

LPR Management Menu

WHAT?		<p>Laryngopharyngeal Reflux (LPR): Food begins to be digested in the stomach as it is mixed with acid and pepsin (a digestive enzyme). If the sphincter (or pucker cord) muscle where the esophagus empties into the stomach loosens, then that acid and pepsin can enter the esophagus (Gastroesophageal Reflux Disease or GERD). This often causes heartburn symptoms. If the acid and pepsin travel high enough they reach the throat (LPR), and the upper pucker cord between the esophagus and the throat is loose, they can easily spill over onto the vocal folds. Interestingly, this type of reflux rarely causes obvious heartburn symptoms.</p>
WHY?		<p>While this type of heartburn does not often cause obvious heartburn symptoms, it often leads to voice problems. When an ENT looks at your vocal folds, he/she will likely see red irritated tissue, swelling, or even ulcers. Unfortunately, it often does not respond as well to PPI medications (which treat GERD), possibly due to ineffectiveness in counteracting pepsin.</p>
HOW?	Take Away	<ul style="list-style-type: none"> • Reduce/manage stress • Avoid tight clothing • Stop smoking • Reduce animal protein, simple sugars.² • Avoid eating within 2-3 hours of bedtime (takes 4 hours for 90% of the food in a solid meal to be digested!)
	Add	<ul style="list-style-type: none"> • <u>2+ week journaling of symptoms (if you have them)</u>, culprit foods, time eaten, state of mind, duration of meal. This will help you understand the effects certain foods have on your body. You may find that some foods only occasionally cause symptoms. You may be able to enjoy those foods at certain times of day. • <u>Chew 2 pieces of cinnamon or fruit-flavored sugarless bubble gum OR bicarbonate bubble gum (better!) 30 minutes after a meal or at the time of onset of symptoms</u>, whichever comes first. You can also chew it any other time you have symptoms. Gum appears to raise pH by encouraging increased saliva swallowing and raising saliva concentrations of bicarbonate. The beneficial effects last 2x the time of gum chewing.¹ • <u>Mediterranean Diet</u>: Consider adding more plants to your diet, more whole grains, more fiber. A primarily plant-based diet low in animal protein lowers the gastric load of amino acids, which may indirectly lead to decreased activity of pepsin. This can be as or more effective than PPI medications.² • <u>Add alkaline water to your diet</u>: if you can't consume only alkaline water, consider having alkaline water with or following meals? Exposure of pepsin to alkaline water (pH level > 8) inactivates pepsin.² <ul style="list-style-type: none"> ▪ Bottled alkaline water (pay attention to pH) ▪ There are also alkaline drops you can add to your water • There are <u>medications</u> that may be appropriate in addition to these other remedies: discuss these with your doctor/ENT.
	Adjust	<ul style="list-style-type: none"> • Maintain a healthy weight • Take time to eat your food—don't rush and don't overeat at meals. • Your diet, see table below. The AVOID list does not have conclusive evidence to back it up, and it is not a given that these are the culprits in your case. However, it contains the foods that cause reflux in a large number of people, and may be a good place to start, especially if you have no or mild symptoms. • If you have symptoms of nighttime reflux (bad breath in morning, chronic cough at night, waking in the middle of the night uncomfortable or sweaty), consider elevating the head of your bed 6-8 inches with blocks of wood, bricks, or books to achieve a 10-degree slant. Pillows, even wedge pillow, aren't enough!

¹ Smoak BR¹, Koufman JA. *Effects of gum chewing on pharyngeal and esophageal pH.* Ann Otol Rhinol Laryngol. 2001 Dec;110(12):1117-9.

² Zalvan CH¹, Hu S², Greenberg B³, Geliebter J^{1,4}. *A Comparison of Alkaline Water and Mediterranean Diet vs Proton Pump Inhibition for Treatment of Laryngopharyngeal Reflux.* JAMA Otolaryngol Head Neck Surg. 2017 Oct 1;143(10):1023-1029. doi: 10.1001/jamaoto.2017.1454.

FOOD GROUPS	SAFE	MAY NEED TO AVOID
FRUITS	Apples (fresh & dried), apple juice, bananas, pears, peaches, melons, strawberries, grapes	Oranges & orange juice, lemons & lemonade, kiwi, grapefruit & grapefruit juice, tomato & tomato juice, cranberries & cranberry juice
VEGETABLES	Baked potato, broccoli, cabbage, carrots, green beans, peas, asparagus, lettuce, sweet potatoes	Raw onions, peppers, radishes, french fries, mashed potatoes
MEAT	Extra lean ground beef, steak (London Broil), skinless chicken breast, egg whites or substitute, fish (with no added fat), white turkey meat	Fatty ground beef, marbled sirloin, chicken nuggets, buffalo wings, fried meat, spicy deli meat
DAIRY	Feta or goat cheese, fat free cream cheese, fat free sour cream, low fat soy cheese	Whole milk, chocolate milk, ice cream, high fat cream cheese or sour cream
GRAINS	Cereal (bran or oatmeal), corn bread, graham crackers, pretzels, rice (brown or white), rice cakes, millet, quinoa	High fat grain products (cheese bread or products made with whole milk)
BEVERAGES	Water, herbal teas, non-citrus drinks, skimmed milk	Caffeinated beverages, whole milk, alcohol, carbonated beverages, any kind of soda
FATS/OILS/CONDIMENTS	Low fat salad dressing, herbs (basil, thyme, sage, oregano), hummus, mild sauces	Strong mustard, chili sauces, creamy salad dressing, black pepper, vinegar, curries, pickles, mint

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