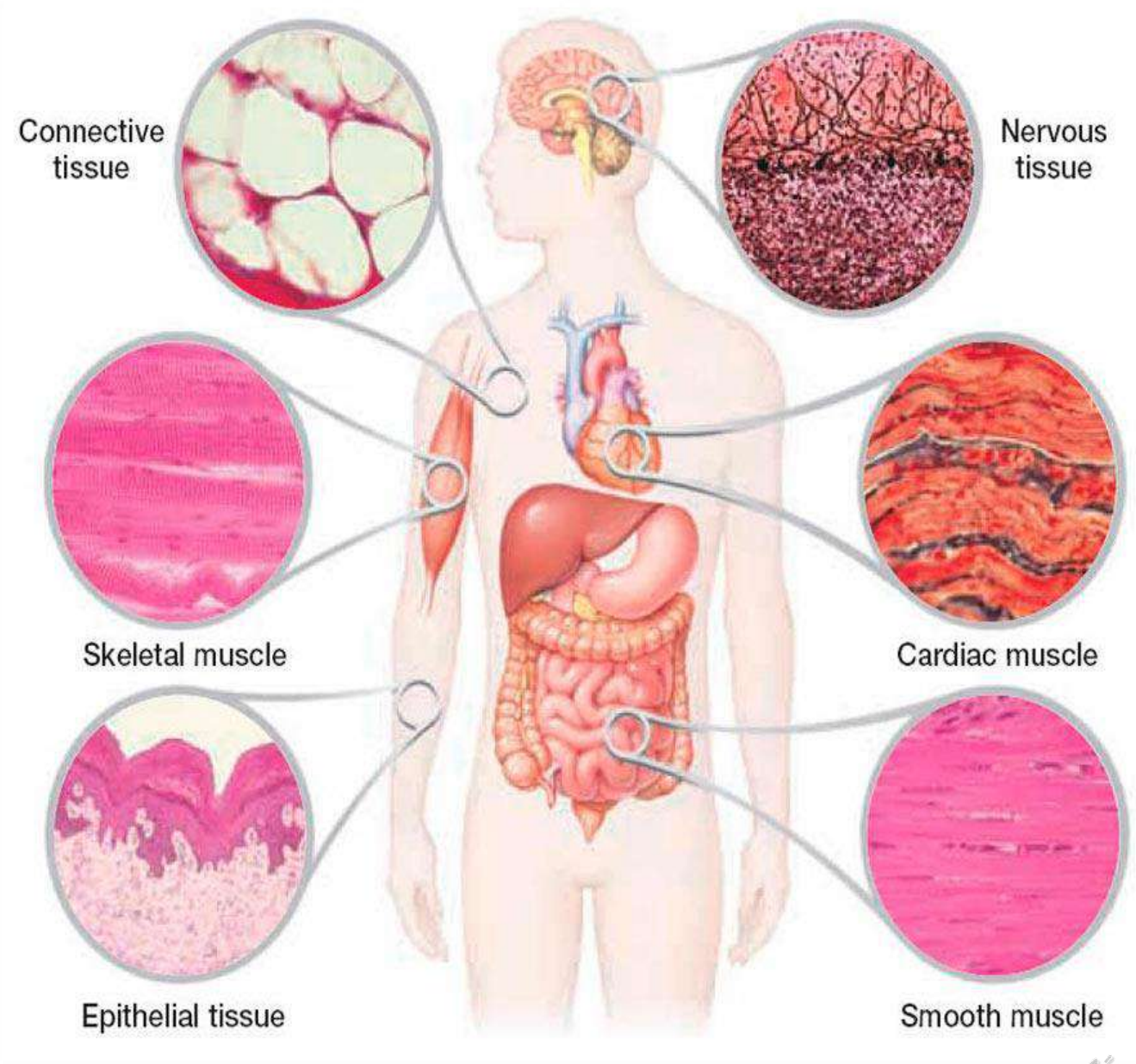
Cell Tissue

- A group of cells of similar type and function join to form tissue

- Four types:
  - Epithelial
  - Connective
  - Nervous
  - Muscular



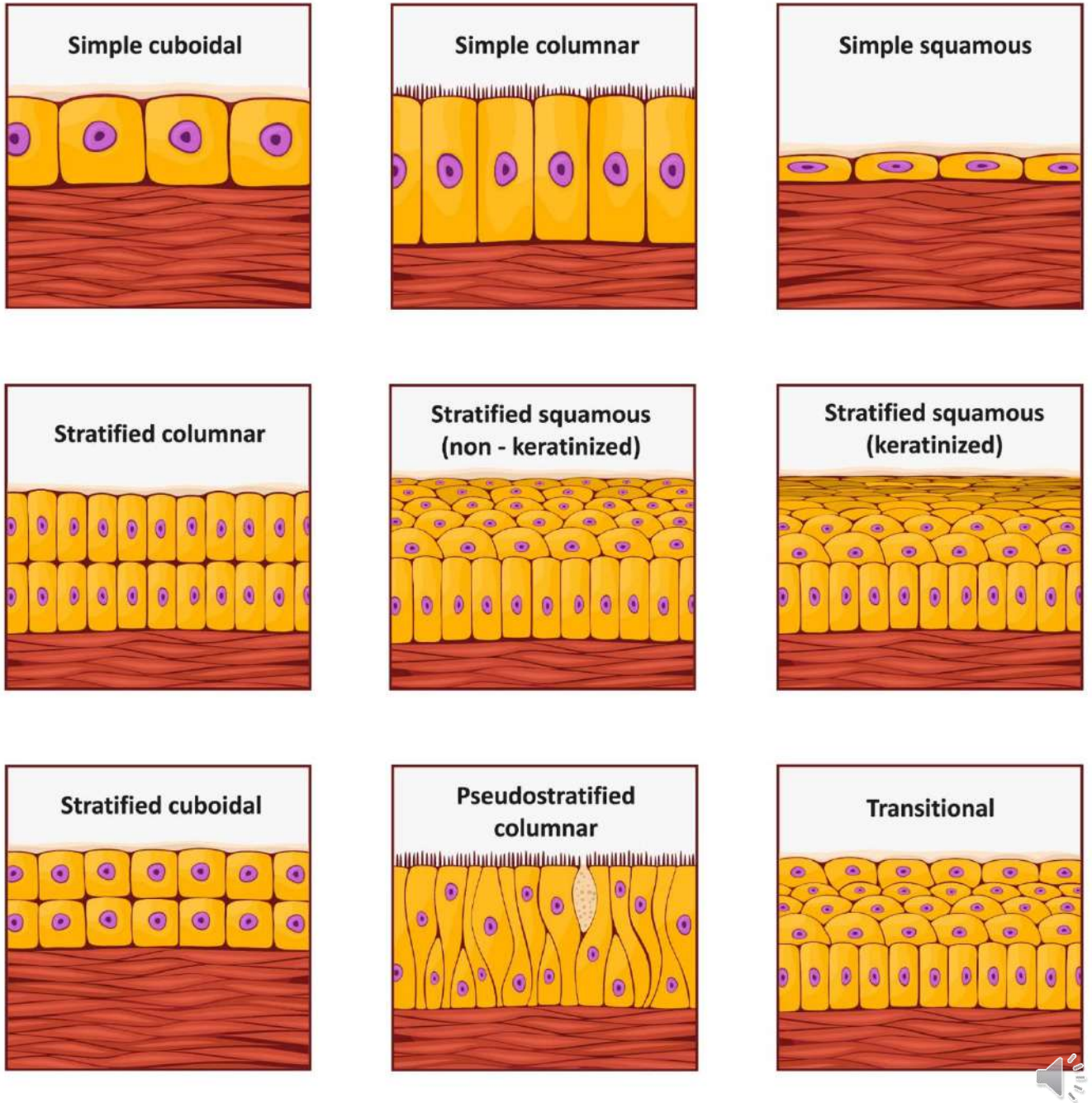
Epithelial tissue

Function:

- Covers the body and lines cavities and tubes. Also found in glands

Form:

- Simple – single layer
- Stratified – several layers (e.g. skin)



Epithelial tissue

Single layer epithelial tissue:

