Intervertebral Disk Herniation: In-House Postoperative Rehabilitation

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In the Literature

Hodgson MM, Bevan JM, Evans RB, Johnson TI. Influence of in-house rehabilitation on the postoperative outcome of dogs with intervertebral disk herniation. *Vet Surg.* 2017;46(4):566-573.

FROM THE PAGE ...

In dogs, intervertebral disk herniation (IVDH) is a common and disabling condition that, in severe cases, often requires surgical decompression. Postoperative rehabilitation is often recommended and employed to facilitate a safe and efficient functional recovery; however, despite its widespread popularity and availability, few outcome data exist regarding dogs.

This retrospective study compared clinical outcomes and complications using in-house rehabilitation in dogs ($n = 87$) following surgical decompression for single-site IVDH. Rehabilitation commenced at a median of 2 weeks postoperatively and consisted of treadmill (land/underwater), laser, and active and passive manual therapies collectively for a median of 12 days and 49 treatments. A control group ($n = 161$) received laser therapy, passive range-of-motion exercises, and cryotherapy during the immediate postoperative hospitalization period only. At minimum, dogs were examined daily while hospitalized, 10 to 14 days postoperatively, and 4 to 6 weeks postoperatively.

Preoperative neurologic scores were similar between groups. More dogs returned to full neurologic function with rehabilitation (33%) as compared with control dogs (9%). However, mean time to ambulation was faster in control dogs (14 days) as compared with rehabilitation dogs (28 days). Dogs without deep pain were analyzed separately, and outcomes were similar. The complication rate was higher in control dogs (29%) as compared with rehabilitation dogs (16%) and included surgery for recurrent disk extrusion in 3 control cases and one rehabilitation case.

Study results were somewhat difficult to decipher. Dogs with a consistent rehabilitation program experienced a greater return to normal function and fewer complications. In-house rehabilitation allows for frequent examination by rehabilitation specialists and veterinarians to guide an individualized plan and to identify and manage complications. Greater gains would be anticipated, as other studies in human and veterinary medicine have demonstrated. Time to ambulation was prolonged with rehabilitation, likely because of the retrospective study design and inconsistent follow-up in these cases.

… TO YOUR PATIENTS

Key pearls to put into practice:

1. Early diagnosis and intervention in dogs with IVDH are critical. Surgical decompression should be considered in severe cases, especially for nonambulatory patients.
2. Prognosis for return to function following surgery is greater than 85% with deep pain perception and approximately 50% without pain.[1,2]
3. Communication between veterinarians and rehabilitation specialists is important for development of a rehabilitation plan based on individualized patient assessment and goals.
4. Multimodal rehabilitation strategies may be beneficial and may include active standing exercises, weight-shifting, and proprioceptive activities and, when appropriate, passive joint mobility, cold laser, and treadmill walking.

References

1. Aikawa T, Fujita H, Kanazona S, Shibata M, Yoshigae Y. Long-term neurologic outcome of hemilaminectomy and disk fenestration for treatment of dogs with thoracolumbar intervertebral disk herniation: 831 cases (2000-2007). *J Am Vet Med Assoc*. 2012;241(12):1617-1626.
2. Ruddle TL, Allen DA, Schertel ER, et al. Outcome and prognostic factors in non-ambulatory Hansen Type I intervertebral disc extrusions: 308 cases. *Vet Comp Orthop Traumatol*. 2006;19(1):29-34.