Laryngopharyngeal Reflux

During gastroesophageal reflux, the contents of the stomach and upper digestive tract may flow back (reflux) all the way up the esophagus, beyond the upper esophageal sphincter (a ring of muscle at the top of the esophagus), and into the back of the throat and possibly the back of the nasal airway. This is known as laryngopharyngeal reflux (LPR), which can affect anyone.

What are the symptoms of LPR?
In adults the symptoms of LPR include a bitter taste, a sensation of burning, or something "stuck" in the back of the throat. Some patients have hoarseness, difficulty swallowing, a need for throat clearing, and the sensation of drainage from the back of the nose ("postnasal drip"). Some may have difficulty breathing if the voice box is affected. Many patients with LPR do not experience the symptom of heartburn associated with gastroesophageal reflux disease (GORD).

In infants and children, LPR may cause breathing problems such as cough, hoarseness, stridor (noisy breathing), asthma, sleep-disordered breathing, feeding difficulty (spitting up), turning blue (cyanosis), aspiration, pauses in breathing (apnea), apparent life-threatening event (ALTE), and even a severe deficiency in growth. Proper treatment of LPR, especially in children, is critical.

While GORD and LPR may occur together, patients can also have GORD alone (without LPR) or LPR alone (without GORD). If you experience any symptoms on a regular basis (twice a week or more), then you may have GORD or LPR. For proper diagnosis and treatment, you should be evaluated by your primary care doctor or an otolaryngologist-head and neck surgeon (ENT doctor).

Who gets LPR?
Women, men, infants, and children can all have LPR. These disorders may result from physical causes or lifestyle factors. Physical causes can include a malfunctioning or abnormal lower esophageal sphincter muscle (LES), hiatal hernia, abnormal esophageal contractions, and slow emptying of the stomach. Lifestyle factors include diet (chocolate, citrus, fatty foods, spices), destructive habits (overeating, alcohol and tobacco abuse) and even pregnancy. Young children experience GERD and LPR due to the developmental immaturity of both the upper and lower esophageal sphincters. It should also be noted that some patients are just more susceptible to injury from reflux than others. A given amount of refluxed material in one patient may cause very different symptoms in other patients. Unfortunately, LPR and GORD are often overlooked in infants and children, leading to repeated vomiting, coughing in GORD, and airway and respiratory problems in LPR, such as sore throat and ear infections. Most infants grow out of GORD or LPR by the end of their first year, but the problems that resulted from the GORD or LPR may persist.

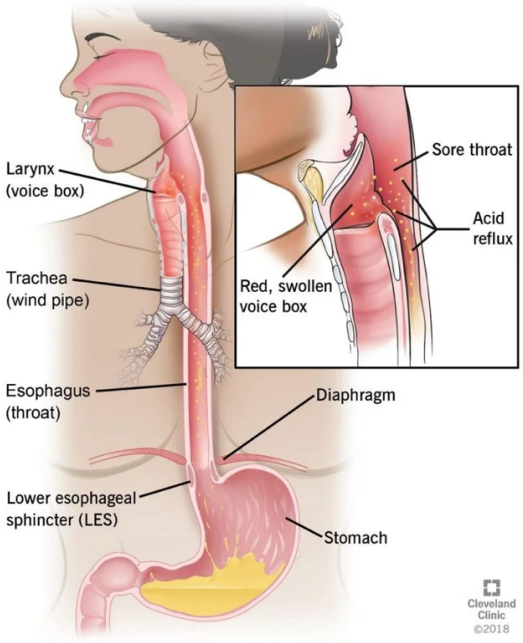
What role does an ear, nose, and throat specialist have in treating LPR?
Laryngopharyngeal reflux is primarily treated by an otolaryngologist or ear, nose, and throat specialist. Symptoms related to LPR, including throat discomfort, laryngitis, hoarse voice, and airway or swallowing problems, are all conditions commonly treated by otolaryngologists. These problems require an otolaryngologist-head and neck surgeon, or a specialist who has extensive experience with the tools that diagnose GORD and LPR. They treat many of the complications of GORD and LPR, including: sinus and ear infections, throat and laryngeal inflammation and lesions, as well as a change in the esophageal lining called Barrett's esophagus, a serious complication that can lead to cancer. Your primary care physician or pediatrician will often refer a case of LPR to an otolaryngologist-head and neck surgeon for evaluation, diagnosis, and treatment.

How is LPR diagnosed and treated?
LPR (and GORD) can be diagnosed or evaluated by a physical examination and the patient's response to a trial of treatment with medication. Other tests that may be needed include an endoscopic examination (a long tube with a camera inserted into the nose, throat, windpipe, or esophagus), biopsy, x-ray, examination of the esophagus, 24-hour pH probe with or without impedance testing, esophageal motility testing (manometry), and emptying studies of the stomach. Endoscopic examination, biopsy, and x-ray may be performed as an outpatient or in a hospital setting. Endoscopic examinations can often be performed in your ENT's office, or may require some form of sedation and occasionally anesthesia.

