

SNS COLLEGE OF NURSING COIMBATORE-35

COURSE NAME : B.Sc., Nursing I Year

SEMESTER : I semester

SUBJECT : Applied Anatomy

UNIT : I

TOPIC : Tissues

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Objectives

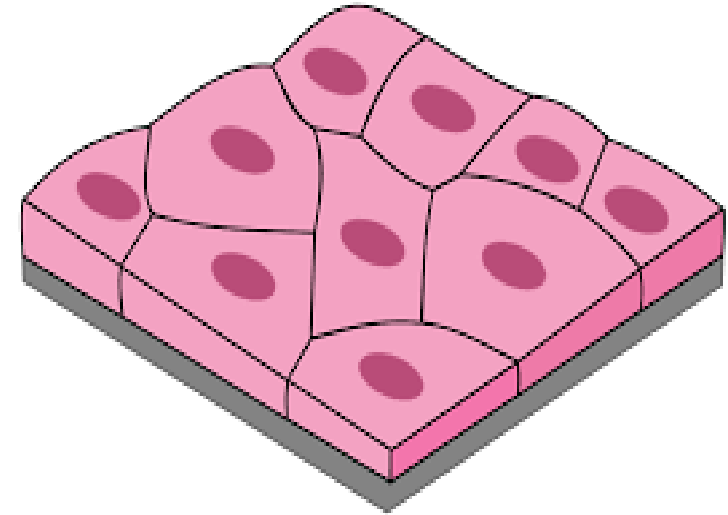
At the end of the class students will be able to understand the structure of Tissues and apply knowledge of anatomic structures to analyze clinical situations and therapeutic applications

Introduction to Tissues

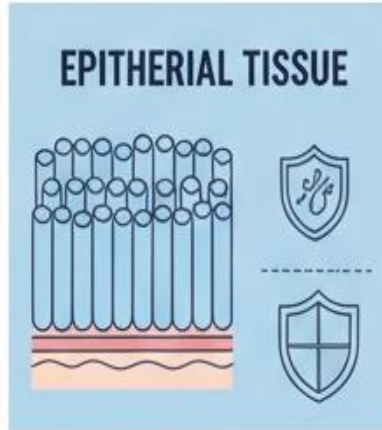
Tissue = Group of similar cells + extracellular matrix performing a specific function derived from embryonic germ layers (ectoderm, mesoderm, endoderm)

Primary Tissue Types in the human body

- Epithelial
- Connective
- Muscle
- Nervous



Types



Covers surfaces,
forms glands.



Fiblenmtth



Bone
cartilage



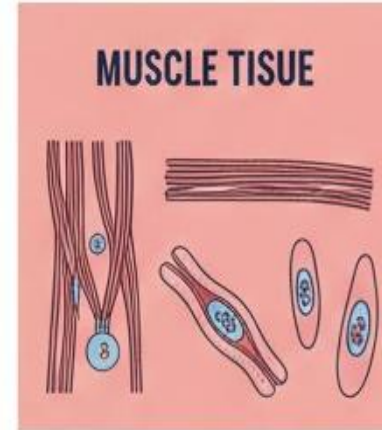
Supports,
protects, binds



Mast,
cartilage



Adosise
Blood



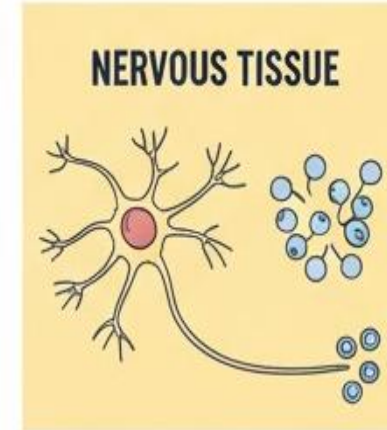
Contracts for
movement.



Skellat
Tissue



Smooth
tland



Transmits for
electrical signals.

