

NEUROTRANSMITTERS

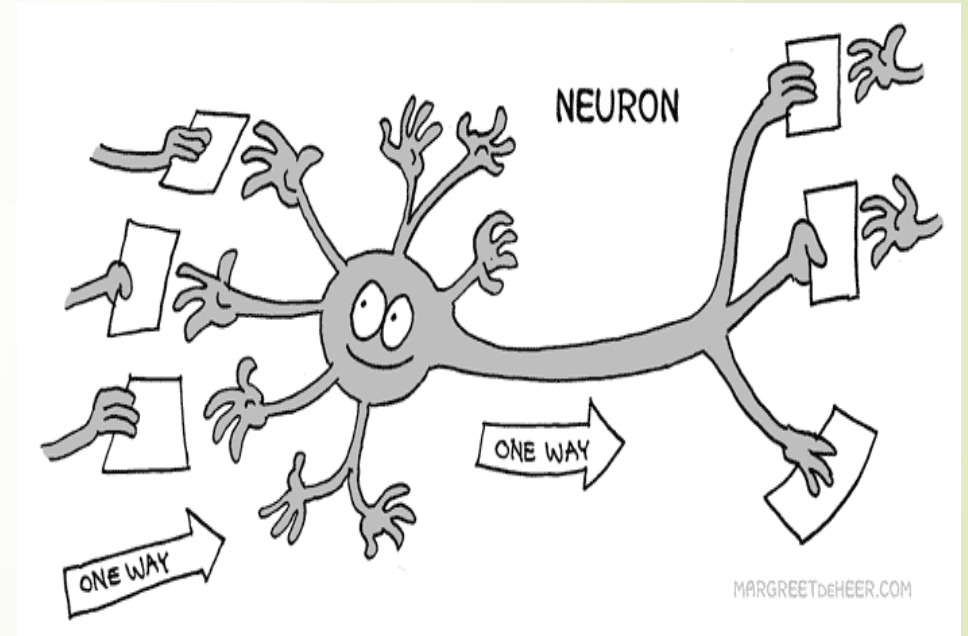
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WHAT ARE NEUROTRANSMITTERS?

- Endogenous chemicals that enable neurotransmission.
- Neurotransmitters are released from synaptic vesicles in synapses into synaptic cleft.
- Synthesis from and plentiful precursors such as amino acids.



