



## **Clinical Practice Guidelines: Respiratory/Croup**

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Date	September, 2024		
Purpose	To ensure consistent management of patients with croup.		
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.		
Health care setting	Pre-hospital assessment and treatment.		
Population	Applies to all ages unless stated otherwise.		
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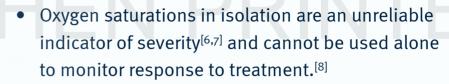
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**Croup** is a common viral inflammatory illness causing narrowing of the subglottic airway. It is characterised by a 'seal like' barking cough, inspiratory stridor and hoarseness of voice with or without respiratory distress.[1] It is the most common cause of respiratory illness in children<sup>[2]</sup> and accounts for 2.3% of paediatric presentations to emergency departments in Australia and New Zealand. [3] Many viruses can cause croup, the most common being parainfluenza and respiratory syncytial virus.

Annually, the QAS attends approximately 3,500 patients that present with suspected croup. The vast majority of these requests for service occur at night between the hours of 2100 and 0600.[4]



- · 'Seal like' barking cough, inspiratory stridor and hoarseness of voice with or without respiratory distress.[1]
- Predominately affects children 6–36 months of age with an incidence of 5% in the 2nd vear of life.[2,5]
- Symptoms are usually mild to moderate.
- Duration usually 2-5 days with symptoms worse at night (often peaking on night two or three).



- Risk factors for severe croup include subglottic stenosis, Down Syndrome, previous severe croup, less than 6 months of age, known structural airway abnormality, inadequate fluid intake, re-presentation to an emergency service within 24 hours of receiving a croup diagnosis, and diagnostic uncertainty.[9]
- Although infrequent, severe airway obstruction (less than 1% of presentations) and death (1:20 000) can still occur.[10]
- Differential diagnoses of acute stridor and respiratory distress include:
  - foreign body inhalation
  - retropharyngeal or peritonsillar abscess (quinsy)
  - bacterial tracheitis
  - epiglottitis.

The **Westley Croup Score (WCS)**[1] is a validated [2,3] and frequently used croup severity assessment tool based on clinical signs and symptoms. It is determined by allocating corresponding scores to five (5) observed criteria:

- level of consciousness
- cvanosis
- stridor
- air entry; and
- chest wall retractions.

