

Understanding Sugar

HOW TO NAVIGATE A SUGAR-SATURATED SOCIETY

Words by Beccy Candice Clarke

In modern society, sugar is king. Used to boost flavour, add texture and preserve other, perhaps less palatable ingredients, it is snuck into an endless array of foods and drinks, often without our knowledge. Nectar, dextrose, sucrose, lactose, galactose, rice syrup, malt syrup, high fructose corn syrup: the list of guises under which cheap, highly refined sugar masquerades is extensive and confusing even to the most discerning consumer. In fact, there are around 60 alternative names for sugar, making any attempts to eat it mindfully all the more difficult.

While the detrimental effects of sugar have led to a health epidemic at the core of which is chronic inflammation, for food manufacturers, the lure of an inexpensive, easy-to-store ingredient that makes almost anything taste better, has proven hard to resist. Are they aware of the dangers of overloading our bodies with such a potent substance? Sure, but business is booming and we keep coming back for more. And who can blame us. Walk into any supermarket, bodega or even your local health food store and you can expect to be greeted by a dizzying assortment of sugar-laden produce. These days, sugar is everywhere. It's added to salad dressings, sauces, spreads, bread, cereals, cakes, crackers, yoghurt, processed meats, the majority of canned and packaged goods, and, ironically, most diet foods, where it replaces the fat content to create a supposedly heart-healthy dietary ally. Without dogged determination to avoid it, sugar, in some form or another, will likely find its way into your kitchen and onto your plate.

So, what's the problem? Sugar itself isn't the issue. It's how we process it and the sheer volume at which we are consuming it that's wreaking havoc with our physical and mental health. Fuelling the fire of inflammation, the overconsumption of added sugar has led to the proliferation of a host of diseases that are becoming harder to navigate as it becomes more and more difficult to source good quality, affordable food. At the root of this rampant inflammation is an ever-growing list of inflammatory foods, of which sugar sits right at the top.

It is worth first considering what sugar is and where it comes from. When we think of sugar, we tend to think of the refined white table sugar we buy in packets to add to tea, coffee and desserts. This is sucrose, a naturally occurring, but highly processed sugar extracted from sugar beet, cane and corn. Sucrose breaks down during digestion into the simple sugars, glucose — the primary sugar in our blood and our cells' main energy source — and fructose — which is sweeter in taste and the principle sugar in honey, fruit and high fructose corn syrup. Like all sugars, both glucose and fructose are carbohydrates, but not all carbohydrates are created equal and their effect on the body is distinct. Other refined carbohydrates include white flour, white bread, pasta, pastries and cereals, which are low in fibre, vitamins and minerals and devoid of the nourishing and balancing elements found in whole varieties.



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While refined sugar and flour might be some of the more deleterious examples, there are many different ways that sugar enters the body through food, impacting our glucose levels and subsequently, our mental and physical wellbeing. As well as the natural sugars found in fruit (fructose), there are natural sugars in dairy products (lactose), and all green plants, fruits, vegetables and grains, which contain carbohydrates of varying quantities. For example, starchy vegetables, like sweet potatoes, squash and turnips, are made up almost entirely of carbohydrates, impacting our blood sugar at a faster rate than non-starchy varieties, such as spinach, peppers and broccoli, which contain only minimal amounts of carbohydrates. Starch itself is a polysaccharide, which is to say, it's a carbohydrate composed exclusively of glucose molecules. When we cook, chew and digest a starch, these glucose molecules separate and enter the bloodstream, supplying energy to the body wherever it might be required.

In their natural, unrefined form, sugars and carbohydrates are accompanied by vitamins, minerals, protein, fat and fibre, which work together to regulate blood sugar, digestion and balance energy levels. When refined, they actually deplete the body of essential trace minerals, most notably calcium and magnesium. A balanced meal or snack, allows sugar to enter the bloodstream at a steady rate ensuring that glucose levels remain stable. But eaten alone, sugar floods the bloodstream, initiating a rollercoaster ride of rapid highs and lows, leading us to seek out more sweet foods to remedy the lows. We might feel temporarily energised, but our body will not be receiving the nourishing, building elements it needs to thrive. This is a vicious cycle that can only be broken by better managing our diets, and by fuelling our day with stabilising, functional, whole foods.

Wake up with a plate of simple carbs or a sugary breakfast cereal and you run the risk of feeling both physically and emotionally unbalanced for the rest of the day. Sleep will be disrupted too. When our bodies are repeatedly flooded with higher levels of sugar than we can naturally handle, our regulatory systems become worn out and cease to function at an optimal level. This can eventually lead to a myriad of conditions including disordered eating, addiction, anxiety and autoimmune and behavioural problems. And, when our blood sugar remains at a level which is either higher or lower than the very specific range at which the body is able to effectively function, diabetes or hyperglycaemia can result. Flash floods of glucose also harm the central nervous system, leading to decreased brain function and brain fog, due to increased levels of inflammation. Long term, this can cause a higher risk of stroke, dementia and other neurological conditions. Even in cases of advanced dementia, studies have shown that reducing glucose spikes can improve symptoms.

