

Terms Concerning the Body as a Whole



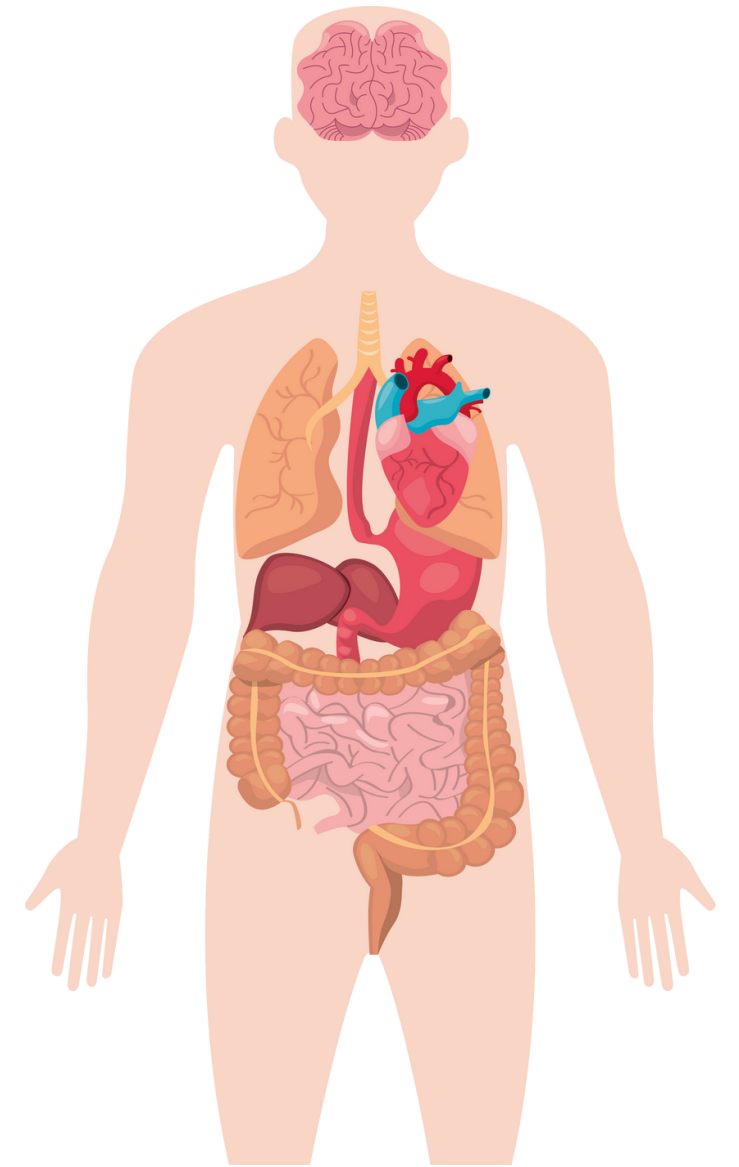
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Introduction

Medical terminology does not only describe diseases or organs – it also explains how the human body is organized as a whole.

In this lecture, we will learn the terms that describe:

1. The levels of body organization
2. The main body systems
3. Directional and positional terms
4. Body cavities and planes
5. Anatomical divisions