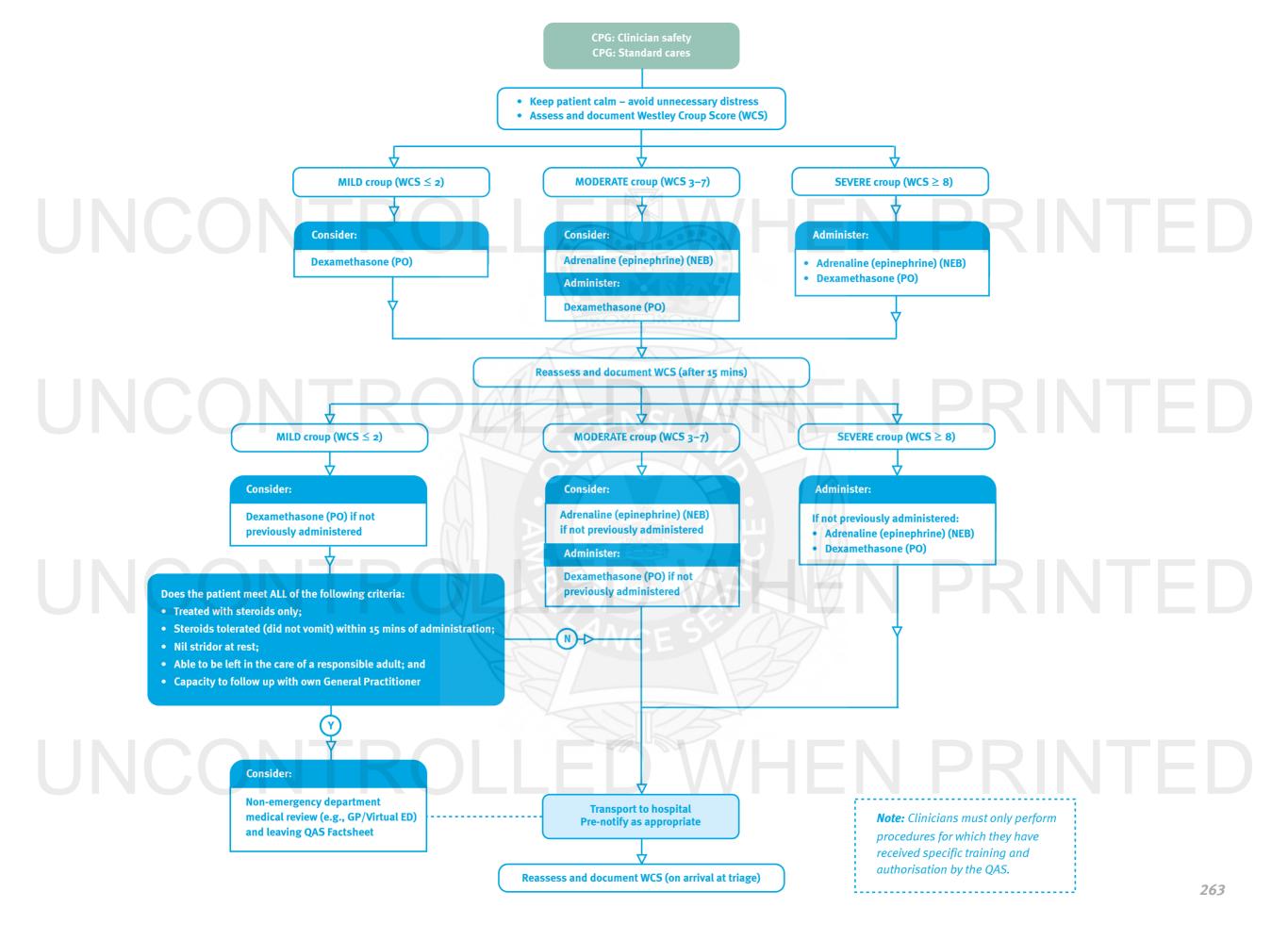
### **PROCEDURE**

Allocate the appropriate WCS (o-17) by determining the accumulative score associated with each criterion.

Westley Croup Score <sup>[1]</sup>			
Criteria	Variable	Score S	
Level of consciousness	Disorientated	5	
	Normal, including sleep	0	
Cyanosis	At rest	5	
	With agitation	4	
	None	0	
Stridor	At rest	2	
	With agitation	1 - 6	
	None	OCE	
Air entry	Markedly decreased	2	
	Decreased	1	
	Normal	0	
Chest wall	Severe	3	
retractions	Moderate	2	
	Mild	1	
	None	0	

## **Additional information**

- Patients that present with croup can be managed through varying disposition options depending on the severity of their symptoms and response to clinical interventions.
- Unnecessary interventions or procedures should be avoided to prevent further distress and the potential worsening of symptoms.
- There is no definitive treatment for the viruses that cause croup. Therapy is aimed at decreasing airway oedema and providing supportive care.[11]
- The appropriate administration of corticosteroids and nebulised adrenaline (epinephrine) have been shown to reduce the need for and duration of ETT intubation, length of hospital stay and re-presentation rates.[11] Oxygen therapy is not routinely recommended however, may be considered with significant oxygen desaturation (SpO2 < 93%).
- Steam inhalation has not been shown to improve croup's severity.[12]
- The WCS must be assessed and documented every 15 mins and also on arrival at triage.



# **Croup Factsheet**

In instances that all criteria for non-emergency department medical review (e.g. GP/Virtual ED) are met, the family and/or guardian can access the QAS Croup Factsheet through the below QR Code.





