Bronchiolitis: 1 – 24 months of age

Guideline created: December 2014 Due for revision: October 2016

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NMU Pediatrician On-call: 204-787-2071 (ask for pediatrician on-call for NMU)

Neonatal transport team: 204-787-2794

MTCC (Medivacs/Lifeflight): 204- 571-8860

Kivalliq Air/Nunavut Lifeline (Rankin Inlet Based): 888-760-4344 or 867-645-4455

Rationale

Bronchiolitis is the most common reason for admission to hospital in the first year of life[1]. It is a common reason for outpatient presentation in the emergency rooms and nursing stations throughout northern Manitoba and Nunavut. In a survey of primary care providers working for the J. A. Hildes Northern Medical Unit in August of 2014, bronchiolitis was identified as a key diagnosis in need of a guideline update. The NMU's previous guideline on bronchiolitis was generated in 2005 and thus, was due for updating.

This is circulated as a recommended approach to community-based care and is consistent with guidelines of the Children's Hospital of Winnipeg. Ultimate decisions regarding treatment must be individualized.

Key Recommendations

Realm	Recommendation	Grade	Strength	Source
Prevention	Palivizumab (Synagis®) should be administered monthly to a maximum of 5 doses (15 mg/kg/dose) during RSV season to children who meet Manitoba RSV Prophylaxis program criteria (See appendix A)	B	Mod	2, 3
	Disinfect hands before and after direct contact with patient, objects in patient's vicinity or after removal of gloves	B	Strong	2
	Use alcohol-based hand rubs for decontamination, if not available use soap and water	B	Strong	2
	Inquire about infant or child tobacco exposure	C	Mod	2
	Counsel caregivers about tobacco exposure and smoking cessation	B	Strong	2
Prevention (continued)	Encourage exclusive breastfeeding for at least 6 months to decrease morbidity of respiratory infections	B	Mod	2
	Educate families about evidence based diagnosis,	C	Mod	2

	treatment and prevention in bronchiolitis			

Diagnosis	Diagnosis and assessment of severity based on history and physical exam. Radiographic or lab studies should not be routinely obtained.	B	Mod	2
	Bronchiolitis scoring tools are not validated for determining disease severity, but can be helpful for monitoring effectiveness of treatment and communicating with consultants (See appendix B)	D	Mod	3,4
	Assess for risk factors for severe disease: Age < 12 weeks, a history of prematurity, underlying cardiopulmonary disease or immunodeficiency	B	Mod	2

Treatment	Salbutamol should **NOT** be administered to infants and children with a clear diagnosis of bronchiolitis	B	Strong	2
	Salbutamol may be administered to infants and children in whom there is diagnostic uncertainty between bronchiolitis and asthma. A history of recurrent wheezing episodes and a family or personal history of asthma, nasal allergies, or eczema help to support a diagnosis of asthma. If no clear evidence of improvement, do not repeat.	D	Weak	4
	Epinephrine (L or Racemic) may be administered to infants and children with bronchiolitis with careful monitoring for improvement. If no clear evidence of improvement, do not repeat.	C	Weak	2,3
	Nebulized hypertonic saline should **NOT** be administered to infants with bronchiolitis in the emergency department or nursing station	B	Mod	2,4
	Nebulized 3% hypertonic saline may be administered to infants and children hospitalized with bronchiolitis	B	Weak	2,3
	Cool mist with isotonic saline is **NOT** recommended in the treatment of bronchiolitis.	A	Strong	3
	Systemic corticosteroids should **NOT** be administered to infants with a diagnosis of bronchiolitis. Some studies have shown benefit, but the risks are largely unknown.	A	Strong	2,3
	Supplemental oxygen should be administered only if oxygen saturation is < 90%	D	Weak	2,4
	Clinicians may choose not to use continuous pulse oximetry for children and infants with bronchiolitis	D	Weak	2

Treatment (continued)	Chest physiotherapy should **NOT** be used for infants and children with bronchiolitis	B	Mod	2

	Antibacterial and antiviral medication should **NOT** be administered to infants and children with bronchiolitis unless there is strong suspicion of a concurrent bacterial infection	B	Strong	2, 3
	Nasal suctioning is recommended, but it should be superficial and reasonably frequent. In infants ≤ 3 months of age, it should be done regularly prior to feeds and nebulized saline.	D	Weak	4
	Infants with a respiratory rate > 60 breaths/min when calm or infants who have severe coughing spells with feeding, should be made NPO. Hydration should be maintained through IV or NG fluid administration	D	Weak	4
	Parents should be reminded that bottle propping and the supine consumption of liquids in infants with respiratory infections may increase the risk of aspiration.	D	Weak	4

Consultation	In infants and children with risk factors for severe disease: • Age < 12 weeks • a history of prematurity • underlying cardiopulmonary disease or immunodeficiency discussion of management with the NMU pediatrician on-call is recommended.	D	Weak	4
	Any clinician who is uncomfortable with the management of an infant or child in their community should discuss with the NMU pediatrician on-call	D	Weak	4
	Clinicians in all NMU communities who are considering medivac of an infant or child should discuss with Winnipeg-based pediatricians (NMU pediatrician on call or other receiving pediatricians in Winnipeg)	D	Weak	4

Admission	Admit infants and children with: signs of severe respiratory distress (eg. Indrawing, grunting, RR > 70/min), supplemental 02 required to keep sats > 89%, dehydration or history of poor fluid intake, cyanosis or history of apnea, risk factors for severe disease above or family unable to cope	D	Weak	3, 4
	Infants and children should be admitted using the evidence-based bronchiolitis care order sheet. (see appendix B)	D	Weak	4

Admission (Continued)	Admitted infants and children should have regular and repeated clinical assessments.	D	Weak	3, 4
	Clinical assessments of admitted infants and children should be recorded and monitored via the bronchiolitis clinical scoring sheet (see appendix B)	D	Weak	4
	Discharge infants and children when: Tachypnea and work of breathing improved, able to maintain O2 sats > 89% without supplemental O2, adequate oral feeding, and education provided and appropriate follow-up arranged (see appendices B and C)	D	Weak	3,4

Medivac	Infants < 44 weeks adjusted gestational age presenting with bronchiolitis should be medivac-ed to Winnipeg.	D	Weak	4
	For infants ≤ 46 weeks adjusted gestational age, medivacs: • In Manitoba, should be arranged through the MB Neonatal Transport Team, Ph: 204-787-2794. • In Nunavut, should be arranged through Kivalliq Air: Ph: 888-760-4344 or 867-645-4455	N/A	N/A	5
	For infants > 46 weeks adjusted gestational age, medivacs: • In Manitoba, should be arranged through the Medical Transportation Co-ordination Centre by calling Ph: (204) 571-8860 and asking for Lifeflight • In Nunavut, should be arranged through Kivalliq Air: Ph: 888-760-4344 or 867-645-4455	N/A	N/A	6

These recommendations are adapted for community-based care from approved guidelines prepared by the Bronchiolitis Working Group, at Children's Hospital Winnipeg.

References

1. 27 Oct 2014 http://pediatrics.aappublications.org/content/early/2014/10/21/peds.2014-2742.full.pdf+html
2. 03 Nov 2014 http://www.cps.ca/en/documents/position/bronchiolitis
3. Personal Communication Drs. Hildes-Ripstein, Hyman and Whetter. Nov 2014.
4. Personal Communication. Neonatal Transport Team. Children's Hospital. Winnipeg. Nov 2014.
5. Personal Communication. Medical Transportation Coordination Centre. Brandon. Nov 2014.