

THE DIGESTIVE PROCESS AND A THEORY OF AUTO IMMUNE DISEASE

Starting with how digestion works:-

Digestion starts in the mouth where enzymes in saliva start to break down starches. (This is why food should be chewed thoroughly before swallowing.)

(An enzyme is a catalyst (facilitator) which helps reactions to happen i.e. the break down of food in this instance, but enzymes are required for all the millions of reactions that go on in every part of your body all of the time. There are natural enzymes in raw food - which is why food rots if left out in the atmosphere - which are destroyed by cooking. This means the body has to produce more enzymes to eat cooked food.)

The food then passes into the stomach where hydrochloric acid creates an acid environment where acid loving enzymes can start the process of breaking down proteins. (If the production of acid is reduced by antacid - proton pump inhibitor - medication then the environment of the stomach is not sufficiently acidic to break down the proteins properly or kill off any bacteria in the food.) A valve at the entrance to the stomach stops the acid coming back into the gullet (oesophagus), which if faulty for whatever reason causes the acid to 'reflux' and burn the oesophagus wall. Medications such as Omeprazole should therefore only be used in the short term to allow the healing of a damaged oesophagus or ulcer, not as a long term fix.

The partly digested food then passes into the small intestine. The acid nature of the 'Chyme' coming from the stomach triggers the release of more enzymes from the pancreas, as well as alkali to neutralise the acid, so that these enzymes can work. (If the 'Chyme' is not sufficiently acid then the trigger of the release of the enzymes from the pancreas into the small intestine is insufficient.)

If there are oils and fats in the food then the gall bladder is stimulated and bile is released to digest these oils. Bile is produced by the liver and passes down the bile duct into a sac called the gall bladder, awaiting stimulation to be released into the intestines.

The liver is the main detoxification organ in the body and has many systems to render dangerous chemicals harmless and pass them out of the system in the bile, and therefore through the intestines and out of the body. All the waste products from the body's many reactions are also expelled from the body in this way. Overuse of alcohol and other poisons and pollutants can overwhelm the liver, cause damage and reduce it's efficiency.

Also in the intestines live a multitude of good bacteria, many more than the total number of cells in the body, which help to digest food. Current research is finding that these bacteria play a massive role both in digestion and producing many factors required by the body to function properly, including the immune system. The good bacteria keep any 'bad' bacteria under control and a correct balance of bacteria in the gut is essential for health. Taking antibiotics (antibacterials) to kill off bad

bacteria also kills good bacteria, which then disturbs the balance of bacteria in the gut to the detriment of digestion and the immune system. More of this later.

The food continues through the small intestine into the large intestine, continuing to break down and absorb all the food we have ingested including all the vitamins, minerals and trace minerals that the body has evolved to utilise for all the amazing functions it carries out.

All the indigestible parts of our food, both the soluble and insoluble fibre that forms part of the vegetables and fruit that we should be eating, has a role in giving the muscular wall of the large intestine - colon - something to work on to keep the undigested food and waste products moving through the intestines.

Also in the large intestine, water is absorbed to start to make what remains more solid so it can be passed out of the rectum. Any interruption in this process, for many reasons including stress and bad diet, which slows down the passage through the intestines, gives time for waste products and toxins to be reabsorbed back into the body causing a multitude of problems.

Digestion breaks down food into the smallest possible particles which are then able to pass through the very narrow gaps in the intestine wall into the blood vessels just behind, to then be carried to all parts of the body, to produce energy, but also to be used as building blocks to create all the many chemicals needed for this amazing thing called the human body to function, protect and repair itself.

Proteins are broken down into amino acids. Starches and sugars are broken down into glucose and a few other single molecule sugars. Oils and fats are broken down into lipids (fatty acids). These are the smallest units possible of the different food types.

This is obviously a simplification of the amazingly complex process that the body has evolved, to process and utilise the food that we eat. But it will give you an idea of how it works and the many points where it could go wrong, which could produce a variety of problems and illnesses.

This is a theory of auto immune disease developed by natural therapists, proved by testing and experience:-

The lining of the intestines can be damaged by many factors i.e. stress, poor diet, imbalance of gut flora (often called the microbiome - the balance of bacteria in the gut), inefficient digestion, suppression of stomach acid, pollutants and chemicals in food, drugs, etc. etc.

If the lining is damaged then larger, only partly digested, particles of food could make it through into the bloodstream. The immune system is primed to recognise anything that should not be there as an invader to the body and will attack. The body produces antibodies against these food particles (which can be tested for), which means that if they appear in the blood again the immune system is ready and can attack immediately, just as it does for infections.

That would not be so much of a problem except that if the molecular structure of these particles resemble some part of the body, then that will be attacked also, hence auto immune disease - the body attacking a part of itself. This is called a 'cross reaction'.

