



Southern Oregon
VETERINARY SPECIALTY CENTER

Surgery for Disc Extrusions? DID YOU KNOW?

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Dogs present to their veterinarians frequently for spinal pain or difficulty walking. These dogs may only present with episodes of vocalization, especially when picked up, decreased activity, inappetence, a firm abdomen or may have more obvious difficulty to no ability to ambulate. 85% of disc extrusions in dogs occur in the thoracolumbar region with the remaining 15% occurring in the cervical region. Factors that determine the degree to which these patients are affected include the degree of compression on the spinal cord and the concussive force generated when a disc ruptures. Slow and even large ruptures over days generally create less severe neurological impairment than smaller and more acute ruptures that create a larger concussive injury to the spinal cord. A grading scale that I like to use to assess the neurological condition of a patient is listed below.

Grade I - Pain only

Grade II - Ambulatory with ataxia and weakness

Grade III - Nonambulatory with voluntary movement in the affected limbs

Grade IV - Nonambulatory without voluntary movement with intact deep pain sensation

Grade V - Nonambulatory, no voluntary movement and no deep pain sensation

It is important to point out that paresis denotes weakness and paralysis denotes a loss of all movement (Grade V, if not grade IV as well). Also, withdrawal reflexes are not considered voluntary movement and awareness of the painful stimulus is important in differentiating intact versus a loss of deep pain sensation.

So, to answer the question as to when to at least make the recommendation to pursue advanced diagnostics and possible surgery, patients that fall into grades 2-5 have a significant enough spinal cord compression and should undergo additional diagnostics including myelography, CT scanning or MRI in preparation for possible surgery. In fact, in a study performed by Sukhiani et al¹, 80% of dogs presenting with spinal pain only and no significant neurological deficits had demonstrable spinal cord compression on myelography. The significance of this finding is that the vast majority of disc "problems" in dogs are actual ruptures or extrusions and not protrusions or the commonly referred to "bulging" disc that is more common in people. Even in large breed of dogs, disc extrusions far outnumber protrusions. In cases where patients are treated conservatively, I make sure that the client understands that if clinical signs do not significantly improve (even if it is pain only) with strict cage confinement and anti-inflammatories within a week, advanced imaging should be pursued. If clinical signs begin to worsen within the first week of conservative therapy, advanced diagnostics should be pursued as soon as possible. It should be noted that after a few weeks following a disc extrusion, the extruded nuclear material adheres itself to the surrounding spinal canal, vertebral sinuses and the dura mater of the spinal cord making removal much more difficult and traumatic to the spinal cord than when disc material is removed sooner in the course of the disease. Otherwise, if these patients significantly improve over the course of a week, continued confinement for a total of 6 weeks with controlled leash walks beginning after 4 weeks should be performed. Remember that it takes approximately 4-5 weeks for a tear in the annulus of an intervertebral disc to heal adequately, putting these patients at risk for extruding additional disc material for several weeks unless they are properly confined. The mainstay of conservative therapy revolves around strict confinement, not corticosteroids, NSAID's or muscle relaxers. I prefer prednisone to NSAID's to control pain along with confinement and I am indifferent to muscle relaxers in the majority of cases treated medically.

Advanced imaging and surgical decompression via hemilaminectomy or ventral slot procedures should not be discouraged for dogs with ambulatory deficits and should always be recommended for nonambulatory dogs as soon as possible. Timing is everything for most things and the successfulness of surgical decompression for dogs falling into grades 2-4 is approximately 85%, but drops to a little less than 50% in dogs who within several hours lose deep pain perception. If you are going to refer an acute case to SOVSC for advanced imaging and possible surgery, it is preferable not to administer steroids or NSAID's prior to the examination if possible. I will generally treat with Solu-Medrol just prior to surgery unless a patient has received a large amount of a steroid or NSAID prior referral.

No protocol or way of going about something is perfect, but if recommendations are made in good conscience and with proper knowledge, then being informed is all that a client can ask for and should make the decision making process a little easier for everyone involved.

1. Sukhiani, et al. Intervertebral disk disease in dogs with signs of back pain alone: 25 cases (1986-1993). *J Am Vet Med Assoc* 1996;209:1275-1279.

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