Since the body calls on glucose (blood sugar) to fuel all its functions, it can be said that sugar is essential to human life. But our bodies are simply not designed to process immoderate amounts of sugar on a daily basis. While our ancestors enjoyed modest quantities of sugar, eaten seasonally, in the form of whole fruits and grains, the modern diet has evolved to include an excessively high percentage of refined sugars and carbohydrates. The outcome of this overwhelm is multilayered. On the one hand, excess sugar stunts the production of white blood cells, weakening our immune defences. On the other, it can set in motion the development of more complex age-related, degenerative diseases. When we eat sugar, the glucose levels in our cells increases at a faster rate than the cells' oxygen levels, leading to incomplete oxidation of glucose. This is an acid-forming situation that throws off our acid / alkaline balance, to which our bodies react by pulling calcium from our bones as a buffer to the acidity of our blood. This reinstates equilibrium but, over time, can leave our bones calcium bankrupt, triggering osteoporosis and bone disease later in life.

Of course, some of us are more sensitive to sugar than others but, as Sally Fallon notes, in the nutrition bible, *Nourishing Traditions*, "Consumption of sugar and white flour may be likened to drawing on a savings account. If continued withdrawals are made faster than new funds are put in, the account will eventually become depleted. Some people may go longer than others without overt suffering, but eventually all will feel the effects of this inexorable law. If you were fortunate enough to be born with an excellent constitution, you may be able to eat unlimited quantities of sugar with relative impunity, but your children's or your grandchildren's inheritance will be one of impoverished reserves."

The more sugar we eat, the more we want to eat, and both high and low blood sugar can cause tenacious cravings. In Western medicine, sugar cravings are linked to the addictive release of the feel-good chemical, dopamine, which stimulates fleeting feelings of elation and satisfaction. Over time, increased sugar consumption alters our opioid and dopamine receptors, so that we need to eat significantly more to get that same high. It can be tempting to reach for something sweet if our energy levels are low, but this only makes equilibrium harder to maintain. A brief sugar high also sparks a harmful process of glycation, where amino acids in our bloodstream bond to renegade sugar molecules to form abnormal proteins. These are absorbed into our tissues causing widespread damage: wrinkled, dull or sagging skin, and in more advanced cases, diabetes, Alzheimer's and cardiovascular disease.

Through the lens of Traditional Chinese Medicine (TCM), the sweet flavour is associated with the Earth Element and the organ pair, the stomach and spleen. Here, sugar cravings are a symptom of an under-functioning or damp digestive system. When digestion is compromised, our whole being is put under physical, mental and emotional stress as much of our energy is employed in the effort to remedy a sluggish gut. In this way, we can experience more sugar cravings as we attempt to placate our emotions and lift our spirits with sweet treats. While many sweet foods are problematic, it is refined sugar in particular that has a tendency to instigate spleen dampness, generating increased heat and inflammation in the body. Of course, things become even more complicated when we throw other damp-forming foods into the mix. Wheat, dairy, nuts, fats and oils, all of which make regular appearances in our favourite desserts, bakes and cakes, all exacerbate damp conditions. When ingredients are of poor quality, the flames are fanned further.

Curiously, in TCM, a prevailing disconnect with nature is said to be at the root of many sugar-related issues, with associated emotions of worry / not feeling nurtured / not feeling grounded, manifesting as physical imbalances. So many of us live in urban areas, displaced from the wild untethered energy of the natural world that grounds and calms us. We feel disconnected, overstimulated and overstressed, often on an unconscious level. Being witness to such an intense period of social, political, technological and environmental change can create a whiplash reaction in the body. Our survival mechanisms are constantly triggered as our bodies struggle to cope with the turbulent rhythms of modern life, where being switched "on" at all times is prioritised over rest and recovery. In this way, we can see many physical and emotional imbalances as being rooted in a deep craving for nature; for a deeper connection to Mother Earth, as well as our own mothers and our inner mothers. This brings us back to the Earth Element and the stomach and spleen. Here, there is often an imbalance in the microbiome which can be traced back to childhood eating patterns or the repeated use of medications which destroy the equilibrium of good and bad gut bacteria.

"It's no wonder we've been hardwired by natural selection to prize sweet foods: Sugar as it is ordinarily found in nature — in fruits and some vegetables — gives us a slow-release form of energy accompanied by minerals and all sorts of crucial micronutrients we can get nowhere else."

– Michael Pollan, In Defence of Food

With all this in mind, how to best navigate our sugar-saturated society?

While there are many ways in which food can trigger inflammation, happily, there are also many anti-inflammatory foods that we can turn to for support on our healing journey. The polyphenols in plant foods, for example, are among nature's most valuable inflammation-fighting compounds. Eat the rainbow, or as many different vegetables as you can get your hands on, and you will go a long way to naturally protect your body from oxidative stress, inflammation, and other associated pathologies. Spices such as ginger, turmeric and rosemary are anti-inflammatory powerhouses and particularly helpful when cooked with harder-to-digest foods like meat or dairy. Meanwhile, the mushroom kingdom is home to a whole family of immune-regulating species like Reishi, Chaga, Turkey Tail, Cordyceps and Shiitake. Other anti-inflammatory allies include omega-3-rich foods such as fish, seafood, nuts and seeds, as well as extra virgin olive oil, which is rich in antioxidants and said to activate the same anti-inflammatory receptors as some over-the-counter painkillers, but without the side effects.

