

HEARTBURN, INDIGESTION, REFLUX: IS THERE A CURE?

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I avoid spicy food when I have a sore throat because it intensifies my pain. But why? Raw, swollen, inflamed tissues are more sensitive to irritation. And there you have it. For any two people experiencing the same amount of food regurgitation from the stomach to the esophagus, the one with sickly inflamed tissues will report the greatest symptoms and will go on to the greater complications of gastroesophageal reflux disease (abbreviated GERD, Gastro refers to your stomach, the esophagus is the tube connecting your mouth to your stomach, and reflux is the return of food and drink back up the esophagus from the stomach usually with acid in it which burns the esophagus and causes pain).

In the rest of this discussion, I will refer to heartburn, indigestion, and reflux collectively as GERD.

WHAT ARE THE SIGNS AND SYMPTOMS OF GERD?

The top 10 common symptoms for GERD are as follows:

- Reflux (the return of food and drink back up the esophagus).
- Acid regurgitation (excessive acid or sour taste in the food coming back up the esophagus).
- Postprandial fullness (bloating in the stomach area after a very large meal).
- Heartburn (pain in the chest).
- Swallow obstruction or pain (feeling that you can't get the food to go down).
- Epigastria burning sensation (Burning pain in the stomach area).
- Paraesthesia pharynges (sore or full filling throat).
- Post sternal pain (pain behind the breastbone).

- Chronic laryngopharyngitis (hoarseness, sore voice box and sore throat).
- Chronic cough (a never-ending cough).¹

HOW COMMON IS GERD?

Prevalence of Gastro Oesophageal Reflux Disease is as follows:

- 18.1%–27.8% in North America.
- 8.8%–25.9% in Europe.
- 2.5%–7.8% in East Asia.
- 8.7%–33.1% in the Middle East.
- 11.6% in Australia.
- 23.0% in South America.²

So, if you are experiencing GERD, you are not the only one, others have been through this, it has been extensively studied, and knowing the causes goes a long way toward directing one's efforts at relieving and healing the problem.

WHAT CAUSES GERD?

Let's look at the different mechanisms involved in digestive pain that is associated with disorders of the esophagus and stomach. We'll look at the system as a whole and at individual parts.

THE LOWER ESOPHAGEAL SPHINCTER

The first thing that can happen involves a poorly closing valve at the lower end of the esophagus, immediately on top of the stomach. This is referred to as the lower esophageal sphincter. Anything that compromises its ability to close tightly can lead to acid laden stomach contents regurgitating up into the esophagus causing pain, acid tissue burn, open sores, ulceration, or even pre-cancerous conditions.

There is a long list of things that are proven to compromise lower esophageal sphincter function. These include:

- High fat foods.³
- Whole Milk.^{4,5}
- Soups.⁶
- Chocolate.⁷
- Coffee.⁸
- Tea.⁹
- Nicotine.¹⁰
- Alcoholic beverages.¹¹
- Peppermint.¹²
- Colonic Fermentation (when you eat foods that tend to rot in the colon).¹³
- Soda Drinks.¹⁴

THE ACID BURN

Then next consideration in painful reflux disease (GERD) is the lifestyle habits that increase the acidity of the stomach or that acid's access to the esophagus.

Anything that increases the acidity of the stomach contents makes them that much more likely to cause pain and damage when they regurgitate up into the esophagus.

The list of things that increase the acid burn include many things. Any Autoimmune inflammatory disease or process, as we discussed in the beginning of our paper, weakens the tissues, making them more vulnerable to acid damage.^{15,16,17} This includes allergies, such as having a milk allergy.¹⁸

Some foods, by their very nature, increase inflammation and stomach acidity. Research has shown that certain spices do this and include red and black pepper,¹⁹ fennel, cardamom, cumin, coriander,²⁰ and Curry.²¹

Some foods are naturally high in acid content and pose a problem for many people, citrus²² and soft drinks²³ for example.

If you are having GERD symptoms and are on other medications, it would be possible that some of these are the cause of your heartburn.^{24,25}

Salt²⁶ and sugar as well as refined carbohydrates^{27,28,29} can increase the acid burn.

