THE BASICS BEHIND YOUR CHILD’S BREATHING PROBLEMS

There is nothing more frightening than having a hard time getting your breath. As a parent, watching a child with breathing problems is twice as difficult.

WHAT IS THE AIRWAY?

The airway refers to the tube that allows air to pass in and out of the body. This tube starts at your nose and mouth, continues to the voice box (larynx) and eventually branches into many tiny little tubes in the lungs. Each tube ends as a tiny “bubble” called an alveolus, where air (oxygen) is transferred into the blood and carbon dioxide is released. Throughout your airway are millions of tiny hairs called cilia. Each cilium sweeps back and forth approximately ten times every second! That’s 36,000 every hour, 24 hours a day. They do this to keep your lungs clear of mucous and debris.
HOW DO WE BREATHE?

Air from the environment is inhaled to the lungs and involves the use of breathing (respiratory) muscles. This inhaled air is rich in oxygen (a gas that our body needs to function). Oxygen is transferred from the lungs into the blood and is exchanged with a “waste” gas (carbon dioxide) that we breathe out (exhale). We can get more oxygen into our bodies by breathing faster or taking a larger breath. Although we can voluntarily control the amount of air we breathe, the respiratory center in the brain registers the amount of oxygen our body needs at any given time. This is why we don’t have to think about breathing while we sleep.

WHAT CAN CAUSE DIFFICULTY BREATHING?

Your brain, heart, lungs, breathing muscles and airway must all work well together to keep a body breathing normally. Problems with any of these areas can cause breathing difficulties. Anything that blocks any part of the airway restricts air from getting to the lungs. Examples may include allergies, infections, foreign bodies, obesity, redundant tissue and some birth (congenital) abnormalities of the airway.

HOW DO CHILDREN LOOK WHEN HAVING DIFFICULTY BREATHING?

A child that has difficulty breathing appears anxious. They are usually breathing faster than normal and may be making various noises during each breath. In severe cases, the tongue, lips, or even skin may look bluish in color and may be less responsive. The ribs may be more noticeable during each breath, the belly may stick out and/or the nose holes (nostrils) may flare out.

HOW DO CHILDREN SOUND WHEN THEY ARE HAVING DIFFICULTY BREATHING?

The noise associated with a breathing difficulty often depends on the location in the airway:

- **Nasal passages** – A congested, stuffy nose sound that is very common in infants can result in snoring type noises. The medical term for this is Stertor.

- **Mouth/upper throat (Pharynx)** – Enlargement of the tonsils and adenoids can cause a muffled voice, snoring with pauses in the breathing (Apnea) and “Darth Vader” type breathing during the day.

- **Lower airway (Larynx)** – This area contains the voice box and the opening between the vocal cords called the glottis. Coarse sounds produced by breathing in are called Stridor. The most common cause in infants is Laryngomalacia due to floppiness of and around the epiglottis (tissue that protects the voice box during eating and swallowing).

The second most common cause of Stridor in infants is vocal cord paralysis. If one vocal cord is paralyzed, the voice may be weak or breathy. If both are paralyzed, the voice is normal but the Stridor is very loud and your child will easily become distressed.

Obstruction below the glottis results in a high-pitched noise while breathing in and out. Croup is the more common cause and is usually identified by symptoms, especially a characteristic barking cough. Other causes are narrowing of the airway, called Subglottic Stenosis, tissue across the airway (web), collections of blood vessels (Hemangioma), or foreign bodies.

HOW ARE BREATHING PROBLEMS EVALUATED AND TREATED?

Many times, the only way to find the cause of a breathing difficulty is to look directly at the airway. Our pediatric ear, nose and throat specialists are uniquely qualified to do this. Causes of Stridor such as laryngomalacia and vocal cord paralysis, as well as causes of hoarseness can be evaluated by a flexible larygoscopy. Lower airway problems may require a laryngoscopy and bronchoscopy evaluation in the operating room.

Regardless of the cause, our treatment for breathing problems is individualized to your child’s specific circumstances.

After careful evaluation, you and your pediatric ear, nose and throat specialist will outline the options and determine the treatment.