BLOOD SUGAR (GLUCOSE) BALANCE

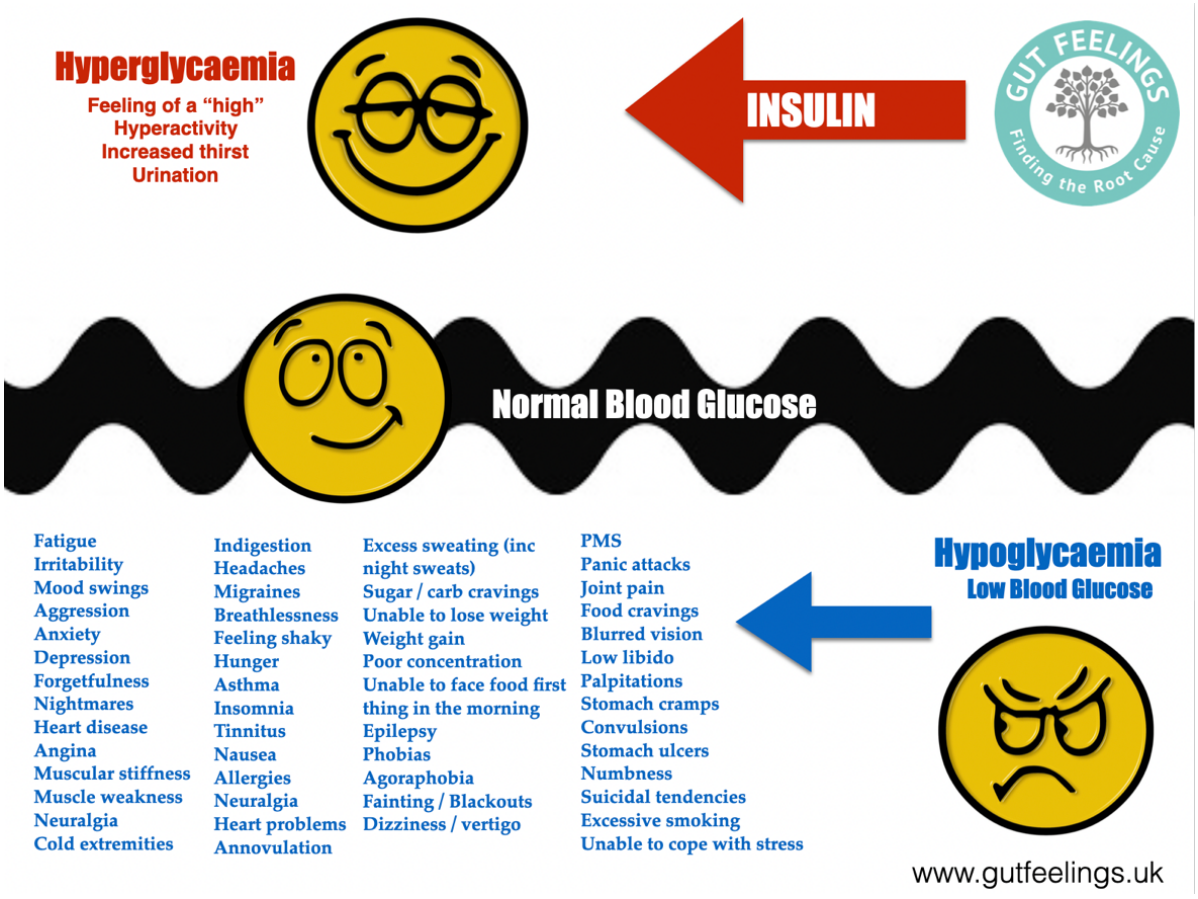
Sugar does give energy, but only for a short time, and we can pay the price later if intake is too high as blood sugar can then fluctuate too low after a high of glucose.

Simple carbohydrates, such as products with flour (breads, pastries, biscuits, pastas), products with sugar (including honey or natural sugars in tropical fruits), fruit juice and alcohol give temporary energy, but too much too quickly also has the opposite effect.

Every time blood sugar goes too low or high, this causes a stress response that suppresses secretory IgA (SIgA) cells and promotes inflammation and leaky gut. For many people this response happens throughout each day. Blood sugar instability is also a major cause of hormonal imbalances and myriad metabolic disorders.

