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Grow Me Well

Nutritional Know-How for Every Body



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papawai

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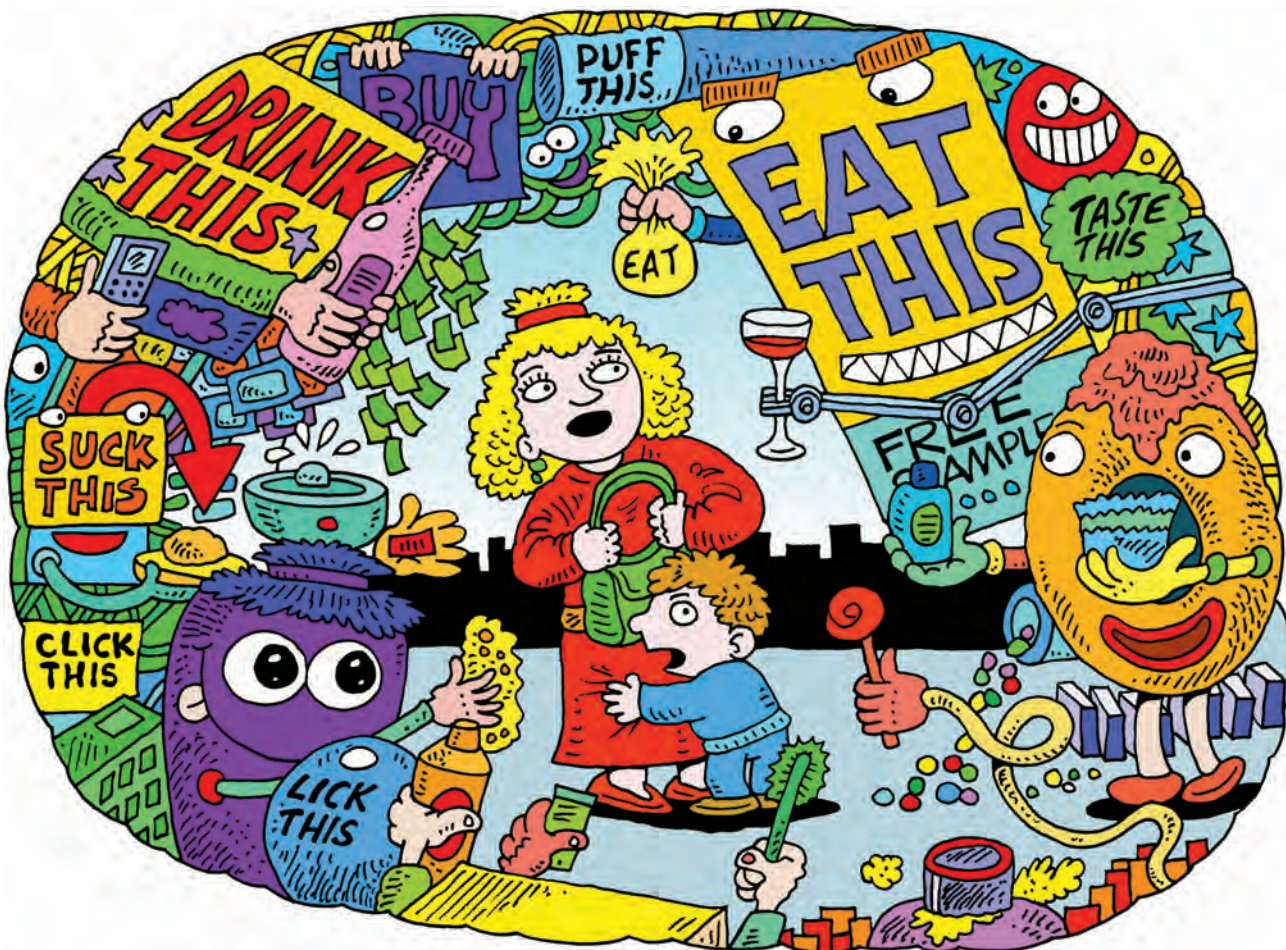
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Come on a journey and explore the wonders of the human body – YOUR body! Along the way you will also discover the science of nutrition, the concept of food as medicine and how food reacts with your body.

Food is everywhere! And today more than any time in history, you are being bombarded daily with enticing messages about what to eat and drink; messages from people who have very little interest in what is really good for you. From TV advertisements, glossy magazines, product placement in films, the internet and TV shows, these messages are more than likely from people more interested in their bottom line than your waistline.

Just as there is an abundance of food in the world, there is a seemingly endless supply of opinions, influences and ideas, all telling you what you should and shouldn't be eating. It can all be very confusing and hard to know who or what you should listen to.