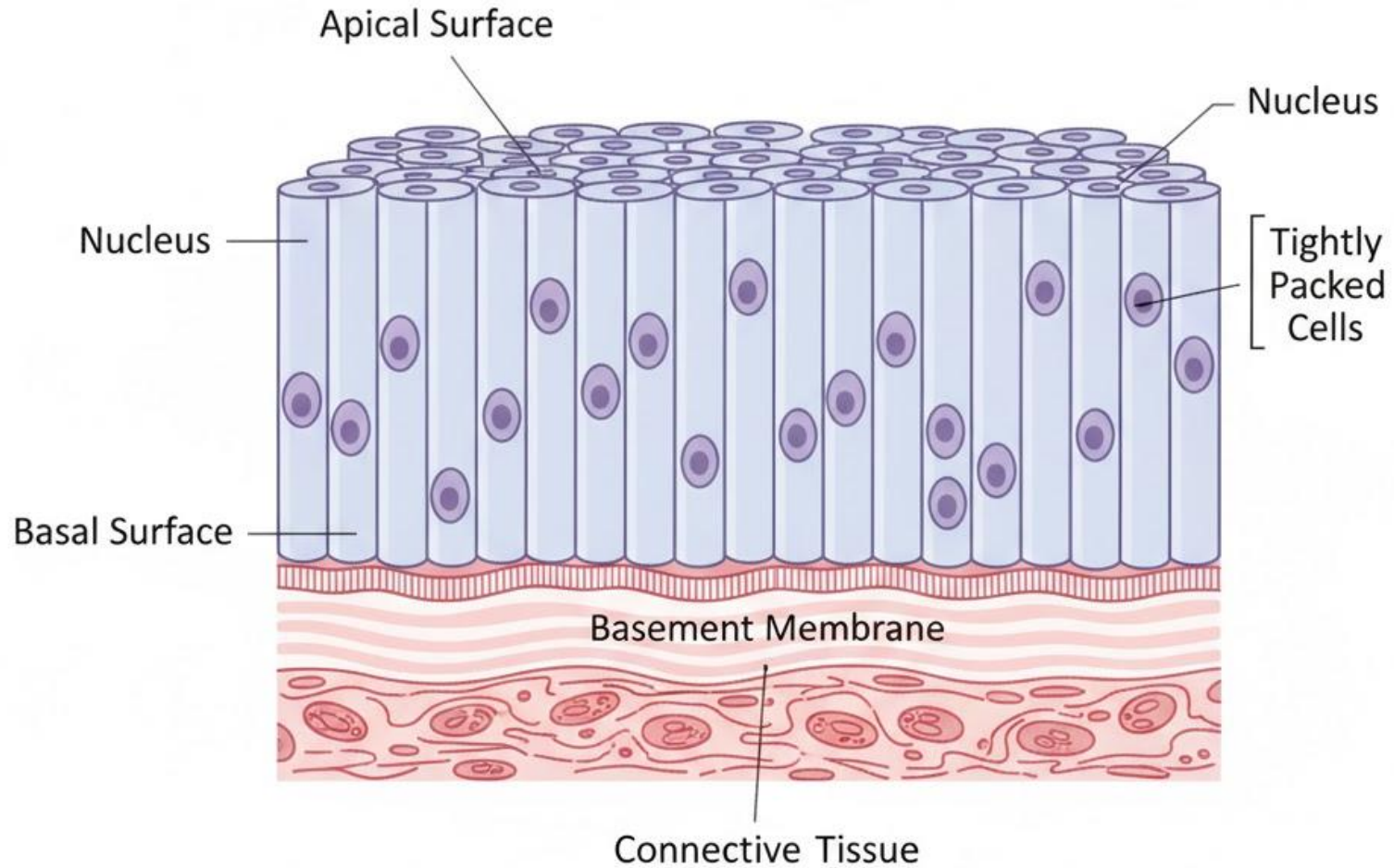


Glial

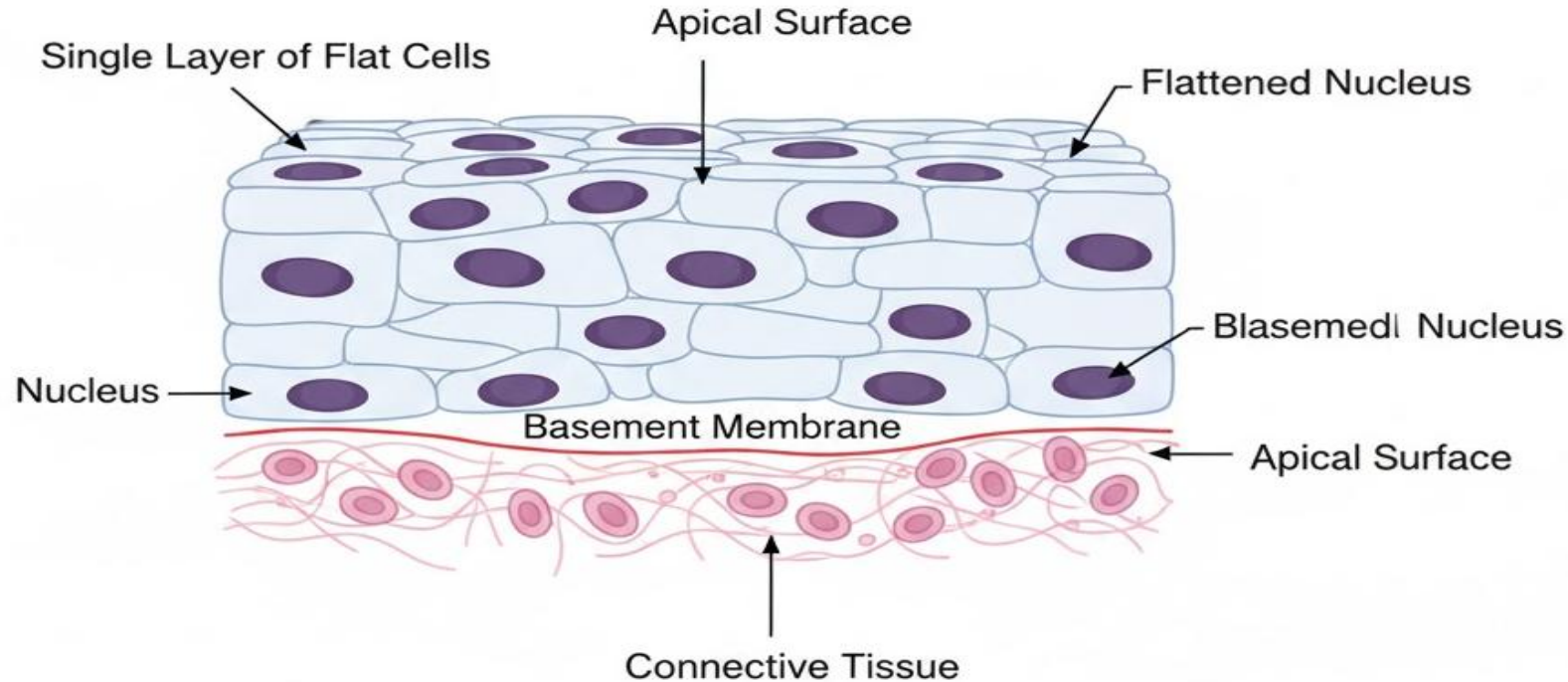


Nervous
tissue

General Structure



