Intervertebral Disk Disease

Family helping Family
TOUKLEY
VETERINARY CLINIC

Ph: (02) 4397 1157

50 Victoria Avenue
Toukley NSW 2263

www.toukleyvet.com.au

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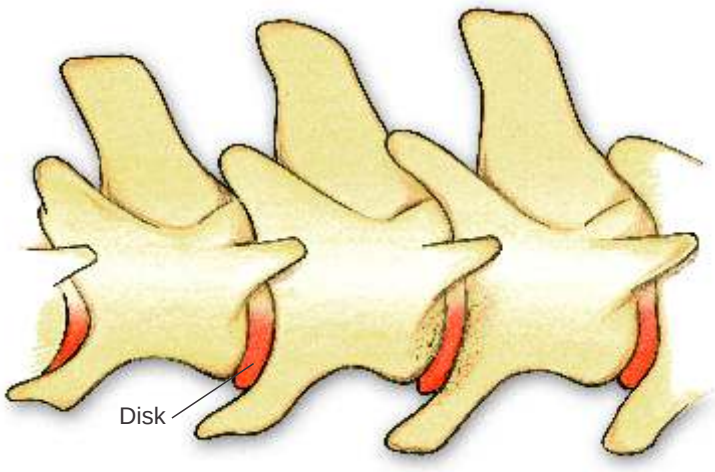


What is a disk?

The spinal column is made up of a number of small bones called vertebrae that are lined up like building blocks. A hole in the centre of each vertebra forms a tunnel in which the spinal cord lies.

The spinal cord is extremely important because it carries the messages from the brain to the rest of the body. The spinal cord is extremely delicate, and being surrounded by the bony vertebrae helps to protect it.

Between each pair of vertebrae, just underneath the spinal cord, is a little cushion, called an intervertebral disk. Disks cushion the vertebrae from one another and provide flexibility to the spine during movement.

What is disk disease?

As a part of the normal aging process, disks deteriorate, resulting in so-called disk disease. Normally, each disk consists of an outer fibrous ring and an inner gelatinous centre (a good analogy would be a jelly donut). With age, this "doughnut" changes in consistency; the outer fibrous ring becomes fragmented and the inner "jelly" centre hardens to a consistency of hard cheese.

The fragmented outer fibrous ring may no longer be able to hold this hard centre in place, and movement of the vertebrae on either side may suddenly squeeze the disk out of its normal position.

Unfortunately, this material usually moves upward and comes to rest against the spinal cord, bruising it in the process. This "slipping" of the disk often occurs explosively, causing significant damage to the spinal cord and pain to the animal. In this abnormal position, the disk presses against the spinal cord causing further damage.

Is it more common in certain breeds?

This type of disk disease may occur in dogs and cats of any age or breed but most commonly in the "short-legged" breeds, such as the following:

- Dachshund
- French bulldog
- Welsh corgi
- Pekingese

What are the symptoms?

The parts of the spine most commonly affected by "slipped" disks are the neck and middle to lower back, as the disk "slips" out of place and pushes against the spinal cord.

Some common symptoms of disk disease include the following:

- Significant back pain
- Difficulty in using front and/or rear legs – weakness and wobbly
- Toileting problems
- Lameness
- Poor coordination
- Paralysis

What tests are required to diagnose the problem?

These symptoms indicate that the dog or cat has a problem affecting the spinal cord but not the exact location or cause of the problem. Other diseases may cause the same clinical signs such as a tumuor of the spine, or an infection of the spine. Clinical tests are needed to determine the exact location and cause of the problem and to decide on the appropriate therapy.

An initial physical examination is performed. This allows us to determine where any painful areas are and if there is any reduction in the messages getting through to the legs.

A lack of proprioception refers to the inability of the brain to realize where the legs are – this is seen as an animal who cannot stand squarely or feel when its foot has been turned over. More extensive injury to the spine may also reduce the sensation of pain in the legs.

Further testing may be needed. To accomplish this, the patient must be anesthetized for x-rays and collection of fluid from around the spinal cord. Myelography is an x-ray study in which a special dye is injected into the fluid surrounding the spinal cord. This then allows any disk material pushing against the cord to be identified on the x-rays. Analysis of the fluid around the spinal cord helps to rule out other causes of the problems such as infection.

What treatment is required?

