MASH
MELBOURNE ANIMAL SPECIALIST HOSPITAL

A Practitioner's Guide to Spinal Cases

Super Simple Neuro Exam:

This simple 4-step neuro exam is for cases presented with suspected spinal disease attributable to intervertebral disc disease (IVDD) and assumes normal demeanor/mentation. The purpose of this exam is to allow you to grade the spinal disease, allowing discussion of treatment options and prognosis.

1. **Watch the dog attempt to walk:**
   - **a.** Can they walk unassisted? **Y/N**
   - **b.** Are they ataxic? **Y/N**
   - **c.** Which legs are working/not working? **Front/back?**
   - **d.** Are the affected legs at least attempting to walk (voluntary motion)? **Y/N**
2. If they are not ataxic (or if you are not sure) check the hindlimb placing responses. i.e. carefully turn the paw over and place the foot so the dog is bearing weight on the dorsal surface of the paw and see it they immediately correct the foot placement. – If placing is delayed or absent, this just tells you if there is a neurological problem present.
3. Manipulate the neck and palpate along the spine looking for focal spinal pain.
4. Assess Superficial and Deep Pain – Only required in non-ambulatory dogs with no voluntary motion – when pinching the toes does the dog turn its head or vocalize? (Withdrawing the limb does not count as this is a reflex!). If there is no superficial pain response, clamp across a toe with a haemostat to check deep pain sensation (do not do this if the dog reacted to superficial pain!).

Grading:

Spinal cases are widely accepted to be graded from 1-5 according to the severity of presentation. The grade of a spinal case can change day-to-day (or hour-to-hour!), so careful monitoring is required by owners and managing veterinary practitioners alike so as not to miss any deterioration in function.

CLINICAL GRADE	GAIT ASSESSMENT	CLINICAL EXAM	WHAT IS SUCCESS?	PROGNOSIS WITH CONSERVATIVE MANAGEMENT	PROGNOSIS WITH SURGERY	
1	Ambulatory, normal gait	Pain/spinal hyperaesthesia	Resolution of spinal pain	90%	95%+	CONSERVATIVE MANAGEMENT
2	Ambulatory paraparesis	Pain, weakness, wobbly, CPD deficits	Resolution or significant improvement in clinical signs	80%	95%+	CONSERVATIVE MANAGEMENT
3	Non-ambulatory paraparesis	Pain, unable to stand or walk unassisted	Ability to walk unassisted (Some level of ataxia may remain)	80%	95%	REFERRAL FOR NEUROLOGICAL INVESTIGATION AND SURGERY
4	Non-ambulatory paraplegia	Pain, no voluntary movement of affected limbs, +/- loss of conscious urinary function	Ability to walk unassisted and urinary continence (Some level of ataxia may remain)	60%	95%	REFERRAL FOR NEUROLOGICAL INVESTIGATION AND SURGERY
5	Non-ambulatory paraplegia, with loss of nociception (deep pain responses)	Pain, no movement of affected limbs, LOSS of Conscious responses to deep pain, +/- loss of urine retention/control	Ability to walk unassisted and urinary continence. (Some level of ataxia may remain)	10%	60%	REFERRAL FOR NEUROLOGICAL INVESTIGATION AND SURGERY

Ambulatory Spinal Cases:

With ambulatory spinal cases the prognosis for recovery is similar between conservative and surgical management. Therefore, it is reasonable to attempt conservative management in these cases and monitor for improvement in clinical signs.

In most cases where conservative management is going to be successful there are significant improvements obvious within 2 weeks.

When considering conservative management in ambulatory cases it is important to remember that you can change your mind and opt for surgical work up if, a) the grade of spinal disease deteriorates, or b) if conservative management is not yielding rapid improvement in clinical signs.

Conservative management consists of cage rest (6 weeks), NSAIDs (2 weeks) +/- physiotherapy.

Non-Ambulatory Spinal Cases:

It is clear to see that the prognosis is superior with decompressive surgery for grade 4 and 5 spinal cases.

In grade 3 cases, whilst the success rates are similar between conservative and surgical management, recovery is quicker and more compete with surgical decompression compared to conservative management. Therefore, surgical referral should be offered for these cases, if financially feasible.

Spinal Pain:

Severe spinal pain, especially cervical spinal pain, is an additional indicator to consider referral. Many cervical lesions present with neck pain without neurological deficits.

This is due to two factors, 1) there is more space in the cervical spinal canal which allows greater spinal cord displacement without significant compression and 2) major compression at this level would compromise the nerves involved in breathing and thus there would be a high rate of mortality.

In addition, unremitting severe pain is a contraindication for conservative management on welfare grounds.

Spinal Radiographs:

Radiographs taken of spinal cases are used to rule out some other differentials such as neoplasia or fracture/luxation which if identified may preclude referral due to poor prognosis.

Plain radiographs are of no diagnostic or prognostic use in the investigation of IVDD.

Ventral spondylosis especially has no correlation with clinical signs and is an incidental finding that should be ignored.