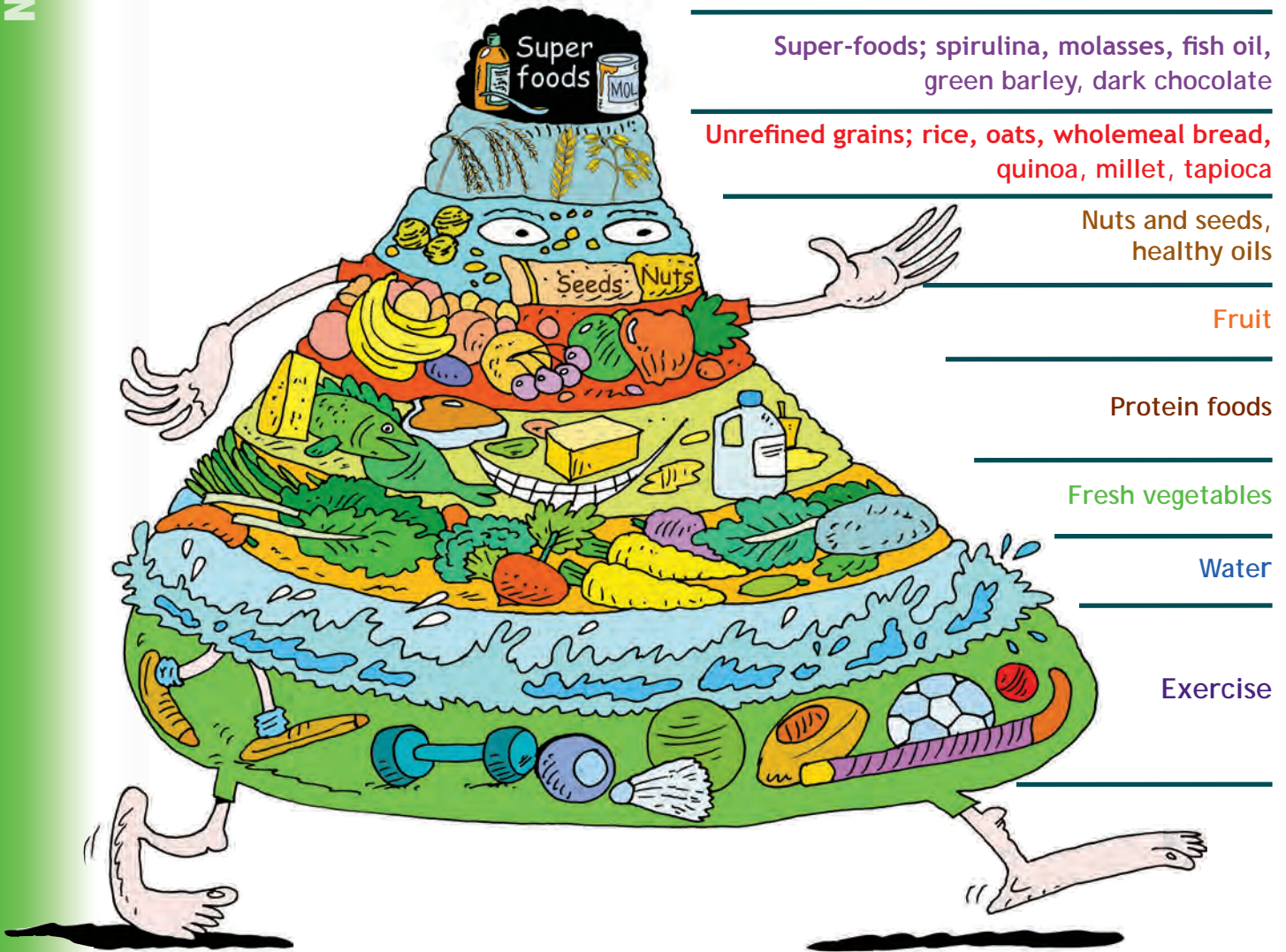
We believe that, as you become more body and food aware, you will begin to make healthier choices about what you put in your mouth and how you treat your body. Our hope is that you will reap the health benefits of learning to feed yourself right, now and well into the future.

You have the power to make great food choices every day that will make you healthy and strong for life. With a little help from *Grow Me Well*, you will discover foods that will build a healthy body. You will also be able to recognise and avoid foods that will make you sick and affect your genes.



Build Your Own Food Pyramid

Building your own food pyramid is easy. Use your hand to measure your portion sizes. Your palm size and thickness shows your protein portion per main meal. And half your palm size is a protein snack. Your handful including your palm and fingers, measures your daily vegetable and fruit intake. You can use this method for the rest of your life as your hand size will grow along with your increased need for healthy food.



Super-foods; spirulina, molasses, fish oil, green barley, dark chocolate

Unrefined grains; rice, oats, wholemeal bread, quinoa, millet, tapioca

Nuts and seeds, healthy oils

Fruit

Protein foods

Fresh vegetables

Water

Exercise

1a. **Exercise** - make exercise and play part of your day. Aim for a minimum of 60 minutes a day. Get outside and get moving. You'll also be getting your dose of vitamin D from sunlight to boost your immune system and help your body absorb calcium.