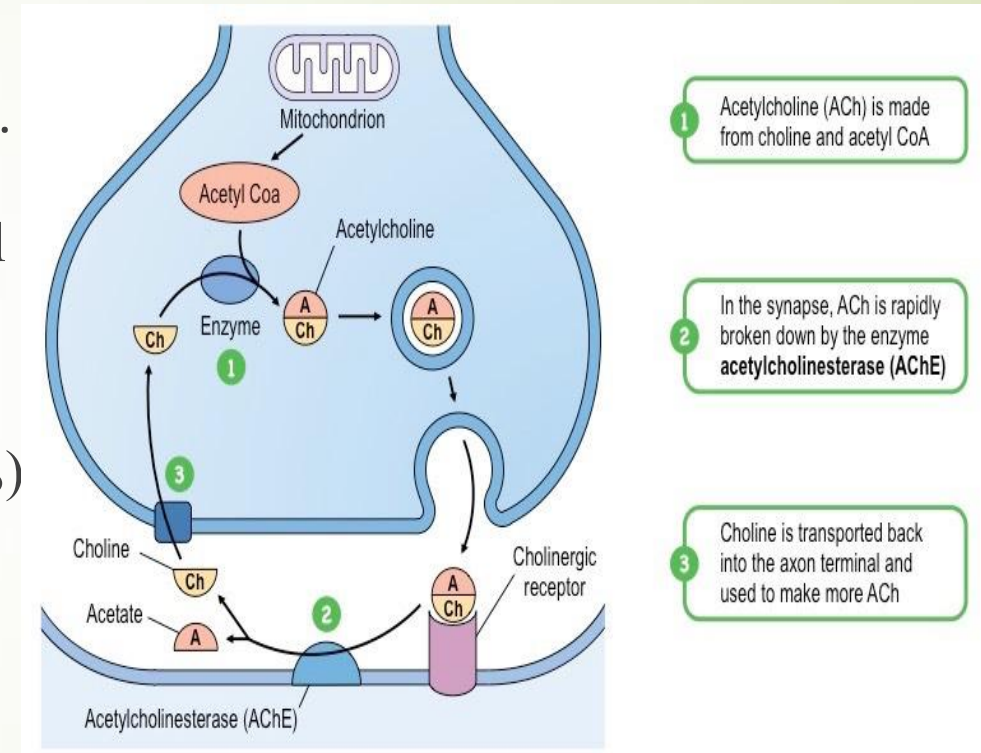


TYPES OF NEUROTRANSMITTERS

- Acetylcholine
 - GABA
 - Dopamine
 - Norepinephrine
 - Serotonin
- 

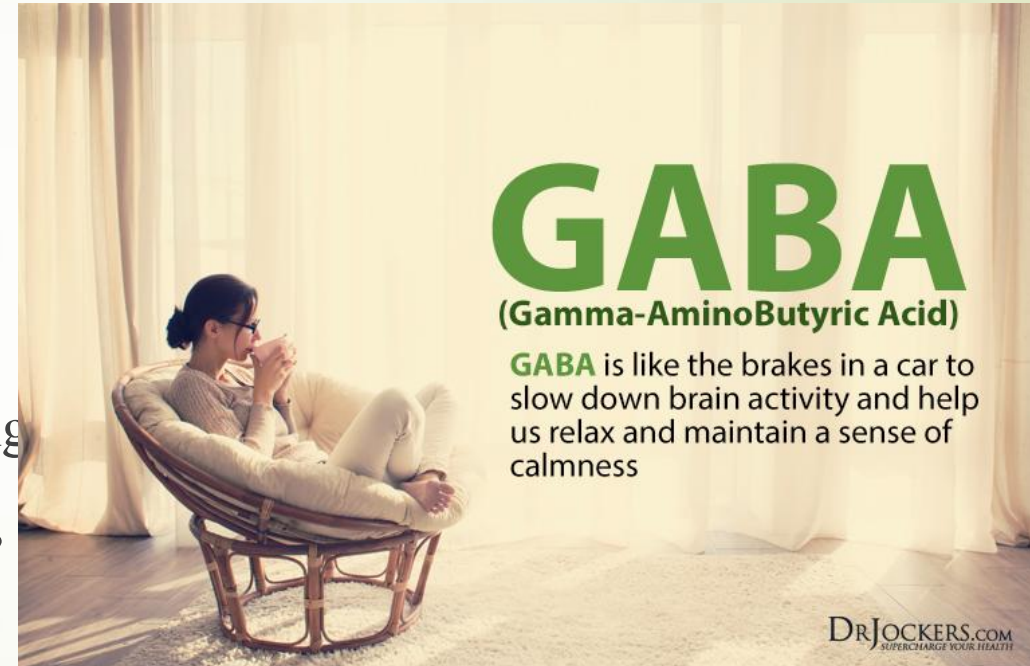
ACETYLCHOLINE

- Acetylcholine is an ester of acetic acid and choline.
- It is used by the nervous system to activate skeletal muscles.
- It functions in both the Central Nervous System (CNS) and the Peripheral Nervous System (PNS).
- In the CNS, ACh has effects on plasticity, arousal, and reward.



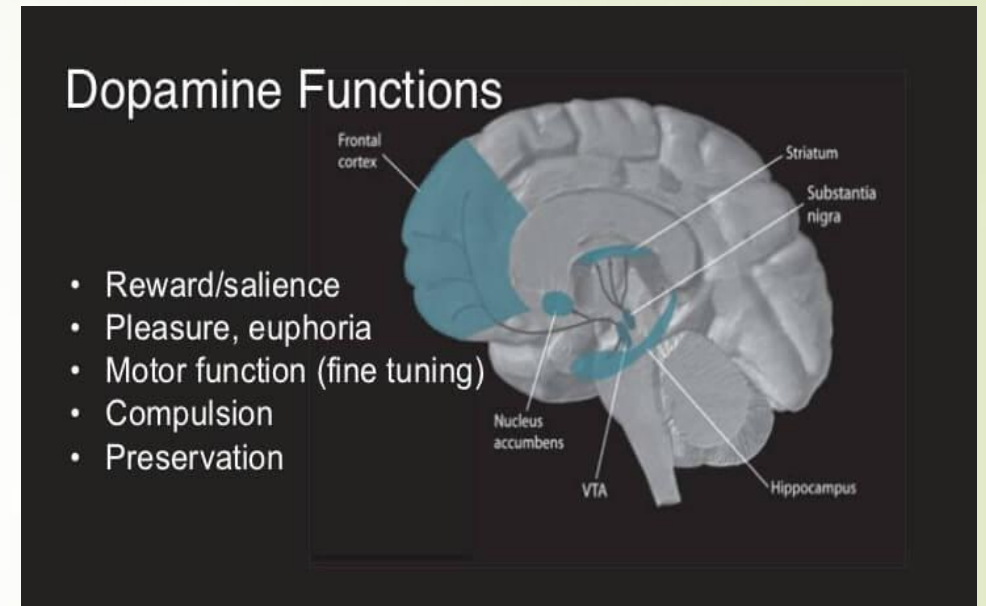
GABA

- ▶ GABA inhibits the firing of neurons.
- ▶ Neurons that produce GABA are called as GABAergic neurons.
- ▶ In Huntington's disease the GABA producing neurons in brain that coordinates movements degenerate.