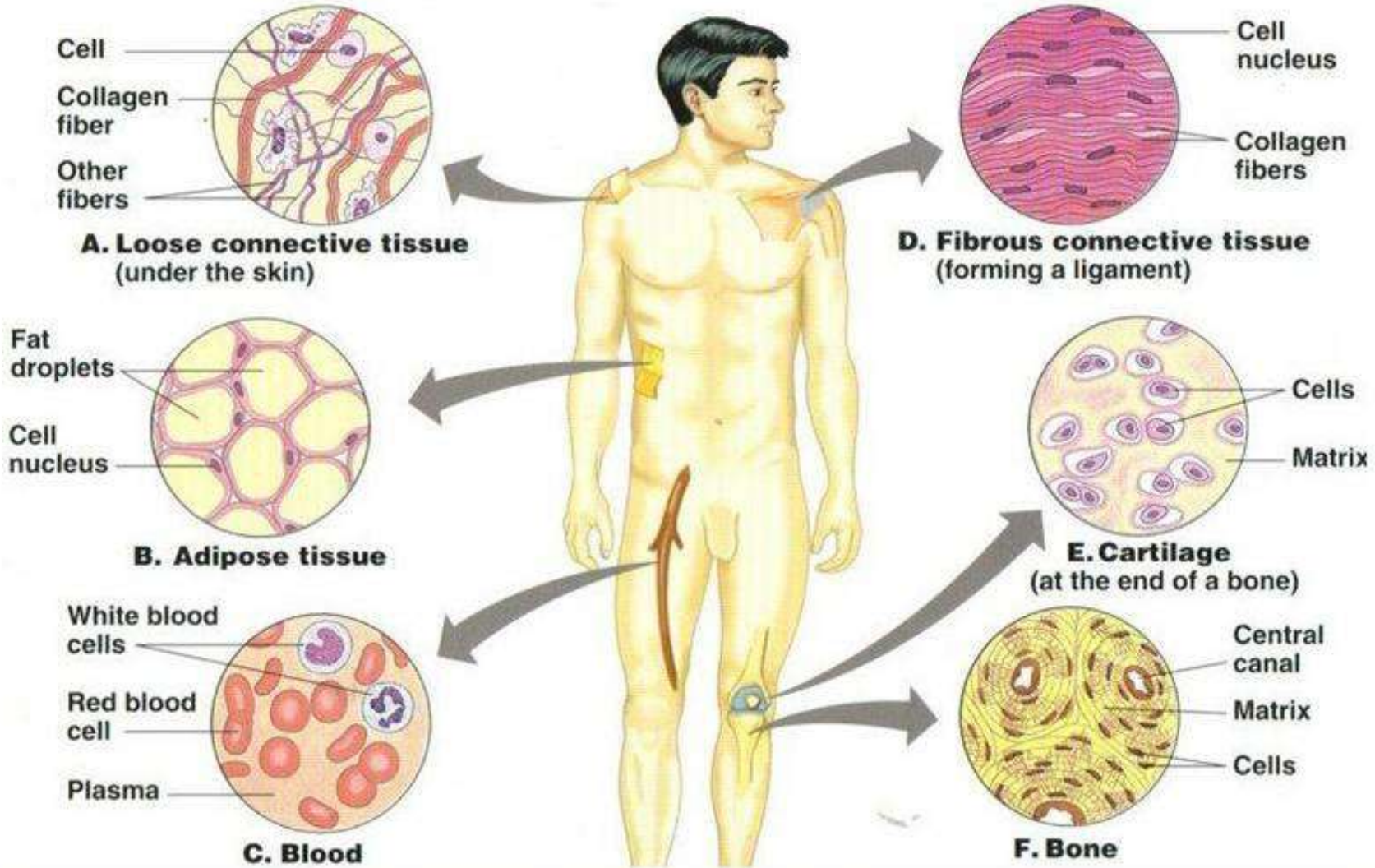
- **Squamous**: Lining: blood vessels, lymphatic vessels, air sacs of the lungs
- **Cubodial:** Secretion: ovaries, kidney tubules, glands
- **Columnar**: Secrete mucus: Gastrointestinal tract
- **Ciliated**: Propels: Fallopian tube, Respiratory tract

Stratified epithelial tissue:

(several layers)

- **Squamous:**
  - Keratinised (dry) – nails, hair
  - Non-keratinised (wet) – mouth, oesophagus
- **Transitional**: Stretches – e.g. urinary bladder

Connective tissue



Connective tissue

- **Loose connective tissue:** Under the skin, between muscles, supports blood vessels and nerves
- **Adipose tissue:** Fat cells, used for protection and insulation
- **Blood:** Found in the cardiovascular system
- **Fibrous tissue:** Thick tissue made up mostly of collagen fibres. Forms tendons and ligaments
- **Cartilage:** Strong and flexible, made of collagen and elastic. Found in nose, ear and end of bones
- **Bone:** Spongy or compact

Dense
Connective Tissue



Adipose Tissue
(Connective Tissue)



Areolar Tissue
(Connective Tissue)



Compact Bone
(Connective Tissue)

