Regional Bronchiolitis Pathway

Description	Regional Bronchiolitis Pathway
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Ratification Group (e.g., clinical network)	PCC ODN Clinical advisory group
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Signature of ratifying Group Chair	
Relevant national or international guidance e.g., NICE, SIGN, BTS, BSPED	Bronchiolitis in Children: Diagnosis and management. NICE guideline NG9 last updated August 2021

Final NENC approval committee	Approval date	
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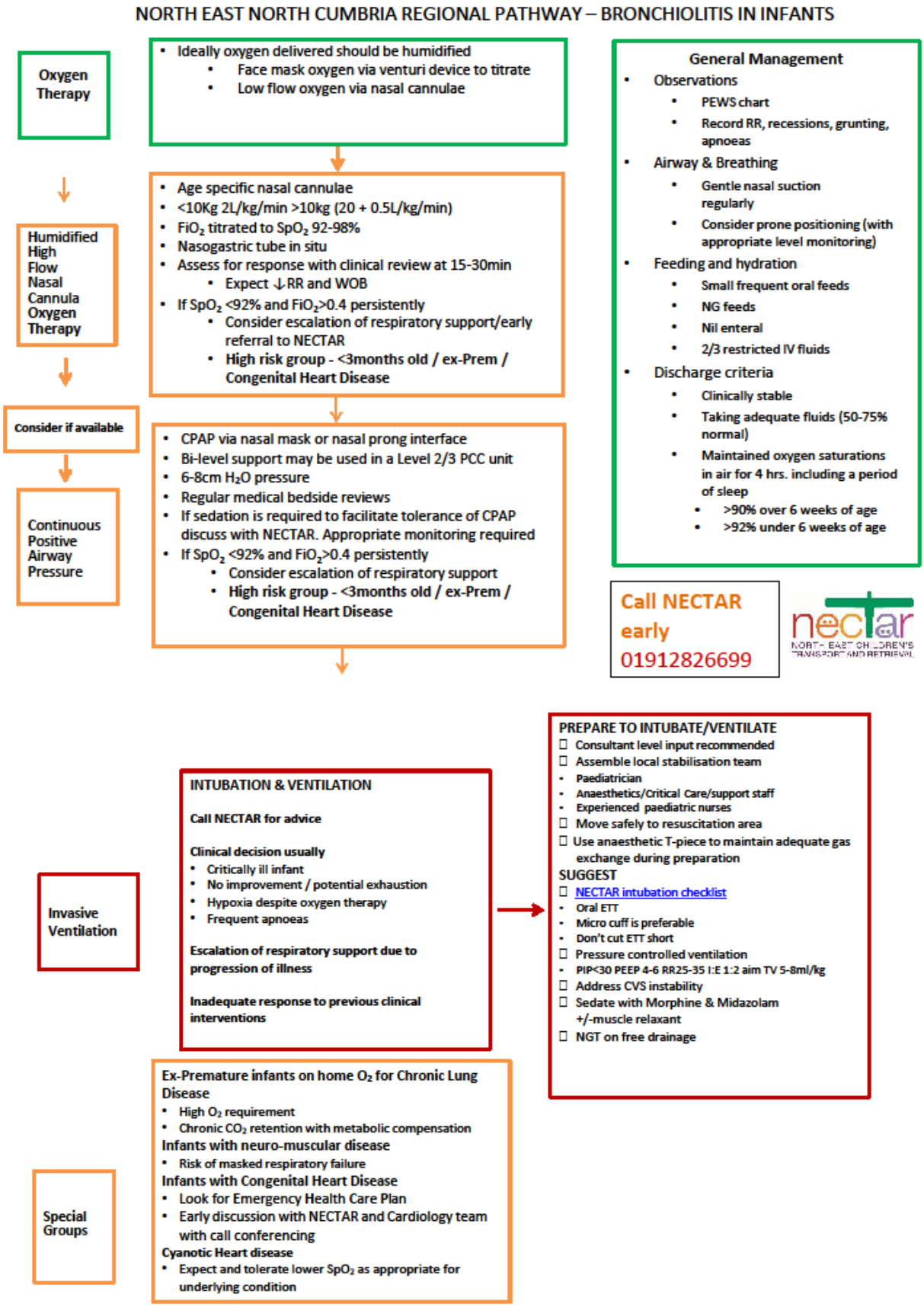
1	3/9/25	3/9/28

