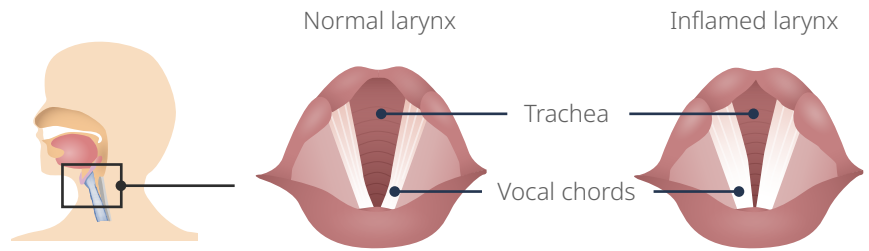




WHAT IS CROUP?



Croup is a symptom, characterized by infection and inflammation of the upper airway (trachea and larynx).



Etiologies

Viral causes

- Parainfluenza viruses types 1 and 3 (80% of cases)
- Influenza virus A and B
- Respiratory syncytial virus (RSV)
- Adenovirus
- Rhinovirus



Bacterial causes

- *Staphylococcus aureus*
- *Streptococcus pyogenes*
- *Streptococcus pneumoniae*
- *Haemophilus influenzae*
- *Moraxella catarrhalis*



Pathophysiology

- Viral infection of the laryngeal mucosa
- Inflammation, hyperemia, epithelial necrosis and shredding
 - › results narrowing of the subglottic region
- Breathe more rapidly and deeper to compensate for the narrowing of the upper airway
- Turbulent airflow (stridor) through the upper airway, chest wall begins to retract
- Inefficient asynchronous chest and abdominal movement, fatigued
- Hypoxia and hypercapnia progress to respiratory failure and arrest

Signs & symptoms

Croup typically starts as a mild cold.

	Cough: loud barking		Nasal: congestion or runny nose
	Respiratory: difficulty breathing, fast breathing, noisy breathing, shortness of breath, wheezing, or stridor		Speech: hoarseness, or impaired voice
	Time: worse at night	For most children, croup is a mild illness that can be managed at home	
	Also common: agitation, anxiety, phlegm, or sore throat		

Diagnosis

- History of symptoms
- Physical exam
- Barking cough, hoarseness, inspiratory stridor
- Low-grade fever
- Absence of wheezing

Treatment

- Corticosteroids (dexamethasone, prednisone)
- In serious cases: racemic epinephrine nebulizer
- Acetaminophen and/or Ibuprofen (only > 6 months old)
- Humidified air—debatable efficacy

Complications

- Complications are rare.
- Secondary bacterial infections
 - Dehydration
 - Respiratory distress
 - May need oxygen support, fluids and racemic epinephrine