

# Collapsing Trachea

*A PowerPage Presented By*



Collapsing trachea can be seen as a primary condition or secondary to cardiopulmonary disorders such as heart failure or chronic bronchitis. Small animal practitioners will undoubtedly see this condition and should be familiar with the pathophysiology, signalment, clinical signs, and treatment options. There are some key recognizable features of collapsing trachea that are likely to appear on boards examinations.

## Key Points

- Small breed dogs
- Can be fixed or dynamic
- **Palpation may incite honking cough**
- Medical management vs. surgical management

## Signalment and Clinical Signs

- **Small breed** (Yorkshire terriers, Pomeranians, Chihuahuas, Pugs, etc.)
- Older animals (around 7 years) with signs of respiratory distress
  - Early signs- mild productive cough and exercise intolerance
  - Advanced signs- **development of honking cough**, substantial exercise intolerance, and possible cyanosis
- Dyspnea **triggered by excitement or anxiety**
- Typically obese patients

## Pathophysiology and Diagnosis

### Pathophysiology:

- Can be a result of a weak or redundant dorsal tracheal membrane
- Cartilaginous rings become hypoplastic or fibrodystrophic
  - If involving extrathoracic trachea (neck), trachea will collapse on inspiration
  - If intrathoracic, will collapse on expiration

### Diagnosis:

- **Palpation of trachea incites severe coughing spasms**
  - Will likely have characteristic **honking cough**
- May see on radiographs (flattened trachea)
- Fluoroscopy on an awake patient in lateral recumbency is a helpful diagnostic test in practice
- **Endoscopy** allows evaluation and visualization of bronchi which may be collapsing

## Treatment

- First, identify and treat any other primary condition affecting the upper respiratory system
  - Frequently, this may obviate the need to perform additional procedures on the trachea
  - May include conditions such as:
    - Stenotic nares
    - Elongated soft palate
    - Everted laryngeal sacculles

- Laryngeal paralysis
- Rule out concurrent cardiac disease
- If bronchial collapse is present, surgical treatment for tracheal collapse is less likely to be successful
  - Medical management may be the best option for these cases:
    - Weight loss
    - Anxiolytics as necessary
    - Bronchodilators if indicated

### Surgical Options:

- 1) Dorsal tracheal membrane plication
  - a. If cartilage is normal can plicate the redundant tracheal membrane
  - b. Only use for mild cases of tracheal collapse
  - c. Not done very commonly because many choose to manage mild cases medically
- 2) Intratracheal stenting
  - a. Stent can fracture
  - b. May begin to see collapse proximal or distal to stent placement
  - c. May induce severe mucous and granulation tissue production
  - d. If used properly up to 80% success rate
- 3) External support
  - a. Surgeons have attempted to use long solid materials to externally support the trachea
    - i. Plastic rings partially around trachea
    - ii. Polypropylene syringe cases
    - iii. Teflon tubing
  - b. Results have not been consistent

### Conclusion

- Because surgical intervention is not highly successful, most practitioners prefer to initially manage the condition medically and leave surgery only for cases in which quality of life is otherwise unacceptable to owners since the risk of complications and failure is relatively high

