

Structure and function of Connective Tissues

Part -2



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Types of Connective Tissues



On the basis of nature of matrix, connective tissues are of three types

1. Connective Tissue proper
2. Skeletal connective tissue
3. Vascular connective tissue

Types of Connective Tissues *..contd..*



Skeletal Tissue

It is a highly specialized and organized compact connective tissue having abundant intercellular substances . These form endoskeleton of the vertebrates and also protect the vital organs of the body like brain, heart, lungs etc.

Types of Skeletal Tissues

Skeletal tissues are of two types

- Cartilage
- Bones

Types of Connective Tissues

(Skeletal Tissue .. Contd..)



Cartilage Tissue

- It is a flexible connecting tissue found in many parts of the body including joints between bones , the elbows, knees and ankles , ends of ribs, between the vertebrae in the spine
- It consists of dense matrix of collagen fibers and elastic fibers embedded in a brown substance i.e. matrix
- The cartilage is composed of cells called chondrocytes
- They occur either singly or in groups, within spaces called lacunae
- The surface of cartilage is covered by a membrane of dense irregular connective tissue called perichondrium
- Cartilage contains no blood vessels or nerves except in the perichondrium

Types of Connective Tissues

(Skeletal Tissue .. Contd..)



Types of Cartilage Tissue

There are three different types of Cartilage tissues

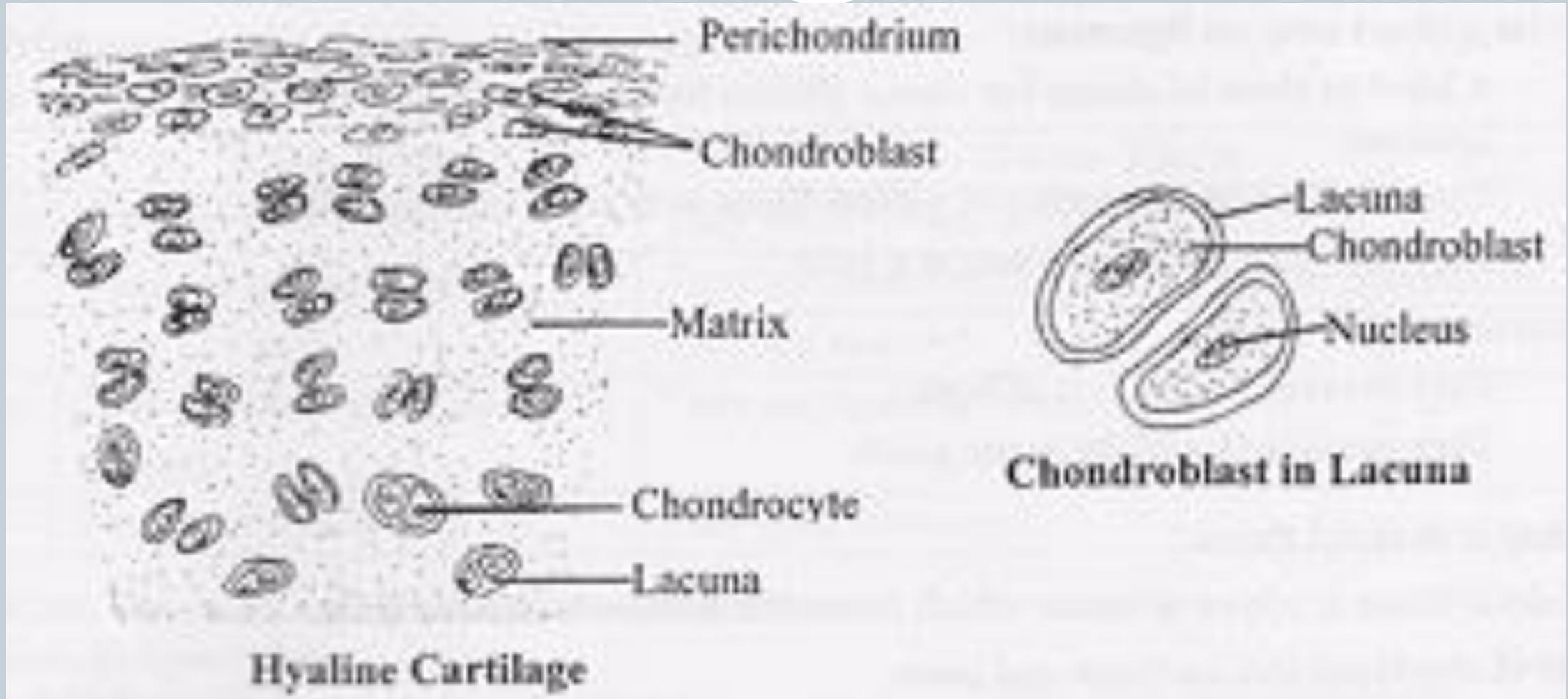
1. Hyaline Cartilage
2. Fibro Cartilage
3. Elastic Cartilage

