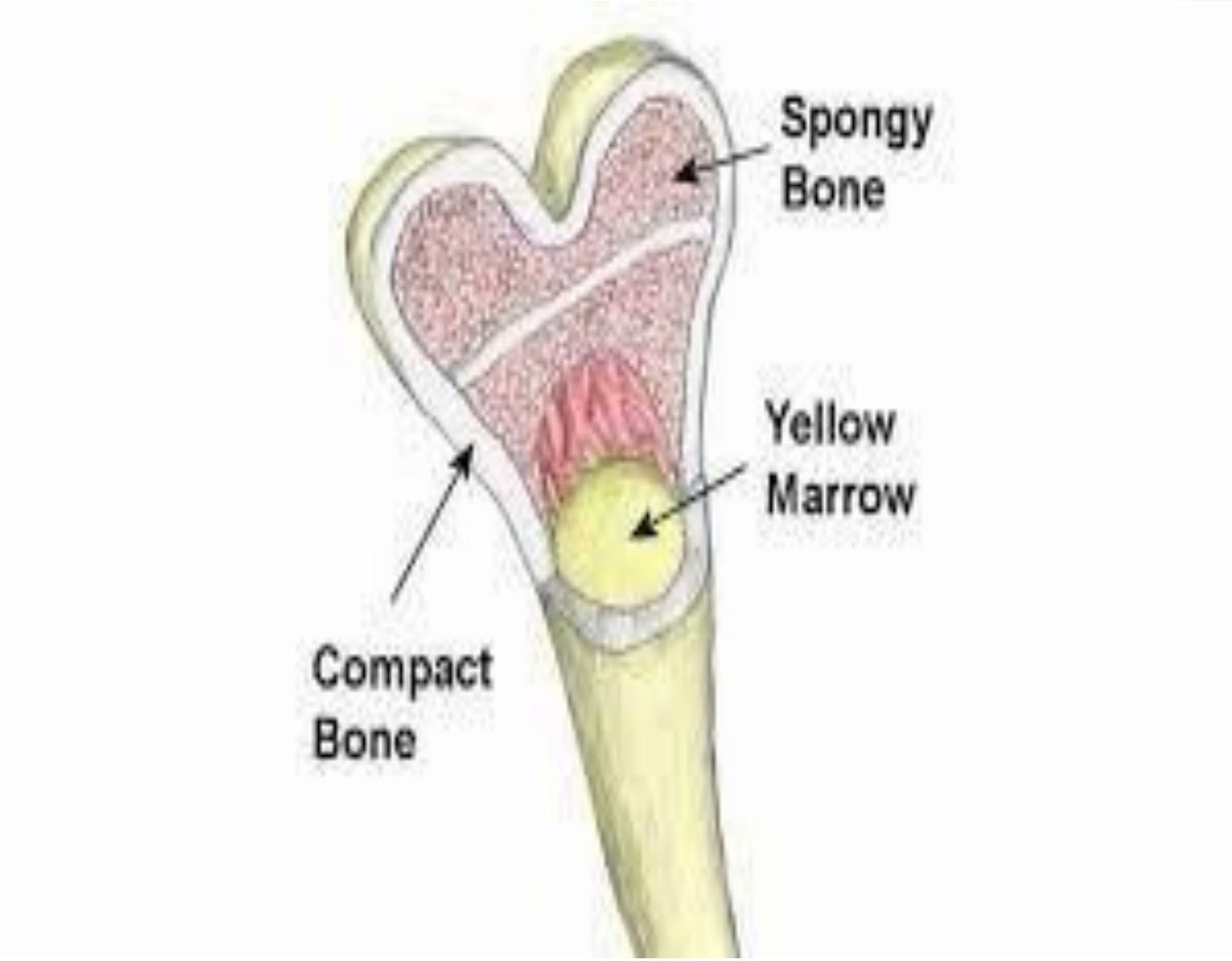
Compact Bone

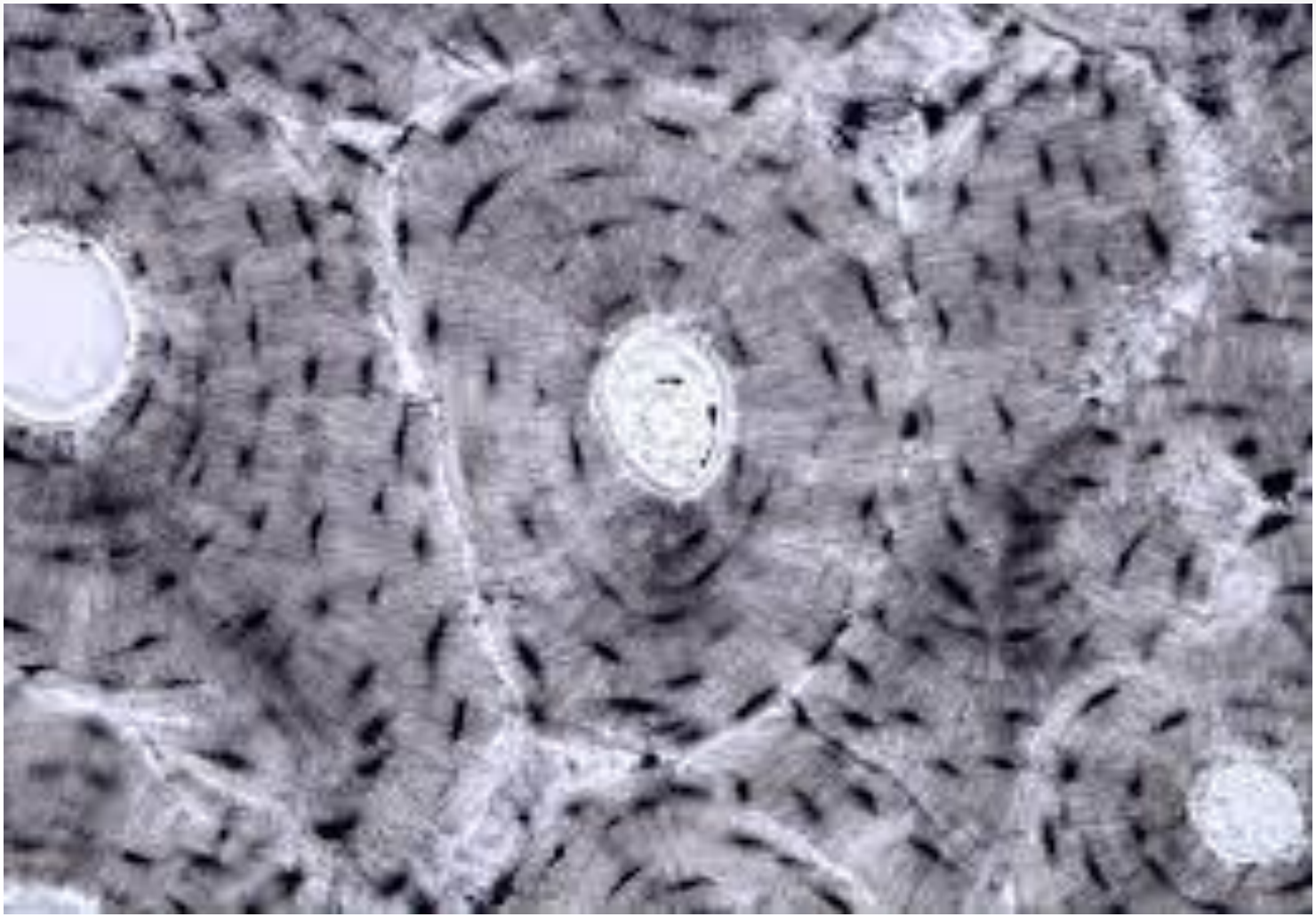
Outer bone and rigid , gives bones its strength and bone cells and blood vessels are found here.

