Dogs with AA Instability have too much movement between their first and second neck bones.

What are the signs of AA instability?
Dogs with AA Instability experience pain and difficulty walking due to the excessive movement between the vertebrae. Leg weakness affects all four limbs and some dogs become completely paralyzed. Signs can occur suddenly or gradually over time so it’s important to watch carefully for:
- Neck pain and tenderness
- Signs of weakness in all 4 legs
- Difficulty landing on their feet after jumping down from furniture or other surfaces

What causes AA Instability?
AA Instability occurs when a small piece of bone in the dog’s neck (called the dens) is malformed. The dens helps connect the first and second vertebrae. When the dens is malformed, the first two bones in the dog’s spine are not properly anchored, resulting in excessive movement. Often times, the ligaments that connect to the dens are also malformed.

Small and toy dogs are at greatest risk of AA Instability
AA Instability or Atlantoaxial Instability, is a congenital condition affecting mostly small and toy-breed dogs. Dogs with AA Instability have too much movement between their first and second neck bones. This movement causes pain and difficulty walking, and for some dogs, can lead to full paralysis.

Small breeds are most affected
AA Instability usually affects immature, small and toy-breed dogs. Of the dogs we see with AA Instability, the majority are Yorkshire Terriers, Pomeranians, Chihuahuas and Toy Poodles. However, any breed and any size dog can have AA Instability.

Diagnosing AA Instability
X-rays are routinely used to diagnose AA Instability. In some cases, AA Instability may not be obvious on routine x-rays and is only apparent on x-rays taken when the neck is flexed. However, this can potentially further damage the spinal cord. As a result, CT-scan and MRI are often a better choice.

ADVANCED IMAGING CENTER
Animal Neurology & MRI Center is the only private veterinary center in Michigan with an indoor, state-of-the-art Imaging Center including a high-powered MRI.

With the same equipment and capabilities of human medicine, the Imaging Center consists of an MRI Suite, with a strong, fixed 1.5 Tesla magnet for superior high resolution images with less scanning and anesthesia time, along with a CT Suite and Digital X-ray Suite. All of these facilities are under one roof providing maximum safety and comfort for your pet.
Medical treatment to manage the problem
With medical treatment, the dog wears a neck brace, takes anti-inflammatory medication and requires strict cage rest. This form of treatment is successful in about 60% of dogs; in others, neck injury can occur once the brace is taken off. The neck brace can be difficult to apply, and some dogs do not tolerate it for the eight to 12 weeks required.

Surgery to correct the problem
The goal of surgery is to fuse together the first two neck bones by placing pins between the two vertebrae and securing them with bone cement to keep the bones stable. Surgery has a success rate of about 80%.

TREATMENT OF AA INSTABILITY

In all cases, early treatment is essential.
If you suspect that your dog has AA Instability, see your veterinarian immediately. Regardless of which treatment option you choose, the sooner the treatment, the better the outcome for your pet.

Dogs that have the best prognosis:
• Exhibit signs prior to two years of age.
• Have exhibited signs for less than 10 months.
• Exhibit pain without other symptoms.
• Are not weak or paralyzed.

Dogs with AA Instability are treated medically or with surgery. The board-certified veterinary neurologists at Animal Neurology & MRI Center can help you decide which treatment option is best for your pet.

FOR THE VETERINARIAN

Ask us about CE opportunities for your hospital and staff.
Before taking flexed neck radiographs we recommend to check if the dog has a dens or not. Especially if the dens is intact extreme care must be taken to avoid excessive flexion as this could cause additional spinal cord trauma and worsening of the neurological status. The dens can be best seen by taking radiographs from an angle (lateral oblique) or vd. So always take a lateral oblique and vd radiographs before flexing the neck!

The Animal Neurology & MRI Center is centrally located in the Metro Detroit area

Board-certified neurologists caring for pets 24/7.
• One trip is all our clients need to make. A cozy long-term waiting room offers Internet, television, and a couch to keep them comfortable. When available, clients may stay overnight with their pets.
• A doctor is with your pet 24/7, this sets us apart from other facilities. Patients are cared for by board-certified neurologists by day and ER veterinarians skilled in caring for neurological patients at night.
• We are one of the few centers in the U.S. with highly advanced on-site diagnostics including MRI & CT scans read by board-certified radiologists.

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We are open for emergencies 24 hours a day, 7 days a week including holidays.