Hyaline Cartilage

It is the most abundant of the three types of Cartilage. It consists of bluish white shiny brown elastic material with a matrix of Chondroytin sulphate into which many fine collagen fibers are embedded. It contains numerous Chondrocytes .

Hyaline Cartilage provides smooth surfaces enabling tissues to move over each other, i.e. facilitating smooth movements of joints . It also provides flexibility and support. It is present at the end of limb bones and the sternum, front ends of ribs and bronchi etc.

TS of Hyaline Cartilage



Types of Connective Tissues

(Skeletal Tissue .. Contd..)



Fibro Cartilage

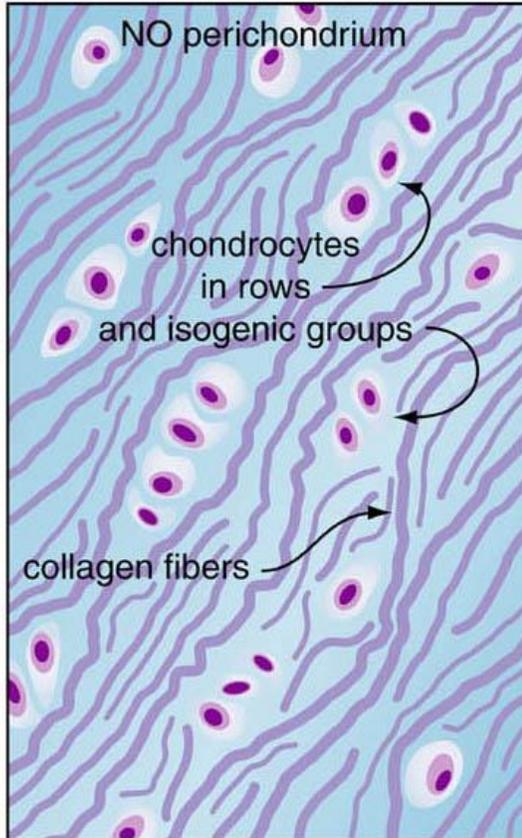
Fibro Cartilage is a tough form of cartilage that consists of chondrocytes scattered among dense bundles of collagen fibers within the matrix. Fibro Cartilage lacks a perichondrium. Fibro Cartilage tissue provides support and rigidity to attached structures and is the strongest of the three types of cartilage.

