Chapter 3: Muscle and Nervous Tissues

Objectives
1. Name the four major tissue types and their subcategories. (c. muscle; d. nervous)
2. Explain the structure and function of the muscle and nervous tissues.
3. Give the chief locations of the muscle and nervous tissue in the body
4. Be able to identify muscle and nervous tissue.

3 Types of Muscle Tissue

- Skeletal muscle
- Cardiac muscle
  - Both striated
- Smooth muscle
  - Not striated

SKELETAL MUSCLE

- Attached to bones
- Controls gross body movements
- Striations
- Multinucleated due to being very active
- Cylindrical shape
- Voluntary control

CARDIAC MUSCLE

- Found only in the heart
- Involuntary control
- Faint striations
- Uninucleated
- Branched cells
- Intercalated disks – junctions between cells
Cardiac muscle:

- Walls of hollow organs & blood vessels
- Lacks striations
- Uninucleated
- Spindle shaped cells
- Involuntary control

Smooth muscle:

- Neuron – nerve cell; vary in form & size based on location & function
- Do not reproduce
- Can extend more than 3 feet
- Neurons and supporting cells make up the brain, spinal cord and nerves (location)

Types of Neurons and Functions

- Conduct impulses from body to central nervous system – sensory neuron
- Conduct impulses from CNS to body – motor neuron
- Form connecting network between different types of neurons – associative neurons

Structure of a Typical Neuron

- Dendrite
- Cell body
- Axon
- Myelin sheath
- Axon terminal
- Schwann’s cell
- Node of Ranvier
NERVE TISSUE: