



## **COLLAPSED or FLATTENED TRACHEA**

### **What is a Collapsed Trachea?**

Tracheal collapse is a fairly common condition characterized by a reduction in the diameter of the “windpipe” as a result of weakening of its “C” shaped cartilage rings. As a result the dorsal tracheal membrane may further compromise the lumen by becoming thickened and flaccid, exaggerating the clinical signs.

### **Why Does This Happen?**

It is probably an inherited trait, occurring predominantly in the toy breeds of dogs. Studies have shown that abnormalities in the cartilage structure may represent degenerative changes secondary to long-standing “small airway disease,” or they may result from defects of cartilage formation associated with genetic or nutritional abnormalities. The breathing movements lead to an intermittent collapse or closing of the airway. The weakened cartilage allows flattening of the tracheal ring structure, and the trachea collapses. Chronic pressure fluctuations within the airway lead to more widespread respiratory system dysfunction. Mechanical trauma to the tracheal lining from collapse of the dorsal tracheal membrane during coughing increases airway swelling and inflammation.

The systems affected include:

- **Respiratory**—signs from upper airway disorders, such as everted sacculles in the larynx, laryngeal paralysis, and elongated soft palate, may be worsened by severe or protracted breathing problems; and respiratory tract infections can result from poor tracheal clearance of mucus and bacteria.
- **Cardiovascular** (heart & blood vessels)—if the combination of pulmonary diseases is severe enough it can lead to pulmonary hypertension (high blood pressure in the lungs).
- **Nervous**—fainting may develop from low blood oxygen or a nerve reflex associated with the cough.

### **How Common is Collapsed Trachea?**

Incidence prevalence is unknown, although the disorder is commonly diagnosed clinically, primarily in dogs, rarely in cats. Breed predilections: Miniature poodle, Yorkshire terrier, chihuahua, Pomeranian, other small and toy breeds. It is usually first noticed in middle-aged to elderly dogs with the onset of signs from 4-14 years of age. A congenital form also may be observed in youngsters.

### **What are the Signs of Collapsed Trachea?**

A dry “honking” cough is classically described for tracheal collapse. A chronic history of intermittent coughing or difficulty breathing may be reported. Retching is often noted, resulting from an attempt to clear the larynx of pulmonary secretions or mucus. Rapid breathing, exercise intolerance, and/or respiratory distress commonly are seen. Cyanosis (blue gums) or fainting may be found in severely affected individuals. Clinical signs usually are worsened by excitement, heat, humidity, exercise, or obesity.

### **How is It Diagnosed?**

The history of chronic coughing is suggestive of collapsed trachea. Physical examination findings include abnormal lung or tracheal sounds and a sensitivity to pressure on the trachea. Often the air can be easily cut off with only slight finger pressure on the trachea. Heart murmurs often are found as a result of the inter-relationship of cardiac and respiratory disease in small breed dogs. Radiographs (x-rays) will confirm the presumptive diagnosis in most cases and give valuable information on the condition of the animal’s heart and lungs. Bronchoscopic examination and bacterial culture may be indicated as well.

### **How is It Treated?**

Except for the rare case that requires hospital care and even surgery, most pets do well with minimal, intermittent medicine. Occasionally antibiotics may be needed, as well as cough suppressants and bronchodilators. More extreme cases may require heart medicines.

### **What is the Long-term Prognosis?**

With proper care most pets with tracheal collapse can lead fairly normal lives. The majority of affected dogs will improve by achieving weight loss. Obesity, over-excitement, and humid conditions can cause a crisis. Harnesses should be used in place of collars.



*Thank you for this opportunity to serve you.*