Heartburn - Is Glutamine a Cure?

Heartburn (reflux) is a muscular problem.
Despite the medical emphasis on antacids, the real cause of reflux is a weakness in the lower oesophageal sphincter ie the gateway at the top of the stomach.

A sphincter is a circular band of muscle like a large elastic band. Its job is to relax or tighten to let food or drink through and stop them coming back up.

Our bladder has an involuntary sphincter that relaxes to allow urine to flow when we go to the toilet and tightens to stop the flow when the bladder is empty. The same applies to the anal sphincter.

If the sphincter of the bladder or bowel becomes weak, it is called incontinence and we are given exercises to strengthen the muscles or drugs to retrain the body or have surgery to correct it.

Interestingly, none of these approaches seems to be used for reflux, which is caused by another weak sphincter muscle. We are given drugs to stop acid production in the stomach completely.

Acid is produced by the stomach in response to food entering the body, when it is in the mouth initially. Acid is needed to digest (breakdown) the food.

It is like putting soap powder in the washing machine. It doesn't work until we close the lid. Having enough acid in the stomach closes that sphincter allowing the stomach to work on the food. Taking lemon juice or apple cider vinegar with our meals will provide the acid to close the lid ie tighten the sphincter.

Glutamine heals mucous membranes, including the lining of the oesophagus that is being damaged by reflux. It is thought that glutamine might also strengthen the sphincter, improving its ability to tighten properly. This might completely prevent heartburn, acid reflux and even GERD and leaky gut.

Glutamine has been shown to increase the body's ability to dispose of damaged cells and produce new cells. Glutamine is a powerful antioxidant, too. As such, it helps protect body cells from free radicals, healing stomach ulcers, stopping diarrhoea, repairing "leaky gut," and helping the body repair its cartilage, tendons, and ligaments.

Until heartburn, acid reflux, and GERD are understood and treated as the muscular and gut lining problems they seem to be, doctors will continue to prescribe bandaid treatments for symptoms not fix the problem.

Are Glutamine and Glucosamine the same?

The terms glucosamine and glutamine may sound and look similar and people may confuse one for the other, but they are very different organic compounds that perform different roles in our bodies.

So what does Glutamine really do? It is an amino acid that is one of four similar substances that are made from each other; **glutamate**, **glutamine, glutathione** and **GABA**. They all have different jobs in the body.

Glutamine can be used to alleviate muscle cramps and pain, especially in older people. By replenishing the amino acids in the body, muscles are strengthened and pain relieved. It can also be used to alleviate stress and as a fuel for brain function.

Glutamine provides the **glutamic acid** that the brain uses as fuel (the only other substance the brain uses for fuel is glucose.) Glutamic acid has the ability to pick up ammonia molecules in the body and convert them to glutamine. A shortage of glutamic acid, therefore, can produce brain damage due to excess ammonia or can produce that ***"I can't get my brain going"*** effect.

Glutamine is one of twenty amino acids or building blocks that are responsible for making hair, skin, nails, organs, hormones and many other parts of the body. It is the most abundant amino acid in the body and makes up a little more than half of the free amino acids in the muscles and blood. It is made and stored in the skeletal muscle from glutamate and ammonia. For this reason, polios may be short of glutamine due to **loss of muscle due to polio** and supplementation may be beneficial.

During stressful periods in our lives and especially at times of surgery and extended periods of exercise or illness, glutamine from foods and body glutamate stores may not meet the body's demands.

Glutamine is the only amino acid containing two amine groups. This enables glutamine to "give up" one of these amine groups to **combine with glucose** to make: n-acetyl-glucosamine - necessary for repairing intestinal lining; and acetyl-d-glucosamine - responsible for healing cartilage, tendons and ligaments.

Glucosamine (which can be made from glutamine and glucose in the body) plays a role in building cartilage, which is a series of connective tissues located between joints. This cushions the bones as they move along each other. The Glucosamine we are familiar with in shops is a type of amino sugar, which means it contains properties of both proteins and glucose. It is part of the structures of chitin, which is the outer shell of shrimp and shellfish, animal bones and connective tissues so is a problem for those with shellfish allergies.

Gelatine on the other hand has high levels of proline and glycine, both of which are other amino acids that provide building blocks for healthy cartilage and are not found in abundance in other protein sources. It is derived from rendering animal cartilage and **is a food**.

Glutamine provides fuel for your gastrointestinal tract, particularly in the cells in the linings of your small intestines. According to biologist George Mateljan, author of "World's Healthiest Foods," glutamine also provides the main structures for these cells to help them resist against disease-causing micro-organisms and minimize the absorption of allergenic molecules. Your white blood cells and muscles use glutamine, along with glucose seperately, as an immediate fuel source.

Glutamine occurs naturally in foods that are high in protein: red meat, dairy products, fish, and beans.

Glutamine 100G for **$25** available from the Polio Office.