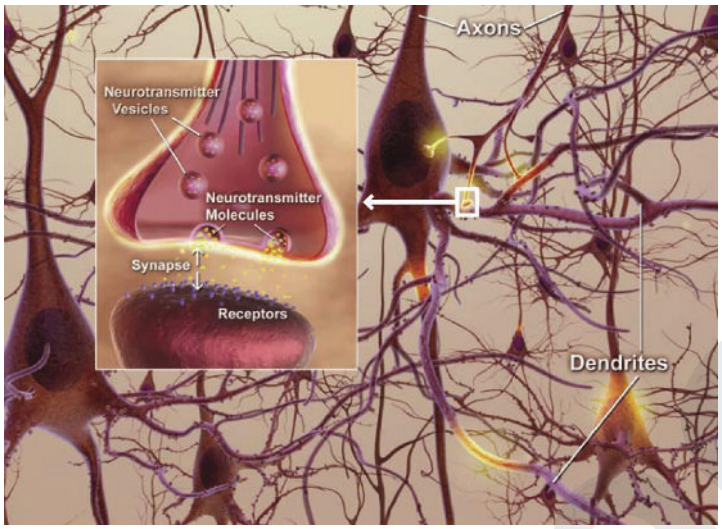
NERVE IMPULSE TRANSMISSION



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Excitatory Synapse

1. Action potential reaches the synaptic knob, allowing for an influx of calcium
2. Calcium promotes exocytosis by moving vesicles to synaptic cleft
3. Vesicles release neurotransmitters into synaptic cleft
4. Neurotransmitters cross the synaptic cleft onto the receiving cell's receptors, causing local *depolarization*
5. Once depolarization threshold is reached, action potential continues down receiving cell

Excitatory Neurotransmitters

Acetylcholine

Norepinephrine

Dopamine

Inhibitory Synapse

1. Action potential reaches the synaptic knob, allowing for an influx of calcium
2. Calcium promotes exocytosis by moving vesicles to synaptic cleft
3. Vesicles release neurotransmitters into synaptic cleft
4. Neurotransmitters cross the synaptic cleft onto the receiving cell's receptors, causing local *hyperpolarization*
5. Because of hyperpolarization, action potential can't be initiated

Inhibitory Neurotransmitters

Serotonin

GABA (gamma aminobutyric acid)