Initial

Occasionally, animals with disk disease are not treated by means of surgery. In these animals, strict cage confinement and immobilization are used. Usually this approach is used for a first bout of back pain in animals that do not have problems walking. Although strict cage confinement does not correct the spinal cord compression, it may temporarily reduce some of the pain and swelling around the spinal cord and permit the ruptured disk to "heal."

As time goes on, it is common for animals treated without surgery to suffer repeated bouts of pain, lameness, and paralysis as additional disk material slips and compresses the spinal cord. With each bout of disk disease the spinal cord suffers additional permanent damage. Surgical removal of disk material from the spinal canal is the only treatment that provides rapid and maximal recovery of spinal cord function.

Cortisone administration to animals with disk disease is of therapeutic value only during the first 8 hours after the initial spinal cord injury. Current scientific evidence does not support the use of cortisone beyond this time. Furthermore, the adverse effects of cortisone (e.g. stomach ulcers) must always be kept in mind.

Severe

In some cases, disk disease is a problem requiring surgery to remove the disk material compressing the spinal cord. The surgery used most frequently to remove disk material from around the spine is called laminectomy. A surgical specialist is the best person to perform this type of surgery.

What is the prognosis?

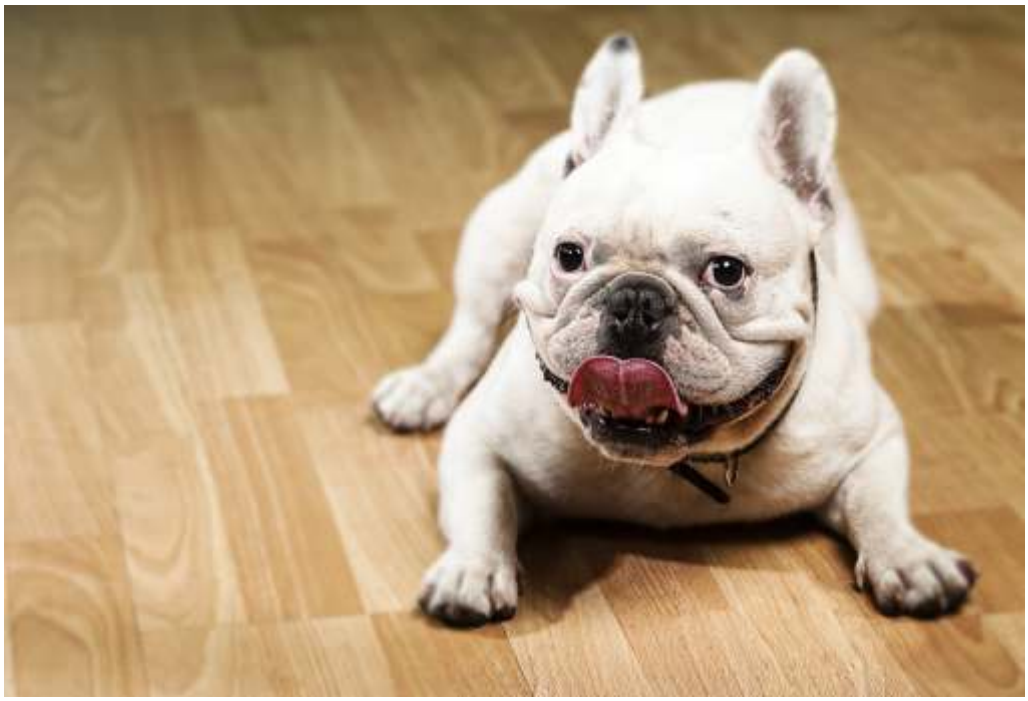
For animals undergoing a laminectomy (surgery), the speed of recovery and the extent to which normal function of the legs is regained depends on many factors, including;

- The degree of the damage to the spinal cord and
- The length of time that the spinal cord has been compressed by the disk material.

Animals exhibiting severe neurologic signs (e.g depressed feeling in their toes), a rapid onset of symptoms (hours), and a long period of time before surgery generally have a prolonged recovery period and may have varying degrees of permanent damage.

Can it be prevented?

Animals with short legs and long backs are prone to back injury. Prevention will include:

- Reducing body weight
- Controlled exercise
- Not permitting jumping up or down from objects
- Reduced stair usage

If you have any further questions about disk disease, please don't hesitate to contact the practice.