



Veterinary Specialty of the Day:

Neurology

Some veterinarians and veterinary technicians undergo further training to specialize in a specific field of medicine. Veterinarians who specialize in Neurology treat conditions that affect an animal's nervous system, including the brain, spine, muscles, and nerves.

The nervous system sends and receives information signals (such as sight, sound, smell, taste, and touch) via nerves throughout the body. All of the organs and muscles in an animal's body need the nervous system in order to move and function. Signs of a neurological disease can include paralysis (inability to move), difficulty balancing, seizures, behavior changes, limping, and pain.

Discussion Question

- What does the brain do and why is it important?

Veterinary neurologists are trained to treat conditions such as...



Seizures

A seizure occurs when there is a "short circuit", or abnormal electrical activity, in the brain. This can cause a pet to twitch, lose control of their body, and even lose consciousness.



Stroke

A stroke occurs when blood flow is altered within a part of the nervous system, such as the brain. The blood in the vessel may be blocked or the blood vessel may have ruptured (burst).



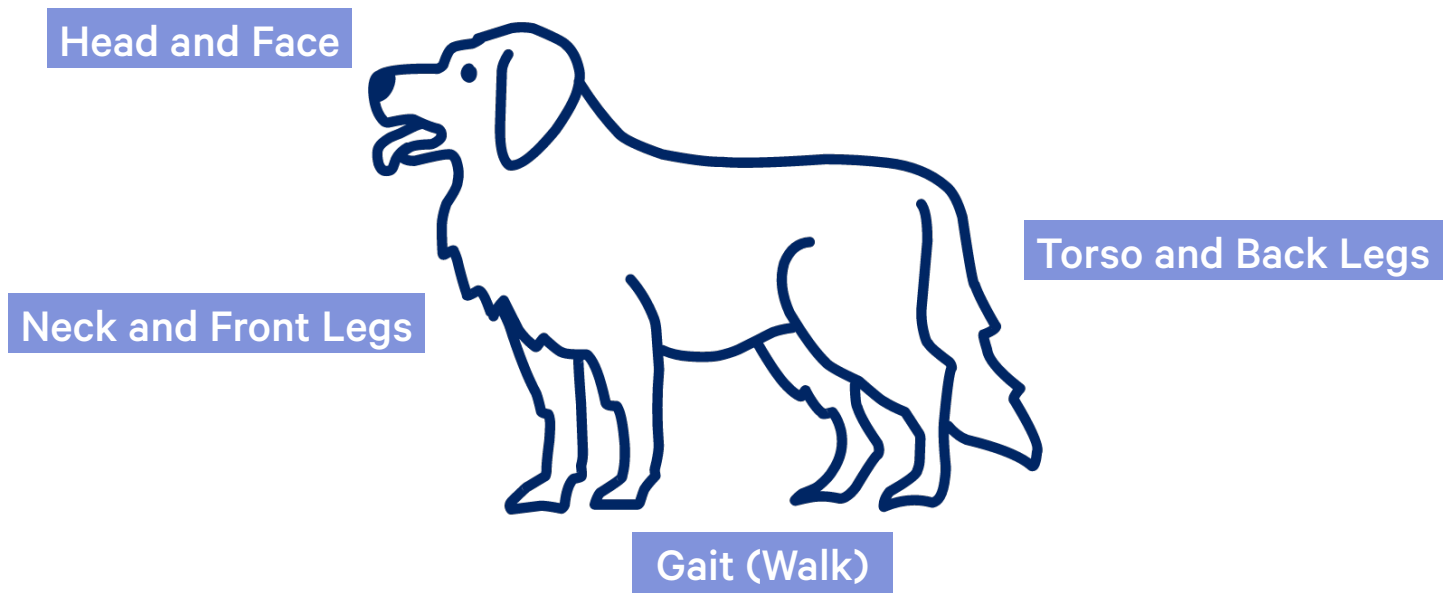
Disc Disease

Discs are the cushions between the bones of the spine. These cushions are shock absorbers that allow the spine to move around. Signs of disc disease in pets include pain, difficulty walking, or even the inability to move the back legs.

Neurological Exams in Dogs

After reviewing an animal's medical history and performing a [wellness exam](#), a veterinary neurologist will perform a neurological exam to evaluate the health of the nervous system. A neurological exam includes physical tests of an animal's reflexes, muscles, and gait (or walk). Below, we review the neurological exam done in dogs. However, veterinary neurologists can examine all sorts of animals, including cats and even horses (which can be a real challenge!)

[Click here to watch our YouTube video on neurological exams with Dr. Abbie Leibowitz!](#)



What the neurologist looks for in dogs:

- Head and Face — neurologists will check the cranial nerves, which control the head. An example of a cranial nerve is the hypoglossal nerve, which controls how the tongue moves.
- Neck and Front Legs — pain or muscle loss in the neck and front legs may be a sign of an injured spine. One type of test is called the positioning test where the neurologist moves a foot or leg to see how well the dog can stand normally again.
- Torso and Back Legs — the neurologist will check the dog's posture and spine, as well as look for any pain or muscle loss in the torso and back legs. The inability to feel pain may be a sign of an injured spine as well.
- Gait (Walk) — the neurologist will watch your dog as it walks to look for any weakness, loss of coordination, or even paralysis (inability to move).

Activities



K - 12th Grade

Test Your Reflexes!

Materials: mirror, cotton ball, window, rubber scraper

- Reflexes are reactions controlled by the nervous system. A reflex is done without conscious thought. For example, if you twitch or jump at a loud, unexpected noise, that is a reflex.
- There are fun ways to test your reflexes! Check out the University of Washington's "[Neuroscience for Kids](#)" resource on reflexes for a variety of fun tests you can try at home!
- For example, your child can test their pupillary response by turning the lights on and off in a room while looking in a mirror. They should see their pupil expanding and contracting as it adjusts to the change in light.
- Another test is the blink reflex. Have your child stand behind a transparent barrier (such as a window) and throw a cotton ball towards them. Most likely, your child will blink!
- The reflex your child may already be familiar with after visiting the doctor is the patellar reflex. Using the side of your hand or a rubber scraper from the kitchen, lightly hit your child's leg just below the knee as they sit. If you hit it in the right place, the leg should kick out immediately. Let your child try it on you (but remind them not to hit too hard!)
- For more reflex tests, check out the link below:
<https://faculty.washington.edu/chudler/chreflex.html>

Activities



9th - 12th Grade

Career Exploration: Veterinary Neurology

Materials: computer/tablet/phone with internet access

- The field of veterinary medicine is huge and there are many job opportunities available to those interested in pursuing a career in the field.
- If your child is interested in a career in neurology, encourage them to research the various job opportunities and programs that exist.
- Need a place to start? Check out this article on veterinary neurologists: <https://vetspecialists.com/what-is-a-board-certified-veterinary-neurologist/>

References:

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