

Chapter Three: Neurophysiology

- Explain entire Action Potential process with the Sodium Potassium pumps.
 - Is at resting membrane potential, with a charge of -70mv
 - Will reach a threshold, stimulus occurs, also known as graded potential, Channels open up, -65mv
 - Depolarization occurs, Sodium rushes in $+30\text{mv}$
 - Repolarization, closure of Na^+ channel, and opening of K^+ channel, Returning to resting membrane potential
 - Hyperpolarization, This is when K^+ channel remains open after resting membrane potential, below -70mv
- Explain Threshold.
 - Is the level of stimulus needed to create an action potential, follows all or nothing period, either you have a stimulus or you don't.
- What is the Refractory Period?
 - It's how long it takes for a neuron to send another signal, some neurons will need longer periods
- What are some factors that impact action potential?
 - Axon diameter, bigger = more faster
 - Degree of myelination
- What is a Synapse? What are the different ones?
 - Chemical Synapse
 - Electrical Synapse

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- What type of communication do the 2 synapses utilize, which one is faster and where are they utilized ?
 - **Electrical: Gap Junctions, are faster, smooth, and cardiac muscle**
 - **Chemical: Neurotransmitters, are slower, skeletal muscle.**
- What neurotransmitters are utilized for excitatory of skeletal muscle and excitatory or inhibitory of emotions.
 - **skeletal muscle: Acetylcholine**
 - **emotions: Norepinephrine**
- What were the key physiological differences between Parasympathetic and Sympathetic?

Parasympathetic	Sympathetic
Constricts Pupils	Dilated Pupils
Stimulates Stomach Activity	Inhibits Stomach Activity
Constricts Airway	Relaxes/Opens Airways
Slows Heart Rate	Increases Heart Rate
Contracts Bladder	Relaxes Bladder
Stimulates Intestinal Activity	Inhibits Intestinal Activity