1 Version control

Date	Consultation / Comments	Version created	Page	Key changes

Contents

2 Flow Chart


NORTH EAST NORTH CUMBRIA REGIONAL PATHWAY – BRONCHIOLITIS IN INFANTS
Oxygen Therapy
Ideally oxygen delivered should be humidified
Face mask oxygen via venturi device to titrate
Low flow oxygen via nasal cannulae
Humidified High Flow Nasal Cannula Oxygen Therapy
Age specific nasal cannulae
<10Kg 2L/kg/min >10kg (20 + 0.5L/kg/min)
FiO2 titrated to SpO2 92-98%
Nasogastric tube in situ
Assess for response with clinical review at 15-30min
Expect ↓RR and WOB
If SpO2 <92% and FiO2>0.4 persistently
Consider escalation of respiratory support/early referral to NECTAR
High risk group - <3months old / ex-Prem / Congenital Heart Disease
Consider if available
Continuous Positive Airway Pressure
CPAP via nasal mask or nasal prong interface
Bi-level support may be used in a Level 2/3 PCC unit
6-8cm H2O pressure
Regular medical bedside reviews
If sedation is required to facilitate tolerance of CPAP discuss with NECTAR. Appropriate monitoring required
If SpO2 <92% and FiO2>0.4 persistently
Consider escalation of respiratory support
High risk group - <3months old / ex-Prem / Congenital Heart Disease
General Management
Observations
PEWS chart
Record RR, recessions, grunting, apnoeas
Airway & Breathing
Gentle nasal suction regularly
Consider prone positioning (with appropriate level monitoring)
Feeding and hydration
Small frequent oral feeds
NG feeds
Nil enteral
2/3 restricted IV fluids
Discharge criteria
Clinically stable
Taking adequate fluids (50-75% normal)
Maintained oxygen saturations in air for 4 hrs. including a period of sleep
>90% over 6 weeks of age
>92% under 6 weeks of age
Call NECTAR early
01912826699
nectar
NORTH EAST CHILDREN'S TRANSPORT AND RETRIEVAL
Invasive Ventilation
INTUBATION & VENTILATION
Call NECTAR for advice
Clinical decision usually
Critically ill infant
No improvement / potential exhaustion
Hypoxia despite oxygen therapy
Frequent apnoeas
Escalation of respiratory support due to progression of illness
Inadequate response to previous clinical interventions
PREPARE TO INTUBATE/VENTILATE
Consultant level input recommended
Assemble local stabilisation team
Paediatrician
Anaesthetics/Critical Care/support staff
Experienced paediatric nurses
Move safely to resuscitation area
Use anaesthetic T-piece to maintain adequate gas exchange during preparation
SUGGEST
NECTAR intubation checklist
Oral ETT
Micro cuff is preferable
Don't cut ETT short
Pressure controlled ventilation
PIP<30 PEEP 4-6 RR25-35 I:E 1:2 aim TV 5-8ml/kg
Address CVS instability
Sedate with Morphine & Midazolam +/-muscle relaxant
NGT on free drainage
Special Groups
Ex-Premature infants on home O2 for Chronic Lung Disease
High O2 requirement
Chronic CO2 retention with metabolic compensation
Infants with neuro-muscular disease
Risk of masked respiratory failure
Infants with Congenital Heart Disease
Look for Emergency Health Care Plan
Early discussion with NECTAR and Cardiology team with call conferencing
Cyanotic Heart disease
Expect and tolerate lower SpO2 as appropriate for underlying condition

3 Introduction

Bronchiolitis is a common seasonal illness affecting children aged less than 2 years of age. No specific investigation is indicated, and management is supportive.
Some infants are at higher risk of severe disease and should have a lower threshold for admission.