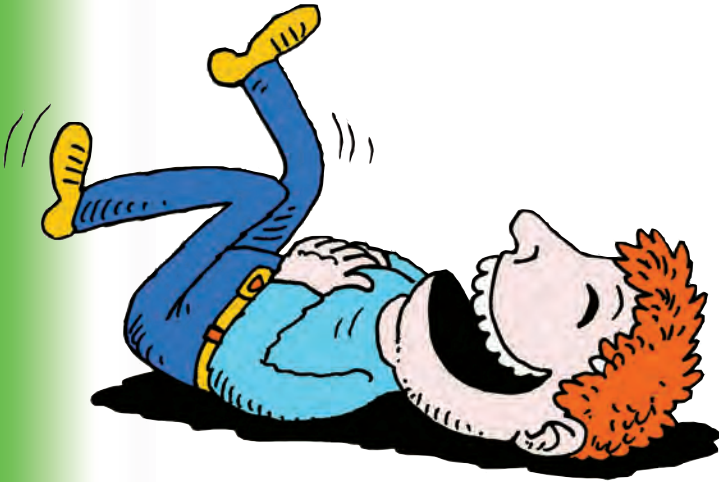
1b. **Relaxation** - take daily time out for reflection, connecting with nature, meditation, prayer or quiet time.

2. **Water** - As a guide, for every kilogram you weigh you need to drink 30mls of pure water daily (20kgs x 30ml = 600ml/daily). For a

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Feeding Your Emotions

As you now know, the type of food you eat can either help you or harm you; and so it is with your thoughts, feelings and emotions. They also feed you in either positive or negative ways depending on what you spend your time focusing on. Just like junk food, negative feelings can create illness and disease. And just like healthy food, positive or good thoughts and feelings create well-being within, and a state of being at ease.



What you watch and listen to, the words you speak, the people you spend time with, the activities you participate in and the places you hang out in, can either nourish you or leave you feeling neglected. So be mindful of what makes you feel good and what makes you feel bad. Use your feelings as a guide to help you navigate with whom, how and where you spend your time. By spending more time creating good feelings and being with people and in places you enjoy, you will be practicing the art of living well.

What you think and feel actually affects your physical body. For example, have you ever noticed when you worry that your stomach area begins to feel tight and a bit sick, or that if you feel angry you become tense and get a headache? Have you felt scared and noticed that your knees feel weak and your legs feel wobbly? That is because emotions produce hormones which affect your physical body.

Research shows that feelings of fear create stress hormones in your body called cortisol and adrenalin. Short term exposure is okay if you need to run for your life or make a stand for yourself (the fight or flight response), but if you are constantly exposed to fearful thoughts and situations cortisol and adrenalin negatively affect your body.

These stress hormones affect the body by increasing your heart rate and stomach acid secretion, diverting blood away from your stomach and gut, increasing your blood sugar levels, suppressing your immune system, acting like a diuretic, and decreasing your bone formation.

Constant colds or wounds that don't heal, low appetite, frequent urination, and sore and aching bones are symptoms produced by stress. So overall, fear can leave you feeling wired, tired and restless with a burning sensation in your stomach.



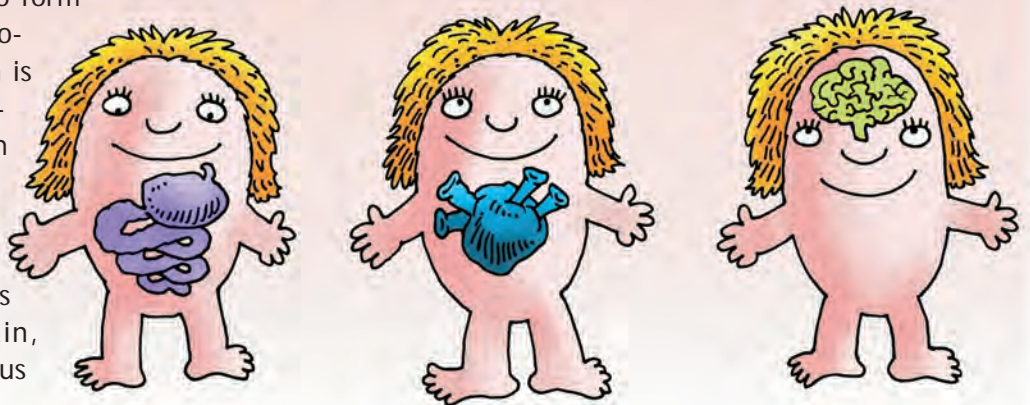
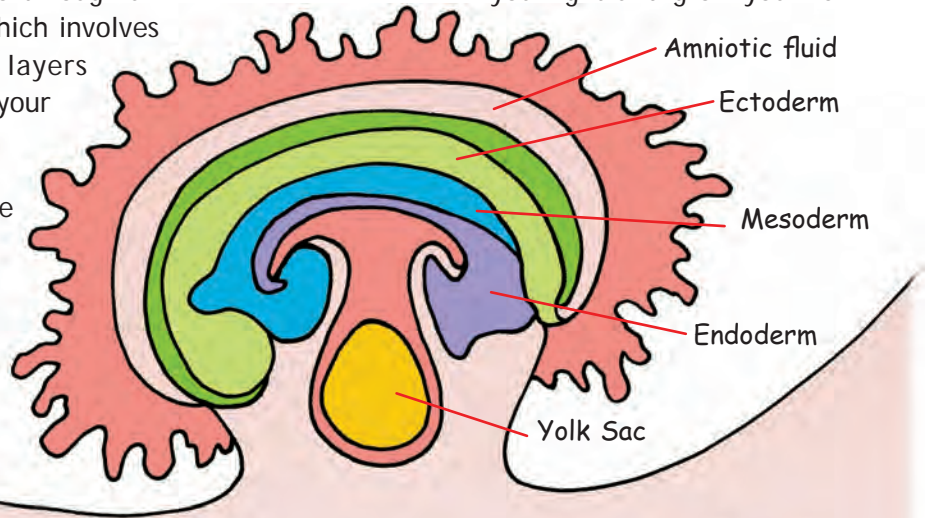
Using Your Three Brains