Levels of Organization in the Body

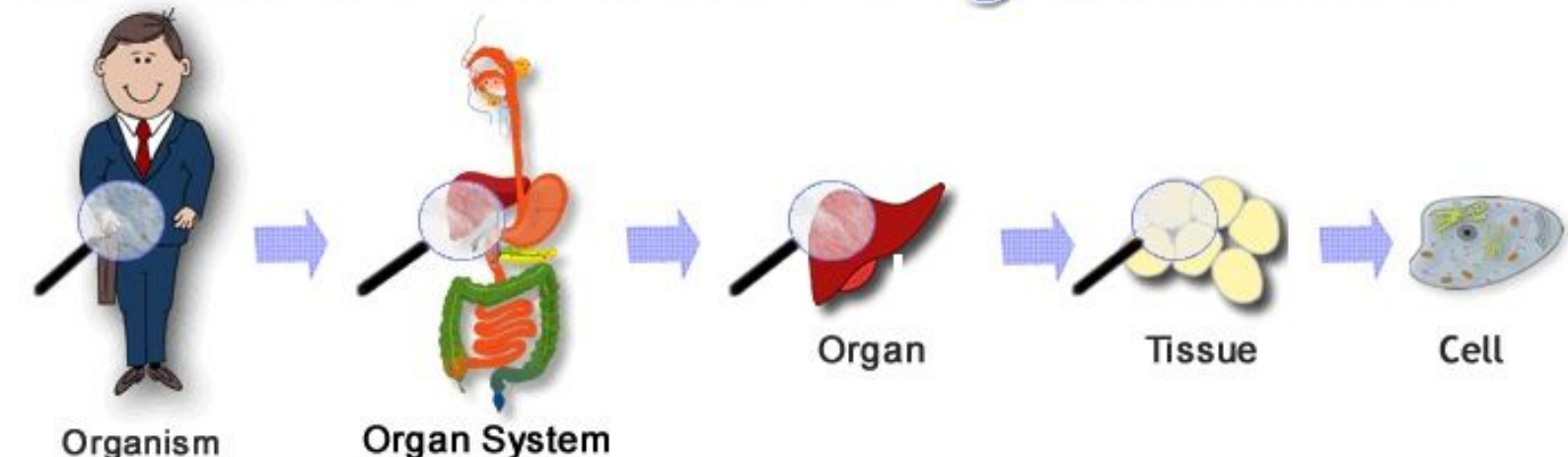
The body is organized into several structural levels:

1. **Cellular level** – The basic unit of life.
2. **Tissue level** – A group of similar cells performing one function.
3. **Organ level** – A structure made of different tissues working together.
4. **System level** – A group of organs that perform related functions.
5. **Organism level** – The entire living body.

Example:

Muscle cell → muscle tissue → heart (organ) → cardiovascular system → human body.

