Wobbler Syndrome—Questions & Answers

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What is Wobbler Syndrome?
Wobbler Syndrome is a neurologic disease of dogs that affects their spines in the neck region. It is a very important and common cause of neurologic disability in large-breed dogs.

Are there other names for Wobbler Syndrome?
Wobbler Syndrome or Wobblers is the most common name used, but the veterinary literature has used 14 different names to describe this condition. This is in part due to the confusion regarding the mechanisms causing the disease. The name most commonly used in veterinary articles is cervical spondylomyelopathy (which means a disease of the neck vertebrae affecting the spinal cord). Other common names are CVI—cervical vertebral instability, CVM—cervical vertebral malformation, CVMM—cervical vertebral malformation-malarticulation, and cervical spondylopathy.

What are the signs of Wobbler Syndrome?
Dogs with Wobbler Syndrome typically have a "wobbly" gait, mostly in the back end (thus the name "Wobblers"). This wobbly gait may only be visible on slippery floors or when the dog walks slowly. They may walk with their heads down, which is usually a sign of pain. In the more advanced stages of the disease the problems become obvious in all four legs, and the dog may have trouble getting up, appear very weak, and even "buckle over" with the front legs. Approximately 5% of dogs with Wobblers may become acutely paralyzed in all four legs.

Which kind of dog gets Wobbler Syndrome?
Wobbler syndrome is primarily a disease of large- and giant-breed dogs. Small-breed dogs occasionally get the disease, but it is uncommon. In a study of 104 dogs with Wobblers, only 5 were small dogs.

What are the breeds most commonly affected?
Dobermans and Great Danes are the breeds most commonly affected. A recent survey of the Veterinary Medical Database showed that 4.2% of Great Danes have Wobblers, whereas the disease is present in 5.5% of Dobermans. Other breeds disproportionately affected are Rottweilers, Mastiffs, Weimaraners, German Shepherds, Bernese Mountain Dogs, and Swiss Mountain Dogs, but any large or giant breed dog can have the disease.

Is the disease the same in all dog breeds?
Generally speaking, no; the disease tends to be different in these breeds. Dobermans usually have the disease when they are middle aged to older (mean age 6 years), whereas Great Danes are typically younger (mean age 3 years**).** The mean age of affected Bernese Mountain Dogs is 5 years, with most dogs older (6-7 years); occasionally, however, 2- to 3-year old dogs are seen.

What causes the disease?
We don't know yet what exactly causes the disease. Many people believe that there is a genetic basis for the disease; this may well be true, but the evidence for genetics is still not clear. We are investigating the genetics of the disease in Dobermans and have plans to study it in Great Danes in the future. If we were to obtain enough data from the Bernese community from our Call for Participation, we might also be able to do a pedigree analysis for that breed.

Why do they have the neurological signs or pain?
The neurological signs happen because affected dogs typically have spinal cord compression. The compression can be caused by a combination of a small spinal canal with disc herniation (as commonly seen in large breeds such as the Doberman) or a small spinal canal secondary to bony changes impinging upon the spinal cord (more commonly seen in giant breeds, such as Great Danes). The spinal nerves or nerve roots can also be compressed. When the nerves are compressed, this causes a great deal of pain/discomfort.

How can I find out if my dog has Wobblers?
Your dog has to be examined first by your veterinarian. During the examination he/she will perform a physical and a neurological examination to find out if the reason for the difficulty in walking can be attributed to a neck/neurologic problem.

To specifically diagnose the disease we need to do some imaging tests. We typically do X-rays first to see if we can identify any obvious bony lesion or diagnose other diseases that can mimic Wobbler syndrome. To confirm the disease, more advanced imaging tests are required. In the past we used to do myelograms (an X-ray with dye injected around the spinal cord). This technique is rarely used these days because there are better, more sensitive tests. The best test is an MRI (magnetic resonance imaging). We have specifically compared MRIs and myelograms in 18 dogs with Wobblers, and MRIs were superior. MRI is also very safe. We do not see any neurological worsening after MRIs, whereas worsening happens frequently with myelograms (even though the worsening was mild and temporary). A CAT scan (computed tomography) is also a good test, but probably not as good as the MRI because we cannot see the spinal cord well without using dyes. Typically these tests are done by specialists in larger hospitals or specialty clinics.

What are the treatment options?
Dogs can be treated medically or surgically. Medical management usually consists of the use of anti-inflammatory drugs (steroidals or non-steroidals) with restricted activity. Because they have a neck problem, neck leashes should not be used, and a chest harness is strongly recommended.

