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UNDERSTANDING GASTRIC REFLUX

Gastric reflux occurs when the contents of the stomach move back up into the esophagus. Because the stomach “juices” are quite acidic this can cause very uncomfortable and potentially damaging irritation to the delicate lining of the esophagus. There are many factors that contribute to gastric reflux symptoms. The amount of acid in the stomach, the tone of the valve at the top of the stomach, the amount of food in the stomach, the efficiency of digestion, posture, the presence of a hiatal hernia, tight clothing and the muscle tone of the diaphragm and abdominal muscles all can play a part in the degree of suffering experienced with this condition.

Because there are so many factors involved with gastric reflux what works for one person may not work for another. You may get conflicting advice from different people and different health care providers. This paper is not meant to replace the advice of a health care professional but merely to give you some insight into the condition and some self-help ideas to complement the professional treatment you may receive.

From a strictly mechanical point of view gastric reflux occurs when the pressure of the contents inside of the stomach is greater than the ability of the valve at the top of the stomach to hold it in. So prevention is simply a matter of reducing the pressure inside the stomach. There are several factors influencing the pressure inside of the stomach. We will look at them one-at-a-time and offer suggestions for correcting each one.

Just recently (June 2006) a new study was released reporting that gastric reflux occurs more frequently and severely in people who have recently gained weight. The report did not say what it was about gaining weight that caused reflux but the suggestion was made that losing weight would be good. My personal experience, and that of some patients, is that the component of gaining weight that was the problem was not admitting that larger clothing was needed to accommodate the larger body.

Tight pants seem to be directly related to a higher incidence of gastric reflux. So, if you have recently gained weight, and noticed a corresponding increase in the frequency or intensity of gastric reflux symptoms, try loosening your waist band or **wearing looser pants**. There are lots of good reasons for losing weight but you might as well be comfortable while waiting to fit into those size 6 pants again.

Aside from tight pants there are other factors within your own body that can cause increased pressure on the stomach. Excessively tight abdominal muscles can have the same effect as excessively tight pants. Again, for reasons of vanity, many of us try to

emulate the ‘washboard abs’ we see in the magazines and movies. Exercises to strengthen the abdominal muscles and efforts at weight loss can have beneficial effects. But constantly holding your abdominal muscles tight to try to look thinner will increase the pressure on the abdominal contents and force you to breathe more with the chest and ribs. This is an unhealthy breathing pattern that can lead not only to increased likelihood of reflux but also to chronic shoulder and neck pain.

Truly strong abdominal muscles can also be flexible muscles. Your abdomen should be capable of expanding and contracting as you breathe to allow for the expansion of the lungs. Practice abdominal or **diaphragmatic breathing**. This changes the internal pressures to discourage the abdominal contents from being pushed into the esophagus.

Here is an exercise to teach yourself abdominal breathing. Sit or lie in a comfortable position. Place one hand on the abdomen and one hand on the chest. When you take a breath in try to push the air into the abdomen so that the hand lying on your abdomen rises but the hand on your chest does not move. Do this for three minutes a day. You will find that after a few weeks you will naturally begin to breathe more from the diaphragm all day. You will also find yourself more relaxed with less stiffness of the neck and shoulders.

Another reason for increased pressure in the stomach is overeating. First, simply packing too much food into the stomach will increase the likelihood of some leaking back into the esophagus. But there is also something called the “effective capacity” of the stomach. In other words it is possible to put more food into the stomach than it can digest effectively. The stomach can only produce so much acid and the stomach has to be able to “churn” the contents to effectively digest the food. Putting too much food in the stomach is like putting too much laundry into the washing machine. The food will not digest well and the clothes will not get clean.

When food does not digest well it may begin to ferment and create gas which increases the pressure inside the stomach. If it does not happen then it will happen later as the food passes through the lower digestive tract and creates gas of another kind with other inconvenient reactions.

To avoid this, **limit meals to a quantity that your stomach can digest efficiently**. A general rule of thumb is that the functional capacity of your stomach is about as much as you can hold in both hands cupped together. Eat no more than that much at each meal to ensure adequate digestion and wait at least three hours or until you feel hungry again before eating more.

Some foods actually encourage fermentation and acidity. In addition to the recommendation on quantity be aware of the quality of food you put into your body. **Reduce sweets and simple carbohydrates**. They increase the acidity of stomach contents and encourage fermentation which increases gas pressure in the digestive tract.