If you have a choice between canned and fresh foods, fresh foods are the better choice for avoiding GERD.³⁰

I don't know if you count calories but be aware that foods high in calories and low in fiber or bulk are well known to increase acid reflux.³¹ We call these foods high caloric density foods.

Not only do high fat foods relax the lower esophageal sphincter, but they also increase the stomach acid,³² mostly because they are hard to digest.

Fast foods³³ are poor nutrition for the most part and increase the acid burn.

If you are going to eat something, you might as well chew it well, this will help in your fight against an acid stomach.^{34,35}

Regular meals are helpful, on the other hand snacking is not in your best interest.^{36,37} Eating of an evening meal increases acid production.³⁸

Certain stimulants are known to increase the acid burn. These include tea, coffee, caffeine,³⁹ and alcohol.⁴⁰

The more concentrated the acid in your stomach the worse the burn, on the other hand diluting out the acid with good hydration of the tissues is beneficial, so avoid dehydration.⁴¹ Drink your water at least one-half hour before meals or two hours after meals to avoid GERD.

You may be thinking you are doing yourself a favour by taking calcium based "anti-acids" but in reality they only produce what we call the acid rebound, resulting in more acid in the long run and more reflux.^{42,43}

You are what you eat. Eating good food favours strong, healthy, resilient tissues resistant to acid damage. On the other hand, malnutrition⁴⁴ is dangerous, it weakens the lining of the stomach and esophagus and compromises their mucosal integrity.⁴⁵

Perfect health depends on perfect circulation, this means good blood supply. Poor blood supply^{46,47} compromises the lining of the stomach and esophagus, making them unable to properly repair tissue damage.

Lower Esophageal Sphincter dysfunction

- Milk
- Oils, fatty or fried foods
- Creamed foods or soups
- Chocolate
- Caffeine
- Tobacco
- Alcohol
- Peppermint/Spearmint

When Volume Explodes

- Stacking between meals
- Eating too frequently(<5hr)
- Overeating
- Poor chewing
- Cold food
- Hot food
- Liquid food
- Liquid with meal
- Liquid right after meals
- Animal protein
- Carbonated beverages

Slow To Empty

- Fat
- Fluid
- Snacking
- Meat

Tips

- Small meals
- Small bites well chewed
- Lots of high fiber fresh fruits and vegetables
- No liquid with meals
- No liquid meals (soup, smoothies)
- Drink 8-10 glasses of water: 30 minutes before meals or 2 hours after
- Regularity in meal schedule
- Five hours between meals
- Two meals a day (skip supper)
- Short walk immediately after meals
- Don't eat within 3-4 hours of going to bed
- Wear warm clothes that cover arms and legs well and have no tight bands around the waist.

The Acid Burn!

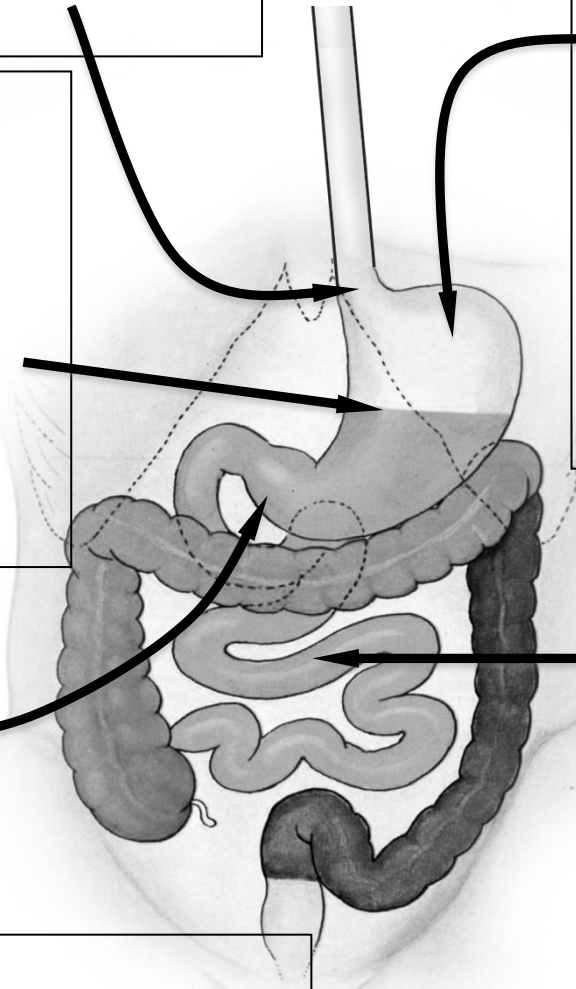
- Pepper, Spices
- Stress at mealtimes
- Vinegar
- Tomato
- Citrus
- Animal protein
- Caffeine
- Milk
- Fat content
- Alcohol
- Antacids
- Baking powder/soda
- Mixing fruit and vegetables
- Large variety of food
- Supplements swallowed whole sitting in stomach
- Worry
- Impaired mucosal defense
- Dehydration

