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CLINICAL BULLETIN			
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#2023-01-10-01	**Bronchiolitis FAQ**		10 Jan 2023
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As EMS clinicians and hospitals are currently seeing increases in pediatric patients with acute respiratory infections, including bronchiolitis, there have been many discussions within MDPB and the EMS-C program regarding disease processes and best practices for treating these patients.. In response, the MDPB has developed an FAQ document, with the intent that it might be of help as a reference, providing answers to frequent questions about bronchiolitis and its treatment. Some of the answers include references to specific treatments in the 1 Dec 2021 edition of *the Maine Prehospital Protocols.* Please feel free to discuss these questions and distribute this FAQ. If there are any questions regarding the information below, please direct them to Maine EMS or the MDPB.

FAQ - Bronchiolitis

(Wheezing in children younger than 2)

What age is important when distinguishing the cause of wheezing in kids?

Wheezing in the child less than 2 years old is most commonly due to bronchiolitis. Bronchiolitis is a self-limited process of viral respiratory infection, leading to symptoms including rhinorrhea, wheezing, coughing and increased respiratory effort. Wheezing in bronchiolitis is due to mucous production and edema of the bronchioles and is ***not*** due to smooth muscle constriction as seen in asthma. As such, the treatment of wheezing in bronchiolitis is different than the treatment of wheezing in a patient with asthma.

The treatment goals of bronchiolitis are to maintain oxygenation and hydration, and to monitor for apnea and respiratory distress.

If bronchiolitis is different than asthma, should we give albuterol?

- Patients suffering from bronchiolitis are unlikely to benefit from inhaled albuterol, and albuterol use in bronchiolitis is generally ***not*** recommended. A trial of albuterol in bronchiolitis ***may*** be appropriate in patients with a history of prior illness responsive to albuterol, or a strong family history of asthma.

When do I give oxygen?

- Provide oxygen to ensure O_2 saturations greater than or equal to 90%.

How do I give oxygen to a child younger than 2 if they do not tolerate a pediatric non-rebreather or nasal cannula?

- You can give oxygen by "blow by" at 15 liters per minute, though this not the preferred method of oxygen delivery.

What is the difference between stridor and wheezing? Why does it matter?

- Stridor is a high-pitched airway noise that comes from the ***upper*** airway (throat) that often can be heard without a stethoscope during ***inspiration***. Stridor suggests an upper airway constriction and can indicate an airway emergency.
    - Possible causes of stridor include croup (#1 cause) foreign body, anaphylaxis
- Wheezing comes from the ***lower*** airway (lungs) and can be heard with a stethoscope. Mild to moderate wheezing is heard during expiration, though severe wheezing can be heard during both inspiration and expiration.
- Refer to Pink 2 for stridor/croup
- Refer to Gold 1 for anaphylaxis

Should we use racemic epinephrine?

- This is ***not*** indicated in bronchiolitis (wheezing in children younger than 2)
- If you are concerned this may be stridor/croup, refer to Pink 2
- If you are concerned this may be anaphylaxis, refer to Gold 1

When do I use ipratropium/albuterol vs albuterol alone?

- Before giving a nebulizer treatment, remember that bronchodilator therapy is generally ***not*** recommended in bronchiolitis
- If you are an EMT or Advanced EMT, you may give Ipratropium bromide 0.5 mg / albuterol sulfate 2.5 mg nebulizer if the child is greater than one (1) year of age.
- If you are a ***paramedic***, you can do the above, *OR* give albuterol alone. If the child is less than one (1) year old and wheezing, you may try albuterol alone.
- Ipratropium bromide 0.5 mg / albuterol sulfate 2.5 mg nebulizer if greater than one (1) year of age may be repeated every 5 minutes x 2, as needed for ongoing symptoms.

When do I give steroids?

- This is ***not*** indicated in bronchiolitis (wheezing in children younger than 2)
- If the child is over 2 years of age and wheezing, consider asthma as a possible etiology and refer to Blue 7

How do I suction the nose in bronchiolitis? Why is this important?

- Squeeze the bulb syringe and gently insert the tip into the opening of the nose. Then release your grip and allow the bulb syringe to suck the nasal discharge out. This works best if the syringe tip creates a seal at the opening of the nose. If the nasal discharge is thick, you can soften it by placing saline in the nose by dripping it in or placing an atomizer on a saline flush and spraying each side of the nose.

- Children under 2 years old are “obligate nose breathers” and do not breathe well through their mouth when they suffer from nasal congestion and discharge.
- This means nasal discharge alone in this age group can lead to respiratory distress

When do I give epinephrine IM?

- This is ***not*** indicated in bronchiolitis (wheezing in children younger than 2)
- If the child is over 2 years of age and wheezing, it is safe to assume this is asthma. If repeat nebulizers (albuterol or ipratropium/albuterol) or inhaler and Dexamethasone have not been helpful, it is appropriate to continue repeat nebulizers and consider epinephrine IM as well as magnesium
- For further details, see Blue 8

When do I give magnesium IV?

- This is ***not*** indicated in bronchiolitis (wheezing in children younger than 2)
- If the child is over 2 years of age and wheezing, consider asthma. If repeat nebulizers (albuterol or ipratropium/albuterol) and Dexamethasone have not been helpful, it is appropriate to continue repeat nebulizers and consider magnesium IV
- For further details, see Blue 8