

# Meta-Analysis of Intervertebral Disk Disease

**Jonathan Miller, DVM, MS, DACVS**  
*Oradell Animal Hospital*  
*Paramus, New Jersey*

## In the Literature

Langerhuus L, Miles J. Proportion recovery and times to ambulation for non-ambulatory dogs with thoracolumbar disc extrusions treated with hemilaminectomy or conservative treatment: a systematic review and meta-analysis of case-series studies. *Vet J.* 2017;220:7-16.

## FROM THE PAGE ...

In dogs, intervertebral disk disease (IVDD) of the thoracic-lumbar spine can be devastating. Disk rupture can cause clinical signs that range from back pain to complete paralysis with no deep pain perception to the pelvic limbs.

This review of the literature and meta-analysis included 20 studies that evaluated return to function after surgical or medical treatment of IVDD in dogs with loss of ambulation. A total of 1688 surgically managed dogs and 122 medically managed dogs were divided into grade 3 (nonambulatory with some motor function to pelvic limbs), grade 4 (no motor function to pelvic limbs with deep pain present in at least one limb), and grade 5 (no motor function and no deep pain to pelvic limbs).

With surgery, return to ambulation was noted in 93% of dogs in grades 3 and 4 and in 61% of dogs in grade 5. Conservative treatment allowed for walking in 79%, 62%, and 10% of dogs with grade 3, 4, and 5 lesions, respectively. Surgically treated dogs also recovered faster, with mean time to ambulation being 10, 15, and 38 days in grades 3, 4, and 5, respectively. Mean time to ambulation in medically managed dogs was 63, 84, and 18 days in grades 3, 4, and 5, respectively. However, the number of days for grade 5 dogs was based on only one study of 8 dogs.

Three studies examined the effect of glucocorticoids on outcome. Two studies not included in this evaluation found no benefit to steroid use, and one found that steroids negatively impacted treatment. Overall, the authors found that surgically treated dogs returned to walking sooner and in greater percentages as compared with medically managed dogs, and dogs with no deep pain benefited most from surgery versus conservative treatment.

## ... TO YOUR PATIENTS

Key pearls to put into practice:

- 1 More nonambulatory dogs with IVDD walk after surgery versus medical management.
- 2 Surgery appears to allow dogs with IVDD to walk sooner.
- 3 Surgery leads to recovery in 61% of patients with no deep pain to pelvic limbs. In comparison, 90% of this category of patients treated medically never walk again.
- 4 Glucocorticoids did not improve treatment outcome.