Back Fill: Slow Transit

- Refined foods
- Too little fiber
- High fat
- Obesity
- Tight clothing
- Sedentary lifestyle
- Gluten
- Dairy
- Meat
- Chocolate
- Cold extremities
- Gas

Helpers / Healers

- Charcoal capsules/tablets/powder
- Broccoli sprouts
- Carrots
- Pears
- Bananas
- Pomegranates
- Aloe Vera Juice
- Cabbage and its juice
- Potatoes and its juice



When you overeat, making your stomach into a tightly filled balloon, it stretches the esophagus lining into the stomach where it does not belong, exposing it to the acid of the stomach. This creates the same pain and tissue compromise as regurgitation.^{xlvi}

Now if you worry^{xlvi} too much, and your stress levels rise,ⁱ this also increases the vulnerability of the digestive tissues to damage and the stomach's production of acid.

OVER FILLING THE STOMACH

If the stomach could be quickly emptied after meals, the chance that it would reflux would be greatly reduced. On the other hand, keeping the stomach exceedingly full only increases the likelihood of GERD. If you do not want your stomach to remain full for a long time, eat less. Overeating^{li} only produces distension, slow digestion, and reflux. Think of it like a front loader washing machine. If you pack the machine totally full, it cannot agitate the clothes and the laundry cannot get clean. Filling the stomach only partially full leaves room to mix the foods with digestive juices and complete its digestion in a reasonable amount of time. "And put a knife to thy throat, if thou be a man given to appetite."^{lii}

The digestion is severely slowed and compromised by eating between meals or snacking.^{liii} Meals should be at least 5 hours apart. Eating too frequently (<5hr between meals)^{liv} causes stacking of the meals, stomach overfilling and overflow, i.e., reflux. If your toilet overflows you figure you must have put too much in it. The same is true of reflux. If things keep on coming up (refluxing), stop putting so much down, and give the food time to move on in between meals.

Foods eaten to quickly overcrowd the stomach and can result in reflux.^{lv}

Studies now show that foods eaten without proper chewing in the mouth take longer to digest in the stomach.^{lvi} Your stomach does not have teeth. It can only add acid and agitate the food.

Some people take on more than just food at a meal, they add liquid as well. This liquid is more likely to regurgitate up into the esophagus. It also makes the stomach take longer to move the food on to the small intestines because before it can get on with the process of digestion it must absorb the liquid. This is true of drinks with meals and of liquid foods, like soup, smoothies, porridges and juices.^{lvii}

EMPTYING THE STOMACH

The stomach can be quickly cleared of food only as the food is of good quality and well chewed. Certain foods and lifestyle practices delay the emptying of the stomach these include:

- High fat^{lviii,lix} or fried foods.^{lx}
- High caloric density foods.^{lxi}
- Chilled/refrigerated cold food or very hot food.^{lxii}
- Nicotine or tobacco.^{lxiii}
- Alcohol.^{lxiv}
- Liquid taken with your meals.^{lxv}
- Supplement tablets can delay stomach emptying.^{lxvi}
- Snacking between meals or meals too close together.^{lxvii}
- Laying down after a meal.^{lxviii}
- Eating in the evening leaving less than 3 hours before going to bed.^{lxix}
- Autoimmune inflammatory gastritis.^{lxx}
- Intense exercise after eating.^{lxxi}
- Mental stress.^{lxxii}

SLOW INTESTINAL TRANSIT

If there is no room beyond the stomach in the digestive system, food cannot be transferred out of the stomach and reflux is more likely to result. Some foods and lifestyle habits produce a condition we refer to as slow transit, it could also be referred to it as back fill.^{lxxiii} It could be compared to a traffic jam or even rush hour traffic.