Did you know that you have three brains inside of you? You are already aware of your head brain, but did you also know you have a heart brain and gut brain? Each of the three brains has a distinct neural network that is formed when you are an embryo developing in your mother's womb. During your third week of development you go through an amazing process called gastrulation, which involves the formation of three distinct cell layers within your body and sets the fate of your body plan.

During this developmental milestone your body's inner, middle and outer layers are formed. And each layer relates to one of your three brains. These three layers that form your body's blue-print are the endoderm, mesoderm and ectoderm. Your gut brain forms first in the inner layer of your body plan called the endoderm. Endoderm cells also form the liver, pancreas and gastrointestinal tract. Next to form is your heart brain in the mesoderm or middle layer. Mesoderm cells also form your heart and blood vessels, bone, muscle and kidneys. The final layer to form is the ectoderm and this will become your head brain, central and peripheral nervous systems, sensory organs, skin and hair.

Apart from the obvious different physical functions that each organ has, the head, heart, and gut brains also perform different mental and emotional roles. For example your head brain is good at being logical and analysing information. Your heart brain senses the world through emotion and feelings, and your gut brain is used for understanding your identity and who you are in the world. The gut brain also helps you learn self-preservation by

teaching you to follow your gut instinct. You know that gut feeling you get about certain things? Well it comes from your gut brain talking to your head brain via your emotional limbic system. These two brains must learn to listen to each other to help you make important decisions to feed you right and grow you well.



By the time you are an adult your gut will be approximately 8 metres long. In the inner world of all this muscle and tissue there is a vast network of neurons about the size of a cat's brain. With an estimated 500 million nerve cells and over 100 million neurons, it's no surprise your gut is referred to as your second brain. Using your enteric nervous system (ENS), your gut is fully equipped to think, remember and learn. Your gut brain has a complete network of neurons, neurotransmitters and special.

Nutrients in A Galaxy of Superstars



Your body is truly a masterpiece, as vast and exciting to discover as the universe and all its stars. In earlier times, the Milky Way was thought to be the source of cosmic milk or prana (life force or energy), which gave nourishment to all the Greek Gods who had their home in the starry cosmos. Galaxy comes from the Greek word for milk (gala). Today many scientists believe that all the chemical elements on earth, except hydrogen, came from the inside of stars that were scattered across the universe in stellar explosions, and these elements (the stardust) have made your body.

This Galaxy of Food Stars is designed to bring your body the nourishment needed to fuel you on your journey through life.

For your body to perform at its maximum potential, it needs to be fed a complex variety of vital nutrients every day. And as you know, having a healthy daily nutritional plan in place is one of the most important ways you can maintain your

active lifestyle and protect yourself against illness and disease like obesity.

The essential nutrients your body needs for this journey are proteins, fats, carbohydrates, vitamins, minerals and water.

All six types of nutrients are required for heat and energy, growth and repair, and assisting in the regulation of your body's processes. No nutrient acts by itself independent of the others; all nutrients must be present in your food and drink so they can work together to keep you alive and well.

You get all the essential nutrients that you need from eating a wide range of fruits, vegetables, whole grains, legumes, nuts, seeds, dairy products and meats, and of course drinking fresh clean water. So if you can't recognise where the food comes from in nature don't eat it!

Use the following stars to help you navigate your way around your universe and fuel your star-ship with high quality nutrients.

Insulin - A Master Hormone

Insulin is an anabolic or growth stimulating hormone found in all animal life. Insulin is one of the masters of your metabolism. As we have already discussed, one of insulin's main functions is to stimulate glucose storage in cells. But it also does much more than that. Insulin governs many other hormones in your body, it helps transport amino acids across the cell membrane so your body can build new living tissue, it delivers glucose to

the mitochondria of your cell for instant energy production, and it also plays a role in storing magnesium.

Insulin is regulated by the types of food you eat. By learning to eat complex carbohydrate foods that create a slow and steady insulin release you will help to keep your pancreas and other endocrine glands in balance.

Type 2 Diabetes

In the case of type 2 diabetes, as blood sugar levels continue to rise, the pancreas churns out more and more insulin trying to return blood sugar levels to normal. But because insulin receptors on the cells fail to work, cells are unable to take up the glucose.