Simple squamous

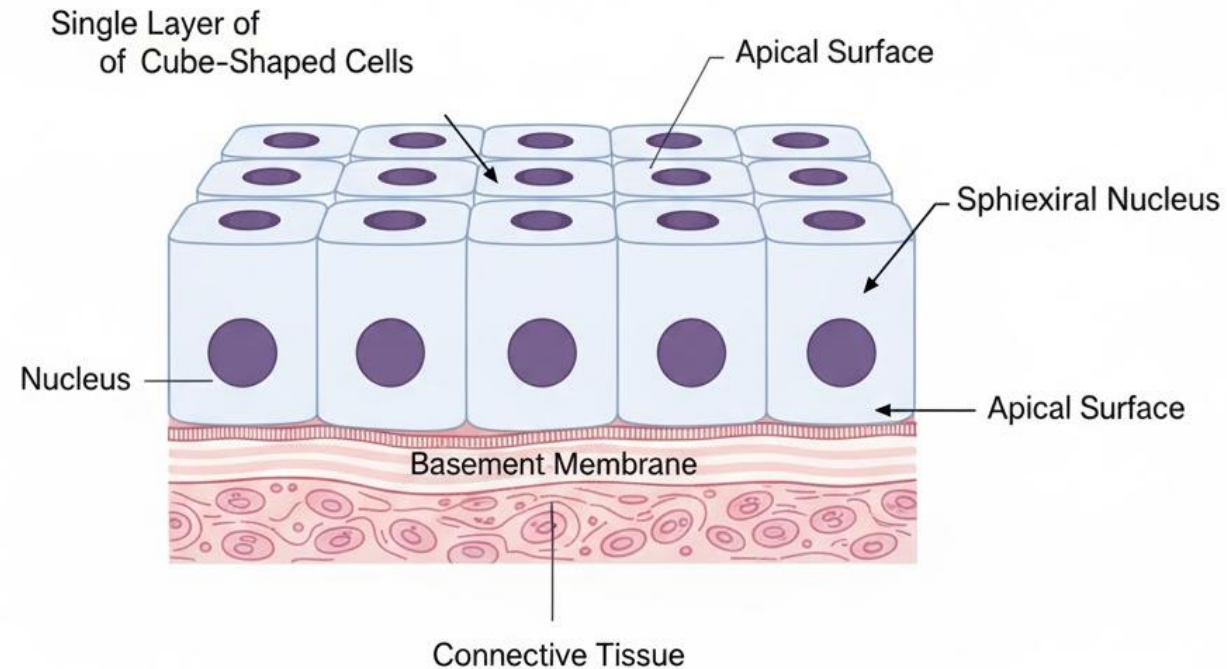


Structure: Single layer of flattened, scale-like cells.

