

# Croup

## Clinical Practice Guideline



- Inclusion Criteria**
- 6 months to 6 years
  - Previously healthy
  - Signs and symptoms consistent with croup

- Exclusion Criteria**
- Symptoms consistent with another diagnosis
  - Upper airway abnormality
  - Hypotonia or neuromuscular disorder
  - Chronic lung disease

**Barking Cough and/or Stridor or history of stridor with illness**

**Give Dexamethasone 0.6mg/kg (max dose 16mg) PO/IV/IM  
Assess Westley Croup Score and severity of illness**

**Mild Score <2**

**Moderate Score 3-7**

**Severe/Life Threatening Score >8**

**Stridor at rest or biphasic stridor?**

yes

Give Racemic Epinephrine (0.1ml/kg nebulized solution with a maximum of 0.5mg)

Reassess for improvement

**Stridor at rest within <1hour?**

Monitor for 2 hours with hourly assessments.

**Stridor at rest or still symptomatic?**

Give Racemic Epinephrine (0.1ml/kg nebulized solution with a maximum of 0.5mg)

**Improved stridor at rest?**

no

Give additional Racemic Epinephrine (0.1ml/kg nebulized solution with a maximum of 0.5mg)

**Requiring epinephrine every two hours or less?**

no

yes

**Admit to Floor**

**Admit to PICU**

Consider discharge if well appearing and tolerating PO

- Discharge Criteria:**
- Minimal stridor at rest (stridor with activity expected)
  - Minimal Retractions
  - Able to talk and PO without issue
  - 2 hours since racemic epinephrine

- PICU Admission:**
- Racemic Epinephrine (0.1ml/kg nebulized solution with a maximum of 0.5mg) every 2 hours or less
  - Toxic appearing or impending respiratory failure
  - If not improving assess for diagnosis such as foreign body.

- Severe Disease Therapeutic Adjuncts:**
- Nebulized Budesonide (0.5mg/2ml) 0.5mg INH x1, if over 6 months old
  - Racemic epinephrine q20 minutes
  - Heliox
  - If racemic epinephrine ineffective give IM Epinephrine (1:1000) 0.01mg/kg IM max of 0.3mg

## Westley Croup Score

<b>SCORE</b>	<b>Stridor</b>	<b>Retractions</b>	<b>Air Entry</b>	<b>SaO<sub>2</sub> &lt;92%</b>	<b>Level of consciousness</b>
<b>0</b>	None	None	Normal	None	Normal
<b>1</b>	Upon agitation	Mild	Mild Decrease		
<b>2</b>	At rest	Moderate	Marked Decrease		
<b>3</b>		Severe			
<b>4</b>				Upon agitation	
<b>5</b>				At rest	Decreased

### **Differential Diagnosis to Consider:**

- Retropharyngeal Abscess
- Bacterial Tracheitis
- Epiglottitis
- Foreign body aspiration
- Airway Anomaly
- Asthma
- Allergic Reaction/Anaphylaxis
- GERD

Please review deep neck infection CPG if appropriate.

### **Foreign Body Consults:**

1<sup>st</sup> week of month: ENT

2<sup>nd</sup>-4<sup>th</sup> week: Ped surgery

## References

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- Russell, K. F., Liang, Y., O'Gorman, K., Johnson, D. W., & Klassen, T. P. (2011). Glucocorticoids for croup. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.cd001955.pub3>