DOPAMINE

- An amine synthesized from the precursor chemical L-DOPA, which is synthesized in the brain and kidneys.
- It is often seen as the chemical of pleasure.
- It inhibits norepinephrine and act as a vasodilator.
- Levodopa is the most widely used treatment for Parkinson's.



NOREPINEPHRINE

- Norepinephrine mobilize the brain and body for action.
- In the brain norepinephrine is produced in nuclei.
- Variety of medical drugs work by altering actions of norepinephrine.



SEROTONIN

- Serotonin is an monoamine neurotransmitter
- It is primarily found in the enteric nervous system located in GI tract.
- Serotonin secreted by enterochromaffin cells find it's way in blood.



MECHANISM

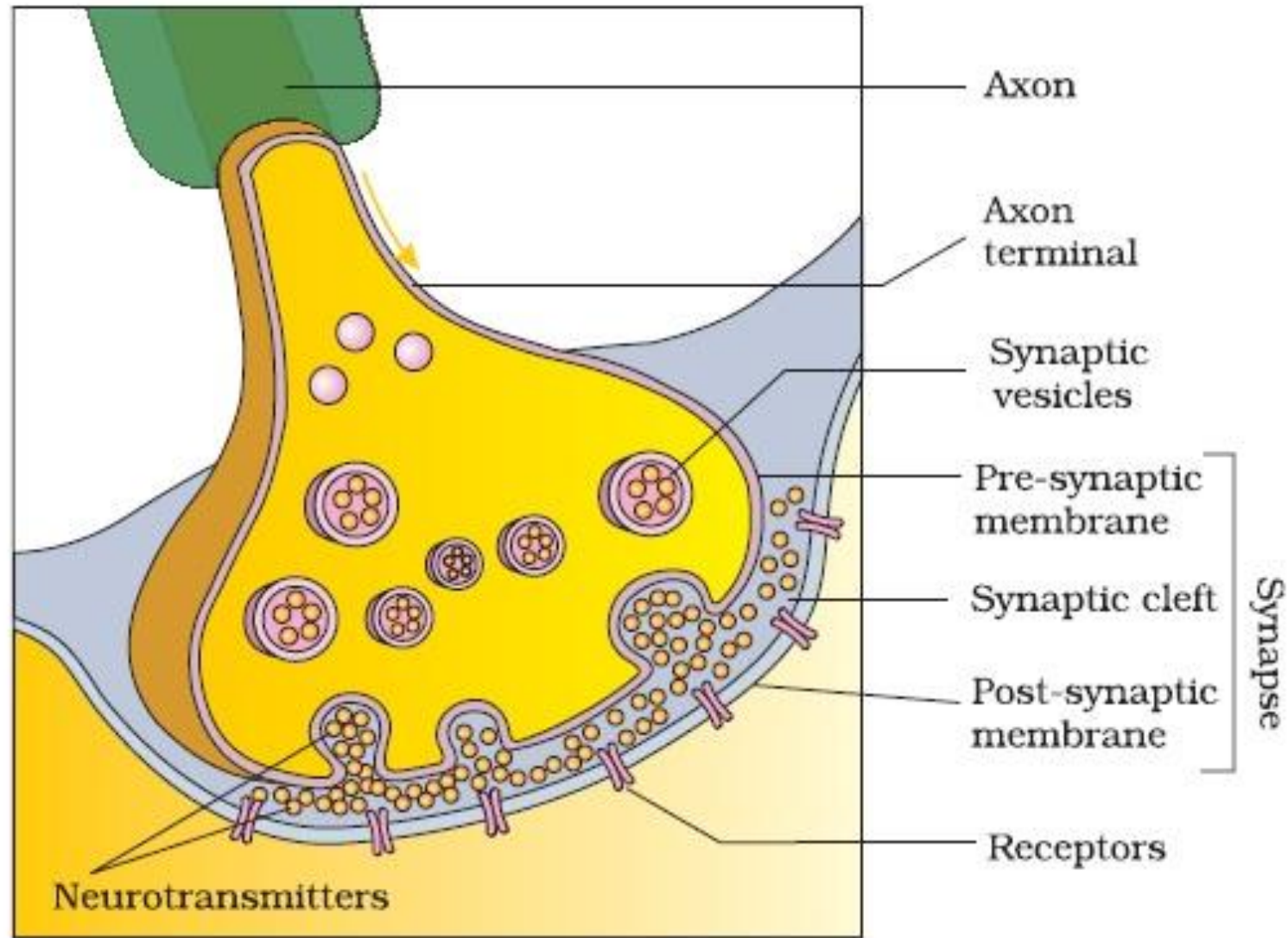


Figure 21.3 Diagram showing axon terminal and synapse

REFERENCES

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Thank you for listening..

Any questions?