Function: Filtration, diffusion, rapid exchange of substances.

Location: Air sacs of lungs, lining of heart, blood vessels, kidney glomeruli.

Simple Cuboidal

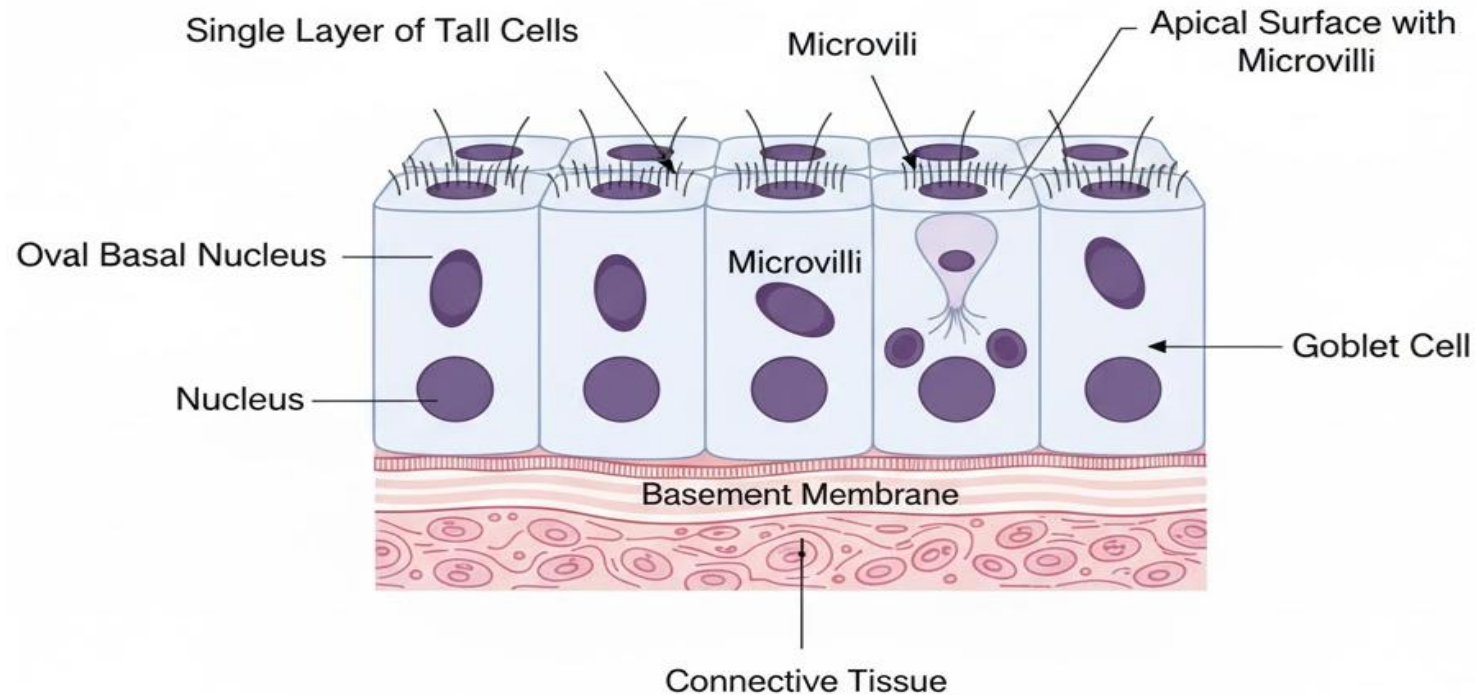


Structure: Single layer of cube-like cells with large, spherical central nuclei.

Function: Secretion and absorption.

Location: Kidney tubules, ducts and secretory portions of small glands, ovary surface.

