



= YES    = NO

(PLACE PATIENT LABEL HERE)

SURNAME: \_\_\_\_\_ NHI: \_\_\_\_\_

FIRST NAMES: \_\_\_\_\_

Date of Birth: \_\_\_\_ / \_\_\_\_ / \_\_\_\_      SEX: \_\_\_\_\_

# CROUP



Date: \_\_\_\_\_ Time: \_\_\_\_\_ Assessment nurse: \_\_\_\_\_ Sign: \_\_\_\_\_

### INCLUSION CRITERIA

- Age > 6 months
- Stridor, barking cough and/or hoarse voice

### EXCLUSION CRITERIA

- Age < 6 months

**Initiate Treatment Pathway: # BCB Croup**

**STOP!**

Not suitable for this Best Care Bundle  
Continue usual nursing cares

### NURSING ASSESSMENT

- History, examination and vital signs
- PEWS: \_\_\_\_\_
- COVID 19 concern: *Performing Nasopharyngeal swab in a child with croup could precipitate catastrophic airway collapse. Please check with senior clinician before performing.*

### CROUP SEVERITY ASSESSMENT TOOL *Default to higher severity if any doubt*

	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe
<i>Behaviour</i>	<input type="checkbox"/> Normal	<input type="checkbox"/> Some / intermittent irritability	<input type="checkbox"/> Increasing Irritability or lethargy
<i>Stridor</i>	<input type="checkbox"/> Only when active / upset	<input type="checkbox"/> Some stridor at rest	<input type="checkbox"/> Stridor at rest
<i>Respiratory rate</i>	<input type="checkbox"/> Normal	<input type="checkbox"/> ↑ Increased	<input type="checkbox"/> Markedly increased or decreased
<i>Accessory muscle use</i>	<input type="checkbox"/> None or minimal	<input type="checkbox"/> Tracheal Tug <input type="checkbox"/> Nasal flaring <input type="checkbox"/> Chest wall retraction - moderate	<input type="checkbox"/> Tracheal tug <input type="checkbox"/> Nasal flaring <input type="checkbox"/> Chest wall retraction - severe
<i>SPO<sub>2</sub></i>			<input type="checkbox"/> < 94%

### RED FLAGS *ALL RED FLAG BOXES MUST BE POPULATED*      = YES   = NO

- CAT 'Severe' or SPO<sub>2</sub> < 94% → Resus →
- Inform ED senior or Paeds team. Start severe pathway
- Urticaria / facial or lip swelling ? Allergy or anaphylaxis
- History of choking ? Foreign body aspiration
- Anaphylaxis in the past
- Sudden onset, no prodrome
- Known syndromes e.g Down syndrome
- Toxic appearance / lethargic / mottled / reduced LOC
- Known airway issues e.g. Laryngo-tracheo malacia
- Not immunised ? Epiglottitis

**NO RED FLAGS**

Continue Best Care Bundle  
follow pathway instructions  
page 3 & 4

**RED FLAGS PRESENT (ANY)** → Senior clinician review ASAP (SMO / Senior RMO / NP / CNS)

Clinician Name: \_\_\_\_\_ Sign: \_\_\_\_\_

Continue Care Bundle       Move to monitored / Resus

Exit Care Bundle: Reason: \_\_\_\_\_

### SAMPLE SIGNATURES

Name	Sign	Initial	Name	Sign	Initial



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**CAT: CROUP SEVERITY ASSESSMENT TOOL** *Default to higher severity if any doubt*

	MILD	MODERATE	SEVERE
<i>Behaviour</i>	Normal	Some / intermittent irritability	↑ Irritability or lethargy
<i>Stridor</i>	Only when active / upset	Some stridor at rest	Stridor at rest
<i>Respiratory rate</i>	Normal	↑	↑↑ or ↓
<i>Accessory muscle use</i>	None or minimal	Tracheal tug Nasal flaring Chest wall retraction (moderate)	Tracheal tug Nasal flaring Chest wall retraction (severe)
<i>SPO<sub>2</sub></i>			< 94%

**MILD PATHWAY**

- **Calming / comforting measures. Avoid distressing interventions**
- Review every 30 minutes. Record vital signs on nursing long sheet
- Calculate Croup severity using assessment tool above and select management option
- Calculate PEWS - if > 8 at any time → immediate medical review

START

Time:	<input type="checkbox"/> Cough with no other signs → observe only
Sign:	<input type="checkbox"/> Cough & other signs → Dexamethasone 0.15mg/kg ( <i>max 12 mg</i> ) standing order
	<input type="checkbox"/> Adrenaline Neb given en route → Dexamethasone 0.15mg/kg

30 mins  
after Rx started

<b>NURSE</b>	<b>CROUP SEVERITY</b> <i>as per severity tool above</i>
Time:	<input type="checkbox"/> Mild → Continue nursing cares. If discharge seems likely, initiate clinical review
Sign:	<input type="checkbox"/> Moderate → <input type="checkbox"/> Moderate pathway <input type="checkbox"/> Inform clinician
PEWS:	<input type="checkbox"/> Severe → <input type="checkbox"/> Move to Resus <input type="checkbox"/> Severe pathway

60 mins  
after Rx started

<b>NURSE</b>	<b>CROUP SEVERITY</b> <i>as per severity tool above</i>
Time:	<input type="checkbox"/> Mild → Continue nursing cares. If discharge seems likely, initiate clinical review
Sign:	<input type="checkbox"/> Moderate → <input type="checkbox"/> Moderate pathway <input type="checkbox"/> Inform clinician
PEWS:	<input type="checkbox"/> Severe → <input type="checkbox"/> Move to Resus <input type="checkbox"/> Severe pathway

