



**Ettinger: Textbook of Veterinary Internal
Medicine, 7th Edition
Collapsing Trachea
Stephen J. Ettinger**

What is a collapsing trachea and what is the cause?

Collapsing trachea occurs most often in middle-aged to older dogs. The diagnosis is suggested by a honking cough precipitated by activity, excitement, or water drinking. Nonproductive coughing may occur without a stimulus. Signs vary and include mild to severe panting, respiratory distress, and bluish discoloration of the mucous membranes (cyanosis). Abdominal breathing efforts result in tense abdominal muscles.

Dogs are frequently overweight but may be thin. A heart murmur associated with valvular heart disease is often encountered because both problems occur in aging dogs.

Collapsing trachea results when the windpipe (tracheal) cartilages soften. The trachea (windpipe) should resemble a relatively firm garden hose. Viewed on end, the windpipe is a U-shaped structure with a tight membrane covering the top. Where cartilage softens, it collapses and widens at the top. The membrane then drapes (collapses) loosely, blocking the inside of the "hose." This results in an inability to bring air into or out of the trachea and lungs during breathing.

What are the complications of a collapsed trachea?

Complications of this disease include lung problems, heart disease and/or failure, enlarged liver, and chronic kidney insufficiency. Dental infections, other infections, and obesity aggravate the disease.

What tests are needed?

The diagnosis of collapsing trachea, initially historical, is substantiated when a veterinarian can cause your pet to cough by digital manipulation of the neck. Radiographs (x-rays) identify changes in the trachea during both inspiration and expiration.

The diagnostic evaluation includes laboratory sampling of the blood to identify causal or complicating medical problems, motion studies of the trachea and lung during respiration, endoscopic examination of the windpipe and throat, and evaluation of abdominal organ enlargement.

What treatment is needed?

Treatment of collapsing trachea has four components. During the acute phase, respiratory distress and severe bouts of coughing are ameliorated with drugs that relax the trachea and lung and sedate the pet. Fluid congestion is relieved with diuretic

drugs, and short-term anti-inflammatory agents minimize swelling and tissue irritation. Antibiotics are utilized if an infection is present. Cough suppressants temporarily relieve discomfort. Cough suppressants (narcotic derivatives) may be used in a lifelong schedule for some pets with collapsing trachea.

Later, drugs that relieve bronchial constriction and spasm are utilized along with products to reduce anxiety and overstimulation. Anticough medications are used orally as necessary. Corticosteroid anti-inflammatory drugs may be helpful during episodes of acute exacerbation of the coughing.

Problems requiring simultaneous medical care that compromise the tracheal syndrome include recurrent pulmonary or pharyngeal infections, dental disease, and swelling of lymph tissue in the pharynx and tracheal region. Weight control is important.

Evaluation of thyroid function may be indicated. Liver enlargement, secondary to fatty infiltration or other disease, adversely affects the outcome of this disease. Many smaller dogs are simultaneously affected with heart disease. Your veterinarian understands how these conditions interact. Diagnosing and treating both may significantly improve the long-term prognosis.

Surgical correction of a collapsing trachea may be considered in young dogs when the trachea is collapsed in the neck region. Older dogs, those with complicating medical problems, and those with most of the trachea affected are not candidates for surgery.

What is the prognosis?

The prognosis remains good for many pets with early developing collapsing trachea, but the condition can be a serious, life-threatening problem when severe respiratory distress occurs. Bouts of severe coughing and respiratory distress negatively affect a good prognosis. The client should be made aware of the frustrating nature of therapy for these pets. Unless properly informed that coughing is likely to continue to occur to some degree, on and off, the client may become frustrated and seek additional care.