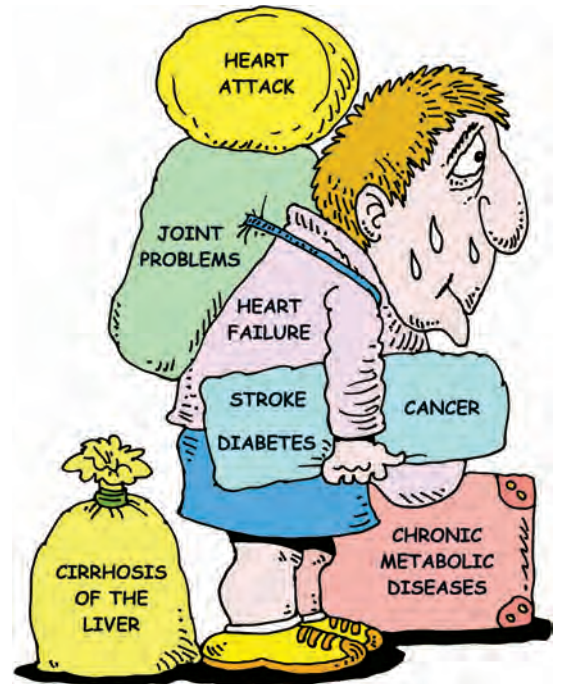
This excessive glucose continues to circulate in the blood, causing both high blood sugar and insulin levels. Over time this demand for insulin wears out the insulin making cells of the pancreas. Too much glucose in the blood is dangerous and can cause kidney damage, blindness, obesity, high blood pressure, and ultimately the need for amputations.

What is the Glycemic Index?

The Glycemic Index (GI) was developed in 1981 when David Jenkins and Tom Wolever, at the University of Toronto, Canada, discovered a way to measure how fast a carbohydrate in food raised the blood glucose levels in the body. The purpose was to find out which foods were best for people with diabetes to eat to help improve their blood glucose control. The Glycemic Index only applies to foods that have measurable carbohydrates in them.

High Glycemic Carbohydrates

High glycemic index (high GI) carbohydrates are quickly broken down during digestion and absorbed rapidly into the blood. This rapid absorption creates a sudden rush of glucose into your blood which overloads your sugar metabolism. Your pancreas over-reacts to this spike in glucose and makes a lot



Did You Know?



Sugar arrived in England in 1319. In 1674, King Charles' personal physician, Thomas Willis, identified and named diabetes after England's annual sugar consumption had gone from zero to 16 million pounds in the previous 200 years!

What Are Processed Foods?

Over the centuries technology has had a big impact on the food we eat.

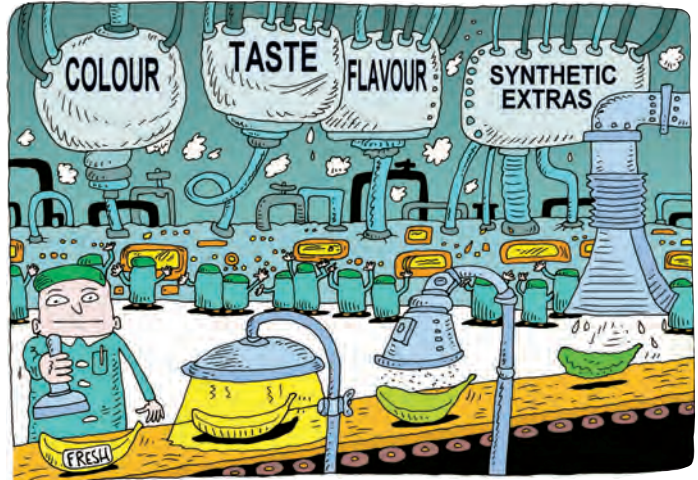
During the Industrial Age (late 18th and early 19th century), steam driven mills and presses allowed grains and oils to be refined. Commercial salt and sugar production also changed how foods were preserved and stored. During the 20th century our species was introduced to new, non-foods created by technology. These are synthetically made, high-tech foods that lack nature's fresh natural nutrients.

During World War I (1914-1918), before the world of shipping containers and air transport, when large quantities of food needed to be shipped to soldiers without having it spoil on the way, food processing became increasingly specialised. Scientists found out that if they removed the enzymes from food it lasted longer.

After the war, techniques learned were applied to the grocery business. When food science discovered how to isolate protein, fat and carbohydrates from whole foods, food processing became more sophisticated with the use of chemical additives and preservatives. Increasingly, processed food became more artificial than real.

Modern Food Problems

So much of the food now available is "man-made", created with the use of technology. It has been



processed and altered for a long life on grocery shelves.

These foods present your body with three main problems:

1. They lack enzymes that are alive and active, and without fresh enzymes your body does not receive essential nutrients needed to fuel the metabolic process.
2. They create acidity and toxins that alter the acid/alkaline balance of your body.
3. They increase the amount of waste in your body that is either stored or excreted.

When you sit down to a meal your brain is looking for nutrients not calories, and your body knows the difference between real living foods that have enzymes and refined processed foods that don't.