It is present in intervertebral disc and pubic symphysis

Structure of Fibro Cartilage



Fibrocartilage



Types of Connective Tissues

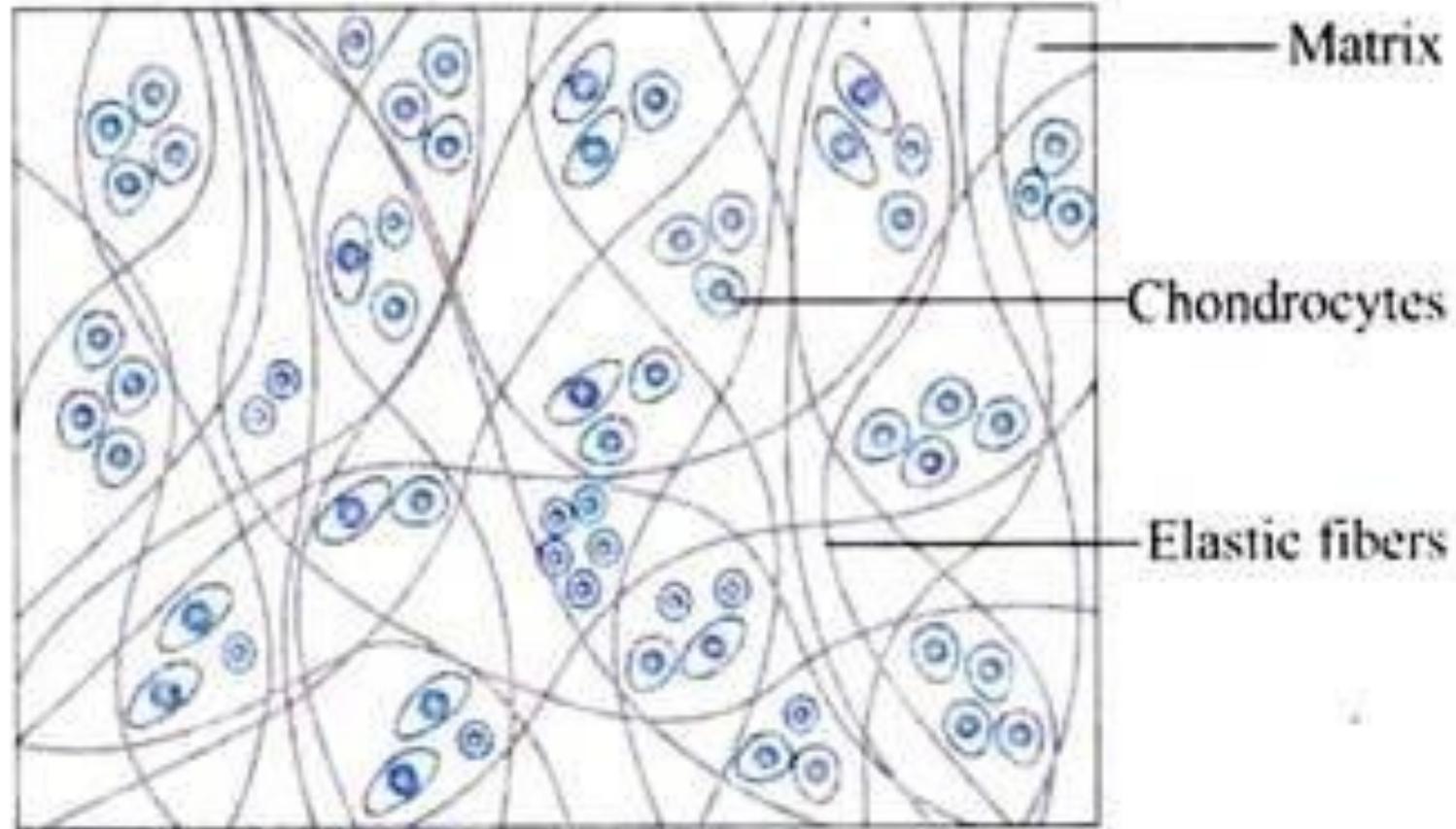
(Skeletal Tissue .. Contd..)



Elastic Cartilage

It is yellowish in color. The cartilage cells chondrocytes are located in thread like network of elastic fibers within the matrix of the cartilage. A perichondrium is present. Elastic cartilages provide support to the surrounding structures and help define and maintain the shape of the area in which it is present e.g. the external ear

Structure of Elastic Cartilage



Elastic cartilage (diagrammatic representation)

Thank You

