

As the calendar flips onto the month of September, those of us that will be seeing the diverse population of our little friends called “the pediatric patient” will begin to start seeing a re-emergence of a familiar foe. Its name is bronchiolitis and despite the appearances, it is not Latin for “uh oh, let me skip to the next patient!”

Bronchiolitis is recognized as congestion of the **small bronchioles of the lung** and is almost always caused by a **virus**. Symptoms start similar to that of the **common cold** (congested sinuses and rhinorrhea, cough, and perhaps a slight fever) but can **progress to dyspnea, wheezing, and sometimes concomitant otitis media**. Alone or in short conjunction with each other, these symptoms are not considered to be ominous but in an at-risk population such as **pediatric patients under the age of 2, children that were born prematurely, or those that have congenital heart or lung problems** these symptoms can quickly snowball into a constellation of symptoms that present to the emergency physician in a much more ominous way... lethargy, refusal to eat and/or drink, vomiting, audible wheezing, retractions, tachypnea up to 60 breaths per minute, and cyanosis. A kid with a cold might not get your attention but you roll a blue baby into the Emergency Department and watch how fast people start hopping!

Fortunately for us, bronchiolitis often presents in the earlier stages so it's important to recognize and treat the bronchiolitis patient at their earliest presentation to avoid having the madness associated with a blue baby in your ED. As we noted before, bronchiolitis is most often viral so that puts the discussion of “what antibiotic do I give” to rest (or so we hope). What it should do though is make you harken back to one of the earliest teachings we receive as Emergency Physicians... **airway!!** Probably the biggest concern in a child w/ bronchiolitis is making sure that they are having adequate ventilation and respiration and the first step to doing that is clearing the patient's airway. The American Academy of Pediatrics recommends that the first and primary intervention in the bronchiolitis patient be “**Nasal suction via bulb or neosucker is recommended to clear the upper airway**”. With some things the philosophy of “deeper is better” may seem harsh and in this case they also say “Deep suction (beyond the nasopharynx) is not recommended as it requires special equipment, personnel (respiratory therapy) and often requires a special order”. Often times deep suctioning is all that is required to turn a bronchiolitis patient that is at risk for deterioration back into a happy baby that is ready to feed.

In the cases that it is not adequate, the recommendations include:

- Oxygen** is recommended for hypoxia, defined as a persistent SpO₂ <90%. Low-flow nasal cannula (NC) is recommended as an initial modality to provide oxygen therapy. Above 2 liters of NC, a heated humidified high flow nasal cannula (HHFNC) is recommended.
- Spot** pulse oximeter checks are recommended to monitor for hypoxia and **continuous** saturation monitoring is recommended for monitoring patients on oxygen.
- Continuous cardiopulmonary** monitoring (CAM) is recommended for patients at high risk for **apnea**. It is recommended that CAM be discontinued, if there are no apnea periods for 24 hours.
- Bronchodilators should not be used routinely** in the management of bronchiolitis. A single trial of inhaled epinephrine or albuterol for respiratory distress may be considered, but only if h/o asthma, atopy, or allergy.
- Steroids, antibiotics, nasal decongestants, and chest physiotherapy are **not** recommended.

-Diagnostic studies (Chest x-rays, CBC, CRP, UA, and blood cultures) are **not routinely** indicated.

A novel therapy that is now under trial at Children's Hospital in Dallas is **hypertonic saline** which may be used at provider discretion. 3% hypertonic saline, 2.5 ml- 4 ml, every 4, 6, or 8 hours a day for mild-moderate respiratory distress due to bronchiolitis may be considered. The first dose of hypertonic saline requires clinical monitoring for development of acute bronchospasm. A onetime PRN albuterol order is recommended with the first dose of hypertonic saline. While this therapy appears to have good results in specific subsections of bronchiolitis patients, it is still under trial and should **not be considered part of "standard protocol"** at this time.

Bronchiolitis in the pediatric patient can be a scary presentation if you're not ready to diagnose and treat it early and effectively. You may get lucky and be seeing the simple "I've got a cold" kid when you walk through the door or you may walk into something much more ominous. Hopefully with these recommendations you will feel better prepared and more comfortable when the situation faces you soon... very soon!

References:

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