

The Nervous System II: Anatomy Review

- The somatic nervous system stimulates _____ muscle.

The autonomic nervous system stimulates _____ muscle, _____ muscle, and _____.
- The autonomic nervous system (ANS) consists two divisions, each innervating the effector organs. The sympathetic nervous system (SNS) generally speeds up everything except digestion. The parasympathetic nervous system (PNS) generally slows down everything but digestion.

Signals from the SNS cause the heart rate to _____, while signals from the PNS cause the heart rate to _____.

Signals from the SNS cause smooth muscles of the intestine to _____ contractions, while signals from the PNS cause these muscles to _____ contractions.

Signals from the SNS also cause the adrenal gland to _____ epinephrine and norepinephrine.
- Neurons can excite or inhibit another neuron.

Exciting another neuron will increase the chances of a/an _____ in the second neuron.

Inhibiting another neuron will make the chances of a/an _____ less likely.
- Axons from one neuron can synapse with the dendrites or soma of another neuron.

These synapses are called _____ (on dendrites) and _____ (on soma). They carry input signals to the other neuron.

Axons from one neuron can synapse with the axon terminal of another neuron. These synapses are called _____, and they regulate the amount of _____ released by the other neuron.
- The electrical synapse:

Electrical current flows from one neuron to another through _____.

These synapses are always (excitatory or inhibitory).

Advantages of the electrical synapses:

 1. _____ signal conduction

2. _____ activity for a group of neurons.

6. The chemical synapse:

Chemical synapses are not as fast as electrical but are the most common type of synapse.

A chemical, called a _____, is released from the sending neuron and travels across the _____ (a gap between the neurons) to the receiving neuron.

Advantages of the chemical synapse:

1. The signal can be either _____ or _____.

2. The signal can be _____ as it passes from one neuron to the next.

7. The neuron conducting the impulse toward the synapse is called the _____ neuron. The axon terminal contains _____ filled with _____.

An action potential in the axon terminal of the _____ neuron causes the chemical transmitter _____ to be released. It diffuses across the synaptic cleft and binds to receptors on the _____ membrane.

These receptors open _____. The movement of the charged particles causes an electrical signal called a _____.