Digestion can be effected by emotional states. Stress can cause the diaphragm muscle to be excessively tight and breathing to shift to the chest. So **do not eat when emotionally upset**. Sit quietly for a few minutes before meals and practice quiet, abdominal breathing to relax the diaphragm, activate the digestive tract through the parasympathetic nervous system and increase digestive efficiency.

The pressure in your stomach shifts with changing posture. Lying down allows the contents of the stomach to move upward toward the esophagus. So even if there are not symptoms sitting up you may experience symptoms when you lie down. If you have followed the instructions above that should be less of a problem but until you get the situation under control you may need strategies to reduce pressure upon lying down.

Do not eat after 8 p.m. in the evening. Give your food a chance to settle before going to bed. If necessary **elevate the head of your bed** by placing bricks or 2x4s under the feet at the head of the bed. A “wedge” pillow that elevates your upper body may be helpful and is usually available from any pharmacy that carries home health products like walkers or braces. The wedge should be at least as long as your torso to prevent excess bending of your neck in relation to the rest of your body. Just sleeping with two pillows under your head may help the reflux temporarily but it will lead to neck problems eventually.

A weakened valve at the top of the stomach will increase the risk of reflux even with normal abdominal pressure. **Avoid alcohol, especially red wine** and especially just before bed time. They increase the acidity of the stomach contents and are believed to relax the muscles around the valve at the top of the stomach allowing the stomach contents to flow into the esophagus.

Although there is scant research to support it **some of my patients report that their reflux symptoms get better when they get adjusted**. A study a few years back showed that chiropractic adjustments did seem to change the amount of acid produced in the stomach. It is also possible that for some people the nerves controlling the stomach valve are irritated when the vertebrae are not working properly. Or it may be that irritated spinal joints produce a pressure sensation that is misinterpreted by the patient as being a reflux symptom. I’m not really sure. Relief from reflux symptoms is certainly not a universal response. I have plenty of patients who do not notice any improvement with adjustments but a few find that it helps them more than anything else they have tried. Because this is such a multi-factorial condition it is perhaps not surprising that some people would be helped and others not.

Some foods may actually help reflux. An Australian study found that a large percentage of people with chronic reflux saw a decrease in symptoms if they ate an **orange every day**. Drinking orange juice did not help. In fact orange juice is quite acidic and may cause increased reflux symptoms. The whole orange includes the fibrous insides and some of the white “spongy” material inside. These parts of the orange are particularly high in nutrients that help strengthen connective tissue and may provide some protection to the delicate esophageal lining.

Many people are being prescribed medication that reduces the production of acid in the stomach as a treatment for reflux. Some “alternative” health care providers believe that the problem is not enough acid in the stomach and successfully treat reflux with oral supplements containing betaine hydrochloride and other digestive enzymes. This seems to be conflicting information unless you put it into context of what we have learned already.

The symptoms and damage caused by gastric reflux are mainly due to the effects of acid on the delicate esophageal lining. So reducing the acidity of the gastric contents by stopping the production of acid with medicine would prevent the discomfort and damage associated with reflux. We really don't know if it stops the reflux itself but only that it makes it less acidic so it does not produce the symptoms.

On the other hand, reflux can be caused by fermentation of stomach contents that are not well digested. This happens when the amount of food consumed exceeds the digestive capacity of the stomach. So adding digestive enzymes and more acid might help increase the digestive capacity of the stomach thus decreasing fermentation, gastric pressure and reflux of the contents.

With that understanding we can see that the symptoms of gastric reflux may be the result of either too much acid in the esophagus or too little acid in the stomach relative to the amount of food present. Even though the stomach is designed to contain contents that are very acidic, more acidic even than the acid in your car battery, when that acid escapes from the stomach into the esophagus it can cause severe problems. In those cases medication that prevents acid production may be necessary to control symptoms and prevent damage to the esophagus. But in many cases it may be possible to reduce the reflux of gastric contents through the preventative methods described above.

The preventative measures above are not going to be much help when you slip and have that extra donut just before bead time. At three in the morning when you wake up with heartburn-from-hell what do you do? Remember, the pain is caused by the effects of acid on the esophagus. Antacids like Tums often help by neutralizing the acid. Pepto-Bismol contains a non-acidic form of aspirin that reduces swelling and pain of the irritated esophagus. Obviously these are only temporary measures and should not replace the preventative measures described above.

This information does not replace the advice of a health care professional. Because the symptoms of gastric reflux may signal severe damage to the esophagus, and because the symptoms commonly associated with reflux can sometimes be similar to symptoms of other serious health conditions such as heart disease you should seek the advice of a health care professional if you have any questions about your health.