Tracheal Collapse in Dogs
By Dr. Karen Becker

Hi! This is Dr. Karen Becker. Today we’re going to discuss tracheal collapse.

Tracheal collapse is a chronic, progressive disease involving the windpipe or trachea. The trachea is somewhat like a vacuum cleaner hose that contains small rings or cartilage that keep the airways open. The rings are C-shaped, with the open part of the “C” facing upward. Running along this top opening is a band of tissue called the dorsal membrane.

In certain dogs, the rings of cartilage are either not formed correctly from birth, or they weaken and begin to change from more of a C-shaped to kind of a U-shape. As the dorsal membrane stretches, the cartilage rings get progressively flatter until eventually the trachea can just collapse, leaving the dog trying to pull air through what is basically a closed straw.

Tracheal collapse can be congenital, which means it’s present from birth, or it can be acquired. When the condition is congenital, it appears to be a result of a deficiency in certain components of the cartilage rings, like calcium, chondroitin, glycoproteins, and glycosaminoglycans.

Acquired tracheal collapse is often caused by chronic respiratory disease, Cushing's disease and heart disease. Collapse of the trachea in the neck occurs when the dog breathes in. Collapse of the trachea in the chest occurs when the dog breathes out. The collapse can involve the bronchi that feed air to the lungs, which results in serious airway obstruction in the dog.

Potential Signs or Symptoms

Tracheal collapse is most common in small breed dogs like the chihuahua, Lhasa Apso, maltese, pomeranian, pug, shih tzu, the toy poodle, and the Yorkie.

One of the first signs of tracheal collapse can be a sudden attack of dry coughing that sounds a little bit like a goose honk cough. It progresses from the goose honk cough into a more consistent cough and can initially occur when there’s pressure placed on your dog’s trachea. This can happen when the dog is picked up or if the collar is being pulled on the dog. As the disease progresses, the dog can develop exercise intolerance, obvious respiratory distress, and gagging while eating or drinking.

Some dogs with tracheal collapse can turn blue when they are excited or stressed. Certainly, secondary heart disease can result from the consistent straining to breathe.
Some dogs have both laryngeal paralysis and tracheal collapse. These dogs usually make a wheezing sound when they breathe in.

**Treatment and Diagnosis**

Tracheal collapse can sometimes be seen on a regular X-ray as a narrowing of the tracheal lumen or opening. Fluoroscopy, which is a moving X-ray, allows the vet to visualize the dog’s trachea as he breathes in and out. An endoscopy allows the view of the inside of trachea with a tiny camera. It really provides the best way of viewing the inside of the airway. During this time, the veterinarian can also take samples of the trachea for culture and sensitivity testing or additional analysis.

Sometimes an echocardiogram is recommended to evaluate heart function.

Any disease of the upper or lower airway can be mistaken for tracheal collapse, including foreign body – which is any kind of foreign object in the airway – laryngeal paralysis, an elongated soft palate, infection of the trachea, lungs, or heart failure, as well as tumors or polyps. So, it’s pretty important that you get a definitive diagnosis and not just a guess.

Conventional medical management of mild to moderate cases of tracheal collapse involve the use of cough suppressants, antispasmodics, bronchodilators, and sedatives to help reduce coughing spasms and the associated anxiety. It’s important to break the coughing cycle, because coughing irritates the airway and leads to more coughing. If infection is present, of course, that has to be addressed as well. Certainly if the dog is overweight, it’s really important that these dogs lose weight.

**Additional Reminders from Dr. Becker**

I do recommend that you evaluate the dog’s environment, because this environment should be free of smoke and other environmental pollution. All dogs with collapsing trachea should be walked only using a harness. I don’t recommend anything around the neck, as reducing all pressure at the level of the throat is really important for these dogs.

Medical management works for about 70 percent of dogs with the mild form of this particular condition. Holistic veterinarians do add in some cartilage builders to help maintain the integrity of the tracheal cartilage. Sometimes, this can include glucosamine, chondroitin, MSM, eggshell membrane, and CMO, which is also called cetyl myristoleate. Sometimes, chiropractic and acupuncture have also been demonstrated to reduce the intensity of the duration of these coughing episodes.

In more severe cases or for dogs who don’t respond to medical management, sometimes surgery is recommended. If the collapse is happening in the neck or the
thoracic inlet, which is basically here to here, plastic rings are placed surgically around inside of the trachea. If the collapse is deeper in the chest, then oftentimes a stent is placed in the trachea. A stent is basically like a little, tiny spring that holds the trachea open.

Repair of the tracheal collapse is a very specialized surgical procedure. Don't let your veterinarian tell you that it's no big thing. These particular procedures have significant potential for complications. So, it should only be performed by a veterinary surgeon that has really extensive knowledge and a well-equipped hospital with a staff and facility that can be able to help your dog recover from this significant procedure in an appropriate manner.