4 Scope and purpose

This is a guideline to aid in the assessment and management of acute bronchiolitis in infants (aged <2 years) for paediatric and emergency department medical staff and nurse practitioners across the NENC area.

5 Definitions

6 Details of policy/procedure to be followed.

Bronchiolitis is:

- A seasonal viral illness occurring in autumn to late spring.
- Affects infants and children less than 18 months of age.
- Caused by RSV in 70-80% of cases with the remainder caused by parainfluenza, influenza, metapneumovirus and adenovirus or other viruses.

Clinical Presentation

History	Examination
Coryzal symptoms Dry, wheezy cough Difficulty breathing Apnoea (esp. in infants <6 weeks old) Poor feeding	Low SpO2 Tachypnoea Increased work of breathing Widespread fine inspiratory crackles Wheeze* Fever >38°C not usually a feature**

* Wheeze may not always be present
** Fever >39°C should prompt careful examination for an alternative cause before making a diagnosis of bronchiolitis.

High Risk Infants

Some infants are at higher risk of more severe bronchiolitis and should therefore have a lower threshold for admission:

- Infants <6 weeks
- Ex-preterm infants (especially those with chronic lung disease)
- Congenital cardiac disease

- Immunodeficiency
- Neuromuscular condition

Admission criteria

Any one of:

- Severe respiratory distress
- SpO2 <90% (SpO2 90-94% should prompt further assessment/observation period)
- Respiratory rate >60/min
- Feeding <50% of normal *or* concerns about hydration
- History of apnoea
- Appears unwell.

In addition, social circumstances, geography and duration of illness may also need to be taken into account. The illness peaks in severity around day 4-5 – infants who have amber features but are only 3 days into their illness may need admission.

Management

Nursing care

- The cornerstone of bronchiolitis treatment is good supportive nursing care with minimal handling, supplementation of oxygen, feeding and fluids as required.

Supplemental oxygen

- Oxygen saturations should be maintained >92% if using supplemental O2
    - Consider appropriate delivery options:
        - Nasal cannula with dry O2 (low flow oxygen, direct from wall source)
        - Nasal cannula with humidified O2
        - Nasal cannula AirVo – air or O2, flow dependent on weight

Nutrition

- Frequent small oral feeds in most cases is sufficient, ensuring good urine output.
- Nasogastric feeding may be required if intake is less than 50% of requirements and respiratory distress is moderate.
- Intravenous fluids may be appropriate for severe respiratory distress and/or high supplemental oxygen requirement.

Nasal suction

- Consider if respiratory distress appears due to nasal obstruction.

Indications for PICU consideration

- Failure to maintain oxygen saturations >92% with increasing amounts of supplemental oxygen.
- Deteriorating respiratory status with signs of increasing respiratory distress and/or exhaustion.
- Recurrent apnoea.

Discharge

- Children who have required supplemental oxygen should have monitoring continued for a period of time once oxygen has been discontinued, including a period of sleep, to ensure clinical stability prior to discharge.
- Infants with oxygen saturations >90% in room air in the recovery phase of the illness may be considered for discharge.

- Infants who have been hospitalised should be able to maintain adequate oral intake, prior to discharge.
- Infants must appear well and have had no recent apnoea.

Advice to parents

- Cough may continue for 2-4 weeks.
- No follow-up required routinely.
- Avoid exposure to cigarette smoke.
- Give written parent advice leaflet: see healthier together link –: Bronchiolitis and RSV :: North East and North Cumbria Healthier Together (nenc-healthiertogether.nhs.uk)

7 Communication and training plans

This document will be available on the ODN website. It will shared with the regions nurse educator's and reviewed regularly through the PCC Network Clinical Advisory Group.

8 Process for monitoring compliance

The ODN network will review problems associated with this guideline through governance process.

9 Document review

Guideline to be reviewed after three years or sooner because of audit findings or as any changes to practice occurs.

10 References

Bronchiolitis in children: diagnosis and management NICE guideline NG9