



BRONCHIOLITIS & RESPIRATORY SYNCYTIAL VIRUS (RSV)

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DEFINITION

BRONCHIOLITIS

- Is an infection that occurs in the smaller airways of babies and young children.
- A virus infects the lungs and causes swelling and inflammation of the small airways.
- Some children will seem to have a lot of chest congestion and coughing, while others will also have trouble breathing, resulting in lower oxygen levels in the body.
- Here in Colorado with our higher altitude and lower oxygen level in the air, bronchiolitis can cause significant breathing problems for little ones.

RSV stands for “Respiratory Syncytial Virus”

- Starts out like a regular “Cold.”
 - Stuffy nose
 - Sneezing
 - Occasional cough
- Within 3-4 days becomes more serious
 - Severe congestion
 - Persistent cough
 - Fever over 100.4 (do a rectal temp in babies under 90 days)
 - Difficulty or increased work of breathing
 - Retracting between the ribs
- Lasts 10-14 days on average

Bronchiolitis & RSV are NOT the Flu! “Flu” is short for Influenza virus. Flu symptoms are fever, cough, sore throat and body aches all over. Influenza can mimic Bronchiolitis and RSV, but a simple nasal test can diagnose which virus is causing your child to be sick.

WHO IS AT RISK?

Babies and young children <5yo are primarily affected, but older children and adults can also get the virus and have symptoms.

Premature babies are at the highest risk of infection and require **monthly shots** to protect them from hospitalization or even death.

Children with a **family member who smokes** (whether in the house or not), a family history of asthma, or a sibling who had bronchiolitis or RSV are also at higher risk for hospitalization.

SEASONAL

Bronchiolitis/RSV season most commonly runs from January to April, but it is possible for children to have symptoms from earlier in the Fall to later in the Spring. Usually by Summertime, the season is over.

The course of illness for both RSV and non-RSV bronchiolitis can range from mild to severe. Diagnosis of RSV is done by washing out the baby's nose with saline (artificial tears) and then suctioning the moistened mucous from the nose. A lab test is done on the phlegm.

COURSE OF THE ILLNESS

- There is very little difference in treatment between RSV and non-RSV bronchiolitis.
- Both regular Bronchiolitis and RSV start out with average cold symptoms.
- There is no way to predict who will or will not progress on to bronchiolitis. Coughing is a normal symptom of both upper respiratory virus ("common cold") and bronchiolitis. Often, babies and children have significant congestion in their noses and upper airways ("head cold" symptoms).
- Since babies don't really breathe through their mouths until late in infancy, they may continue to try and breathe past significant nasal congestion. The "rattling" that occurs from this may be transmitted to the chest, making it seem as though they have developed an infection in the lungs.
- Simply using a humidifier and nasal saline (artificial tears) applications to the nose throughout the day and night can often loosen up the thick, sticky, gooey secretions that plug the upper airways and nasal passages and allow babies/children to sneeze, snort, swallow, or cough them out.
- Here in Colorado, the air is so dry, that secretions thicken pretty quickly, so staying on top of congestion can lessen a baby's work to breathe. Also, keeping them well hydrated with fluids can help loosen thick mucus or phlegm in the nose and lungs.

EMERGENCY ROOM CARE

Many times, babies come to the ER with low oxygen counts, only to improve after a simple application of saline with a little bit of suction. This is something that is very easy to do at home and help avoid an ER visit!

However, *suctioning babies too much* can cause even more swelling and congestion in the nose, and sometimes can lead to nose bleeds in babies and children. So, we recommend to wash often, but keep suctioning to a minimum.

- However, despite these efforts, if children:
 - Are breathing very fast (more than 40 breaths per minute)
 - Or, they begin to work hard to breathe, acting as if they can't catch their breath or cannot take a deep breath,
 - Or, if their chest sinks in between their ribs (“having retractions”) with each breath
 - Or, if their appetite is very poor, urine output is decreased (few wet diapers), or their fever is high (101-105)

then the child should be evaluated by their PCM or in the ER as soon as possible. Of course, if the baby's lips, hands, or feet begin to turn blue, call 911.

TREATMENT

- Treatment for both Bronchiolitis and RSV is based on the severity of the child's symptoms and hypoxemia (low oxygen count). Most children can be treated on an outpatient basis by their Primary Care Medical Provider in Clinic. Some children/babies become very ill and require hospitalization.
- Certain premature babies (born less than 34 weeks of gestation) may need special care and should be followed frequently by their Primary Care Provider, sometimes on a daily basis.
- Children whose oxygen level is low while they are awake are sure to have even further decreases in oxygen levels while they are asleep (called “desaturations”). These children might be hospitalized so a close eye can be kept on their oxygen levels to keep them in a certain range.
- If there is a significant drop in oxygen level in the blood, measured by a pulse oximeter placed on the child's hand, finger, or foot, then supplemental oxygen will be given either by a small plastic forked tube placed just under the baby's nose (called a “cannula”), or by a mask over the face.

Otherwise, if oxygen levels are sufficiently high while children are awake, they may often be treated at home with close follow up with their Medical Provider in clinic.

- Children who come from a strong family history of Asthma may benefit from certain asthma treatments. A trial of asthma medicine at the beginning of treatment can tell your Medical Provider whether or not it will be helpful for your child.
- Nearly all children who are diagnosed with Bronchiolitis or RSV will also receive a short course of steroids, either by IV or by mouth. Appropriate doses of steroids based on the child's weight for about 5 days can decrease swelling and inflammation (irritation) in the lungs and help children to do better. Short courses (less than 2 weeks) of steroids DO NO HARM and can be beneficial in some cases.
- A special medicine given in a "breathing treatment" is called Racemic Epinephrine and has been shown to help babies breathe better the first couple of days of treatment. After that, its effectiveness decreases and is not as helpful.

SUMMARY

As Bronchiolitis/RSV season approaches this year, keep these facts in mind to help make appropriate care decisions for your children.

If your baby was premature (born more than 6 weeks early) and is less than two years old, please contact your Primary Care Provider as soon as possible to see if they qualify for the preventative Synagis monthly shots. The rules are quite strict about who qualifies for insurance coverage and who does not. Synagis shots should begin around Thanksgiving time in November, so look into this as soon as possible.

Not every bad cold (upper respiratory virus) ends up becoming a Bronchiolitis. Keeping the upper airways clear of mucous, using a humidifier regularly for sleeping, and using careful watchfulness can help you decide if your baby/child has a regular bad cold vs. difficulty breathing which may signal Bronchiolitis or RSV.

And, as always, keep babies and children hydrated (drinking plenty of fluids) since this will help keep their lungs healthier and help them fight infection in our dry climate.

Contact your Primary Care Provider for additional questions or if you are concerned your child may have bronchiolitis or RSV and they will direct you when to come to clinic for a nasal wash test and full evaluation.