Levels of Cellular Organization



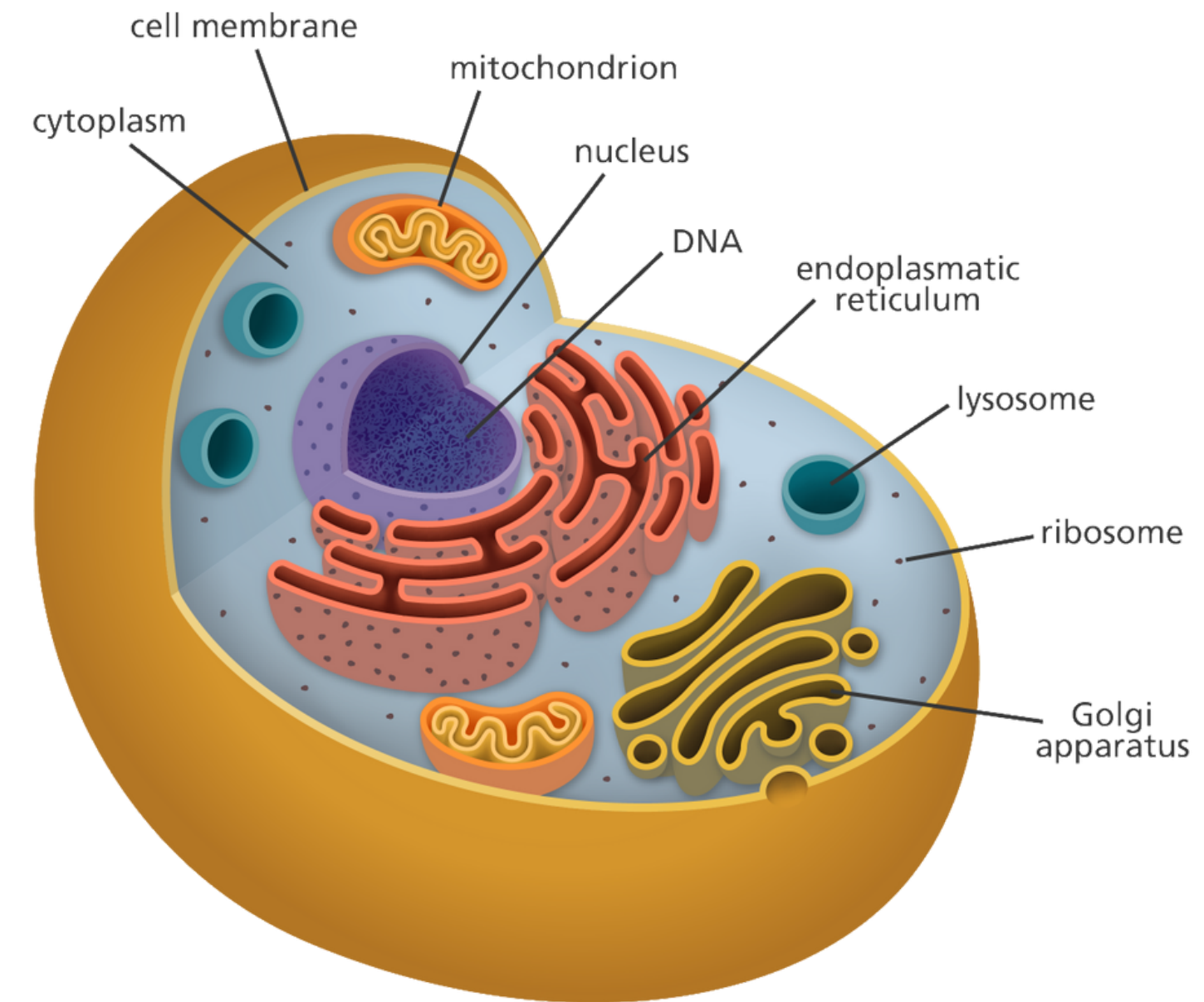
The Cell – The Basic Unit of Life

Cell

- The smallest living unit in the body.
- Each cell has specific functions depending on its type.

Main parts of a cell:

- Cell membrane: controls what enters and leaves the cell.
- Cytoplasm: jelly-like substance that contains organelles.
- Nucleus: controls cell activities and contains genetic material (DNA).



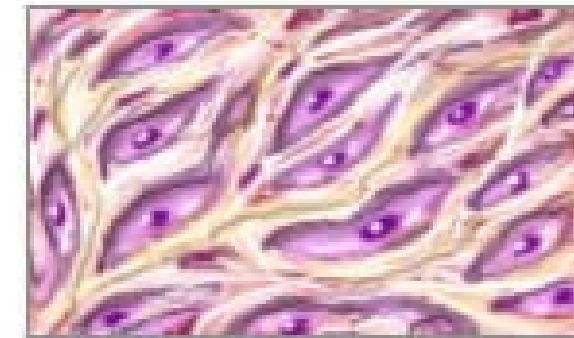
Tissues

Tissue: a group of similar cells performing a specific function.

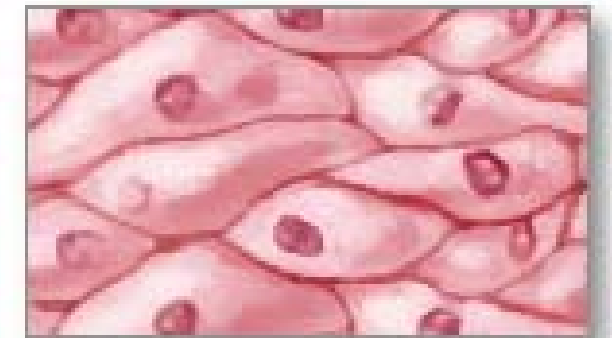
There are four main types of tissues:

1. **Epithelial tissue** – covers surfaces and lines organs.
2. **Connective tissue** – supports and connects body parts (bone, cartilage, fat, blood).
3. **Muscle tissue** – enables movement.
4. **Nervous tissue** – carries electrical messages between the brain and the body.