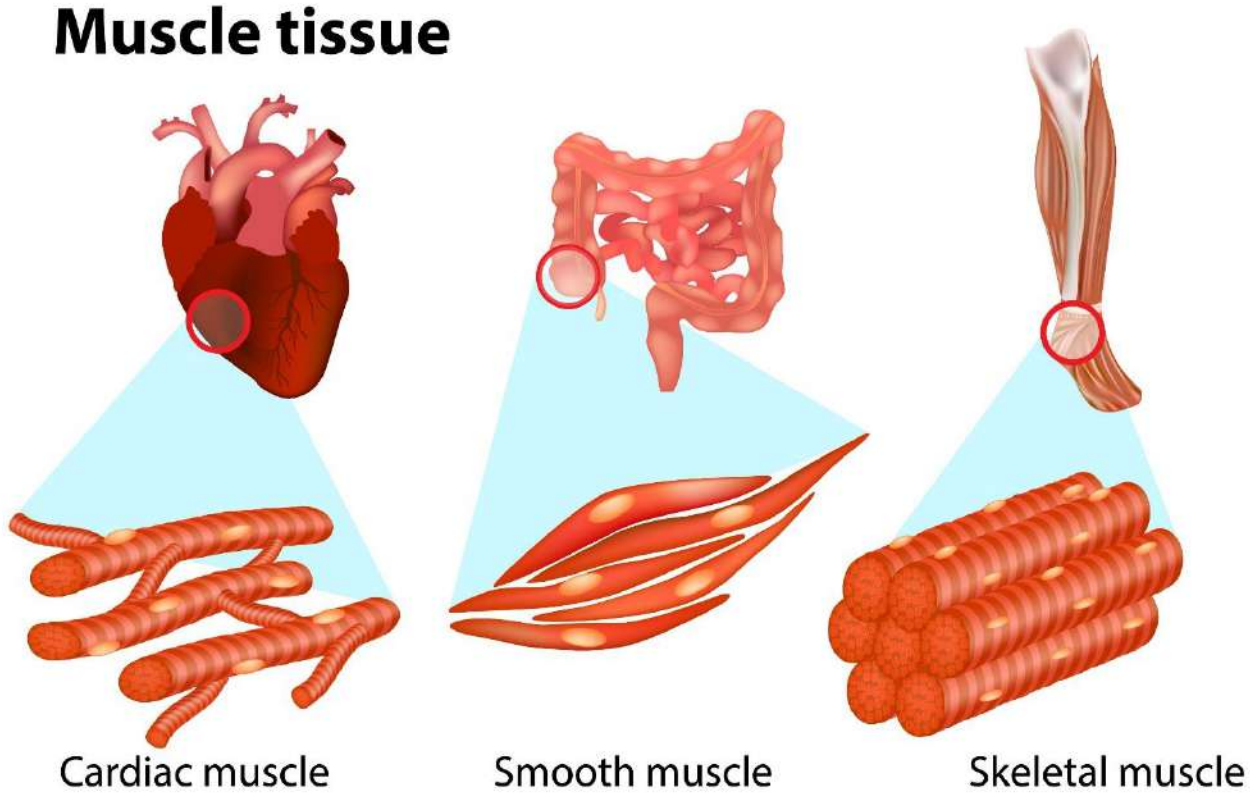


Blood
(Connective Tissue)



Muscle tissue

- Skeletal tissue (voluntary): motion, posture, heat production
- Cardiac muscle tissue: (involuntary): heart wall
- Smooth muscle tissue (involuntary): blood vessels, intestines



Muscle	Location	Striated / non-striated	Nucleus	Voluntary / involuntary	Function
Skeletal	Between bones	Striated	Multinucleated	Voluntary	Movement
Smooth	Inner walls of organs	Non-striated	Single nucleus	Involuntary	Lines cavities to push food and fluids through the organs
Cardiac	Heart	Striated	Single nucleus	Involuntary	Pumps heart

Nerve tissue

- Known as a **neuron**
  - Sensory
  - Motor
- Function is to communicate from brain and spinal cord to rest of the body



Summary of the cell

- Structure
  - Diffusion (gas)
  - Osmosis (fluids)
  - Dissolution (fats)
  - Active transport (chemical reaction – sugars)
  - Filtration (kidneys)
- Cell components – organelles / factory
- Cell functions – MRSGREMS
- Cell reproduction
  - Mitosis (Prophase / Metaphase / Anaphase / Telophase / Interphase)
  - Meiosis (sexual reproduction)
- Types of cells – epithelial, connective, muscle, nerve