

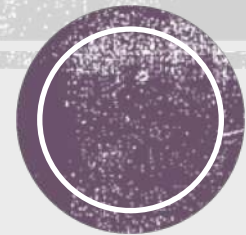
Connective Tissue

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ILOS

1. Define Tissue

2. Define connective tissue and its function

3. List types of connective tissue and explain the functions of each type



Introduction

A tissue is a group of cells with a similar structure, organized to carry out specific functions

There are 4 basic tissue:

1. **epithelial tissue**
2. **nervous tissue**
3. **muscle tissue**
4. **connective tissue**

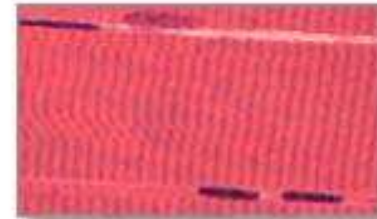
Four types of tissue



Connective tissue



Epithelial tissue



Muscle tissue



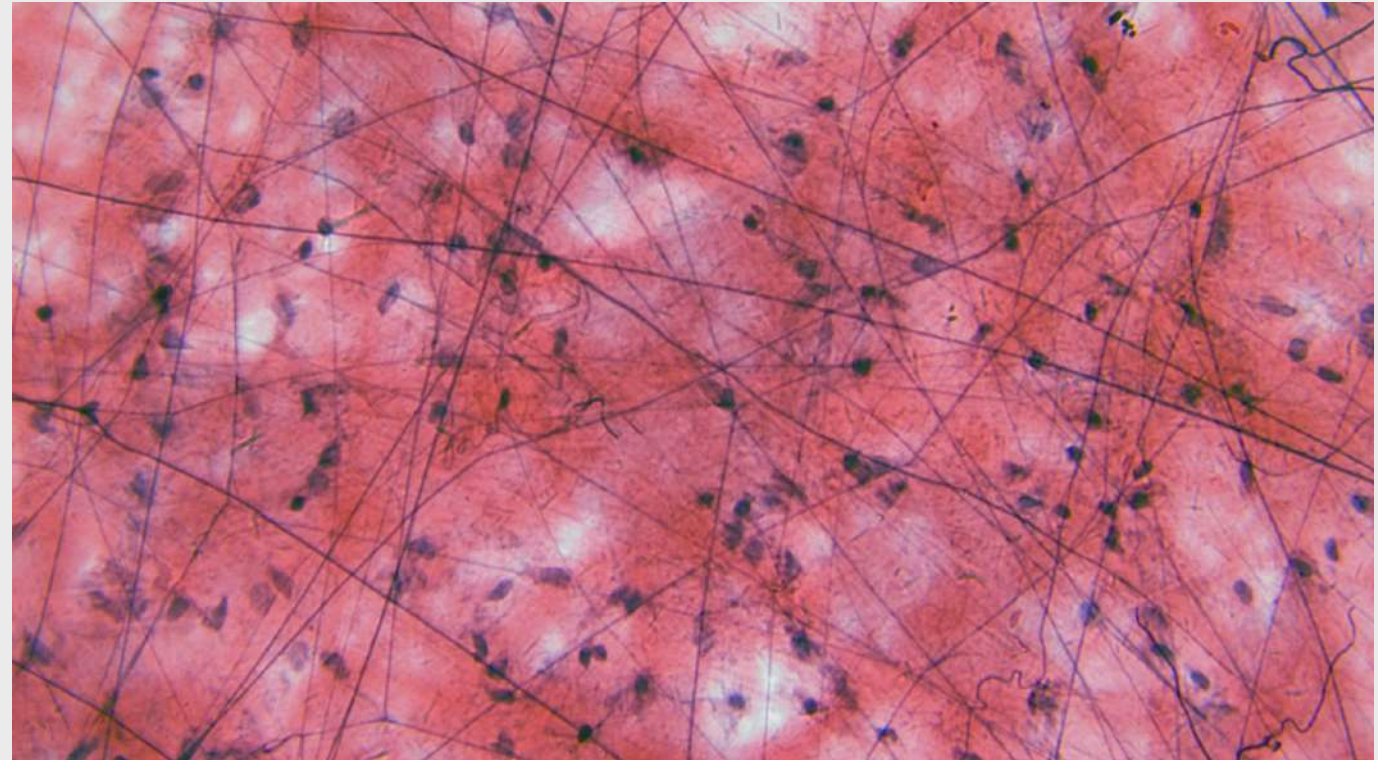
Nervous tissue



Connective tissue

Connective tissue (CT) is one of the four main classes of Tissue. Although it is the most abundant and widely distributed of the primary tissues

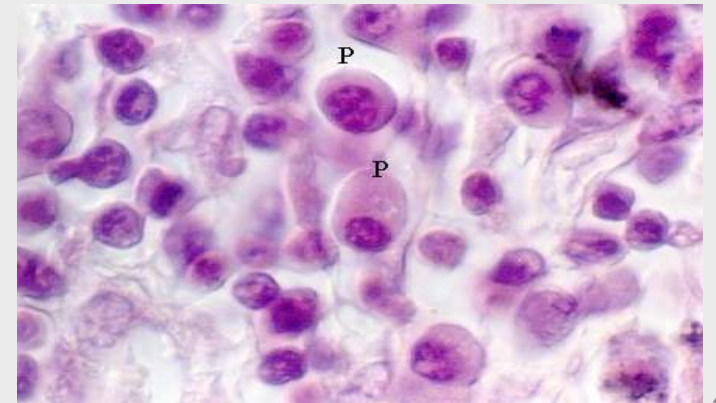
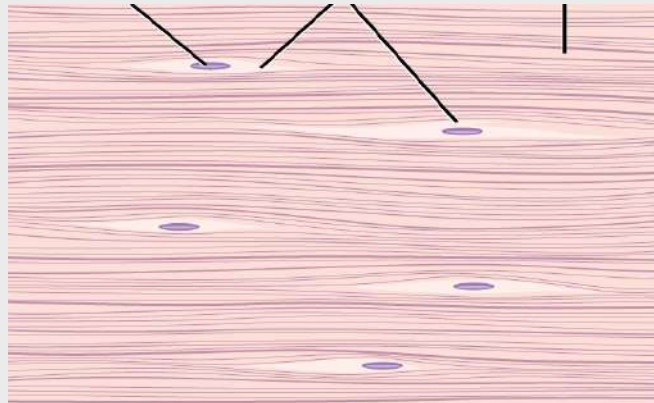
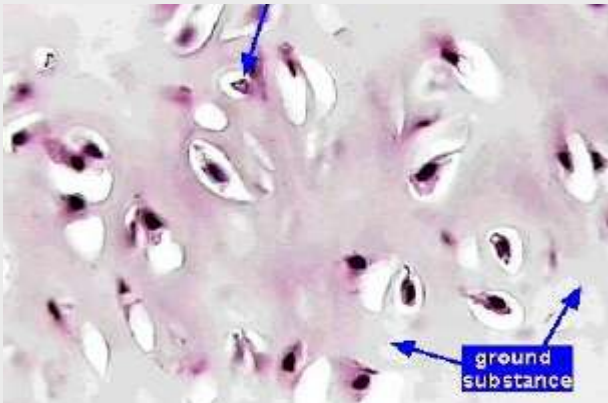
- Major **functions** of connective tissue include:
- 1) **binding and supporting**
- 2) **protecting**
- 3) **insulating**
- 4) **storing reserve fuel**
- 5) **transporting substances within the body.**



