

# Cervical Vertebral Malformation (CVM)

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Cervical Vertebral Malformation (CVM) has several other names including cervical stenotic myelopathy and wobblers, among others. As the name implies, CVM causes compression of the cervical spinal cord resulting in associated clinical signs. It is most commonly observed in 1- to 2-year old, rapidly growing, male horses. Thoroughbred and Quarter Horses are more commonly affected, although other breeds have been reported. A consistent pathologic finding in horses with CVM is narrowing of the vertebral canal.

## Key Points

- Narrowing of the vertebral canal
- Affects young horses (<4-5 years of age)
- Symmetric clinical signs
- Treatment is limited and often times unrewarding

## Clinical Signs

- Typically associated with **symmetric** ataxia, paresis, and spasticity
- Usually worse in the hindlimbs than the forelimbs
- Wide-base stance may be observed at rest along with proprioceptive deficits
- Stumbling, toe dragging and circumduction of the hindlimbs may also be observed
- Usually affects young horses (< 4-5 years of age)

## Diagnosis

- Suspected based on signalment (young, rapidly growing horse) and characteristic clinical signs (symmetric hindlimb weakness and ataxia)
- Supported by survey cervical radiographs with or without myelography
  - One tool used to evaluate survey radiographs is the sagittal ratio:
    - The sagittal ratio (see image below) is determined by measuring the smallest sagittal diameter of the vertebral canal (a) of each cervical vertebra and dividing this number by the width of the cranial aspect of the vertebral body at its widest point (b)
    - The sagittal ratio should be greater than 52% (C4-6) to 56% (C7)
  - Myelographic studies are necessary for definitive ante-mortem diagnosis of CVM



**Lateral radiograph of the cervical spine of a 3-year old Thoroughbred gelding presented for bilateral hindlimb ataxia and weakness.**

## Treatment

- Treatment is fairly limited in horses with CVM
- Surgical procedures (vertebral stabilization or decompression) have been described and have yielded some positive results in horses with CVM
- Because of the cost and risk associated with vertebral surgery in horses, surgical correction is infrequently pursued
- Stall rest, anti-inflammatory drugs and dietary restriction have been attempted with variable results

## Prognosis

Overall, prognosis tends to be poor. Conservative therapy may provide transient improvement, but the horse may be a danger to caretakers and riders. Some success has been reported with surgical treatments, but surgery is very expensive with variable results.

