



ပြည်ထောင်စုမြန်မာနိုင်ငံ၊ အထူးဒေသ(၁) ကျန်းမာရေးဌာန
缅甸联邦第一特区卫生部
The Union of Myanmar, SR(1) Department of Health



Bronchiolitis

Standard Operating Procedure (SOP)



Union of Myanmar Special region - 1
Pediatric (SOP)

Contents

Bronchiolitis	1
Bronchiolitis	1
Introduction	1
Diagnosis	1
Criteria for Admission	2
ICU Referral	2
Management.....	2
Administration of Fluid	3
Monitoring	3
Discharge Checklists.....	4
Parent and Family Education and information	4

Union of Myanmar Special region - 1
Pediatric (SOP)

Bronchiolitis

Introduction

Risk factors of developing severe bronchiolitis

- *Age-under 3 months*
- *Preterm birth particularly under 32 weeks*
- *Underlying disorders*
 - *Chronic lung disease including bronchopulmonary dysplasia*
 - *Hemodynamically significant congenital heart disease*
 - *Neuromuscular disorders*
 - *Multiple congenital abnormalities*
 - *Immunodeficiency (congenital or acquired)*

Diagnosis

Diagnostic features

- *A coryzal prodrome for 1 to 3 days followed by:*
 - *Persistent cough*
 - *Tachypnea and/or chest recession*
 - *Wheeze and/or crackles on chest auscultation*
- *Fever usually less than 39°C and poor feeding typically after 3 to 5 days of illness are common symptoms*
- *Young infants (in particular those under 6 weeks of age) may present apnea without other clinical symptoms*

Pulse oximetry: For monitoring of progress of disease and response to treatment

Radiography

- *A chest X-ray is not routinely required, but recommended for children with:*
 - *Severe respiratory distress*
 - *Unusual clinical features*
 - *Underlying cardiac or chronic respiratory disorder*
 - *Admission to intensive care*
 - *No improvement at the expected rate*
 - *If another diagnosis is suspected*
- *CXR typically demonstrates hyperinflation, peribronchial thickening, and often patchy areas of consolidation and collapse*

Full blood count

- *Not useful in either diagnosing bronchiolitis or guiding its therapy*

Criteria for Admission

Majority of children with bronchiolitis have mild illness and few will require hospital admission.

Admission criteria are –

1. *Apnoea (observed or reported)*
2. *A respiratory rate more than 60 breaths/minutes or persisting severe respiratory distress such as grunting, nasal fare, marked chest retraction, inappropriate lethargy*
3. *Persistent oxygen saturation of less than 92% when breathing in air*
4. *Evidence of dehydration*
5. *Poor intake or refusal to feed (50-75% of usual volume)*
6. *Major co-morbidities (e.g. cardiopulmonary or immunodeficiency)*
7. *Need to rule out alternative diagnosis*
8. *Significant social concerns about adequacy or safety of home management*

Note: consider risk factors for developing severe bronchiolitis (see above) for admission

ICU Referral

- *Developing features of severe respiratory distress*
 - *Frequent or prolonged apnoeic episodes with oxygen desaturation (SpO₂ less than 90%)*
 - *Requiring greater than 5 L/min oxygen to maintain oxygen saturation greater than 92%*
 - *Showing fatigue, poor respiratory effort, maximal accessory muscle use/exhaustion or altered conscious state*
- *Developing circulatory compromise*
- *Recurrent apnoea*

Management

Supplemental oxygen: if cyanosed or if SpO₂ falls persistently below 92%

Bronchodilator agents

- *Still controversial*
- *Inhaled bronchodilators should be continued only if there is a documented positive clinical response to the trial using an objective means of evaluation*
- *No impact on the overall course of the illness*
- *A single dose of salbutamol (6 puffs via pMDI and spacer or 2.5 mg via nebulizer) can be given as a trial*

Antibiotics: Not indicated but may be given if there is

- *Recurrent apnoea and circulatory impairment*
- *Possibility of septicaemia*
- *Acute clinical deterioration*
- *High white cell count*
- *Progressive infiltrative changes on chest radiograph*

Administration of Fluid

- *Intravenous fluids*
 - *Children who have difficulty feeding because of respiratory distress should be given intravenous fluids*
 - *Consider IV fluids at 75% maintenance if SIADH is suspected*
- *Oral feeds*

Can be continued if the child is able to take greater than 50% of usual feeds without significantly increased work of breathing

Feeding 2-3 hourly with decreased volumes may be helpful

If unable to manage oral feeds, commence nasogastric feeds

Therapy not recommended in children with bronchitis

- *Antibiotics*
- *Hypertonic saline*
- *Ipratropium bromide*
- *Salbutamol*
- *Nebulised adrenaline*
- *Systemic or inhaled corticosteroids*
- *Leukotriene modifiers*
- *Chest physiotherapy*
- *Mucolytics*

Monitoring

- *Repeated clinical assessment including hydration assessment should be conducted, as this is the most important aspect for deteriorating respiratory status.*
- *Consider scheduled spot checks of pulse oximetry (4-6 hourly) Assessment for oxygen weaning should be conducted at this time, when applicable.*
- *Consider pulse oximetry, continuous cardiac and continuous respiratory rate monitoring in hospitalized patients with high risk for developing severe bronchiolitis during early stage (first 4-6 hours) when risk of apnea and/or bradycardia is greatest.*

Treatment at ICU: Respiratory support with CPAP or very rarely ventilation is necessary.

Hand hygiene

- *This is very important and must be imposed strictly in hospitals. (doctors, nurses and care givers)*
- *All people should disinfect hands before and after direct contact with patients, after contact with inanimate objects in the direct vicinity of the patient, and after removing gloves.*

Discharge Checklists

- *Respiratory status*
 - *Consistently improving respiratory status*
 - *Oxygen saturation over 92% in air for 4 hours, including a period of sleep*
- *Nutritional status: Taking oral fluid sufficient enough to prevent dehydration*
- *Parents and family information and education (see below)*
- *Social: Parent or guardian is competent and confident to provide care at home*
- *Follow-up: Instruction of when to follow-up with appropriate primary care provider*

Parent and Family Education and information

- *Nature of illness and expected clinical course of bronchiolitis*
- *Symptoms usually peak between 3-5 days, and that cough resolves in 90% of infants within 3 weeks*
- *Recognizing "Red flag symptoms" and return to the emergency department of the hospital*
 - *Increasing respiratory rate and work of breathing indicated by accessory muscle use (i.e. breathing very fast and/or skin sucking in around the neck or ribs with each breath, grunting)*
 - *Exhaustion (for example not responding normally to social cue, wakes only with prolonged stimulation)*
 - *Inability to maintain adequate hydration (i.e. fluid intake is 50-75% of usual volume or has not had urine output in more than 12 hours)*
- *Importance of hand washing before and after contact with the child to prevent spread of disease*
- *Eliminating exposure to environmental smoking*