

Include in the pathway (Patients must be all of these):

- Patients with viral respiratory infection with wheezing and respiratory distress
- Patients under the age of one year old
- Patients with associated significant rhinitis
- Physician diagnosis of bronchiolitis

Exclude from the pathway (Patients may be any of these):

- Patients one year of age or older
- Patients with a prior history of significant respiratory condition including asthma, prior intubation, bronchopulmonary dysplasia
- Patients with significant co-morbid condition including congenital heart disease or significant neurologic impairment

Patients should be considered for removal from the pathway if;

(nursing staff should contact physician if any of the following apply)

- No improvement in clinical condition in 24 hours
- Significant deterioration
- Primary diagnosis seems questionable

Criteria for Admission

- SpO₂ < 92% on room air
- Marked respiratory distress
- Dehydration with inability to take PO fluids
- History of apnea with cyanosis

Criteria for Discharge

- SpO₂ ≥ 92% on room air
- Breathing comfortably
- Maintaining hydration
- No apnea
- Teaching complete
- Safe home environment

Background Information:

- The incidence of bacterial co-infection with RSV bronchiolitis or RSV pneumonia is low (about 5%). Thus, in a non-toxic appearing patient with bronchiolitis, even with infiltrate on CXR, it is generally appropriate NOT to treat with antibiotics.
- Several prospective studies and meta-analyses have raised doubt about efficacy of beta-agonists in patients with bronchiolitis. *
- Numerous studies have shown that systemic steroids provide no clinically significant benefit in bronchiolitis.
- Apnea, when seen, is most likely to occur during the first 48 hours of illness with RSV. It is most common in premature infants and infants < 1 month of age.
- In babies who are not vomiting but refusing to eat, use of NG feeds carries fewer risks, when compared with IV fluids, and has the benefit of providing appropriate nutrition.

Goals:

- Reduce unnecessary use of antibiotics.
- Reduce inappropriate use of steroids.
- Reduce unnecessary use of beta-agonists.
- Provide teaching for parents to allow home care of infants with bronchiolitis.
- Encourage use of NG feeds rather than IV fluids for babies refusing to feed.

* Dhuyt, et al. Arch.Dis.Child.2002;86:276-279

Patel, H., et al. J. Peds.2002;141:818-824

Dobson, et al. NEJM.1998;101:361-368

Lozano, JM. Clin. Evid.2003:328-340

Clinical Practice Guidelines, APP 118;:4 2006: vol 118: 4 pgs. 1774-1793

American Academy of Pediatrics Subcommittee on Diagnosis and Management of Bronchiolitis - *Pediatrics* - October 2006; 118(4): 1774-93

Weight:

Allergies:

Time/ Date: -----
General

- 1) Diagnosis: Bronchiolitis (all children are presumed RSV positive during RSV season)
- 2) Estimated length of stay = 2 days
- 3) Condition: Stable
- 4) TPR and Pain Assessment: every 6 hours and PRN
- 5) Blood pressure: routine
- 6) Activity: As tolerated for age
- 7) Contact Precautions during non-epidemic period, and Contact Precautions + Droplet Precautions during RSV epidemic periods
- 8) Initiate "Learning Assessment" and implement Bronchiolitis education.
- 9) On admit, assess discharge needs and make appropriate referrals (see pediatric admission database).

Education

- 1) **BEGIN EDUCATION ON ADMISSION**
- 2) Teach family to use bulb syringe and have them practice.
- 3) Review Bronchiolitis educational materials with family.
 - Review "Patient Education Sheet" and teach signs of worsening respiratory distress and signs of inadequate PO intake.
 - Review whom to contact for problems and reasons to call physician or return to ER.

Diet and Fluids

- 1) Diet: Age-appropriate; hold feeds for severe retractions or consistent respiratory rate > 70.
- 2) I's and O's
- 3) Do not start I.V. unless patient requires I.V. fluids. If already in place, saline lock PIV and do not restart if I.V. infiltrates.

Criteria for supplemental feedings or I.V. fluids:

- Oral intake consistently inadequate (< 75% of maintenance for > 24 hours; *see below for definition of maintenance)
- Severe retractions or consistent respiratory rate > 70
- Dehydration

NG feeds are preferred for inadequate intake or mild dehydration. I.V. fluids are preferred for respiratory distress. Nurse may initiate NG feedings **or** I.V. fluids based on the above guidelines and using clinical judgement.

