

What is fibrocartilaginous embolization?

A fibrocartilaginous embolization (FCE) is caused by a small piece of cartilage that enters the spinal cord's vascular system and blocks blood flow to the spinal cord (also called spinal cord infarction, or stroke). FCE typically occurs in very active, young- to middle-aged, medium- to large-breed dogs while they are out playing or exercising. They will typically yelp out and become suddenly unable to walk. FCE can occur in small-breed dogs as well, most notably the Miniature Schnauzer.

What are the symptoms?

Symptoms of incoordination and weakness/paralysis occur very suddenly and may progress over the first six to 12 hours. After the first 12 hours, signs are static to improving.

Fibrocartilaginous embolization (FCE) occurs most commonly in the middle part of the spinal cord, affecting only the hind limbs, but it can occur in the neck affecting all four limbs. FCE is commonly asymmetric (i.e. worse on the right or left side).

How is it diagnosed?

Diagnosis is made by a combination of history, neurologic exam, and spinal cord imaging. The classic hallmarks of fibrocartilaginous embolization (FCE) are that they occur very suddenly and are non-painful, non-progressive, and lateralizing to the left or right side. X-Rays are taken to determine if there are any fractures or dislocations of the spine. An MRI often shows classic changes inside the spinal cord in dogs with FCE. In an emergency situation where MRI is not available, a myelogram can be done to rule out spinal cord compression from other diseases, such as an intervertebral disc herniation.

How is it treated?

There is no specific medical or surgical treatment for fibrocartilaginous embolization.

Supportive care, including frequent turning to prevent bed sores, bladder management either via indwelling urinary catheter or manual bladder expression, and physical therapy, is required in some dogs.

What is the prognosis?

The prognosis with fibrocartilaginous embolization (FCE) is dependent on the severity of neurologic dysfunction (i.e. dogs with no feeling in their limbs carry a poor prognosis), the location of the FCE (longer recovery in areas of the spinal cord directly above the front or hind limbs), and the amount of spinal cord affected (large areas carry a poorer prognosis).

Recovery occurs when the spinal cord receives new blood supply from the occluded blood vessel or surrounding blood vessels. Recovery of dogs with FCE typically follows one of three patterns. Some dogs improve very rapidly, over hours to days. Others improve more slowly

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(weeks to months) but eventually regain function. A third set of dogs show little to no improvement, likely because the area of spinal cord affected is so large that it never gets adequate blood supply. No improvement within a two-week period carries a guarded prognosis.