Things that slow intestinal transit are many. Refined foods, like white flour^{lxxiv} cause this problem because they are low in fiber.^{lxxv}

Because low-fiber food is in the colon so much longer, bacteria tend to multiply,^{lxxvi} This results in bacterial overgrowth. When bacteria over-grow they produce many toxins^{lxxvii} and inflammation.^{lxxviii}

Slow-transit foods are usually high in fat and low in fiber, and include meat, fast foods, pastries, especially donuts, fried foods, and greasy foods^{lxxix}.

Foods eaten late at night tend to pass more sluggishly through the digestive system thus they have the same effect of fostering bacterial overgrowth^{lxxx}.

Fiber plays a significant role in the time food stays in your system^{lxxxi}. Whole grains,^{lxxxii} dried fruit^{lxxxiii} and fresh vegetables are good sources of dietary fiber. What is people's favourite high fiber dried fruit eaten to help improve stool consistency and shortened transit time? Prunes, right? Have you heard it said, "With friends like prunes, who needs enemas"?

High fat foods have been shown to slow intestinal transit.^{lxxxiv}

Juice, probably because of the removal of fiber, slows transit.^{lxxxv}

Mental health can also affect transit times, depression tends to slow transit and make digestion sluggish^{lxxxvi}.

The back pressure exerted by tight clothing, such as a belt,^{lxxxvii} can significantly slow the rate at which food makes it out of your intestines.

Exercise tends to quicken bowel movement whereas a sedentary lifestyle has been shown to slow transit time.^{lxxxviii, lxxxix}

Dietary Gluten^{xc, xci} and dairy products^{xcii} cause a sluggish colon and slow transit times.

Of all the diets studied, that cause multiple health issues, the western diet, of meat, high fat foods, cheese and refined grains tops the list. And it contributes to slowed transit of food through the entire digestive system.^{xciii, xciv}

Nothing slows transit time quite like constipation^{xcv} for which increased water and fiber intake are often the antidote.

Gas or flatulence block the way for food to pass on down the digestive tract and slow transit times.^{xcvi}

If your posture is poor and you are always doubled over, the effect is like that of the tight belt, it creates intestinal backpressure, which slows transit time.^{xcvii}

So, keep the food moving for reduction in risk of reflux at the other end.

EPIDEMIOLOGICAL ASSOCIATIONS

Some foods and lifestyle factors have been found to increase the likelihood of reflux, dyspepsia, or heart burn, but the actual mechanism may not yet be well understood. These include:

- Milk, lettuce, brewer's yeast, pork, coffee, rice, asparagus, and tuna, followed by eggs, tomato, grain, shrimps.^{xcviii}
- Animal protein/meat.^{xcix, c}
- Vinegar.^{ci, cii}
- Late supper.^{ciii}
- Low dietary magnesium intake.^{civ}
- Low Dietary Vitamin C.^{cv}

- Obesity.^{cvi}
- Medical drugs.^{cvii}
- Psychological stress.^{cviii}
- Improper chest breathing.^{cix}
- Cheese causes gastritis.^{cx}

BARRETT'S ESOPHAGUS

When the esophagus receives repeated acid burns and becomes raw and inflamed, cancer becomes a big risk. This condition of the esophagus has been given the name Barrett's esophagus. Some foods and lifestyle factors have been identified as high risk or causal in Barrett's esophagus and cancer. These include:

- Sugar.^{cx1,cxii}
- Smoking, abdominal obesity, and a Western diet.^{cxiii}
- Inflammatory diet.^{cxiv}
- Late evening meal.^{cxv}
- Low fiber diet.^{cxvi}
- Pizza.^{cxvii}
- Wearing a belt.^{cxviii}
- Meat and saturated fat.^{cxix}
- Dark green vegetable deficiency.^{cxx}
- Low dietary vitamin A.^{cxxi}
- Low Dietary Vitamin C.^{cxxii}
- Diet low in fresh fruits and vegetables.^{cxxiii}
- High animal-fat intake.^{cxxiv}
- Smoking.^{cxxv}
- Selenium deficiency.^{cxxvi}
- Diet rich in cereal but poor in fresh fruit and vegetables.^{cxxvii}
- Processed meat consumption.^{cxxviii}

HOW IS GERD GENERALLY TREATED?