Wheat will usually raise insulin faster than table sugar. Long term blood sugar imbalance and dehydration will constantly tax the adrenals. Stress also imbalances our blood sugar, as well as caffeine. Increased cortisol (stress hormone) leads to increased insulin. A food intolerance can also tax the adrenals each time we eat it.

Once blood sugar fluctuates too low, the brain, which exists on glucose and water, will demand more glucose to correct the falling levels. Many people will then get drawn towards tea and coffee which will stimulate the adrenals to trigger the liver to release stored sugar, but as they are both diuretics, this can contribute to dehydration.



"Let food be thy medicine, and medicine be thy food" Hippocrates

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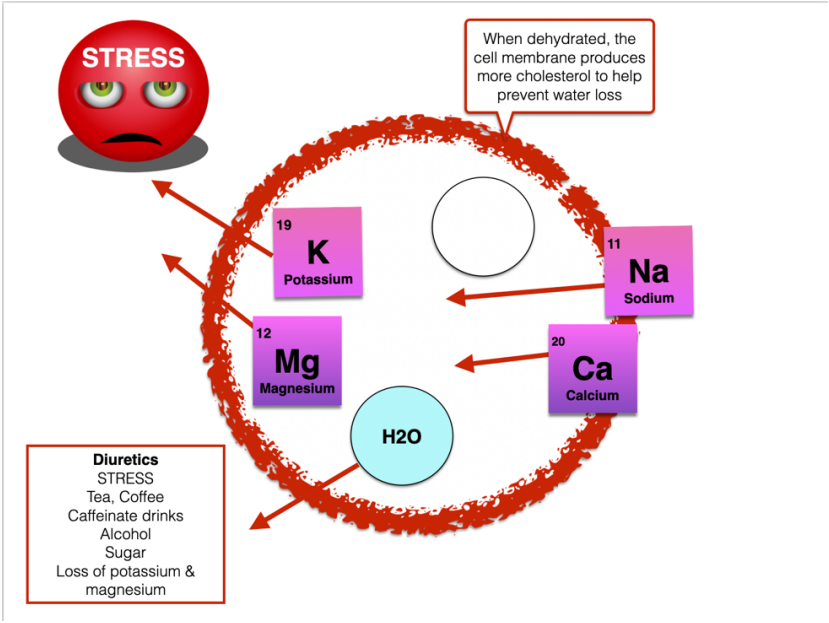
Diabetes is essentially a fluids issue because when potassium and magnesium are pushed out of the cell, water goes with them = cellular dehydration. This is why thirst is often a symptom of diabetes. When we eat a meal containing sugar, or simple carbohydrates, our bodies break it down into glucose. Therefore, knowing your tissue / cellular levels, of magnesium and potassium via a Hair Tissue Mineral Analysis, is very helpful. Hypoglycaemia is not diabetes, but if not addressed, it could progress to pre-diabetes in time etc.



If we don't drink water when we are thirsty then within half an hour, we will be hungry. The body switches to glucose metabolism, hence the connection between water/fluids and diabetes/blood sugar issues. However, someone with a lack of thirst implies that the person is extremely dehydrated, and the body has switched to glucose metabolism. If this continues long term it can lead to blood sugar issues.

Excess glucose turns to triglycerides / fat cells. This is why we can gain weight, as we are taking in more energy/fuel/glucose than the cells require. Insulin is made by the pancreas in response to how much glucose we consume.

The liver is one of the places that stores this excess fat. With a diet high in excess glucose, liver cells are gradually replaced by fat cells. When we eat a lot of foods high in glucose, our bodies release inflammatory chemicals which can build up and affect the liver. When the liver is burdened or fatty it can't work as efficiently and remove toxins or hormones such as oestrogen. Thankfully, in most cases, by making changes to our diet and lifestyle, we can repair the liver as it has a great capacity for regeneration.

Glucose and ascorbic acid (vitamin C) have similar chemical structures. They compete for glucose transporters in the cell membrane and are escorted into the cells by the action of the hormone insulin. Therefore excess glucose reduces vitamin C, it also reduces magnesium.