Your Health Depends on You (and Your Choices)

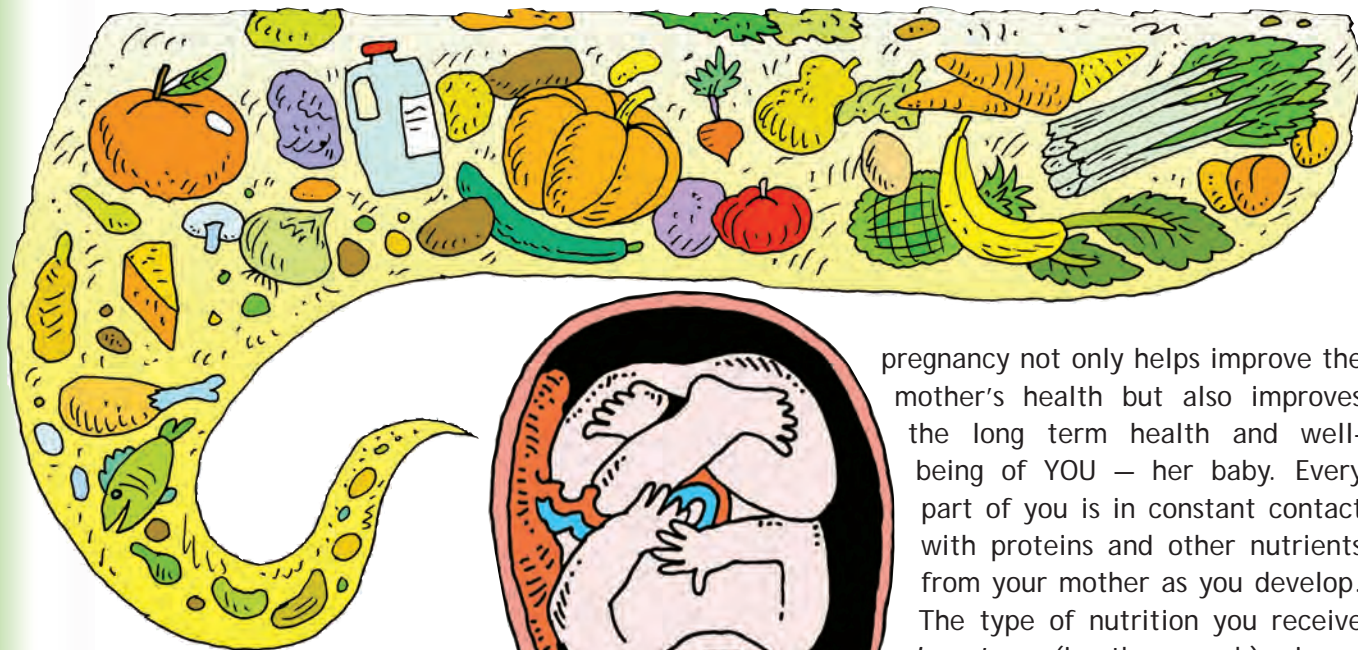
1. Don't eat anything sold in vending machines in plastic bags and containers.
2. Don't eat mass marketed sugar coated breakfast cereals.
3. Don't drink carbonated beverages or liquid candy.

Type 2 diabetes is an example of what happens when blood glucose remains high, and it is a fully preventable condition.



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Nutrition to Build Your Body



During your time in your mother's womb, you are reliant on her for all your nutritional needs. What your mother eats during pregnancy begins to lay the foundation for your health right through to adulthood. Every part of your development is dependent on a good supply of vitamins, minerals, proteins and fats from the whole foods in your mother's diet.

From the moment you are conceived a burst of growth and activity begins. After the union of your mother's egg and your father's sperm you became a single cell. This one cell begins to divide rapidly and in the first three months in your mother's womb, your mass will have increased by nearly 2.5 million times. Scientists estimate that by the time you are born, you will be made up from anywhere between one to five trillion cells! The process of growing a baby takes a huge amount of energy and nutrients.

Due to the increased energy and nutritional demands on your mothers' body during pregnancy it is important she eats well. Eating well during

pregnancy not only helps improve the mother's health but also improves the long term health and well-being of YOU — her baby. Every part of you is in constant contact with proteins and other nutrients from your mother as you develop. The type of nutrition you receive *in utero* (in the womb), is so important that it can change your characteristics for life!

During a normal healthy pregnancy a women can expect to gain between 10 and 13 kilograms of weight. By eating a broad variety of foods during pregnancy, the mother-to-be has the best chance of taking

in the wide range of nutrients needed to build a healthy baby. With regular exercise and healthy food, mothers-to-be can give their baby the best chance of following their unique genetic destiny.

From conception until the second year of life, babies need good fats in their diet to promote brain development. Brain cells and neurons need to be coated in a protective fatty substance called myelin. While *in utero*, these fats needed to make myelin in the baby's brain are supplied by the mother's diet. Then once they are born, babies get these fats from breast milk and then from their own diet when they begin eating solids. If the mother or the baby has a low fat diet it can mean that the myelin coating does not occur and the baby may not grow properly.