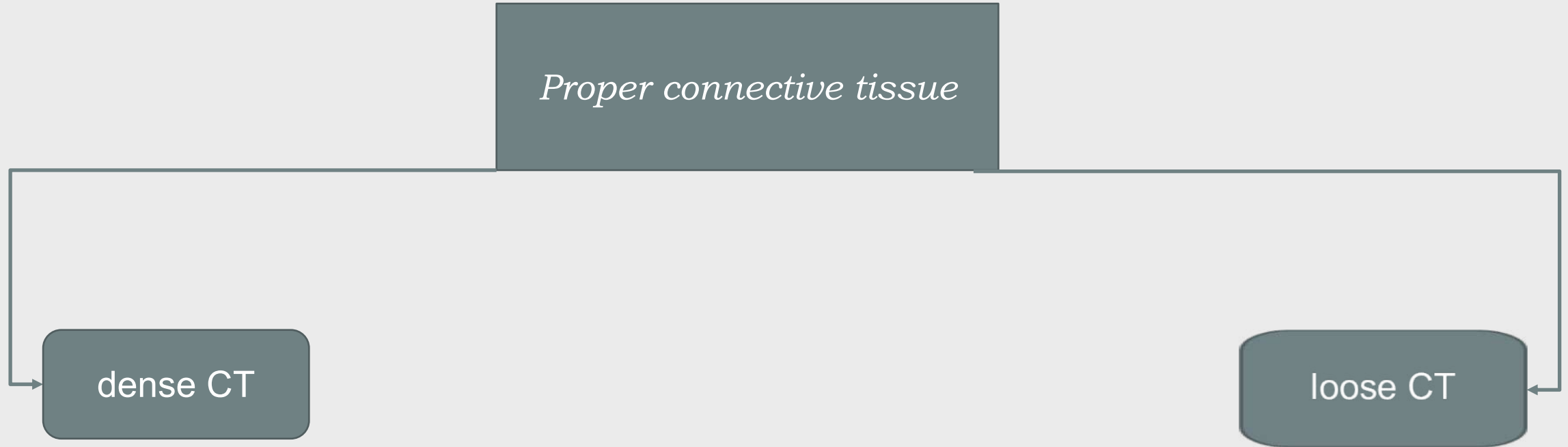
Connective tissue has **three main components**:

1. Ground substance
2. Fibers
3. Cells

Together the ground substance and fibers make up the **extracellular matrix**.



Types of connective tissue



- **Dense** connective tissue divided into:
- Dense **regular**
- Dense **irregular**



Dense regular

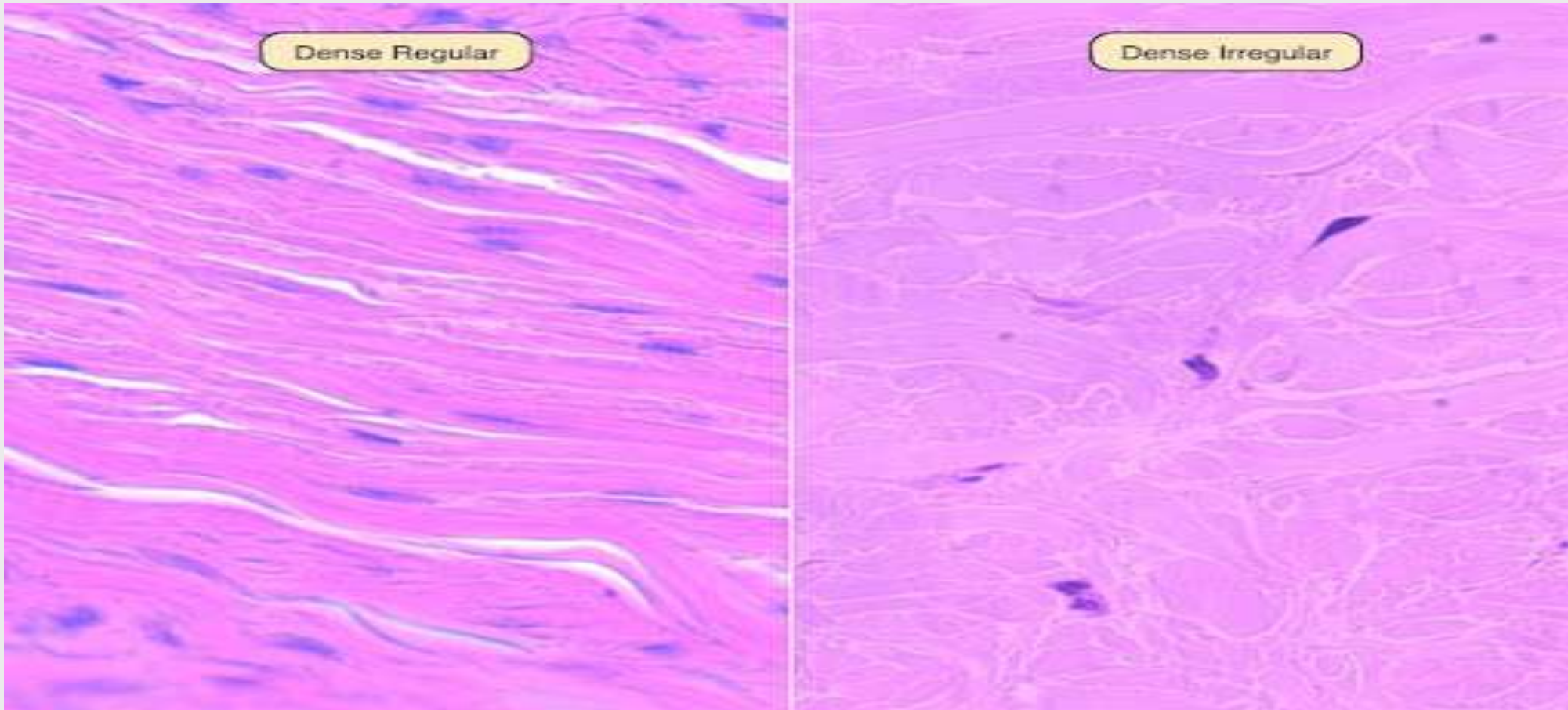
helps attach muscles to bones and link bones together at joints. Example **Tendons** and **ligaments**



