ATI TEAS Science Review

Neuromuscular System

Ivy Robelo

@PetiteAndSoignee
www.PetiteAndSoignee.com

Function: Controls voluntary and involuntary movement as well as senses and responds to environmental changes (i.e. temperature, pressure, etc).
Consists of: Brain, Spinal Cord, Nerves

Central Nervous System vs Peripheral Nervous System

Nervous System

Central Nervous System (CNS): Consists of the brain and spinal cord. Receives and processes information. Receives and sends impulses to the peripheral nervous system via afferent and efferent neurons.

Peripheral Nervous System (PNS): Consists of the nerves outside of the spinal cord.

Sensory nervous system: (afferent) sends messages to the CNS

Motor nervous system: (efferent) sends messages to the muscles

Somatic nervous system: Carries information to CNS from senses, and from CNS to skeletal muscles

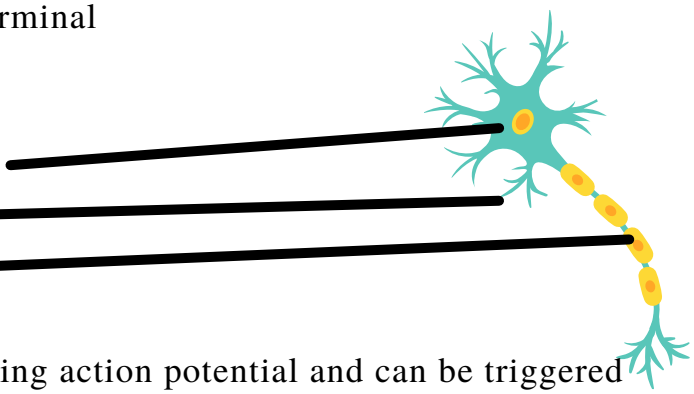
Autonomic nervous system: Involuntary; controls actions involving cardiac and smooth muscle

Sympathetic nervous system: Arouses body; FIGHT or FLIGHT

Parasympathetic nervous system: Calms body; Rest and Digest. PARA means STOP in Spanish (how I remembered it).

Nerve: Long bundles of axons that transmit electrical impulses from the CNS to PNS.

- Electrical impulse from dendrite to axon terminal
- Transmitted from cell to cell via neurotransmitters secreted into the synapse from the axon terminal
- 12 sets of cranial nerves



Soma: The neuron cell body
Dendrites: branches
Axon: Long single branch

Polarization: process of generating action potential and can be triggered when dendrite receives impulse from sensory receptor.
Synapse: the structure that allows neurons to pass signals to other neurons, muscles or glands.
Neurotransmitter: A chemical substance that is released from the axon terminal by the arrival of a nerve impulse.

- Acetylcholine: a neurotransmitter that causes muscles to contract
- Dopamine: a neurotransmitter that is a precursor to epinephrine

Brain: Control center

4 Lobes:

- Frontal Lobe: thinking, organizing, emotions, behavior, personality
- Parietal Lobe: perception, making sense, arithmetic, spelling
- Temporal: memory, understanding, language
- Occipital: vision

Cranial Nerves:

I Olfactory Nerve - Smell

II Optic Nerve - Vision

III Oculomotor Nerve - Eye movement; pupil constriction

IV Trochlear Nerve - Eye movement

V Trigeminal Nerve - Somatosensory information (touch, pain) from the face and head; muscles for chewing.

VI Abducens Nerve - Eye movement

VII Facial Nerve - Taste (anterior 2/3 of the tongue); somatosensory information from the ear; controls muscles used in facial expression.

VIII Vestibulocochlear Nerve - Hearing; balance

IX Glossopharyngeal Nerve - Taste (posterior 1/3 of the tongue); Somatosensory information from tongue, tonsil, pharynx; controls some muscles used in swallowing.

X Vagus Nerve - Sensory, motor, and autonomic functions of viscera (glands, digestion, heart rate)

XI Spinal Accessory Nerve - Controls muscles used in head movement.

XII Hypoglossal Nerve - Controls muscles of the tongue

Cerebellum: Balance and coordination
Cerebrum: Anterior brain
Pons: Brainstem that links medulla and thalamus
Medulla Oblongata: Control center for heart and lungs
Brainstem: Contains the Pons, Medulla Oblongata, Midbrain
Midbrain: Develops from the middle of the embryonic brain
Thalamus: Relays sensory information; pain perception
Hippocampus: Emotion, memory, ANS
Amygdala: Emotions

Conditions/Diseases

Alzheimer's Disease: A progressive disease that destroys memory and eventually causes dementia.

Bell's Palsy: a type of facial paralysis that causes sudden weakness in the muscles on one half of the face.

Brain Aneurysm: a bulge or ballooning in a blood vessel in the brain

About Me

Hi there! My name is Ivy and I am the founder of Petite and Soignée. I am currently a licensed physical therapist assistant, dermatology and cosmetic medical assistant, and a nursing student in an accelerated BSN program. Over the years, I have researched and learned about different skincare products, ingredients, skin conditions, diseases, and new technologies and procedures within the field. I decided to join a dermatology practice so that I could learn more about skincare within a clinical setting. This position taught me so much about the science of skin that it led me to pursue nursing. My goal is to specialize in dermatology in the future.

You may be wondering what does *soignée* even mean? ***Soignée*** (pronounced "swan-yay") is a feminine French word meaning *"to dress elegantly", "well-groomed", "sleek" "well maintained" or "elegantly designed"*. The word perfectly describes the way that I like to present myself on a daily basis. On my website, I share all of my skincare and beauty tips for everyone to feel soignée.

Don't forget to follow my other social media accounts!

@PetiteAndSoignee
www.PetiteAndSoignee.com