



Laryngopharyngeal Reflux and Children

What is laryngopharyngeal reflux (LPR)?

Food or liquids that are swallowed travel through the esophagus and into the stomach where acids help digestion. Each end of the esophagus has a sphincter, a ring of muscle, that helps keep the acidic contents of the stomach in the stomach or out of the throat. When these rings of muscle do not work properly, you may get heartburn or gastroesophageal reflux (GER). Chronic GER is often diagnosed as gastroesophageal reflux *disease*, or GERD.

Sometimes, acidic stomach contents will reflux all the way up the esophagus, past the ring of muscle at the top (upper esophageal sphincter or UES), and into the throat. When this happens, acidic material contacts the sensitive tissue at back of the throat and even the back of the nasal airway. This is known as laryngopharyngeal reflux or LPR.

During the first year, infants frequently spit up, and in most infants, it is a normal occurrence that resolves in the first year. Only infants who have associated breathing or feeding problems require evaluation by a specialist. This is most critical when breathing-related symptoms are present.

What are symptoms of LPR?

There are various symptoms of LPR. Adults may be able to identify LPR as a bitter taste in the back of the throat, more commonly in the morning upon awakening, and the sensation of a “lump” or something “stuck” in the throat, which does not go away despite multiple swallowing attempts to clear the “lump.” Some adults may also experience a burning sensation in the throat. A more uncommon symptom is difficulty breathing, which occurs because the acidic, refluxed material comes in contact with the voice box (larynx) and causes the vocal cords to close to prevent aspiration of the material into the windpipe (trachea). This is known as “laryngospasm.”

Infants and children are unable to describe sensations like adults can. Therefore, LPR is only successfully diagnosed if parents are suspicious and the child undergoes a full evaluation by a specialist, such as an otolaryngologist (ear-nose-throat doctor). Airway or breathing-related problems are the most commonly seen symptoms of LPR in infants and children and can be serious. If your infant or child experiences any of the following symptoms, timely evaluation is critical.

- Chronic cough
- Hoarseness
- Noisy breathing (stridor)
- Croup

- Reactive airway disease (asthma)
- Sleep-disordered breathing (SDB)
- Spit-up
- Feeding difficulty
- Turning blue (cyanosis)
- Aspiration
- Pauses in breathing (apnea)
- Apparent life-threatening event (ALTE)
- Failure to thrive (a severe deficiency in growth, where an infant or child is less than 5 percentile, compared to the expected norm)

What are the complications of LPR?

In infants and children, chronic exposure of the laryngeal structures to acidic contents may cause long-term airway problems such as a narrowing of the area below the vocal cords (subglottic stenosis), hoarseness, and possibly eustachian tube dysfunction. The latter can cause recurrent ear infections, or persistent middle ear fluid, and even symptoms of sinusitis. The direct relationship between LPR and the latter mentioned problems are currently being researched.

How is LPR diagnosed?

Currently, there is no good standardized test to identify LPR. If parents notice any symptoms of LPR in their child, they may wish to discuss with their pediatrician getting a referral to see an otolaryngologist for evaluation. In the office, he or she may look directly at the voice box and related structures with a flexible scope or order a 24-hour pH monitoring of the esophagus. The otolaryngologist may also decide to perform further evaluation of the child under general anesthesia. This would include looking directly at the voice box (direct laryngoscopy), trachea and bronchi (bronchoscopy), and esophagus (esophagoscopy). LPR in infants and children remains a diagnosis of clinical judgment, based on history given by the parents, the physical exam, and endoscopic evaluations.

How is LPR treated?

Since LPR is an extension of GER, successful treatment is usually based on successful treatment of GER. In infants and children, basic recommendations may include use of smaller and more frequent feedings, thickening of the food/liquid, and keeping an infant in a vertical position after feeding for at least 30 minutes. A trial of medications, including H2 blockers or proton pump inhibitors, may be necessary. Similar to adults, children with severe symptoms who fail medical treatment or have diagnostic evaluations demonstrating anatomical abnormalities, may require surgical intervention.