Dense irregular

Much of **the dermis layer of the skin is**



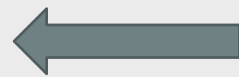


This photo shows the dense connective tissue regular and irregular



loose connective tissue

is very common and generally supports epithelial tissue. It comprises a thick layer (the lamina propria) beneath the epithelial lining of the digestive system and fills the spaces between muscle and nerve fibers. Usually well-vascularized whatever their location, thin layers of loose connective tissue surround most small blood vessels of the body.

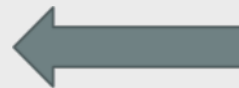
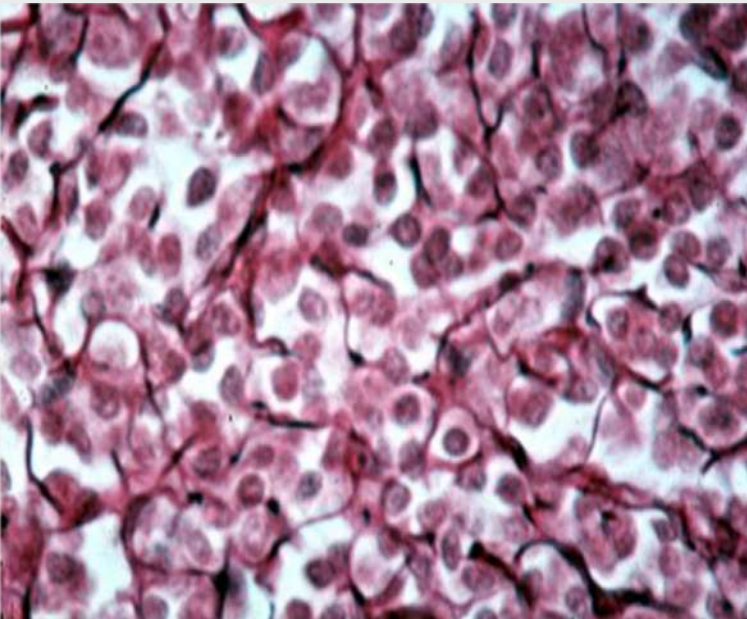


This photo shows the loose connective tissue



Reticular Connective Tissue :

This tissue resembles areolar connective tissue, but the only fibers in its matrix are the reticular fibers, which form a delicate network. The reticular tissue is limited to certain sites in the body, such as internal frameworks that can support lymph nodes, spleen, and bone marrow.