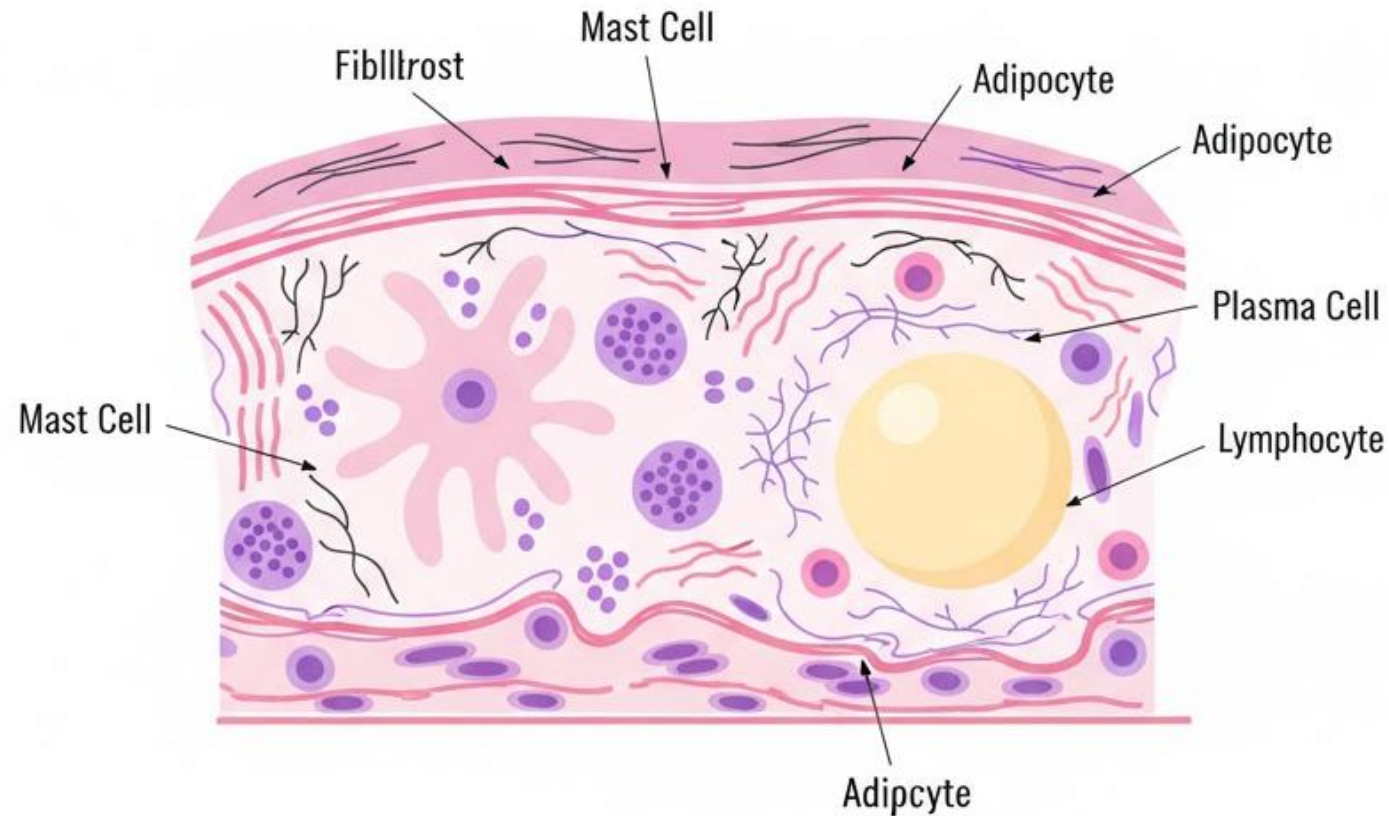
Simple Columnar



Structure: Single layer of tall, column-shaped cells; nuclei are oval located near base. Some cells bear microvilli on apical surface; goblet cells often interspersed.

Function: Absorptive type lines most of digestive tract (stomach to anal canal), gallbladder, and some glands; ciliated type lines small airways, bronchioles, and some regions of the uterus.

