

# Discospondylitis

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## BASIC INFORMATION

### Description

Discospondylitis is an infection of the vertebrae and intervertebral disc spaces. The spine is made up of small bones called *vertebrae* that surround and protect the spinal cord. Between adjacent vertebrae there are discs (intervertebral discs) that act as cushions and provide strength and stability to the spine.

Discospondylitis occurs more commonly in young to middle-aged dogs and in medium to giant breeds, such as the Great Dane and the German shepherd dog. Male dogs are more commonly affected than females.

### Causes

Infection occurs when a bacteria or fungus spreads to the disc space through the bloodstream from some other area in the body, such as the urinary tract, skin, heart valves, or mouth.

*Staphylococcus* species (Staph bacteria) are commonly responsible. Brucellosis causes the infection in a small percentage of dogs, especially breeding dogs. Brucellosis is also contagious to humans.

### Clinical Signs

Affected dogs are often systemically ill and may have neurologic abnormalities. Signs of systemic illness include fever, decreased appetite, lethargy, weight loss, and depression. Other signs may be present, depending on the source of the infection.

Pain in the area of the spine may be the only clinical sign noted in some dogs. Neurologic signs vary with the degree and location of spinal cord compression or instability and may include weakness, uncoordinated gait, and paralysis.

### Diagnostic Tests

A presumptive diagnosis is often made based on characteristic findings on x-rays of the spine. Routine laboratory tests (blood and urine) are usually performed to look for evidence of infection and to evaluate the dog's general health. Brucellosis testing is usually recommended. Bacterial cultures of urine, blood, or any other infected tissue may be done to try and isolate the organism responsible for the infection. X-rays of the chest, an abdominal ultrasound, and/or an echocardiogram (heart ultrasound) may be recommended to look for an underlying source of the infection.

Computed tomography (CT scan) and magnetic resonance imaging (MRI) may provide information that is not visible on plain x-rays and may help determine whether surgery is indicated. In some instances, a needle is passed into the infected intervertebral disc space during a CT scan for the purpose of obtaining material for bacterial culture.

## TREATMENT AND FOLLOW-UP

### Treatment Options

Treatment involves administration of antibiotics and pain medication, as well as cage rest:

- The infection is often treated with antibiotics for a minimum of 8 weeks. When possible, antibiotic therapy is based on bacterial culture results. If bacteria cannot be identified, then antibiotics are chosen that are effective against multiple types of bacteria.
- Because discospondylitis can be painful, pain medications are often used.
- Strict confinement is important during recovery, because infection of the intervertebral disc can cause spinal instability. Confinement involves cage rest, restriction of exercise, and leash walking only for urination and defecation.
- Improvement of signs associated with systemic illness (fever, lethargy) and pain is typically seen within the first week of treatment. If no improvement occurs, additional testing or treatment may be necessary.

Animals occasionally require surgery to remove material causing spinal cord compression and to stabilize the vertebral column. Surgery is usually done for animals with severe neurologic problems or pain that does not respond to treatment.

Dogs that are positive for brucellosis present a dilemma with regard to treatment, because they may be contagious to other dogs and people. Contact your physician if there is a risk of human infection. (See the handouts on **Brucellosis** and **Infertility in Male Dogs**.)

### Follow-up Care

X-rays may be recommended every 6-8 weeks to look for resolution of the infection. Laboratory and other tests may also be repeated, depending on the original source or location of the infection. Often x-rays show little change for months. Antibiotics are typically continued for a minimum of 8 weeks regardless of x-ray findings, and some affected animals require several months of antibiotic therapy.

### Prognosis

Prognosis is good in animals that respond to treatment within the first week. Animals with mild neurologic signs also have a favorable prognosis. Bacterial infections usually respond better than fungal infections to treatment. Bacterial infections that are resistant to treatment, fungal infections, and the presence of brucellosis are associated with a worse prognosis. Animals with severe neurologic signs or spinal instability have a poor prognosis for full recovery; however, aggressive antibiotic therapy and surgery may allow a complete recovery even in animals with severe disease.