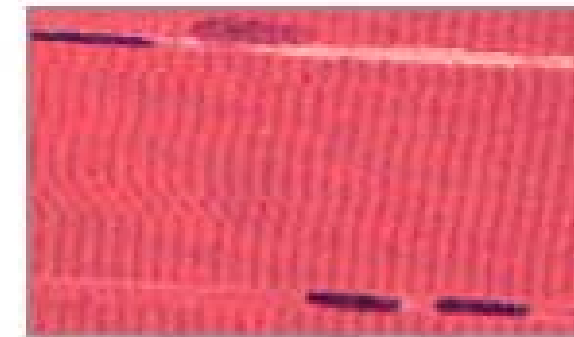
Four types of tissue



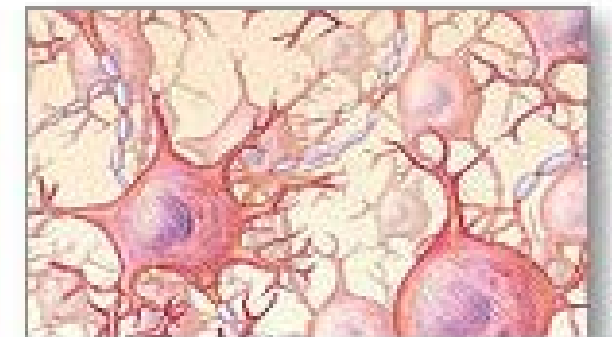
Connective tissue



Epithelial tissue



Muscle tissue



Nervous tissue

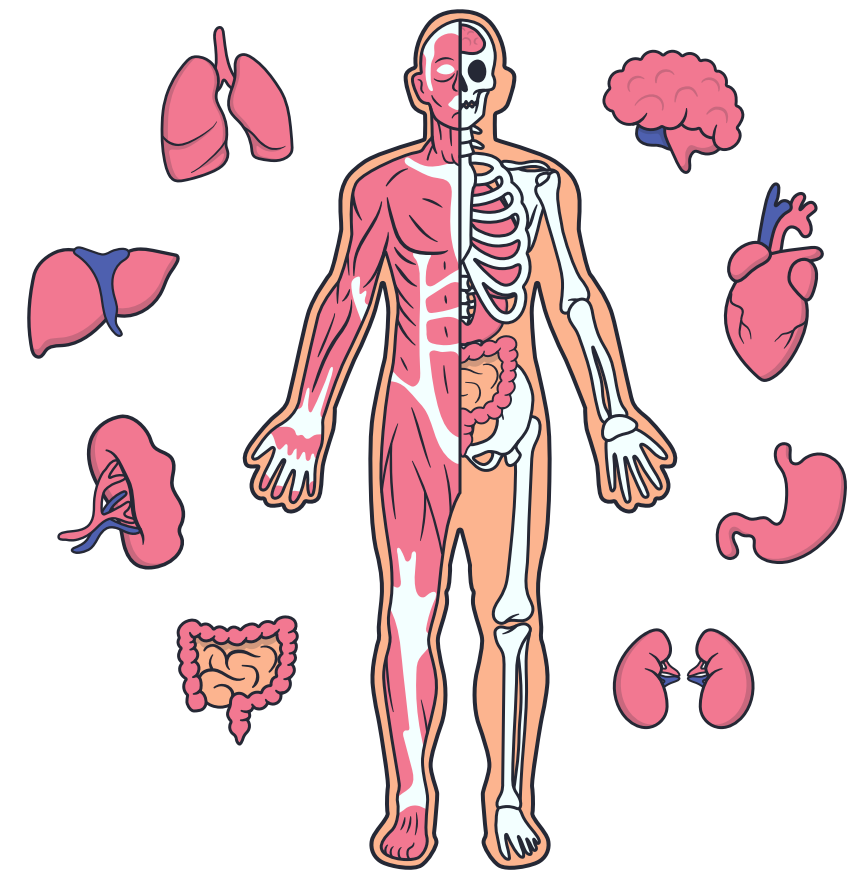
Organs and Systems

Organ: a structure made up of different tissues working together.

System: a group of organs that perform related functions.

Example:

- Stomach → organ
- Digestive system → includes stomach, liver, intestines, etc.



Major Body Systems

System	Function
Integumentary	Protects the body (skin, hair, nails)
Skeletal	Provides structure and support
Muscular	Movement of the body
Nervous	Controls body functions through signals
Endocrine	Produces hormones
Cardiovascular	Transports blood and nutrients
Lymphatic	Fights infection
Respiratory	Exchanges oxygen and carbon dioxide
Digestive	Breaks down food and absorbs nutrients
Urinary	Removes waste from the blood
Reproductive	Produces offspring

Introduction

Term	Meaning	Opposite
Superior	Above	Inferior
Inferior	Below	Superior
Anterior (Ventral)	Front	Posterior (Dorsal)
Medial	Toward the midline	Lateral
Proximal	Near the point of attachment	Distal
Superficial	Toward the surface	Deep