Connective Tissues



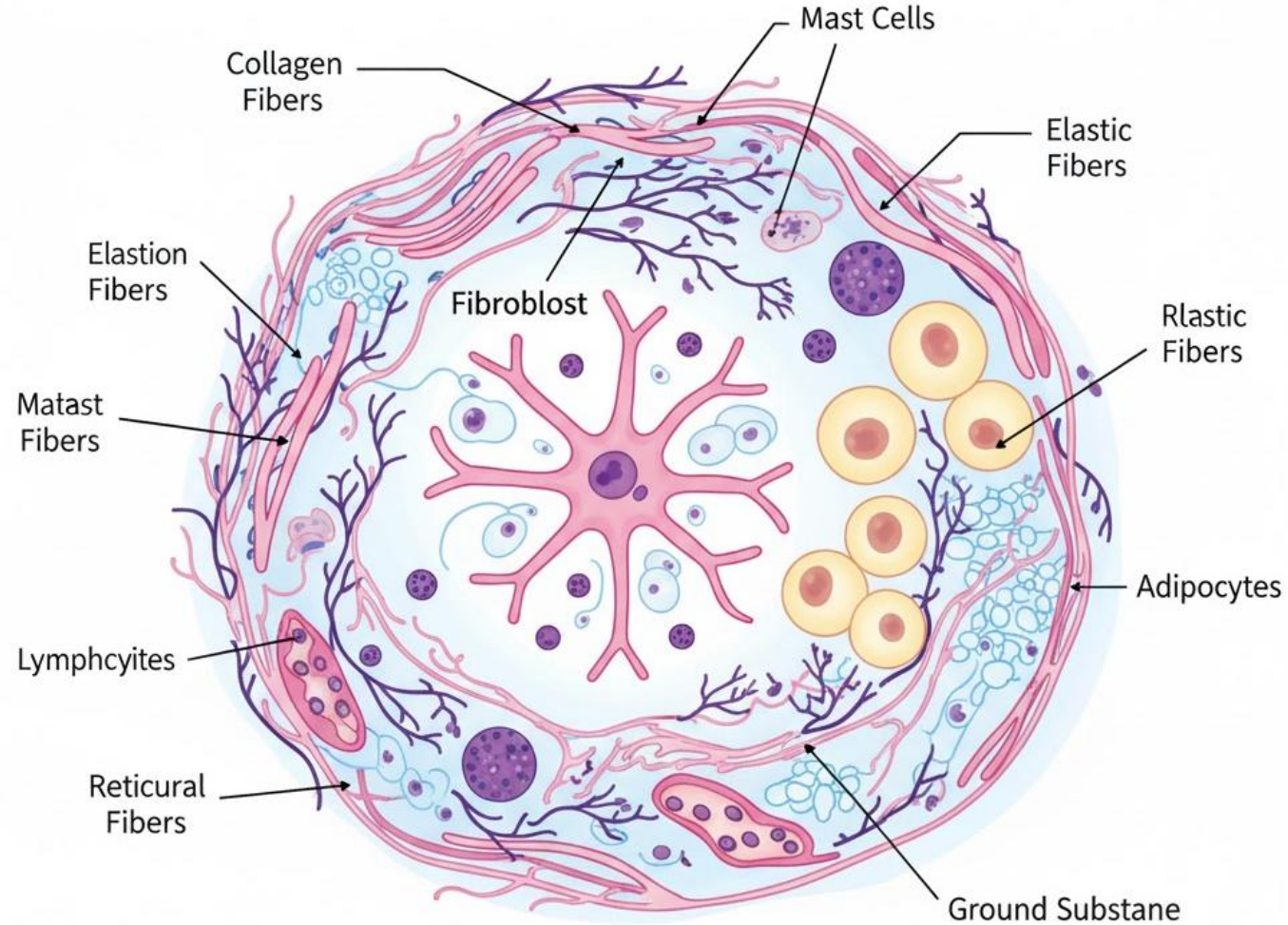
Cells (e.g., Fibroblasts, Adipocytes, Immune Cells)
Fibers (Collagen, Elastic, Reticular)
 Ground Substance