- For NG feedings, place NG tube and initiate feedings using age-appropriate formula at 10-15ml/kg every 3 hours. Obtain nutrition consult and adjust feedings per nutrition recommendations. D/C NG tube when able to resume feedings.
- If I.V. fluids are required, place I.V. and begin maintenance I.V. fluids (see below). When able to resume feedings, saline lock and do not restart if I.V. infiltrates. (Nurse to call pharmacy if I.V. fluid needed)

Physician's Signature / ID Number: _____ Date: ___/___/___ Time: _____

Bronchiolitis

page 1

Patient Label



Physician's Order Sheet

Interdisciplinary Patient/Family Learning Evaluation

Initial Patient/Family Learner Assessment

A learning evaluation is done with each initial teaching intervention for each learner. Teaching interventions should be documented in an ongoing manner with ongoing assessment and evaluation of readiness to learn, barriers to learning, and learning outcomes. Use your department or topic specific Interdisciplinary Patient/Family Education Documentation forms for ongoing patient/parent/family education documentation. Use this form for the initial assessment of a learner and keep this form with the ongoing patient/family education documentation forms.

Initial Learner Evaluation (assess one or multiple learners)			
1. _____ Date _____ (Pt./Primary care giver)	2. _____ Date _____ learner	3. _____ Date _____ learner	4. _____ Date _____ learner
Prior Knowledge of Plan of Care or care needs: <input type="checkbox"/> Comprehensive <input type="checkbox"/> Good <input type="checkbox"/> Limited <input type="checkbox"/> None <input type="checkbox"/> Other _____	Prior Knowledge of Plan of Care or care needs: <input type="checkbox"/> Comprehensive <input type="checkbox"/> Good <input type="checkbox"/> Limited <input type="checkbox"/> None <input type="checkbox"/> Other _____	Prior Knowledge of Plan of Care or care needs: <input type="checkbox"/> Comprehensive <input type="checkbox"/> Good <input type="checkbox"/> Limited <input type="checkbox"/> None <input type="checkbox"/> Other _____	Prior Knowledge of Plan of Care or care needs: <input type="checkbox"/> Comprehensive <input type="checkbox"/> Good <input type="checkbox"/> Limited <input type="checkbox"/> None <input type="checkbox"/> Other _____
Primary Language: check <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Hmong Other _____ <input type="checkbox"/> Writes <input type="checkbox"/> Reads	Primary Language: check <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Hmong Other _____ <input type="checkbox"/> Writes <input type="checkbox"/> Reads	Primary Language: check <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Hmong Other _____ <input type="checkbox"/> Writes <input type="checkbox"/> Reads	Primary Language: check <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Hmong Other _____ <input type="checkbox"/> Writes <input type="checkbox"/> Reads
Readiness to learn: check <input type="checkbox"/> Asking pertinent questions <input type="checkbox"/> Actively Listening <input type="checkbox"/> Unreceptive <input type="checkbox"/> No interest demonstrated <input type="checkbox"/> Distracted	Readiness to learn: check <input type="checkbox"/> Asking pertinent questions <input type="checkbox"/> Actively Listening <input type="checkbox"/> Unreceptive <input type="checkbox"/> No interest demonstrated <input type="checkbox"/> Distracted	Readiness to learn: check <input type="checkbox"/> Asking pertinent questions <input type="checkbox"/> Actively Listening <input type="checkbox"/> Unreceptive <input type="checkbox"/> No interest demonstrated <input type="checkbox"/> Distracted	Readiness to learn: check <input type="checkbox"/> Asking pertinent questions <input type="checkbox"/> Actively Listening <input type="checkbox"/> Unreceptive <input type="checkbox"/> No interest demonstrated <input type="checkbox"/> Distracted
Barriers to learning: check <input type="checkbox"/> No barriers <input type="checkbox"/> Low literacy or Edu level <input type="checkbox"/> Cultural <input type="checkbox"/> Language <input type="checkbox"/> Visual, hearing, speaking <input type="checkbox"/> Religious, spiritual <input type="checkbox"/> Cognitive <input type="checkbox"/> Emotional <input type="checkbox"/> Motivation <input type="checkbox"/> Pain or fatigue <input type="checkbox"/> Other _____ Accommodation: <input type="checkbox"/> Interpreter <input type="checkbox"/> Audio <input type="checkbox"/> Visuals <input type="checkbox"/> Handouts <input type="checkbox"/> Explanations <input type="checkbox"/> Demonstrations <input type="checkbox"/> Other	Barriers to learning: check <input type="checkbox"/> No barriers <input type="checkbox"/> Low literacy or Edu level <input type="checkbox"/> Cultural <input type="checkbox"/> Language <input type="checkbox"/> Visual, hearing, speaking <input type="checkbox"/> Religious, spiritual <input type="checkbox"/> Cognitive <input type="checkbox"/> Emotional <input type="checkbox"/> Motivation <input type="checkbox"/> Pain or fatigue <input type="checkbox"/> Other _____ Accommodation: <input type="checkbox"/> Interpreter <input type="checkbox"/> Audio <input type="checkbox"/> Visuals <input type="checkbox"/> Handouts <input type="checkbox"/> Explanations <input type="checkbox"/> Demonstrations <input type="checkbox"/> Other	Barriers to learning: check <input type="checkbox"/> No barriers <input type="checkbox"/> Low literacy or Edu level <input type="checkbox"/> Cultural <input type="checkbox"/> Language <input type="checkbox"/> Visual, hearing, speaking <input type="checkbox"/> Religious, spiritual <input type="checkbox"/> Cognitive <input type="checkbox"/> Emotional <input type="checkbox"/> Motivation <input type="checkbox"/> Pain or fatigue <input type="checkbox"/> Other _____ Accommodation: <input type="checkbox"/> Interpreter <input type="checkbox"/> Audio <input type="checkbox"/> Visuals <input type="checkbox"/> Handouts <input type="checkbox"/> Explanations <input type="checkbox"/> Demonstrations <input type="checkbox"/> Other	Barriers to learning: check <input type="checkbox"/> No barriers <input type="checkbox"/> Low literacy or Edu level <input type="checkbox"/> Cultural <input type="checkbox"/> Language <input type="checkbox"/> Visual, hearing, speaking <input type="checkbox"/> Religious, spiritual <input type="checkbox"/> Cognitive <input type="checkbox"/> Emotional <input type="checkbox"/> Motivation <input type="checkbox"/> Pain or fatigue <input type="checkbox"/> Other _____ Accommodation: <input type="checkbox"/> Interpreter <input type="checkbox"/> Audio <input type="checkbox"/> Visuals <input type="checkbox"/> Handouts <input type="checkbox"/> Explanations <input type="checkbox"/> Demonstrations <input type="checkbox"/> Other
Learning Preferences: <input type="checkbox"/> Demonstration <input type="checkbox"/> Written handouts <input type="checkbox"/> Verbal or audio <input type="checkbox"/> Video or TV <input type="checkbox"/> Hands on <input type="checkbox"/> Other _____	Learning Preferences: <input type="checkbox"/> Demonstration <input type="checkbox"/> Written handouts <input type="checkbox"/> Verbal or audio <input type="checkbox"/> Video or TV <input type="checkbox"/> Hands on <input type="checkbox"/> Other _____	Learning Preferences: <input type="checkbox"/> Demonstration <input type="checkbox"/> Written handouts <input type="checkbox"/> Verbal or audio <input type="checkbox"/> Video or TV <input type="checkbox"/> Hands on <input type="checkbox"/> Other _____	Learning Preferences: <input type="checkbox"/> Demonstration <input type="checkbox"/> Written handouts <input type="checkbox"/> Verbal or audio <input type="checkbox"/> Video or TV <input type="checkbox"/> Hands on <input type="checkbox"/> Other _____
Signature _____ Date _____	Signature _____ Date _____	Signature _____ Date _____	Signature _____ Date _____
Signature _____ Date _____	Signature _____ Date _____	Signature _____ Date _____	Signature _____ Date _____

