

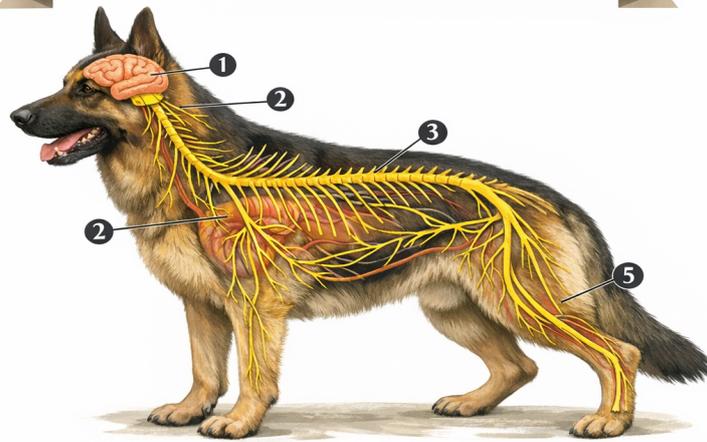
The Nervous System of a German Shepherd

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This project explores the structure and function of the nervous system in a German Shepherd, including its major components and how they work together to control the body.

Labeled Diagram

Nervous System of a German Shepherd



1 Brain

Controls thoughts, senses, and coordination.

2 Spinal Cord

Transmits signals between brain and body.

3 Peripheral Nerves

Nerves extending to limbs and organs.

4 Autonomic Nerves

Regulates internal organs and involuntary functions.

5 Sciatic Nerve

Major nerve to the hind leg.

1. Brain

The brain is the control center of the German Shepherd's body. It controls thinking, memory, learning, and emotions. It processes sensory information such as smell, sound, and vision. The cerebrum handles thinking and voluntary actions, the cerebellum controls balance and coordination, and the brainstem regulates vital functions like breathing and heartbeat.

2. Spinal Cord

The spinal cord is a long structure that connects the brain to the rest of the body. It transmits signals for movement and carries sensory information back to the brain. It also controls reflexes, allowing the dog to react quickly to danger.

3. Peripheral Nervous System

This system includes all nerves outside the brain and spinal cord. These nerves connect the central nervous system to the limbs, organs, and skin. It allows the dog to feel sensations like touch, temperature, and pain, and helps control voluntary movements.

4. Autonomic Nervous System

The autonomic nervous system controls involuntary functions such as heart rate, digestion, and breathing. It works automatically to maintain balance in the body. It includes the sympathetic system (fight or flight) and parasympathetic system (rest and digest).

5. Sciatic Nerve

The sciatic nerve is one of the largest nerves in the body, located in the hind legs. It controls movement and sensation in the back legs. It is essential for walking, running, and jumping, and damage to it can affect mobility.