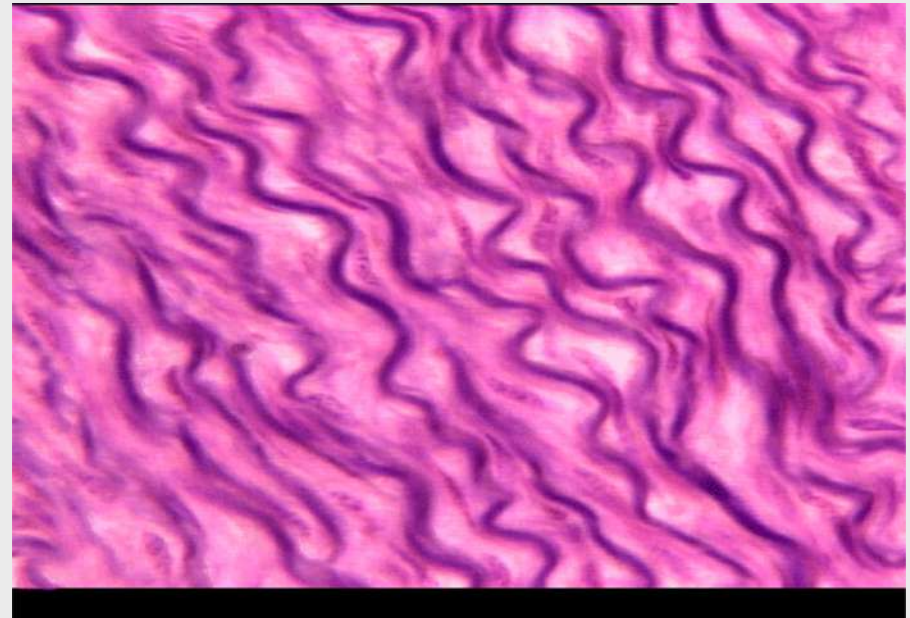
This photo shows the Reticular tissue



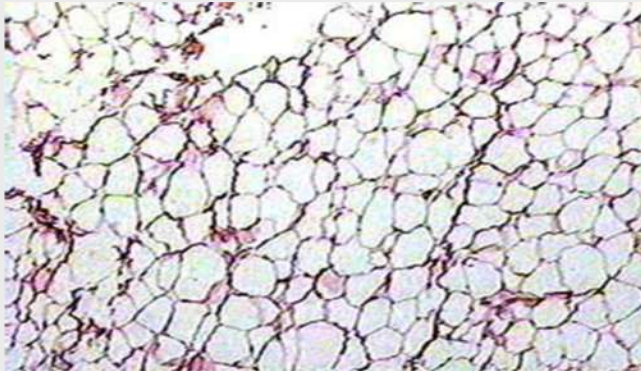
Elastic connective tissue

These tissues enable stretching in structures such as arteries, vocal cords, the trachea, and bronchial tubes

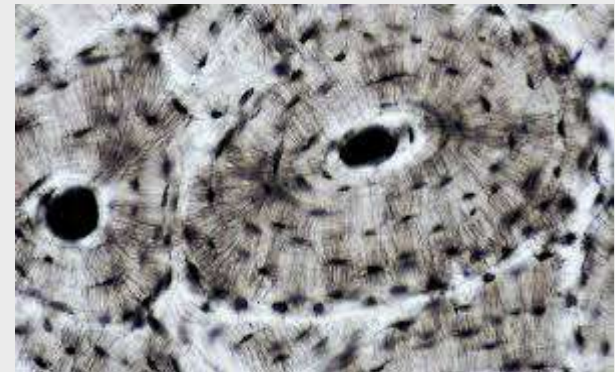
this photo shows elastic tissue



- **Specialized connective tissue** encompasses a number of different tissues with specialized cells and unique ground substances. Some are **solid** and **strong**, while others are fluid and flexible.
- Examples include : adipose, cartilage, bone, blood
- **Adipose** tissue is a form of loose connective tissue that stores fat
- **bone** tissue support and protection of soft tissues, calcium, and phosphate storage and harboring of bone marrow