- Support & Bind

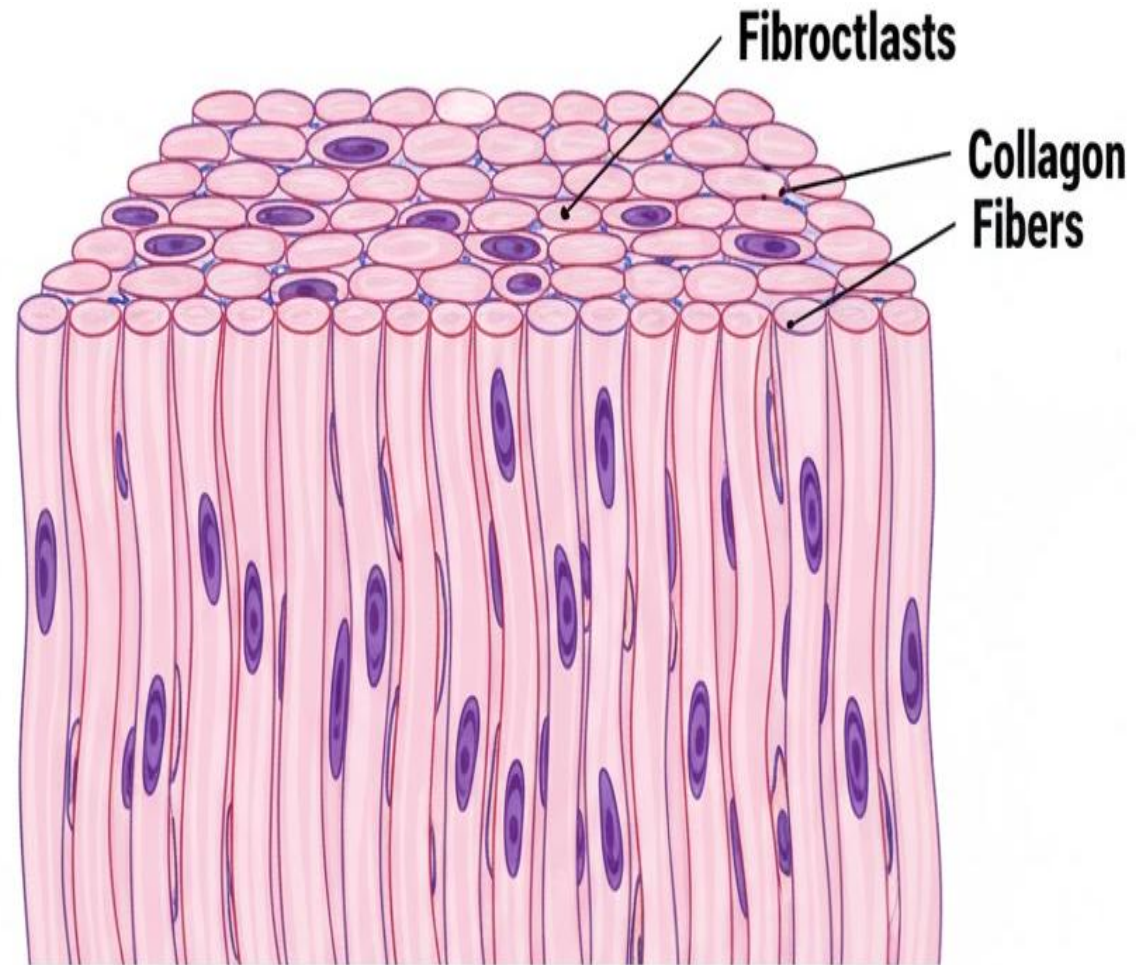
Main Functions

- Protect
- Insulate
- Transport

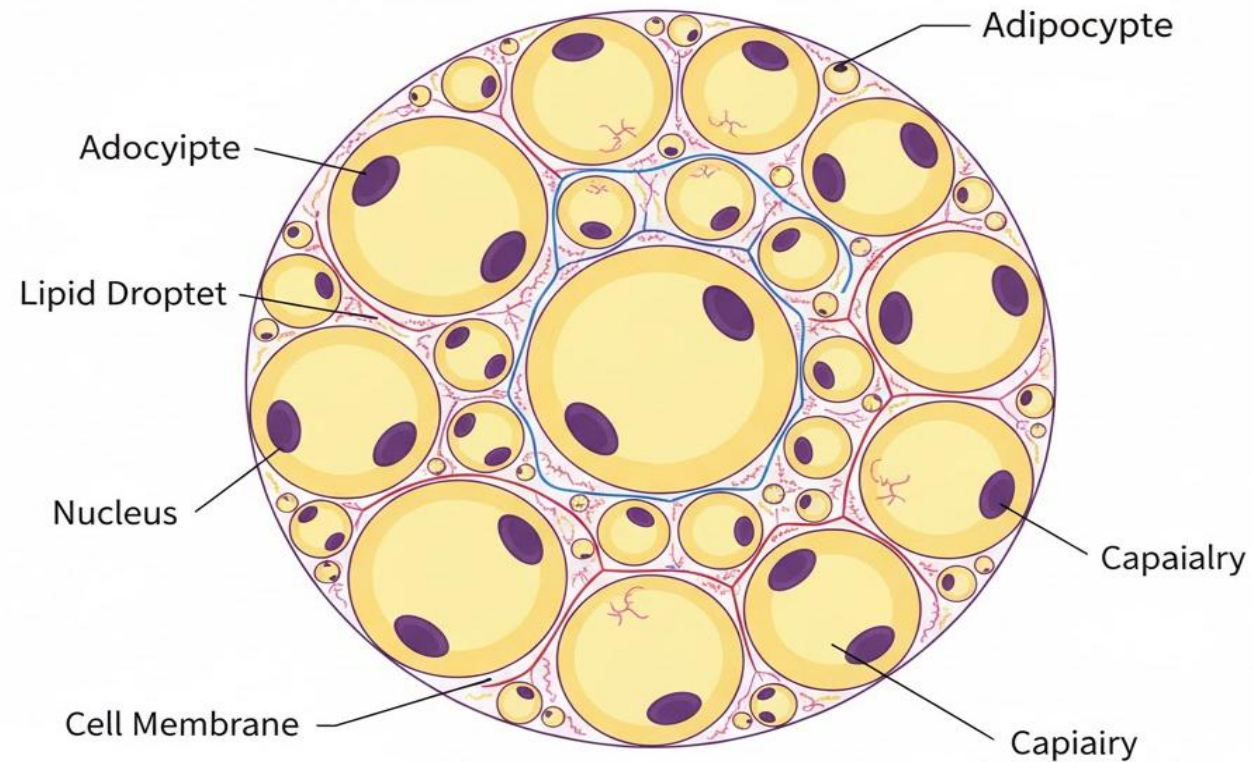
Loose Connective Tissue



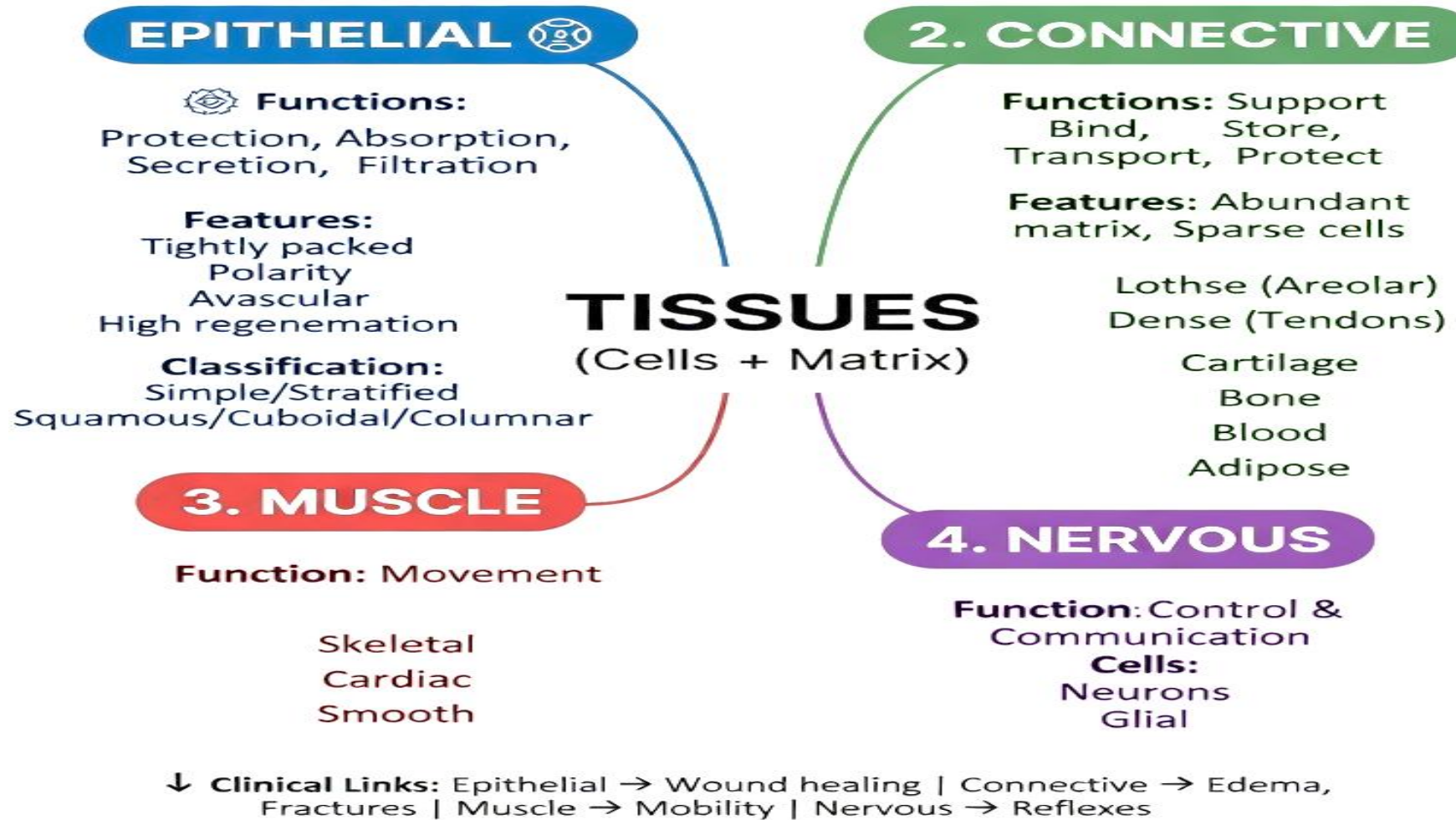
Dense Connective Tissues



Adipose Tissues



Mind Map



References

1. Waugh, A., & Grant, A. (2022). Ross & Wilson pocket reference guide to anatomy and physiology (3rd ed.). Elsevier.
2. Ashalata, P. R., & Vaz, N. A. (2024). Textbook of applied anatomy & physiology for nurses(3rd ed., Vols. 1–2). Elsevier

Thank
You