Inflammation and Disease

Inflammation comes from the Latin word “inflammatio”, which means to set on fire and is associated with the symptoms of heat, swelling and pain in your body. A bee sting, cuts, skin rash, hay fever, and a sprained ankle are all examples of things that produce inflammation. When the body gets ill, injured or infected it needs the help of the immune system to put out the fire and heal the affected area.

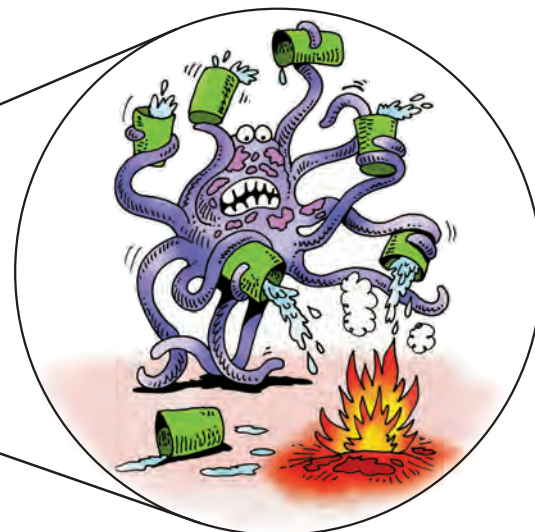
This fire within your body, which is produced by your immune system, is designed to burn away things that are harmful to your health such as pathogens, allergens, injury and other irritants. In this way, inflammation can be protective when your body generates heat for short term problems, such as infections. But if the fire keeps burning internally it can create more serious health problems.

The unique design of your body is aimed at keeping you in balance. Homeostasis is crucial to your survival, and the checks and balances within your immune system help make this possible. Acute, short term inflammation from infections, illness or injury is one way your immune system helps to prevent disease from becoming ongoing or chronic. It quickly deals with the fire and puts it out.

Inflammation can also be caused by eating highly processed foods full of sugar, salt and trans-fats. These foods lead to excessive oxidation causing irritation and inflammation of your digestive system. Stress, alcohol, smoking and toxins also create inflammation in the body.

Chronic disease arises when there is more inflammation in the body than the immune

system can handle. If you overload your body with unhealthy foods, the immune system is so busy rushing around putting out fires, you become very tired. Inflammation also causes cells to become sticky, like chewing gum. This stickiness prevents proper bloodflow, nutrient delivery and toxin removal from cells in the inflamed tissue. Left untreated “cell stickiness” drives the body towards chronic illness, such as diabetes and metabolic syndrome, cancer, cardiovascular disease, dementia, arthritis, osteoporosis and allergies.



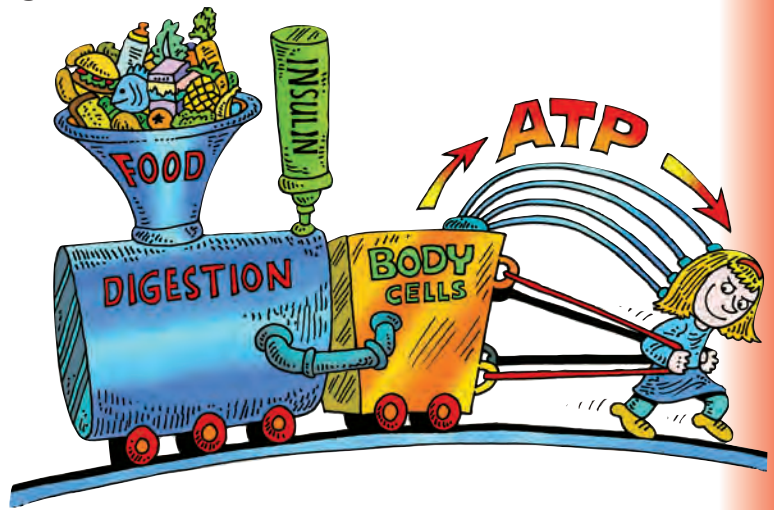
The oxidative stress, or excessive oxidation, within the body from eating junk food, damages the good fats, proteins and DNA in your body.

To combat the daily challenge of inflammation in your body nature has armed you with phytochemicals. These power packed antioxidants help to fight off destructive, heat-producing oxidants in your body. Phytochemicals which are found in fresh fruits, vegetables and herbs, help to heal inflammation and keep your immune system in balance.

Don't let inflammation be the driver of disease in your body. Dump the junk! Drink water and use healthy foods as preventative medicine by eating plenty of fresh fish, vegetables and fruit to keep the fire within under control.

What Is Energy?

Energy is the power that drives all life on earth. Energy is the ability of your body to work, play and think. Food acts as fuel and is transformed into cellular energy through a series of chemical reactions, dependent on vitamins and minerals. Your body is built to use insulin to change glucose into energy. Whatever you are doing, every cell in your body is burning glucose to provide energy for you to exercise, breathe, think and metabolise food.