This photo shows adipose tissue

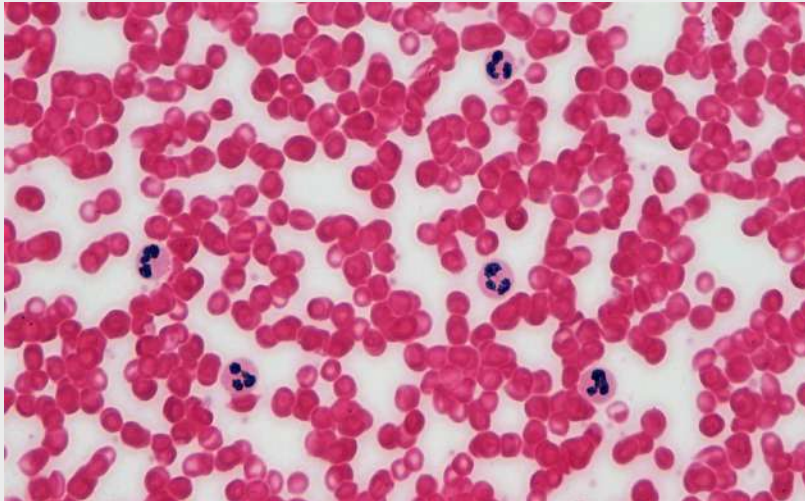


This photo shows bone tissue

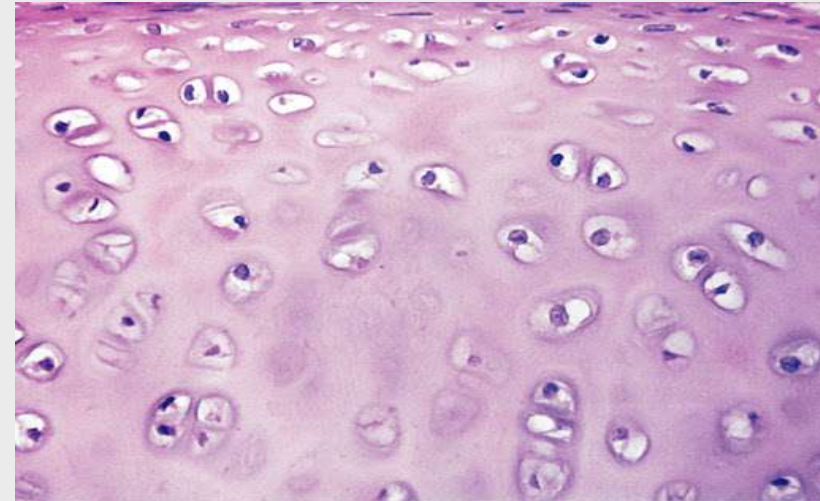


blood is considered to be a type of connective tissue blood is derived from mesoderm, the middle germ layer of developing embryos

Cartilage is a flexible connective tissue that keeps joint motion fluid by coating the surfaces of the bones in our joints and by cushioning bones against impact



this photo shows **blood** tissue



this photo shows **cartilage** tissue



Summary

*A **tissue** is a group of cells with **similar structure** organized to carry out **specific function**

***Connective tissue** is the most **abundant** and widely distributed of the primary tissues.

***Connective tissue** is A type of tissue whose main function is to **bind, support, and anchor** the body.

***Proper connective tissue** divided into **loose** and **dense** connective tissue

Elastic connective tissue enable **stretching** in structures such as **arteries**

***Dense tissue** divided into **regular** and **irregular** connective tissue

***Specialized** connective tissue number of different tissues with specialized cells and unique ground substances. Some are **solid** and **strong**, while others are **fluid** and **flexible**.



References

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