

Disc Disease

While not limited to small breeds, disc disease is much more prevalent among Dachshunds, Lhasa Apsos, Poodles, Beagles and Pekingese dogs primarily due to genetic factors. These animals are prone to premature aging in the discs that can cause them to rupture even with minimal movements. In these genetically predisposed breeds, the highest incidence of rupture occurs between three and six years of age. Disc disease also occurs in other breeds of dogs and in cats, although less often.

A disc can rupture either in the back or neck resulting in different clinical signs.

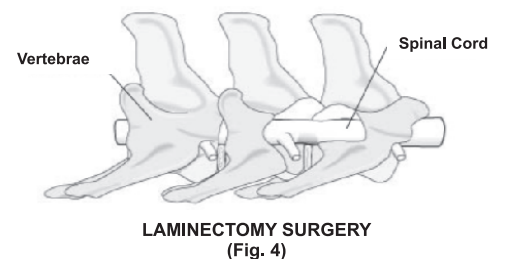
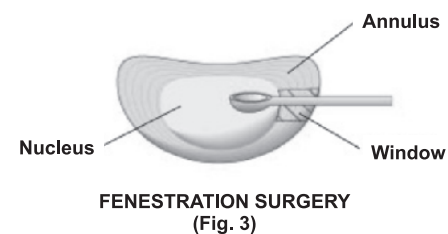
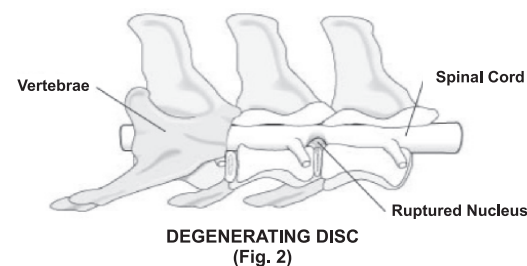
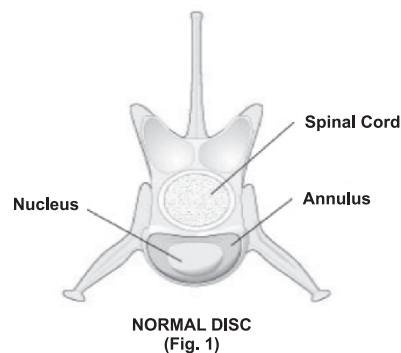
The Disc

A normal disc somewhat resembles a jelly-filled doughnut (fig. 1). The outer 'wrapping' (annulus) is a tough fibrous tissue that connects the bones of the spine. It allows the vertebrae (bones of the spine) to flex and bend. The center of a healthy disc (nucleus) contains a liquid of jelly-like consistency.

In degenerating discs, the nucleus changes to a thicker, toothpaste-like consistency. Simultaneously, cracks develop in the annulus, allowing the nuclear material to squirt out and hit the spinal cord, resulting in damage (fig. 2).

Even a small bit of ruptured nuclear material may cause your pet to experience mild or moderate back or neck pain with or without leg weakness or wobbliness. However, if all of the nuclear material is released at once, your pet may rapidly lose control of its legs, bowel and bladder functions, and could possibly become paralyzed forever. In very rare cases, the rupture is severe enough to cause breathing difficulty, abnormal heart beats and death.

The chance of your pet recovering from a ruptured disc depends on its overall health, the number of previous episodes of pain or paralysis, and the length of time between the onset of the current problem and the intervention of veterinary care. The best indication of your pet returning to good function comes from a thorough assessment of its neurologic status at the time of surgery.



Myelography

If your pet fails to respond sufficiently to medical management, surgery may be indicated. If so, radiographs (x-rays) and a myelogram will be performed to pinpoint the location of rupture.

A myelogram is performed under general anesthesia. A radiographic dye is injected around the spinal cord to make it visible on radiographs. Following the injection, a series of x-rays are taken. The myelogram will find which disc has ruptured and delineate the amount of swelling in the spinal cord. The surgeon can then determine where and which type of surgical technique/approach to take.

Following a myelogram, a pet may have transient seizures (which usually resolve with overnight treatment) and many animals can show an increase in limb weakness for one to two weeks, or rarely experience more severe side effects. The benefits of a myelogram far outweigh the minor risks, and a myelogram remains the best test available in veterinary medicine to pinpoint a ruptured disc. In veterinary medicine, myelograms are slowly being replaced by CT scans and MRI's. Quiet often, even with these more expensive technologies a radiographic dye injection is still necessary. Also, CT Scans and MRI's are not always available on an emergency basis, nights or weekends.

Back Disc Surgery

Some pets with only back pain or minor spinal cord injury often can improve with a Fenestration surgery. In this procedure, the surgeon cuts a window in the annulus of several discs in the back and removes the inner, abnormal nuclear material. (fig. 3)

This technique removes the nucleus from the currently rupturing disc as well as others that are likely to rupture in the future.

