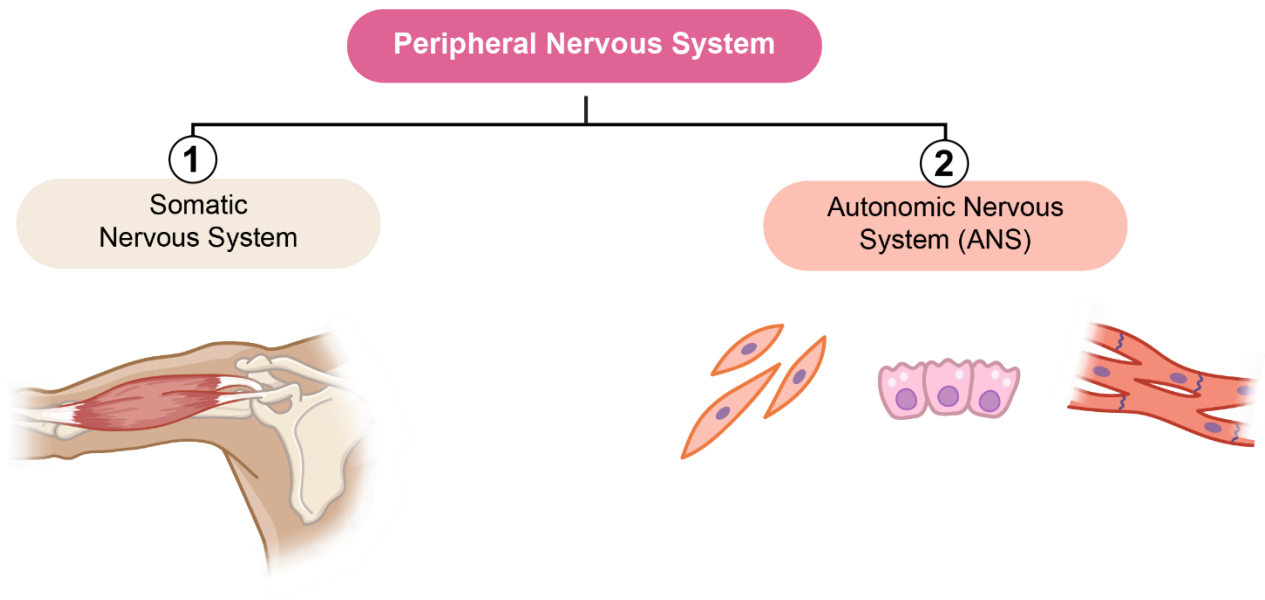


TOPIC: INTRODUCTION TO THE AUTONOMIC NERVOUS SYSTEM (ANS)

Somatic vs. Autonomic Nervous System

• The peripheral nervous system can be divided into _____ major subsystems:

1. **Somatic nervous system:** Innervates _____ muscle.
 - Controls _____ movement.
 - Efferent pathway consists of _____ neuron.
2. **Autonomic nervous system:** Innervates _____ muscle, cardiac muscle, and glands.
 - All autonomic pathways are _____.
 - Efferent pathway consists of _____ neurons.



EXAMPLE: Determine whether the following actions are coordinated by the somatic or autonomic nervous system.

- | | |
|---------------------------------|---|
| a) Heart rate increasing. _____ | d) Secreting insulin. _____ |
| b) Pupils dilating. _____ | e) Sudden jump in response to a loud noise. _____ |
| c) Knee jerk reflex. _____ | f) Throwing a ball. _____ |

PRACTICE: Which of the following is the primary functional difference between the somatic nervous system (SNS) and autonomic nervous system (ANS)?

- a) The SNS controls glands, the ANS controls muscles.
- b) The SNS controls involuntary muscle, the ANS controls voluntary muscle.
- c) The SNS controls voluntary muscle, the ANS controls involuntary muscle.
- d) The SNS sends signals from the CNS, the ANS sends signals from the PNS.

TOPIC: INTRODUCTION TO THE AUTONOMIC NERVOUS SYSTEM (ANS)

Divisions of the ANS

- The ANS can be organized into ____ divisions:

① Sympathetic Division	② Parasympathetic Division
Activated when we are _____, threatened, or stressed.	Activated when we are relaxed and at _____.
“Fight or Flight”	“Rest and _____”
Helps maintain homeostasis when we are engaged in _____ activity.	Maintains homeostasis when we are at rest.
	

- The sympathetic and parasympathetic divisions usually have _____ effects.
 - If one division stimulates an effector, the other division will usually _____ it.

EXAMPLE: Which of the following is true of the sympathetic and parasympathetic divisions of the ANS?

- a) The sympathetic division is responsible for an increase in heart rate.
- b) The parasympathetic division is responsible for an increase in heart rate.
- c) Both divisions work together to increase heart rate.
- d) Neither division is responsible for an increase in heart rate.

PRACTICE: Ruby has just eaten a large meal and is now laying down on the couch to relax. Her _____ nervous system becomes active, allowing her to digest her meal. She decides to watch a horror movie, which causes her _____ nervous system to take over as her heartbeat _____ and sweat glands become active.

- a) Parasympathetic, sympathetic, decreases.
- b) Parasympathetic, sympathetic, increases.
- c) Sympathetic, parasympathetic, decreases.
- d) Sympathetic, parasympathetic, increases.