Patient Label



pathway



Patient/Family Learner Assessment

Bronchiolitis/RSV

(Respiratory Syncytial Virus)

What is Bronchiolitis/RSV?

It is one of the most common illnesses for young children during the winter months.

Bronchiolitis is an infection of the lower airways that makes the airways swell and causes difficulty for a child to breathe in and out. The Respiratory Syncytial Virus (RSV) causes more than half of these infections. With the infection, the smallest airways in the lung (bronchioles) become very narrow and this causes wheezing. This narrowing is from the swelling caused by a virus, usually RSV. Infants with RSV develop bronchiolitis.

Isn't it just like a bad cold?

The child's symptoms start out like a cold with runny nose, stuffiness, a mild cough, and possibly a fever. As the symptoms get worse, your child may have one or more of the following:

- wheezing (breathing out makes a high-pitched whistling sound)
- Breathing faster than usual
- tight breathing (pushing the air out of the lungs forcefully)
- a cough and may cough up very sticky mucous
- Nasal flaring (the openings of the nose open wide with breathing)
- Retractions (sinking of the skin between the ribs)
- Loss of appetite, trouble eating or feeding
- Muscle pain in the chest
- Be tired, not want to play

NOTE: Wheezing sounds like asthma but this wheezing does not mean your child has asthma.

If my child has Bronchiolitis/RSV, what can I expect?

- Wheezing and difficulties breathing out for a child become worse for 2 or 3 days and then begin to improve.
- The wheezing could last for about 7 days
- The cough could last or about 14 days

Who gets Bronchiolitis/RSV?

- Most children who get bronchiolitis are 6 months old or younger.



