



Understanding the Brain & Spinal Cord

Simple Anatomy for Pet Owners

The nervous system controls how your pet moves, feels, and interacts with the world. Understanding the basics can help you feel more confident if your pet is experiencing neurological problems.

The Nervous System

Two main parts:

Central Nervous System (CNS)

- Brain
- Spinal cord

Peripheral Nervous System (PNS)

- Nerves that connect the brain and spinal cord to the rest of the body



The Brain: Control Center

The brain directs behavior, movement, and vital functions.

Cerebrum

- Behavior and personality
- Learning and memory
- Conscious movement
- Vision and hearing
- Common signs: seizures, confusion, behavior changes

Cerebellum

- Balance and coordination
- Common signs: wobbliness, tremors, trouble jumping

Brainstem

- Breathing and heart rate
- Swallowing and eye movements
- Consciousness
- Because it controls vital functions, problems here can be serious

The Spinal Cord: Communication Highway

The spinal cord carries messages between the brain and the body. It runs from the brain down the neck and back, protected by the spine.

Spinal Cord Regions & What They Affect

- Neck (Cervical): front and back legs
- Chest (Thoracic): back legs
- Lower Back (Lumbar): back legs, bladder function
- Tail Area (Sacral): bladder, bowel, tail
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Common signs of spinal cord disease:

- Weakness or paralysis
- Difficulty walking
- Neck or back pain
- Loss of bladder or bowel control

Nerves: The Connections

Peripheral nerves act like electrical wires, carrying signals to muscles and sending sensation back to the brain.

Nerve problems may cause:

- Weakness or muscle loss
- Limping
- Reduced sensation
- Abnormal reflexes

Why a Neurological Exam Is Important

A neurological exam helps veterinarians determine where a problem is in the nervous system. This guides decisions about imaging (such as MRI) and treatment options.

We're Here to Help

Neurological conditions can feel overwhelming, but you're not alone. At Specialists in Companion Animal Neurology, we're committed to guiding you through diagnosis, treatment, and recovery with clarity and compassion.

If you notice changes in your pet's movement, behavior, or awareness, early evaluation can make a meaningful difference.