What can be done to help sufferers?

Reduce stress to reduce it's many effects on the body. (See more info below.)

Try to heal the gut lining - various amino acids (e.g. l-glutamine) and herbs etc can help the gut lining to heal.

Rebalance the gut flora by taking probiotics: capsules are more effective as they contain much more bacteria than probiotic yoghurts, etc. Especially needed if you have been taking antibiotics. Try to find a product containing many different strains of good bacteria. Also 'prebiotics' which are foods that feed the good bacteria, which help them to thrive against the bad bacteria.

Improve the diet and reduce pollutants and chemicals by eating whole, unprocessed food, organic as much as possible, plenty of fruit and vegetables to increase absorption of essential vitamins and minerals, and raw if you can tolerate it, to increase enzyme ingestion to aid digestion. (Certain vitamins can only be absorbed if oil is present with the food.) The body needs a balance of good quality proteins, carbohydrates and oils. All are essential. The low fat diet advice has now been discredited. It is sugar and processed foods that are the problem. Good oils are needed to regulate the inflammation system, one of the body's self regulating systems. Practically all diseases involve inflammation - 'itis' on the end of a word means inflammation. Good oils produce the inflammation modulators that keep the inflammation response in balance. Therefore eat plenty of good oils with your food, they will not make you fat. E.g. olive oil, coconut oil, grapeseed oil, flax oil, walnut oil, macademia nut oil, etc. etc.

Become your own detective and find out which of the foods you eat are producing the offending food particles.

Common offenders are gluten, wheat and other cereals, dairy, eggs, some fruits, some nuts, fish and shellfish, soy, wine, chocolate, food additives, flavour enhancers (MSG), the onion family, etc. etc.

Having said that, you are an individual and the offending food item/s could be anything, healthy or otherwise, and the only sure way to find out is by eliminating a food item from the diet for a week. Often the thing you need to eliminate is the thing you love to eat/drink the most, as it acts on your system like a drug and you may get withdrawal symptoms. If you can persevere, the offending food will be out of your system in about 5 days and after a week you should notice a change in your health. Withdrawal symptoms are therefore a sign you are on the right track.

Chemicals and pollutants can cause similar problems. They can enter the body through the mouth and nose, and be absorbed into the bloodstream through the mucous membranes of the mouth, nose, throat and lungs, as well as being absorbed through the skin. Try ridding your environment of chemicals and perfumed products by removing air fresheners etc. and using unperfumed washing powders and fabric

conditioners, cleaning products, cosmetics and hair products. Try brands such as Surcare and Ecover, brands labelled 'sensitive' or 'hypoallergenic', and generally baby products are free of harsh chemicals and perfumes. Don't forget exhaust fumes, second hand smoke, gas fire and cooker emissions and possibly flowers and plants.

FODMAP is another way foods can cause problems in the body. Google FODMAP for an explanation and list of the offending foods.

If you need further information and help, ask at a good health food shop where the owner is a qualified nutritional therapist, or consult a therapist.

Also a good source of information about how to cure diseases, including autoimmune disease, by diet is a book called THE PLANT PARADOX by Dr Stephen Gundy, a top heart surgeon in America, who realised he wasn't curing anybody with surgery, just putting a sticking plaster on the problem rather than finding the root cause, and who now uses nutritional therapy with great success.

Effects of stress on the body:-

Stress is not necessarily a bad thing. It is a natural and essential bodily process. You may have heard of the 'Fight or Flight' response. When ancient man was faced with serious danger he needed to be able to either fight the foe or runaway as fast as possible. Therefore the body shuts down non-essential functions such as digestion, raises blood pressure and the heart rate to pump more blood round the body, puts the brain on high alert and releases extra glucose to feed the muscles. It achieves this by producing stress hormones. After the threat has gone all the bodily functions return to normal and the stress hormones dissipate.

However, with our stressful lifestyles and unfamiliar diet (we are now eating things that the human body did not evolve to cope with), our bodies can remain in a state of low level stress all the time without us realising it, meaning digestion doesn't function properly, too much glucose is circulating in the blood and stress hormones stay circulating in the body causing all sorts of problems. One problem being that stress hormones and some immune factors are made by the body from the same building blocks, meaning that the more stress hormones that are produced (which the body sees as a priority in stressful situations), the less immune factors can be produced and the immune system is less able to fight infection, cancer etc. Stress also affects 'peristalsis' which is the rippling motion of the muscles of the intestine walls which moves food and faeces through the system. Over stimulation can cause diarrhoea and under stimulation can cause constipation.

It is therefore important for your health to reduce stress in your life whatever way you can. Doing something stressful is not a problem as long as the body is allowed time to return back to normal and look after itself as it has evolved to do. In other words take time for yourself and CHILL OUT.