Most people with LPR respond favorably to a combination of lifestyle changes and medication. Medications that could be prescribed include antacids, histamine antagonists, proton pump inhibitors, pro-motility drugs, and foam barrier medications. Some of these products are available over the counter and do not require a prescription. Children and adults who fail medical treatment or have anatomical abnormalities may require surgical intervention. Such treatment includes fundoplication, a procedure where a part of the stomach is wrapped around the lower esophagus to tighten the muscle (sphincter), and endoscopy, where hand stitches or a laser are used to make the lower esophageal sphincter tighter.

Right lifestyle changes to prevent LPR:

- Avoid eating and drinking within two to three hours before bedtime
- Do not drink alcohol
- Eat small meals and eat slowly
- Limit problem foods: caffeine, carbonated drinks, chocolate, peppermint, tomato, citrus fruits, and fatty and fried foods
- Lose weight
- Quit smoking
- Wear loose clothing



Food Choices for Gastroesophageal Reflux Disease

When you have gastroesophageal reflux disease (GORD), the foods you eat and your eating habits are very important. Choosing the right foods can help ease the discomfort of GORD. Consider working with a diet and nutrition specialist (*dietitian*) to help you make healthy food choices.

Eating plan

- Choose healthy foods low in fat, such as fruits, vegetables, whole grains, low-fat dairy products, and lean meat, fish, and poultry.
- Eat frequent, small meals instead of three large meals each day. Eat your meals slowly, in a relaxed setting. Avoid bending over or lying down until 2–3 hours after eating.
- Limit high-fat foods such as fatty meats or fried foods.
- Limit your intake of oils, butter, and shortening to less than 8 teaspoons each day.
- Avoid the following:
    - Foods that cause symptoms. These may be different for different people. Keep a food diary to keep track of foods that cause symptoms.
    - Alcohol.
    - Drinking large amounts of liquid with meals.
    - Eating meals during the 2–3 hours before bed.
- Cook foods using methods other than frying. This may include baking, grilling, or broiling.

Lifestyle

- Maintain a healthy weight. Ask your health care provider what weight is healthy for you. If you need to lose weight, work with your health care provider to do so safely.
- Exercise for at least 30 minutes on 5 or more days each week, or as told by your health care provider.
- Avoid wearing clothes that fit tightly around your waist and chest.
- **Do not** use any products that contain nicotine or tobacco, such as cigarettes and e-cigarettes. If you need help quitting, ask your health care provider.
- Sleep with the head of your bed raised. Use a wedge under the mattress or blocks under the bed frame to raise the head of the bed.

What foods are <u>NOT</u> recommended (foods to avoid)?

Grains

- Pastries or quick breads with added fat.
- French toast.

Vegetables

- Deep fried vegetables.
- French fries.
- Any vegetables prepared with added fat.
- Any vegetables that cause symptoms. For some people this may include tomatoes and tomato products, chili peppers, onions and garlic, and horseradish.

Fruits

- Any fruits prepared with added fat.
- Any fruits that cause symptoms. For some people this may include citrus fruits, such as oranges, grapefruit, pineapple, and lemons.

Meats and other protein foods

- High-fat meats, such as fatty beef or pork, hot dogs, ribs, ham, sausage, salami and bacon. Fried meat or protein, including fried fish and fried chicken.
- Nuts and nut butters.

Dairy

- Whole milk and chocolate milk. Sour cream. Cream. Ice cream. Cream cheese. Milk shakes.

Beverages

- Coffee and tea, with or without caffeine.
- Carbonated beverages.
- Sodas. Energy drinks.
- Fruit juice made with acidic fruits (such as orange or grapefruit).
- Tomato juice.
- Alcoholic drinks.

Fats and oils

- Butter.
- Margarine.
- Shortening.
- Ghee.

Sweets and desserts

- Chocolate and cocoa.
- Donuts.

Seasoning and other foods

- Pepper.
- Peppermint and spearmint.
- Any condiments, herbs, or seasonings that cause symptoms. For some people, this may include curry, hot sauce, or vinegar-based salad dressings.

Summary

- When you have gastroesophageal reflux disease (GERD), food and lifestyle choices are very important to help ease the discomfort of GERD.
- Eat frequent, small meals instead of three large meals each day. Eat your meals slowly, in a relaxed setting. Avoid bending over or lying down until 2–3 hours after eating.
- Limit high-fat foods such as fatty meat or fried foods.