<u>Hypoglycaemia</u>

Low blood sugar is known as hypoglycaemia. The brain uses 50% of energy/fuel derived from food mainly in the form of glucose, and the brain uses more energy when we overtax the brain. Therefore,

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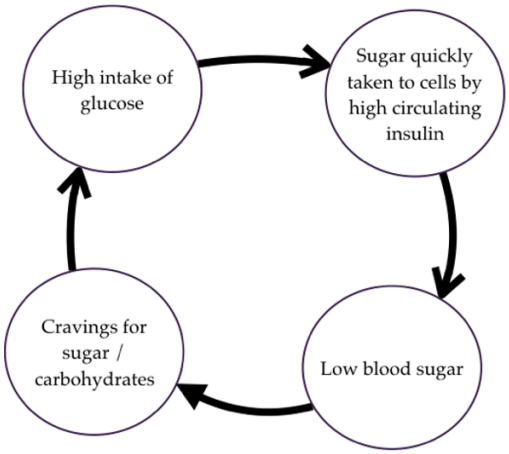
a lack of fuel, disrupts the brain's function. The process of keeping the organs supplied with energy is known as blood sugar balance.

When we eat carbohydrates in their natural, unprocessed form, they are broken down and absorbed slowly, producing a gradual increase in blood sugar which our bodies are designed to handle. Think of a whole sugar cane as opposed to a spoonful of white sugar. A grain of wheat compared to white flour. A whole apple instead of apple juice. The refined processed forms of food raise blood sugar levels too quickly.

Many foods these days have been refined and processed so much, with all the fibre and many of the nutrients taken out, that they become like rocket fuel, very quickly raising blood glucose levels. This repeated high intake of glucose creates high circulating insulin, which is so effective at taking the huge influx of glucose to where it needs to go that blood sugar actually becomes too low. This triggers emergency tactics by the body, triggering the stress hormone adrenaline from the adrenal glands, which directs emergency sugar to be converted back from their stored form. If this process is not quick enough, there is not enough glucose in the blood to supply the organs, and symptoms appear such as headaches, brain fog, fatigue, cold or shaking hands etc.

Caffeine and alcohol are stimulants (and diuretics) which trigger adrenaline. So even if you do not have sugar in your tea or coffee, the adrenal effect from the caffeine itself will cause blood sugar levels to rise sharply, this is why you feel good after caffeine.

This scenario can very often follow – which puts strain on liver, pancreas, adrenals.



An optimum steady supply of blood sugar, instead of highs and lows, is essential for normal brain health. One of the symptoms of hypoglycaemia is anovulation which is when the ovaries do not release an oocyte during a menstrual cycle, so ovulation doesn't take place. A woman who does not ovulate at each menstrual cycle is not necessarily going through menopause. Insulin helps regulate ovarian function - the ovaries respond to excess insulin by producing androgens (testosterone), which can lead to anovulation. Chronic anovulation is a common cause of infertility.

Nutrients that are especially important in balancing blood sugar are appropriate hydration / water, protein, magnesium, chromium, manganese, zinc, essential fatty acids and fibre.

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This is a general guidance only on how to balance blood sugar levels. Clients, please refer to your Naturopathic Assessment for specific foods, and your personalised plan. I highly recommend a Hair Tissue Mineral Analysis for gaining insight into your mineral balance – see the page on my website: -

- Reduce sugar, simple carbohydrates and stimulants GRADUALLY to allow the body to adjust and to avoid withdrawal symptoms such as headache and fatigue.
- Start the day with protein, such as eggs. Protein slows the rise of glucose into the bloodstream and sets your blood sugar balance up for the day.
- Reduce and eliminate refined carbohydrates (white flour, sugars, honey, breads, cakes, pastries, biscuits, fruit juice, white rice,)
- Eat more complex carbohydrates and fibre – whole grains (short brain brown rice, oats, quinoa), flaxseeds, nuts, seeds, whole vegetables, and fruits. Fibre slows the rise of glucose and makes you feel full.
- Have protein and good fats with every meal and snack to slow the rise of glucose. (Good fats: oily fish e.g., salmon, mackerel, herring, flaxseed, chia seeds, hemp seeds, walnuts, green leafy vegetables
- Do not skip meals, as blood sugar can drop too low.
- Eat regular meals and snacks to start with (oatcakes or carrot/cucumber sticks with hummous, goat's cheese, nut butters, slices of apple or pear with nut butters – where appropriate from your list of foods in the plan).
- Have a healthy snack before bed to keep blood sugar levels stable through the night – a reason for waking in the night can be due to low blood sugar, when adrenaline is triggered to produce emergency stored sugar. Adrenaline can also increase urination.
- Eat something within half an hour of waking.

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