Waitemata District Health Board

Best Care for Everyone

(PLACE PATIENT LABEL HERE)

SURNAME: ______________________ NHI: ____________

FIRST NAMES: ______________________________

Date of Birth: ______ /______ /______ SEX: ____________

CROUP

Indicate findings below by: ☑ Positive / given *OR* ☒ Negative / not given *All boxes must be populated*

Inclusion Criteria

Date:	Time:	Name:	Sign:

☐ **Age < 6 months ➔ STOP - NOT SUITABLE FOR THIS CARE BUNDLE**

↳ ED Senior Medical or Paediatric Registrar review without delay

☐ **Age > 6 months with stridor, barking cough and / or hoarse voice ➔ CONTINUE**

↳ Initiate Best Care Bundle "Croup" on Whiteboard

Include patients who have received treatment en route who are currently asymptomatic

Initial Nursing assessment - Aim to complete by 30 minutes

History, examination and vital signs recorded on the Nursing Assessment Sheet.

Croup Assessment Tool applied and appropriate pathway started. (see page 2)

↳ **Initial Pathway:** ☐ Mild ☐ Moderate ☐ Severe

Red Flags ➔ Senior Medical or Paediatric Registrar review without delay

☐ **CAT "Severe" or Hypoxia (Sats < 94%) ➔ *Move to Resus and inform Paediatric Team***

☐ Sudden onset, no prodromal illness, history of choking (? Foreign body)

☐ Urticarial rash (? Anaphylaxis)

☐ Allergies associated with Anaphylaxis in the past

☐ Not immunised (? Epiglottitis)

☐ High fever and toxic appearance (? Bacterial Tracheitis / Epiglottitis)

☐ Known syndromes (e.g. Down Syndrome) or airway issues (Laryngo-tracheo malacia, Haemangiomas)

Pathway discontinued: Time: Sign:

☐ Completed normally ☐ Individualised management ☐ Alternative diagnosis

Admission Guidelines - When to refer for Paediatric review

If history of poor compliance with treatment after discharge in the past or suspicion that compliance is likely to be poor after discharge, discuss with Paediatric Team.

☐ Moderate symptoms persist

☐ Significant co-morbidities

☐ Any other significant concerns or high risk of deterioration

- Required 2 or more doses of Adrenaline
- Transport issues if needed to come back to ED

Sample Signatures

Name	Signature	Initials	Name	Signature	Initials

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Croup Assessment Tool (CAT)

If features from more than one category "mild", "moderate" or "severe" are present, score the highest category

	Mild	Moderate	Severe
Behaviour:	Normal	Some or intermittent irritability	Increasing irritability or lethargy
Stridor:	Barking cough Stridor only when active or upset	Some stridor at rest	Stridor present at rest
Respiratory rate:	Normal	Increased	Marked increase or decrease
Accessory muscle use:	None or Minimal	Tracheal tug Nasal flaring Moderate chest wall retraction	Tracheal tug Nasal flaring Marked chest wall retraction
Hypoxia or oxygen requirement:	None	None or Minimal	Saturations < 94%

Mild Pathway ➔ review every 30 minutes

At each review: Record vital signs and then select management option.

START

Nursing review	Time:	Sign:

Calming and comforting measures, avoid distressing interventions.

☐ Cough with no other signs ➔ Observe only

☐ Cough and other signs or Adrenaline Neb en route ➔ Oral Dexamethasone 0.15 mg/kg (max 12 mg) if not already given.

30 min

Nursing review	Time:	Sign:

CAT		
	☐ **Severe**	➔ ***Move to Resus, start severe pathway***
	☐ **Moderate**	➔ Move to moderate pathway and alert clinician of deterioration.
	☐ **Mild**	➔ Continue nursing cares ↳ If discharge seems likely initiate clinician review now

60 min

Nursing review	Time:	Sign:

CAT		
	☐ **Severe**	➔ ***Move to Resus, start severe pathway***
	☐ **Moderate**	➔ Move to moderate pathway and alert clinician of deterioration.
	☐ **Mild**	➔ Discharge if discharge guidelines on page 4 are met.

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If Nebulised Adrenaline was given en route or before arrival, Dexamethasone should be given even if symptoms have resolved.

Moderate Pathway ➔ review every 30 minutes

At each review: Record vital signs and then select management option.

START	**Nursing review**	**Time:**	**Sign:**
	Calming and comforting measures, avoid distressing interventions.		
	☐ Oral Dexamethasone 0.6 mg/kg (max 12 mg) if not already given.		

30 min	**Nursing review**	**Time:**	**Sign:**
CAT	☐ **Severe**	➔ ***Move to Resus, start severe pathway***	
	☐ **Moderate**	➔ Continue nursing cares.	
	☐ **Mild**	➔ Continue nursing cares. ↳ If discharge seems likely initiate clinician review now.	

60 min	**Nursing review**	**Time:**	**Sign:**
CAT	☐ **Severe**	➔ ***Move to Resus, start severe pathway***	
	☐ **Moderate**	➔ Alert clinician to lack of response to treatment. ↳ Refer for Paediatric assessment.	
	☐ **Mild**	➔ Discharge if discharge guidelines on page 4 are met.	

BEST CARE BUNDLE - PATHWAY

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BEST CARE BUNDLE - PATHWAY

Severe Pathway → *move to Resus and call for help*

Minimise distressing interventions and institute calming measures

High flow oxygen

Initial treatment:

↳ **1:1000 Adrenaline nebulised 0.5 ml/kg (max 5 mg or 5 ml)**

↳ **Oral Dexamethasone 0.6 mg/kg (max 12 mg)**

Ongoing management directed by Medical Staff:

↳ Repeat Adrenaline as required every 10 minutes

Discuss with PICU if severe stridor recurs after treatment

If no improvement after initial treatment consider alternative diagnosis

Formulary

Adrenaline 1:1000 Nebulised: (1 mg / 1 ml)	0.5 ml/kg made up to 5 ml with 0.9% Saline (max 5 mg or 5 ml)
Prednisolone: (5 mg / ml)	1 mg/kg (max 40 mg) oral single dose
Dexamethasone: (1 mg / ml)	0.15 - 0.6 mg/kg (max 12 mg) oral single dose

Disposition

☐ **PICU referral for admission arranged** Time: :

☐ **Paediatric referral** Time: :

- ☐ Senior Dr. review completed
- ☐ Ongoing treatment charted if required
- ☐ Transit arranged from NSH
- ☐ Medications for use en route charted

☐ **Discharge** *(Discharge guidelines met)* Time: :

- ☐ Senior Dr. / Paediatric Registrar review completed.
- ☐ Discharge letter with prescription completed
- ☐ Parent information booklet given and contents explained

Follow up: ☐ HC4K Other Specify:

Discharge Guidelines

Discharge patient if the following criteria have been met.

- Patient reviewed by Senior Dr. or Paediatric Team if not ED patient.
- Mild disease not requiring treatment.
- Mild symptoms 1 hr after treatment if only received steroid treatment.
- Mild symptoms 4 hrs after receiving a single dose of Adrenaline.
- Ongoing treatment explained and appropriate medications prescribed.
- No transport or other issues which might interfere with coming back to ED for review if required.
- Parent / Caregiver feel confident in being able to manage at home know who to contact if they are concerned.
- Discharge letter and other relevant documentation (handout) given to Parent / Caregiver.