Paralyzed animals are candidates for Laminectomy surgery (fig. 4). This surgery involves removing part of the bony vertebrae surrounding the region of the spinal cord that has been damaged by the ruptured disc. The ruptured disc material is then removed from around the spinal cord, relieving pressure and preventing further injury to the spinal cord. Hopefully, as the swelling in the spinal cord gradually subsides following surgery, some nerve function will return to the legs. It is important to realize that the recovery will

not happen overnight!

Some animals are temporarily set back in their neurological abilities following surgery. A set back may relate to the effects of the myelogram, manipulation of the spinal cord during the surgery, as well as progressive swelling and damage from the initial disc rupture. While these setbacks generally are not permanent, they do prolong the postoperative rehabilitation time and provide an added source of stress for the owner, pet and the veterinarian alike.

Veterinary Surgical Centers of the Delta and your family veterinarian will work together to answer your questions regarding your pet's prognosis for recovery before proceeding with surgery.

Postoperative Care & Recovery

You should expect approximately four weeks of intensive nursing care before we can fully determine the outcome from surgery. During this recovery phase, your pet may not have bladder or bowel control and may not be able to move its limbs. Because of these factors and the paralysis, your pet will require a great deal of attention. We will provide instructions to assist you during this period of time.

Many pets start to move their legs in approximately two to four weeks time. Within four to eight weeks many will regain continence and be able to walk. Some pets will return to very good hind leg function, while others will walk with a wobble and have difficulty jumping permanently.

Remember, the best indication of your pet's chances for recovering functional status (walking and continence) is its neurological status at the time of surgery.

Even with the best management during surgery and the postoperative nursing phase, it is possible that your pet may not recover function to its legs or regain continence. The pet that remains permanently paralyzed and incontinent can become difficult to care for. However, with good nursing care and the use of K-9 carts, these pets also can live happy, healthy lives.

Neck Disc Surgery

Once a cervical (neck) disc has ruptured, your pet will rarely improve on its own. The pain often can be reduced with anti-inflammatory medication and muscle relaxants, but long term steroid therapy is not recommended because of its harmful side effects. Surgical repair of ruptured cervical

discs is generally quite successful.

After the ruptured disc is located with a myelogram or an MRI, a Ventral Cervical Slot procedure is performed to gain access to the spinal cord and remove the ruptured disc material (fig. 5).

This procedure relieves pressure from the spinal cord. At the same time, a Fenestration of the other cervical discs is performed to remove abnormal nuclear material and prevent other discs from rupturing in the future. The annulus is left intact so the vertebrae of the neck will continue to move normally after surgery.

Once the pressure has been relieved, inflammation starts to subside and neck pain is reduced. Some nerve function should start to return at this time. It is important to realize that this improvement is gradual.

Postoperative Recovery & Care

The goal of surgery is to relieve the pain caused by the ruptured disc, and most pets also regain very good function as well. It is important to keep your pet quiet and confined for four weeks following surgery to help with the healing and recovery. We will provide complete postoperative instructions to assist you.

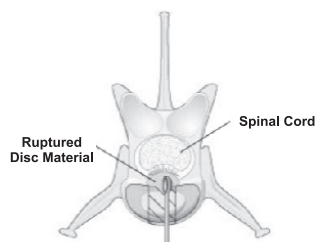
Some animals experience temporary neurologic setback following surgery. This setback is generally not permanent, however it does prolong the postoperative rehabilitation time.

In most cases, it takes two to four weeks for the swelling and pain associated with a ruptured disc to subside. If nerve damage also exists, improvement may take four to eight weeks or longer. Decreasing doses of steroids usually are given during this transition period to lessen neck pain.

Even with the best management during surgery and the postoperative nursing phase, it is possible that your pet may not recover full function of its limbs or return to the same functional status it had before disc ruptured.

Conclusion

Veterinary Surgical Centers of the Delta can make an accurate prognosis for the success of surgery only after a thorough medical, physical and neurological examination of your pet. We will discuss our findings with you to help make the best decision on what should be done for your pet.



VENTRAL CERVICAL SLOT PROCEDURE
(Fig. 5)

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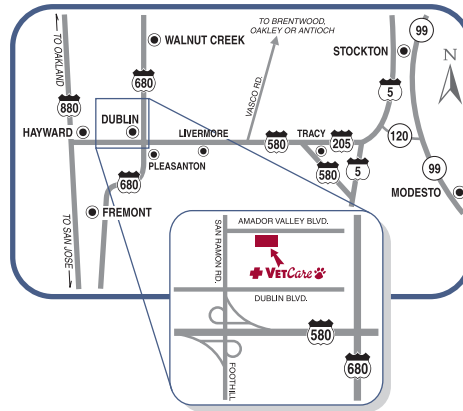
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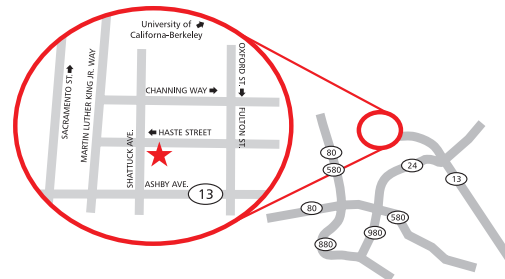
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