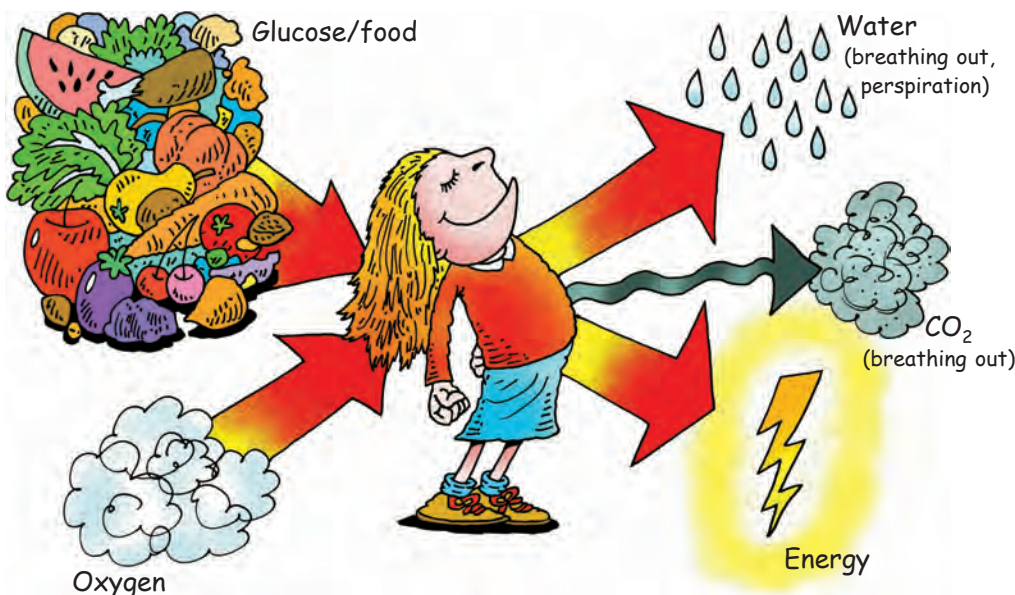
Cellular Respiration

Making energy within a cell from glucose is called cellular respiration. While glucose and other fuels like fats are used throughout the body for energy, the brain and red blood cells can only use glucose. Your brain uses nearly twice the amount of glucose for fuel as the rest of your entire body!

Within a cell the body can make energy from glucose in two different ways. One way uses oxygen (aerobic cellular respiration) and the other way doesn't (anaerobic cellular respiration). Cellular anaerobic respiration - also called glycolysis - doesn't need oxygen to create energy.

Glycolysis takes one glucose molecule and makes two ATP molecules. Using this process is how red blood cells meet their energy needs. This is important because red blood cells don't have any mitochondria to produce energy as this would use up their precious cargo of oxygen needed by all the other cells in the body. Instead, glucose goes straight into red blood cells where it is used via glycolysis.

Your bloodstream is critical to your survival as it carries glucose and oxygen-rich red blood cells around your body. Red blood cells pass on vital oxygen to other cells, which then use it with glucose in aerobic cellular respiration and the Krebs cycle to produce energy. For every molecule of glucose that enters the mitochondria and is used in the Krebs cycle, thirty six or thirty eight molecules of energy (ATP) are produced.



How Do Enzymes Build a Healthy Body?

"Enzymes are substances that make life possible, the key to unlocking good health and vitality. Without enzymes our bodies would not be able to harvest the nutrients from the foods we eat. They make the digestion of food possible. They are the manual workers that build the body from proteins, carbohydrates, and fats."

- Dr Edward Howell

We have met enzymes several times already in this book, but we can't overstate how important these proteins are for life and health. There are three classes of enzymes:

- **Metabolic enzymes** which play a role in breathing, talking, thinking, behaviour and maintaining the immune system. They also help to neutralise carcinogens and pollutants.
- **Digestive enzymes:** protease to digest protein, amylase to digest carbohydrates and lipase to digest fats. Your saliva is loaded with digestive enzymes mostly manufactured by the pancreas.
- **Food enzymes from raw foods.** Enzymes in raw food start the process of digestion and reduce your body's need to make digestive enzymes. Eating food in its natural unprocessed and unrefined state is essential for your good health. Introduce the following enzyme-rich foods into your diet: raw milk, raw fish, fermented foods, bananas, avocados, raw sprouted seeds, pineapples, kiwi fruit, figs, raw honey and pawpaw.

within your tissues depend on substances called co-enzymes to complete metabolic functions. Co-enzymes can be vitamins, minerals, nucleic acids or amino acids.

To build healthy enzymes the body needs the right amount of clean air for oxygen, water, an array of vitamins, minerals, glucose and the protein building blocks, amino acids. In today's busy world it's easy to choose the convenience of packaged food or quick meals to "save time". Unfortunately, all packaged and processed foods are lacking in essential minerals, vitamins and enzymes. If you are not making time to eat well and you are constantly choosing fast foods, then you will need to put a lot of time aside in your future to be sick.

Many things can go wrong when your body makes enzymes if the right ingredients for the enzyme recipe are missing. So make the choice to build healthy enzymes and choose fresh, high-nutrient, real living foods.

Every metabolic function in your body happens as a result of enzyme activity, and the enzymes