GERD is usually treated by a medical doctor with a medication, which in most cases is continued indefinitely. Ninety-five percent of patients are prescribed a drug of which 83% are proton pump inhibitors or PPIs, medications

designed to reduce the stomachs ability to produce acid.^{cxxix} Between 1995 and 2006 there was a 1318% (over 12 times) increase in proton pump inhibitors prescribed in Australia for people with GERD.^{cxxxi} Proton Pump Inhibitor examples include omeprazole (e.g., Losec, Prilosec), esomeprazole (e.g., Nexium), rabeprazole (e.g., Pariet, Aciphex), pantoprazole (e.g., Somac, Protonix) and lansoprazole (e.g., Zoton FasTabs, Prevacid). These drugs are not without their undesirable side effects. Side effects can include:

- Neutropenia (an unexplained decrease in the immune systems white cells that are involved in battling disease).^{cxxxi}
- Pneumonia (infection of the lungs).^{cxxxi}
- Vitamin B12 deficiency.^{cxxxi,cxxxi}
- Vitamin C and Iron deficiency.^{cxxxi}
- Osteoporosis (a thinning and weakening of the bones leading to broken bones).^{cxxxi,cxxxi}
- Hip Fracture (broken hip).^{cxxxi}
- Spine, forearm or wrist, and other fractures (broken bones).^{cxxxi}
- Dementia (when the brain quits functioning, and the memory is bad).^{cxli}
- Depression (a downcast mood).^{cxli}
- Chronic kidney disease (when the kidneys quit working).^{cxlii,cxliii}
- Hypomagnesaemia (low magnesium, a very important mineral for your body).^{cxliv}
- Hypoparathyroidism (low parathyroid function).^{cxlv}
- Tachycardia (fast heart rate).^{cxlvi}
- Stomach infection with S. aureus, E. coli, Candida albicans (bad infections, hard to treat).^{cxlvii}
- Slowed esophageal motility (when the esophagus has a hard time moving the food through to the stomach).^{cxlviii}

The next most common drug prescribed for GERD is called an H2 antagonist. H2 antagonists are medications that block the action of histamine, (which usually increases inflammation), at its receptor site in the cells of the stomach. This decreases the production of stomach acid. H2 antagonist examples include famotidine (e.g., *Pamacid*, *Pepzan*, *Pepcid*), nizatidine (e.g., *Tazac*, *Tacidine*, *Nizac*, *Axid*), cimetidine (e.g., *Magicul*, *Tagamet*) and ranitidine (e.g., *Zantac*, *Rani 2*). These drugs are not without their undesirable side effects. Side effects can include:

- Neurotoxicity (damage to the nerve cells in your body or brain).^{cxlix}
- Overgrowth of *Listeria monocytogenes* (a dangerous bacteria).^{cl}
- Restless leg syndrome, and movement disorders (out of control muscle activity).^{cli}
- Bradycardia (very slow heart pumping rate).^{clii}
- Liver disease^{cliii}
- Changes in the autonomic control of the heart (the heart goes out of control).^{cliv}

A popular, over-the-counter GERD treatment is calcium carbonate. Calcium carbonate brand name examples include: *Dicarbosil*, *Rolaids*, *Titralac*, *Tums*. Calcium carbonate is not without its undesirable side effects. Side effects can include:

- "Acid rebound." (when, not long after you take the pill, the acid actually increases not decreases).^{clv}
- In some people it actually increases, not decreases, reflux.^{clvi}

NATURAL TIPS TO RELIEVE GERD

If you are suffering with GERD, you may find the following tips beneficial.