How is surgery done?
Surgery can be done in many different ways. There are at least 21 different types of surgery to treat Wobbler Syndrome. Several factors must be taken into consideration when deciding on the type of surgical treatment. For example, how severe are the symptoms, how many lesions are present in the spine, how severe is (are) the spinal lesion(s), the presence of other concurrent medical conditions, such as dilated cardiomyopathy? The attending neurologist or surgeon will discuss the options with the owner, taking into consideration the short- and long-term expectations of the family.

What is the success of the treatment?
We have done a study looking at the success of surgery and medical management of Wobblers in 104 dogs. Based on that study we learned that approximately 50% of dogs will improve with medical management, approximately 30% will remain stable, and 20% will worsen. Surgical treatment offered a success rate of approximately 80%. The other 20% of dogs either remained stable or worsened. We have had very good success with both medical and surgical management.

The mean age of affected Bernese Mountain Dogs is 5 years, with most dogs older (6-7 years); occasionally, however, 2- to 3-year old dogs are seen.

Would Wobblers shorten the life expectancy of my dog?
It might. Again, it depends on how severe the spinal lesions are, how much neurological impairment is present, and the type of treatment. Typically, based on our studies, the mean survival time of dogs with Wobblers is approximately 4 years after the diagnosis.

Are you doing any studies at The Ohio State University College of Veterinary Medicine?
We have a strong program to better understand and treat dogs with Wobbler Syndrome. Currently we have two major projects. In both projects we are paying for the MRIs of dogs enrolled in the studies.

Gait analysis of Dobermans with and without Wobbler Syndrome
We are using state-of-the-art computerized systems to study the gait of Dobermans with and without Wobbler Syndrome. Our goal is to develop a reliable, objective, unbiased system to assess the success of treatments for Wobbler Syndrome. Currently we can't tell which surgery is better because we have no objective way to assess outcomes. Doberman dogs with signs of Wobblers can be enrolled in this study, which pays for the spinal MRI and all gait tests. This study is the Masters project of one of our Neurology Residents. The study is being supported by the Canine Funds from the College of Veterinary Medicine, The Ohio State University.

Anatomic and functional characterization of Great Danes with and without signs of Wobbler syndrome.
This study aims to characterize and to compare the presence of spinal abnormalities in normal and Wobbler Great Danes using MRI and other tests. In previous studies in Dobermans we found that many clinically normal Dobermans had severe changes in their spines, yet they had no signs of Wobblers. This information was crucial to allow a better understanding of the disease in Dobermans. As almost 1 out of 20 Great Danes have Wobblers, we need to have a better understanding of the disease in the breed. We are enrolling 30 Great Danes (15 normals, 15 with Wobblers). The study will cover all the costs for the normal Great Danes who volunteer to help with this study. Also, the study will cover the cost of the MRI for the Great Danes affected with Wobblers. This study will be part of the Ph.D. thesis of one of our Neurology residents. This study is being graciously supported by the Great Dane Club of America.

We are also involved in a number of other investigations, namely:

- Genetics of Wobbler Syndrome in Dobermans
- Mechanisms leading to neurological deterioration after treatment
- Newer methods of treatment. We are starting to use artificial disc replacement to treat Wobbler Syndrome. This is a new surgical technique that is considered to be the "gold standard" treatment for humans with a disease very similar to Wobblers called cervical spondylotic myelopathy.
- Preliminary pedigree investigation with Bernese Mountain Dogs diagnosed with Wobblers.

Question/comments please contact
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Call for Participation

Bernese Mountain Dogs with Diagnosed Wobblers (alive or deceased)

If you have owned a Berner who has been/was diagnosed with Wobbers or you know someone who has owned a BMD who fits this requirement, please participate in this study. As of this printing, 6 more BMDs were needed to complete this phase of the study (which requires a total of 20 diagnosed subjects). Dr. da Costa can accept data from Berners that are still living or those that have gone to the Bridge as long as you can provide a copy of the dog's pedigree and still obtain the diagnosis from the vet (myelogram, MRI, or CAT scan results).

The BMD Wobblers study has the possibility of producing knowledge on a terrifying neurological disorder in our breed. If you can contribute data to the Wobblers study, please do so. These preliminary studies offer us the best hope of producing tests for breeders to use in identifying carriers and for owners of affected dogs seeking cures/therapies.

Those who submit data to the Wobblers study are guaranteed confidentiality. Please contact Dr. da Costa if you would like your Berner (living or at the Bridge) to participate in the Wobblers study. He can be reached at Ronaldo.daCosta@cvm.osu.edu. At this stage of the study, you need to submit only a pedigree and veterinary diagnosis of Wobblers/CVI.