

## Spondylolisthesis (Kinky Back)

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### Species

Spondylolisthesis is a deformity of the spinal canal that occurs mainly in fast growing broiler chickens.

### Status in Canada

The condition is relatively common in commercial broiler chickens.

### Etiology

Not fully known but likely a combination of genetics, rapid growth rates and conformation. If one were to examine all of the mortality of a broiler flock, a few birds with this lesion would be identified.

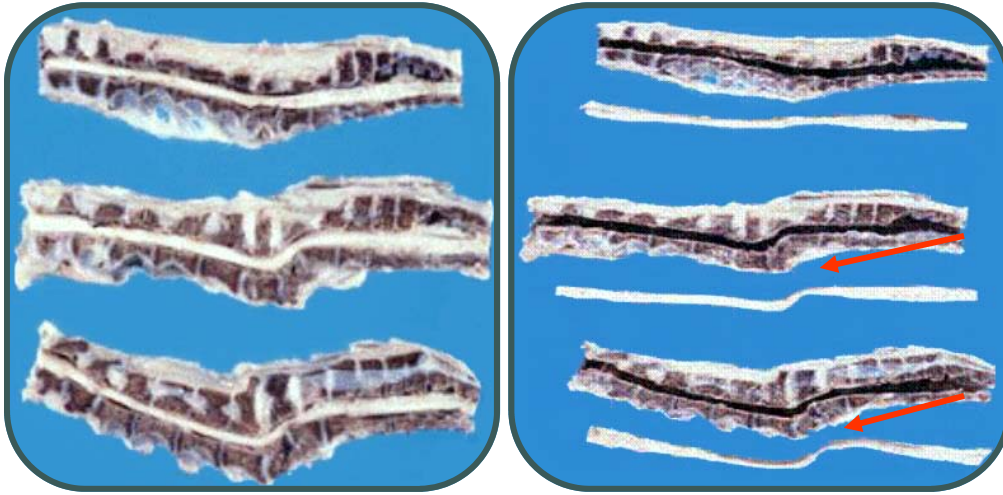
### The Disease

Spondylolisthesis (commonly called "Kinky Back" in the industry) is a deformity of the 6th thoracic vertebrae that causes varying degrees of spinal cord compression and leg paralysis.

The 6th thoracic vertebrae is the one mobile joint in the nearly rigid backbone of the bird (see skeletal system fact sheet). This lesion always occurs at this location. The main change is a partial subluxation of the vertebral body and compression of the spinal cord. Affected birds sit on their hocks and often flap their wings attempting to move forward, but in the process actually end up moving backwards.



# Spondylolisthesis



*These are longitudinal sections of the spinal cord of 3 broiler chickens.*

*The photos on the left have the spinal cord in situ. The photo on the right are of the same vertebra but with the spinal cord removed. The upper vertebral column in both photos is normal. The other two demonstrate the deviation of the spinal canal and the narrowing or pinching of the spinal cord (red arrows).*

## Diagnosis

Diagnosis is made by cutting the vertebral canal longitudinally and examining the area along T4-T6. The lesion is usually visible under gross examination. If one were to examine the spinal cord microscopically, there would be lesions associated with pressure necrosis at the site of pinching.

## Treatment

There is no treatment. Severely affected birds or those where normal growth is affected should be culled and removed from the flock for humane reasons. If the bird is near market weight and in good body condition there is no reason it cannot be processed as there is no human health risk associated with this condition.



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