- Maintain regularity in your meal schedule; eat at the exact same times every day.^{clvii}
- Eat small meals.
- Take small bites and chew them well.
- Eat lots of high fiber fresh fruits and vegetables.^{clviii,clix}
- Don't drink any liquid with your meals.
- Don't make or eat liquid meals (soup, smoothies).
- Drink 8-10 glasses of water a day: drink the water at least 30 minutes before meals or 2 hours after meals.
- Leave at least five hours between your meals.
- Eat only two meals a day (skip supper)^{clx} and don't snack. If you do eat supper eat only fresh fruit.
- Take a short walk immediately after meals.^{clxi}
- Don't eat within 3-4 hours of going to bed.
- Wear warm clothes that cover arms and legs well and have no tight bands around the waist.
- Eat mainly low-fat, low-calorie foods.^{clxii}

NATURAL THINGS TO HELP AND HEAL

If you are currently in pain and looking for things that could help relieve that pain or even contribute to healing, the following could be of assistance to you.

- Charcoal capsules, tablets, or powder^{clxiii,clxiv}
- Fruit, beans, and vegetables^{clxv}
- Cabbage and its juice
- Carrots

- Broccoli, kale, radish, cucumber^{clxvi}
- Broccoli sprouts
- Pears
- Bananas and kiwi^{clxvii}
- Aloe Vera Juice
- Carob
- Dandelion tea
- Fresh Comfrey^{clxviii}

SCHEDULE OF THE DAY

So, let's take time and make this practical. What would a GERD sensitive lifestyle and diet look like? Now, I run the risk of having some sensitive soul with an allergy or food-dislike getting bent out of shape over these recommendations, so this discussion will need to be seen as advisory and not compulsory or set in stone. What would a day possibly look like for someone trying to synthesize the forgoing information into a practical schedule? God made us to run on a schedule. Well, here goes:

5:00am. Get out of bed. Drink one quart of warm water. Take a 15-minute walk outdoors.

6:30am. Drink one cup of dandelion and/or comfrey tea.

7:00am. Eat a breakfast of mostly fresh fruits (bananas, pears, kiwi, any fresh fruit) Making a fruit salad and topping it with a nut cream is nice. (Nut cream recipe: put in a blender put 2/3 cup of water, one tablespoon of one kind of seed (e.g., pumpkin seeds, sunflower seeds, flax seed, chia, hemp, sesame, etc), two tablespoons of one kind of nut (pecans, walnuts, almonds, brazil nuts, hazel nuts, etc., avoid peanuts and cashews.), blend till creamy smooth and pour over the chopped fruit salad.

Here is a really good oatmeal recipe for GERD: 2 cups water, ½ cup whole rolled

oats (not quick or instant oats), ¼ cup oat bran, ¼ cup ground flax or chia, ¼ teaspoon salt. Bring water to a boil, add ingredients, simmer for a minimum of 45 minutes. Serve with your fruit salad and nut cream.

After Breakfast take a 15-minute walk outdoors.

10:00 am. Drink another quart of water with one teaspoon of activated charcoal in it.

Take a short walk if possible.

12:30pm. Drink another cup of dandelion and/or

comfrey tea.

1:00pm. Lunch: eat at the exact same time every day.

Keep in mind the forgoing dietary research for GERD. Concentrate on good vegetables, raw or steamed and less on prepared or complex foods. Avoid mixing fruits and vegetables at the same meal.

Chew your food well and do not overeat. See our website for some recipes: www.NorthernLightsHealthEducation.com

After lunch take a 15-minute walk outdoors.

3:30pm. Drink one quart of water, no need to rush.

Take a short walk if possible.

6:00pm. It would be best to skip supper, but many cannot and with the proper precautions a good result can still be obtained. For supper eat only fresh fruit, chew it well and take a walk afterwards.

9:00pm. Go to bed at 9:00pm (even if you are not used to it, you can do it until it becomes a good habit.)

CHANGING THE TIDE

Not all diet and lifestyle changes are easy, especially when they go against favourite

practices. I hope your favourite food is not on the list of causes of GERD. Habits can be changed, and better health can be the result. For some, food, or their belly, can become more important to them than life itself. “For many walk, of whom I have told you often, and now tell you even weeping, that they are the enemies of the cross of Christ: Whose end is destruction, whose God is their belly, and whose glory is in their shame, who mind earthly things.”^{clxx} On the other hand we are promised

power to make positive changes. “I can do all things through Christ which strengtheneth me.”^{clxx} So be true to yourself, stick with the program and reap the results.

For further ideas on how to incorporate what you have just learned into your daily life, see the article entitled, “How Can I Apply Healthy Principles in My Daily Life”. Or Lifestyle Choices.

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