WOMEN'S HEALTH AND PAEDIATRICS
PAEDIATRIC DEPT

Bronchiolitis

Amendments			
Date	Page(s)	Comments	Approved by
January 2013 March 2018	New Guideline	Whole document review	Paediatric Guideline Group

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In Consultation with:

Ratified by: Paediatric Guidelines Group

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Target Audience: Doctors, nurses and support staff working in Paediatrics

Impact Assessment Carried Out By:

Comment on this

Document to: Dr Bhatti and Dr Baksh Consultant Paediatrician

CHILDREN'S SERVICES

BRONCHIOLITIS GUIDELINES

Bronchiolitis is a viral infection of the lower respiratory tract in infants in the first year; nearly 20% of these infants need hospital admission usually between November and March. Bronchiolitis is considered in an infant with a wheezy illness characterised by nasal discharge and dry wheezy cough with fine inspiratory crackles and/or high pitched expiratory wheeze'.

It's unusual for an infant with this diagnosis to look toxic- and if they appear lethargic, irritable, drowsy, pale mottled and tachycardic one must think of other conditions to rule out before this. Increased respiratory rate is a pointer to lower respiratory tract infection e.g. Bronchiolitis. Absence of fever does not preclude this diagnosis. High fever (axillary temp $\geq 39^0$) should alert one to other possibilities. Apnoea might be a rare presentation. In the first 72 hours of the illness, infants with bronchiolitis may deteriorate clinically before symptom improvement

RSV virus is implicated in nearly 80%. Secondary infection with mycoplasma or other organisms occur in 10-15% of cases. In most infants the disease is self-limiting, typically lasting between three and seven days. Most infants are managed at home, often with primary care support. Admission to hospital is generally to receive supportive care such as nasal suction, supplemental oxygen or nasogastric tube feeding. Parental smoking is associated with increased risk of RSV related admissions & Breast feeding reduces risk and should be encouraged

Presentation

- Initially mild fever, runny nose and dry cough
- Progressively rapid and distressed breathing with intercostal and subcostal recessions
- Audible wheeze or wheeze on auscultation
- Feeding difficulty
- Cyanosis/ Apnoea (especially in ex prem. or very young infants)

High Risk Infants

- Premature infants
- Cystic Fibrosis and Chronic Lung Disease
- Congenital heart disease
- Infants < 6 weeks
- Immunodeficiency
- Severe neuromuscular disorders

Admit

- All high risk infants
- Tachypnoea > 70
- Evidence of respiratory distress: Severe chest wall recessions, nasal flaring, grunt etc
- Poor feeding (<50% of usual feeds in preceding 24 hrs)
- Unwell toxic looking infant: lethargic, drowsy, irritable, pale, mottled
- Apnoeic/ cyanotic baby
- $SaO_2 \leq 92\%$

Assessment of Severity (always treat according to the most severe sign or observation)

	MILD	MODERATE	SEVERE
RR/min	< 50	50 - 70	> 70
HR/min	< 130	130 - 150	> 150
Colour	Pink	Pale	Grey
Cyanosis	No	No	Yes

Grunting	No	No	Yes
Sa02	> 93%	86 – 92%	< 85%

Sa02 in 50% oxygen **Or** In 1.5L/min via nasal prong < 90%

Investigations

Pulse-oximetry in all children attending hospital with acute Bronchiolitis

In severe cases

CXR – especially if asymmetric chest signs

ABG, CBG

FBC, CRP, Blood Cultures is septic

Urea and Electrolytes (useful for diagnosing SIADH complicating Bronchiolitis)

Monitoring

- 'Continuous' 0_2 saturations in hospital
- Regular TPR
- Apnoea alarm if < 2 months or ex premature

Treatment

- **Nasal suction** to clear secretions in hospitalised babies who develope recurrent nasal blockade
- **Oxygen:** via head box or nasal cannulae. Warm and humidified. Keep $Sa0_2$ > 92%
  If SaO_2 not maintained/ baby has recurrent apnoea or respiratory fatigue- consider high flow nasal oxygen via Vapoterm or CPAP. See separate guideline
- **Feeding** – beware of SIADH therefore 2/3 of daily maintenance
  - Mild: Frequent small oral feeds
  - Moderate: Nasogastric tube if does not embarrass breathing
  - Severe: Intravenous fluids (after trial of NG feeds), keep NBM
- **Drug Therapy**
  - **Avoid routine nebulized steroids, Ipratropium, adrenaline, normal saline**
  - I**f the child has had wheezing before**, nebulised Salbutamol or Atrovent with 0.9% saline maybe considered.
    All nebulized medications should use 5 – 6 L/min of oxygen for delivery. If any nebulized treatment is given, the patient must be assessed before and 30 – 60 minutes after by the prescribing doctor who will document if there has been any benefit, deterioration or no benefit. The medication has to be stopped if it does not work.
  - **Antibiotics**
    - No place for routine antibiotics
    - Progressive infiltrates on CXR
    - Collapse and consolidation on CXR
    - Signs of septicaemia (needs CSF as septic work up)
    - High WCC/CRP (+ ve blood culture)
    - Ceftriaxone 80 mg/kg daily if septic (Cefotaxime if less than 4 weeks of age)
    - Azithromycin for possible atypical infection

Respiratory Support/ Intensive care consultation (for HDU care)

- Failure to maintain oxygen saturations > 92% with increasing O2 requirement
- Deteriorating respiratory status with increasing respiratory distress or exhaustion
- Recurrent apnoea
- Progressive respiratory acidosis (pH < 7.25)
- Circulatory collapse

Discuss with Consultant re transfer to PICU if deteriorating.

Discharge

- Not needing oxygen for 12 hours- with monitoring till then (including an episode of sleep)

- Feeding well (75% of usual intake)
- Apyrexial
- GP follow up in 2/52
- Parents should be told that it may take 2-4 weeks for the baby to get better. Clear information about reasons for coming back for review should also be given.
- Information leaflet is helpful if available*.

Prevention of Cross Infection

- **HANDWASHING**
- **Isolation if possible/ cohort nursing**

Palivizumab Prophylaxis (***ONLY in infants <12 months*** with the following- case by case basis)

- Extreme prematurity
- Acyanotic Congenital Heart disease
- Congenital or acquired orphan lung diseases
- Immunodeficiency disorders

Reviewed and updated by Dr Sethu Wariyar November 2014 Based on Bozhena Zoritch March 2009 Reviewed and updated January 2013 Next review date: Nov 2017

Ref:

1. http://www.sign.ac.uk/pdf/sign91.pdf
2. http://pediatrics.aappublications.org/content/118/4/1774.full.pdf
3. **Clinical practice guideline: the diagnosis, management, and prevention of bronchiolitis.**
   Pediatrics. 2014; 134(5):e1474-502

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