

## Owner Information Sheet – *Cervical spondylomyelopathy*

### Background

Cervical spondylomyelopathy is a disorder affecting the *cervical* (neck) spine. It is diagnosed most often in large and giant breed dogs, in particular Great Danes and Doberman pinchers, but it can also affect other breeds including German shepherd dogs, Rottweilers and basset hounds. Many different names have been used for this condition in the past, including *cervical spondylopathy*, *cervical vertebral malformation-malarticulation*, *cervical vertebral stenotic myelopathy* and “wobbler syndrome”.

### Cause

The underlying cause of this condition remains incompletely understood, but the clinical signs (symptoms) develop secondary to anatomical changes to the vertebrae and surrounding soft tissue structures in the neck. In Great Danes and Doberman pinchers, these changes most commonly involve the 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> cervical vertebrae (C5, C6, C7) and/or the intervertebral discs between these bones. Great Danes, and some other breeds, are typically affected at a young age (<3 years old) as a result of bony overgrowth and stenosis (narrowing) of the spinal canal. In contrast, Doberman pinchers most commonly develop signs at a later age (>5 years) secondary to bulging of the intervertebral discs between the vertebrae in the lower neck. The resultant narrowing of the spinal canal leads to compression and eventual degeneration of the spinal cord, and consequently, disruption to the transmission of signals between the brain and legs.

### Clinical signs (symptoms)

The age of dogs at the onset of clinical signs is highly variable and is dependent on the breed of dog and underlying cause, ranging from less than one year old to over 10 years old. Progressive compression of the cervical spinal cord causes disruption in transmission of the information between the brain and legs. This typically presents as a gradual onset of progressive incoordination of the back legs when walking (pelvic limb *ataxia*), that progresses to weakness of all four limbs (*tetraparesis*) and intermittent stumbling. This may also be accompanied by signs of neck pain, such as a low head carriage.

### Diagnosis

If cervical spondylomyelopathy is suspected based on the animal’s history and neurological examination, then a neurologist will often recommend advanced imaging of the cervical spine to confirm the diagnosis and to rule out other possible causes for the same clinical signs. These alternative causes could include other types of vertebral malformation or spinal cord inflammation in young dogs, or spinal tumours in older dogs. Both computed tomography (CT) and magnetic resonance imaging (MRI) can be used to scan the neck in multiple projections and potentially in different head positions (flexion/extension). Computed tomography is more sensitive at assessing bony structures (vertebrae), whilst MRI is preferred for imaging the soft tissue structures, such as the spinal cord and intervertebral discs. The results of these two forms of imaging can therefore be complementary and used to carefully plan surgery, if required.

## Treatment and prognosis

There are two therapeutic approaches for the management of cervical spondylomyelopathy in dogs: conservative and surgical. The goal of conservative treatment is to provide pain relief and strict rest/restricted activity to minimise the effects of instability of the spine and relieve any recurrent pressure on the spinal cord. No surgical technique stands out as being clearly superior, however, surgery is performed in severely affected cases or if medical management is insufficient and can include stabilisation of the affected vertebrae and/or decompression of the spinal cord by the removal of excess bone or bulging discs. With both medical and post-surgical management, animals need a period of rest/restricted activity during which they are only taken outside for short (e.g. 5 minute) lead walks. A chest harness instead of a neck lead should be always used in affected animals.

Both conservative and surgical management are relatively successful. In some cases, such as in Doberman pinchers, surgery more consistently leads to clinical improvement, although it does not alter the long-term survival of these dogs when compared to conservative management.

Your veterinary neurosurgeon or primary care veterinarian will discuss in more detail with you the prognosis for recovery and the expectations of treatment on an individual basis.

If you have any concerns about your dog or their treatment, do not hesitate to contact your veterinarian.

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