Bone marrow

1.Red Bone marrow: produces blood cells

2.Yellow Bone marrow: composed fat cells


Spongy
Bone
Yellow
Marrow
Compact
Bone



Bones

Blood Tissue

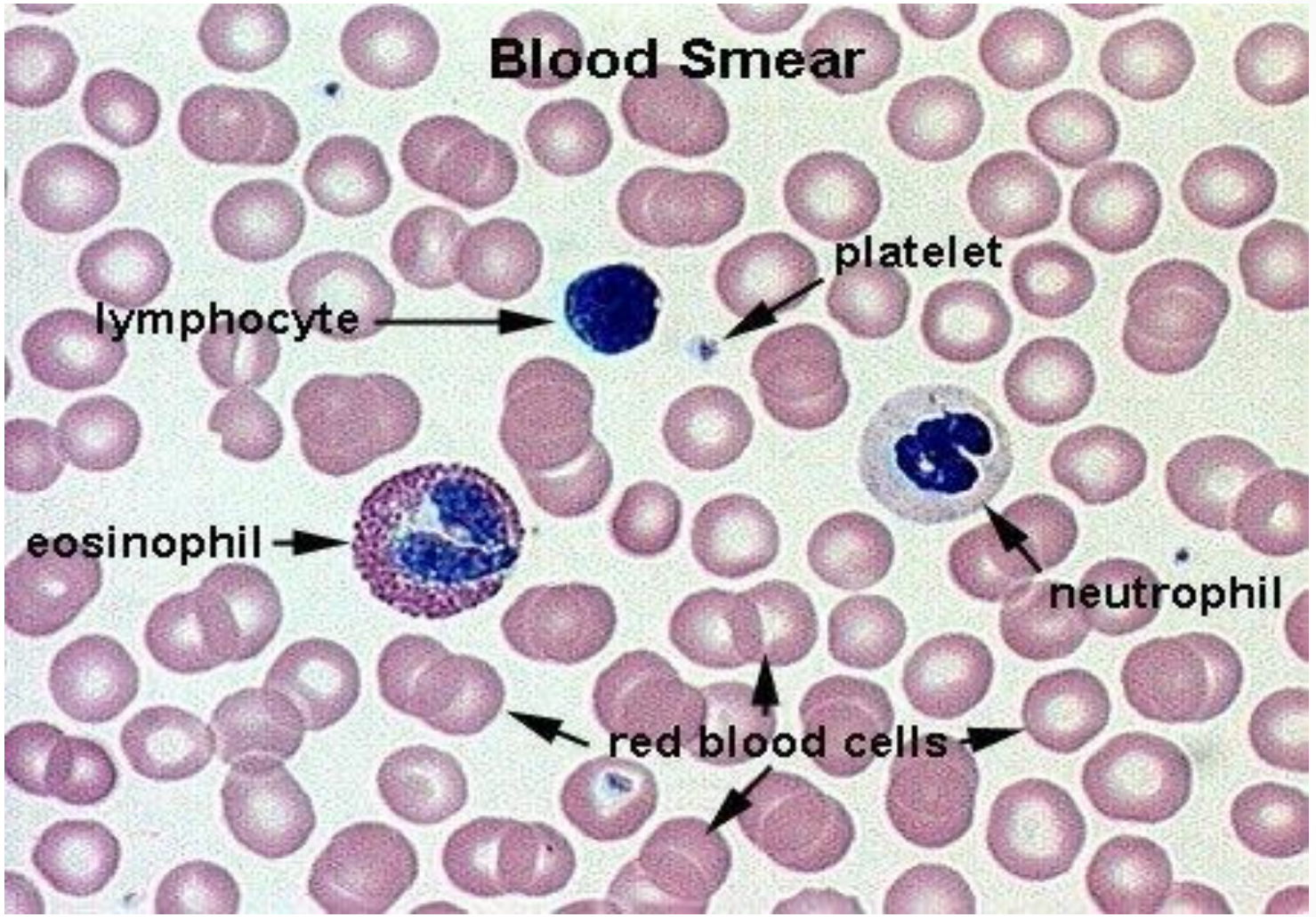
•One of connective tissue; consists of mostly water, dissolved solutes, and proteins

•**Red Blood Cells** (erythrocytes): transport oxygen

•**White Blood Cells** (leukocytes): function in immunity

Neutrophils, Eosinophils, Basophils, lymphocytes and Monocytes

•**Platelets:** participate in blood clotting


Blood Smear
platelet
lymphocyte
eosinophil
neutrophil
red blood cells

THANK YOU FOR LISTENING