

COLLAPSING TRACHEA

About the Diagnosis

The trachea is commonly known as the windpipe. This is the "tube" that extends from the back of an animal or person's mouth to the chest, where it divides into two smaller tubes (bronchi) that lead to the lungs. Air travels into and out of the lungs through the trachea. The trachea consists of a long column of rings stacked on top of each other. These rings are made of a firm material called cartilage. For unknown reasons, some of these rings can lose their rigidity prematurely with age and partially collapse in some dogs. The rigid tube then becomes floppy and can flutter with breathing, which triggers fits of coughing. This can happen anywhere along the length of the trachea. The problem of a collapsing trachea most commonly occurs in middle-age to older dogs that are toy or miniature breeds (Lhasa apso, Yorkshire terrier, Chihuahua, Pomeranian, toy poodle, shih tzu, and others); however, a collapsing trachea occasionally occurs in younger dogs and other breeds. Very rarely, a dog may be born with this problem (congenital disorder).

The most common sign associated with a collapsing trachea is a nonproductive (dry) cough. The cough is often described as a "goose honk" because of its characteristic sound and can be induced by excitement, anxiety, exercise, eating and/or drinking, becoming overheated, and mild pulling on the collar (as opposed to pulling hard on a collar or leash, which can trigger a cough in virtually any dog). Some owners report that picking their dogs up under the chest area can bring on coughing caused by a collapsing trachea. The cough may be severe enough to cause the dog to faint. In the earliest stages, some dogs with a collapsing trachea do not cough at all and the problem goes unnoticed.

Collapsing trachea is usually diagnosed based on a combination of symptoms (coughing episodes brought on by the events listed above) and visualizing the narrow trachea on x-rays of the neck and/or chest. Occasionally, the veterinarian will recommend that other procedures be performed to help determine if the dog has a collapsing trachea or to determine the severity of the collapse. One of these tests is called fluoroscopy, which is a method of watching "moving x-rays" of the dog as it lies on a table. This confirms that collapsing trachea is present and shows the extent of the collapsing segments (i.e., severity). Bronchoscopy is a less commonly performed test to assess the severity of a collapsing trachea. Bronchoscopy involves gently inserting a long tube with a very small camera on its end into the trachea. As the tube is advanced into the airway, images of the walls of the airway are seen. The dog is sedated for both fluoroscopy and bronchoscopy procedures.

If the veterinarian suspects that the dog has another respiratory problem that may be exacerbating the collapsing trachea, several other tests may be performed while the dog is sedated or anesthetized. For example, the airway may be flushed with a sterile fluid to collect organisms and cells lining the inside of the trachea (bronchoalveolar lavage or BAL). Another test involves inserting a small brush into the trachea and gently rubbing it against the walls in several locations to collect organisms and cells (brush cytology). Yet another test involves inserting a small instrument into the trachea and cutting out tiny tissue samples of the walls of the airway in areas that look abnormal (biopsy). These tests may help to find organisms such as bacteria, viruses, fungi, or others that do not belong in the dog's airways.

Living with the Diagnosis

Owners of dogs that are diagnosed with a collapsing trachea can do many things to help make their dogs more comfortable. Instead of collars, harnesses need to be used when taking the dog for a walk. Harnesses fit around the dog's chest, avoiding pressure on the neck caused by collars. Do not walk the dog in hot, humid weather and avoid leaving it in a car in hot weather. Leaving the dog in a car can not only lead to overheating, but also can be stressful even in cooler weather. Even after changing from a collar to a harness, avoid overexercising your dog. For overweight dogs, switching them to a weight-reducing diet can help tremendously. If stressful situations are anticipated (for example, if the house will be full of children for a birthday party), talk to your veterinarian about giving medication to the dog before the event.

TREATMENT

For most dogs diagnosed with collapsing trachea, drugs can be very helpful. Your veterinarian can prescribe a specific type of drug for your dog. There are several types of drugs that work in different ways. **Sedatives** can help the dog to relax, which breaks the cycle of: anxiety-induced coughing, coughing-induced tracheal irritation, tracheal irritation-induced anxiety and coughing. Some types of **cough suppressants** can be helpful and may

even contain a sedative. Another type of medicine (**bronchodilator**) works by dilating the tiny airways that lead to the lungs and making the work of breathing a little bit easier. Your veterinarian can discuss the schedule for these medicines with you. Some dogs may only need to be given the drugs at certain times. Other dogs may need to receive them more often. Just as in people, a dog may respond better to some medications than others. For this reason, if one medication does not appear to help, talk to your veterinarian about trying another type or any need for tests to assess why it might not be working (e.g., if complications are present).

If you take your dog to the veterinary clinic and the dog is in a state of respiratory distress due to severe collapsing trachea, the staff may give oxygen by placing the dog in an "incubator-type" box or cage filled with oxygen. Once the dog is calm, oxygen can temporarily be given through a narrow tube inserted into the nose and airway.

If the dog has other respiratory or heart problems, these may need to be treated as well. The treatment will depend on the specific problem.

In some dogs, a drug may lose its effectiveness, especially if the collapsing trachea worsens over time. If a dog no longer responds well to any of the available drugs, surgery may be an option. Synthetic rings that mimic the function of the dog's real tracheal rings can be implanted by a veterinary surgical specialist. This procedure has had limited success and some complications. There are many factors to consider before this surgery can be performed, and not all dogs are candidates for this procedure. Your veterinarian can refer you to a specialist if surgery might be an option.

DOs

- Give medicine exactly as prescribed.
- Use a harness or Gentle Leader-type face collar instead of a regular collar.
- Avoid placing the dog in situations that you suspect may be stressful or anxiety-provoking or that have triggered fits of coughing in the past.

DON'Ts

- Do not leave any dog in a car with the windows rolled up, especially in warm, humid weather.
- Do not force the dog to continue exercising if coughing begins.

When to Call Your Veterinarian

- If the dog shows signs of an adverse drug reaction (weakness, drowsiness, anorexia or decreased appetite, hives [bumps under the skin], vomiting, diarrhea, constipation or straining to have a bowel movement, seizures, etc.).
- If your dog faints and you cannot wake it up.
- If your dog produces a greenish or whitish phlegm when coughing (or a similar nasal discharge).
- If a drug no longer appears to be effective. Some dogs become "resistant" to some drugs after taking them for a while but will respond well to other drugs.