Laryngopharyngeal Reflux (LPR)

What Is Laryngopharyngeal Reflux?

Laryngopharyngeal reflux (LPR) occurs when stomach contents flow backward past the upper part of the food pipe (esophagus) and reach the throat (pharynx) and voice box (larynx). This is different from typical acid reflux (also called GERD or heartburn), which mainly affects the lower food pipe. Many people with LPR do not experience heartburn at all.

Common Symptoms

LPR can cause a variety of throat and voice symptoms, including:

- Hoarseness or voice changes

- Chronic throat clearing

- A feeling of a lump in the throat (globus sensation)

- Excess mucus or phlegm in the throat

- Chronic cough

- Sore or burning throat

- Difficulty swallowing

- A bitter or sour taste

These symptoms often occur during the daytime and while upright, unlike typical acid reflux, which tends to be worse at night when lying down.

How Does LPR Happen?

Your stomach produces acid and digestive enzymes (such as pepsin) to break down food. Normally, two valves—one at the top and one at the bottom of the esophagus—keep stomach contents from traveling upward. When these valves do not work properly, stomach acid and enzymes can reach the throat and voice box.

Even small amounts of reflux that would not result in esophageal irritation can inflame the throat and voice box. This irritation can also make the nerves in the throat overly sensitive, which may cause symptoms to persist even after the reflux itself has been treated.

How Is LPR Diagnosed?

Diagnosing LPR can be challenging because its symptoms overlap with many other conditions, and there is no single perfect test. Your doctor may use one or more of the following approaches:

- **Symptom questionnaires:** Your doctor may ask you to fill out a standardized questionnaire (such as the Reflux Symptom Index) to assess the type and severity of your symptoms. These questionnaires help track your symptoms over time but cannot confirm LPR on their own.

- **Laryngoscopy (throat examination):** A thin, flexible camera is passed through the nose to look at the throat and voice box. This exam is important for ruling out other causes of your symptoms, such as vocal cord problems, growths, or other conditions. However, it is important to understand that the findings seen on this exam—such as redness or swelling of the voice box—are not specific to LPR. Studies have shown that up to 86% of people with no throat symptoms at all can have similar-looking findings on this exam. Different doctors may also interpret the same images differently. For these reasons, laryngoscopy alone cannot confirm or rule out LPR, but it remains valuable for making sure nothing else is causing your symptoms.

- **pH-impedance monitoring:** This is the most informative test for measuring actual reflux. A thin, flexible tube is placed through the nose into the food pipe for 24 hours. It measures how often stomach contents travel upward, how high they reach, and whether they are acidic or not. This test helps your doctor determine whether reflux is truly the cause of your symptoms and can guide treatment decisions.

- **Trial of medication:** In some cases—especially if you also have typical heartburn or regurgitation—your doctor may recommend a trial of acid-reducing medication to see if your symptoms improve. However, research shows that this approach is not always reliable for diagnosing LPR, and if symptoms do not improve, further testing is usually recommended.

Treatment and Management

Treatment for LPR is tailored to each individual and often involves a combination of approaches. LPR often takes longer to improve than typical acid reflux. It may take several weeks to months of consistent treatment before symptoms begin to get better.

- **Lifestyle and dietary changes:**

- Avoid eating within 2–3 hours of lying down

- Eat smaller, more frequent meals

- Limit foods that may trigger reflux (e.g., spicy foods, fatty foods, caffeine, alcohol, carbonated beverages, citrus, and tomato-based products)

- Maintain a healthy weight

- Elevate the head of your bed by 6–8 inches

- A plant-based, Mediterranean-style diet may be helpful for some patients

- **Medications:**

- Proton pump inhibitors (PPIs) such as omeprazole or pantoprazole reduce stomach acid production and are the most commonly used medications for LPR. Treatment typically lasts at least 3 months.

- Alginates (such as Gaviscon Advance) form a protective barrier on top of stomach contents and may provide additional relief.

- H2 blockers (such as famotidine) are another option for reducing stomach acid.

- If nerve sensitivity in the throat is contributing to symptoms, your doctor may recommend medications called neuromodulators that help calm overactive nerve signals.

- **Behavioral therapy:**

- Voice therapy or speech therapy can help if throat-clearing habits or voice strain are contributing to symptoms.

- Stress management and relaxation techniques may also be beneficial, as stress can worsen throat sensitivity.

- **Surgery:**

- Anti-reflux surgery is rarely needed and is reserved for patients with confirmed, severe reflux that does not respond to other treatments.

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