**Nursing:** Continue hourly reviews ED unless directed otherwise

**Clinician:** Consider discharge if Discharge criteria met *see page 4*



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### MODERATE PATHWAY

- ALL PATIENTS ON THE MODERATE PATHWAY SHOULD GET DEXAMETHASONE, UNLESS ALREADY GIVEN.
- Review every 30 minutes: Record vital signs on nursing long sheet
- Calculate CAT and select management option
- Calculate PEWS - if > 3 at any time → immediate medical review

START	Time:	<b>Calming / comforting measures. Avoid distressing interventions</b> <input type="checkbox"/> Dexamethasone 0.6 mg/kg ( <i>max 12 mg</i> ) standing order. Unless already given <input type="checkbox"/> Adrenaline Neb given en route → Dexamethasone 0.6 mg/kg <i>even if symptoms resolved, unless already given</i>
	PEWS:	
	Sign:	

30 mins after Rx started	<b>NURSE</b>	<b>CROUP SEVERITY</b> as per severity tool page 2	
	Time:	<input type="checkbox"/> Mild → <input type="checkbox"/> Continue nursing cares	
	Sign:	<input type="checkbox"/> Moderate → <input type="checkbox"/> Continue nursing cares. If PEWS > 3 immediate medical review	
	PEWS:	<input type="checkbox"/> Severe or PEWS > 10 → <input type="checkbox"/> Move to Resus <input type="checkbox"/> Severe pathway	

60 mins after Rx started	<b>NURSE</b>	<b>CROUP SEVERITY</b> as per severity tool page 2	
	Time:	<input type="checkbox"/> Mild → Continue nursing cares. Consider discharge	
	Sign:	<input type="checkbox"/> Moderate → <input type="checkbox"/> Inform clinician lack of response.	
	PEWS:	<input type="checkbox"/> Severe → <input type="checkbox"/> Move to Resus <input type="checkbox"/> Severe pathway	<input type="checkbox"/> If PEWS > 3 immediate medical review

<i>Nursing:</i>	Continue hourly reviews ED unless directed otherwise
<i>Clinician:</i>	Consider discharge if Discharge criteria met see page 4

### SEVERE PATHWAY

**HIGH FLOW O<sub>2</sub> & NEBULISED ADRENALINE ARE AGP'S.**  
**PERFORM IN RESUS WITH NEGATIVE PRESSURE AND FULL PPE**

**Minimise distressing interventions. Institute calming measures for all patients.**  
**COVID PCR testing can add to distress. Check with senior doctor before swabbing**

- 1:1000 Adrenaline nebulised 0.5 ml/kg (*max 5 mg or 5 ml*). Repeat q 10 mins as per medical staff
- Oral Dexamethasone 0.6 mg / kg (*max 12 mg*)
- High flow O<sub>2</sub>. Aim SPO<sub>2</sub> > 94 - 98 %
- If severe stridor recurs after treatment →  Discuss with PICU
- If no improvement after initial treatment →  Consider alternative diagnosis



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## FORMULARY / MEDICATION OPTIONS

CHECK ALLERGY STATUS AND SEE MEDSAFE OR OTHER TEXT FOR FULL LIST OF CONTRAINDICATIONS\*\*

ALL MEDICATIONS MUST BE CHARTED ON THE NATIONAL MEDICATION CHART

### TREATMENT IN ED

Medication	Dose	Route	Freq	Notes
Dexamethasone (1mg / mL) <b>Mild Croup</b>	0.15 mg / kg	PO	Stat	Standing Order Max dose 12 mg
<b>Moderate and severe Croup</b>	0.6 mg / kg	PO	Stat	Standing Order Max dose 12 mg Consider IV / IM Dexamethasone in extremis or if the child is vomiting / not tolerating oral Rx
Prednisolone (5 mg / mL)	1mg / kg	PO	Stat	
Adrenaline 1:1000 (1mg / 1mL)	0.5 mg / kg	Neb	Q10 min	Made up to 5 mL with 0.9% Saline. AGP. Perform in negative pressure room

### DISCHARGE CRITERIA

- Senior doctor / Paed team has reviewed patient and agrees with discharge plan
- No Rx received: Mild Croup throughout
- Dexamethasone given: Mild symptoms > 1h
- Adrenaline given: Mild symptoms > 4 hrs
- Access to transport
- Access to phone

### ADMISSION CRITERIA

- Ongoing Moderate symptoms > 1 hr after Dexamethasone
- Ongoing O<sub>2</sub> requirement - SPO<sub>2</sub> < 94%
- Significant co-morbidities
- > 1 doses of Adrenaline
- Transport or social concerns
- History or concern for poor compliance

#### If referral to PICU: for severe CATS or airway concern

- Ongoing Rx charted
- Transport arranged with transit care
- Medications for transit charted

### DISCHARGE CHECKLIST

- Meets Discharge criteria above**
- Patient information handout provided & explained
- Caregiver confidence in understanding affirmed - contact information provided
- COVID-19: Consider NPA prior to discharge to tailor public health and isolation requirements

### FOLLOW UP - please document this in the EDS

See EDS proforma (link from EDS). Already pre-populated patient advice / information

- GP
- Follow up documented in EDS