Addressing your relationship with sugar should not be a stressful or restrictive experience. It can be helpful to view each new meal as an opportunity to up-level your health; as a way to support and nourish your body and mind, as well as a way to fuel your day. Be mindful of ingredients that might exacerbate existing inflammation and focus on lower glycemic foods, but always curate your recipes to ignite joy as well as good health. Eliminating or cutting down on sugar, should never mean giving up food as pleasure. A good place to start is learning to read food labels. Familiarise yourself with the abundance of names for sugar, in addition to other particularly inflammatory foods, and start to build an awareness around everything you put in your body. For longevity, changes should be slow and steady. Adapt the daily rituals you already have. This could be as simple as adding more vegetables and less fruit to your morning smoothie, or halving the amount of sugar when making desserts and cakes. Ditch the processed, packaged snacks and set aside a little time each week to bake homemade treats using good quality ingredients, naturally sweetened with dried or fresh fruit. Foresight and preparation are key. Make generous batches and store in the freezer so you always have something to hand when time is tight. In this way you can create a new portfolio of healing treats that will boost physical stamina and peace of mind, stabilise blood sugar and keep you feeling full for longer. Remember, food is medicine and always has the potential to be lovingly prepared to work for us, rather than against us.

HOW TO MANAGE SUGAR CRAVINGS AND AVOID GLUCOSE SPIKES

- 1** Eat three meals a day at regular times, with a focus on quality whole food ingredients.
- 2** Eat at home. When we prepare and cook our own meals, we can mindfully select the best ingredients available to us, within our budget. Regularly eating out at restaurants or ordering takeaway means it's much harder to control what we are consuming. Even the best restaurants use large quantities of sugar to augment taste and often cook with cheap, poor quality fats, oils and salt, to turn a profit.
- 3** Eat a savoury breakfast rather than a sweet one. This will help to stabilise glucose levels, reducing biological stress and inflammation, slowing ageing, optimising mood, quelling cravings, balancing hormones and reducing the risk of type 2 diabetes.
- 4** Always eat sugar as a dessert after a meal, never on an empty stomach.
- 5** Choose naturally sweet vegetables like sweet potatoes, squash, beets, turnips and carrots. Chew thoroughly to bring out their natural sweetness and enjoy sweet foods in moderation, in their whole form. Eat fruits in season and opt for honey, maple syrup, date or coconut sugar over refined sugars and sweeteners. Be mindful of the fact that fruit juices and dried fruits are very concentrated forms of natural sugar.
- 6** Make sure you are eating enough fibre. Soluble fibre in particular helps to control spikes as it dissolves in water to form a mucilaginous substance that slows the absorption of carbs in the gut. This creates a steady rise in blood sugar rather than a violent spike. Sources of soluble fibre include avocados, broccoli, Brussels sprouts, carrots, kidney beans, chickpeas, flax seeds, sunflower seeds and oats. Eating a small vegetable starter or side salad before your meal is also a useful glucose-balancing hack. The same goes for protein which plays a key role in blood sugar stability. Chia seeds are an excellent source of fibre and a complete protein, making them a great option for vegans and vegetarians.
- 7** Limit refined carbohydrates like white bread, pasta, and rice. Carbs break down into simple sugars when digested, flooding the blood stream with glucose. Always pair with a healthy fat or protein.
- 8** Stay hydrated. Drink plenty of water to allow the kidneys to efficiently flush out any excess sugar through your urine. Often we feel cravings when we are actually dehydrated. Try drinking a glass of water if you crave sugar, wait ten minutes and see if the craving passes.
- 9** Lower stress. When the body is stressed, sugar is released into the bloodstream to prepare for the fight or flight response. Practice meditation, mindfulness, breath work, yoga, walking in nature, whatever resonates with you and gets you out of your head and into your body.
- 10** Prioritise rest. Your body will crave sugar if it is energy depleted, so good quality sleep is vital.
- 11** Move your body! Just 30 minutes of moderate morning exercise can have a significant impact, igniting your metabolism and balancing brain chemistry, blood sugar and hormones, so you make better food choices throughout the day. It also minimises cravings by increasing the sensitivity of your cells to insulin. Taking a short walk after meals, allows your muscles to absorb some of the glucose in your bloodstream, lessening spikes.
- 12** Consider a sugar reset. One of the most efficient ways to stop craving and eating sugar is to stop eating it altogether for a period of a few weeks or months. If this seems extreme, getting your sugar quota from fresh fruit only is a gentle compromise.
- 13** Listen to your body's cravings and eat with intuition. With practice, we can better discern the difference between natural cravings and emotionally-driven habits. Eat sugar in response to feelings of joy or in celebration rather than as a response to stress.