

## The Dove Clinic for Integrated Medicine

### Maintaining Energy Throughout the Day – Balancing Blood Sugars

Many of us will recognise the pattern of fluctuating energy throughout the day, with a repetitive cycle of peaks and troughs leaving us feeling drained and exhausted by the end. We may even be familiar with the term “blood sugar control” but not really know what it means or what it entails. However, it is actually quite simple, and most people find that once they understand the concept and apply the key principles involved, they not only have more energy but often lose weight as well.

#### **What is blood sugar?**

The term blood sugar refers to the amount of glucose (sugar) in the blood at any given time. It is affected primarily by the foods we eat and the amount of exercise we do. It is controlled by two key hormones produced by the pancreas and the liver: insulin and glucagon. Every time we consume a food or drink that contains carbohydrate this causes a rise in our blood sugar level. When this happens the pancreas kicks into action and produces insulin, which allows the sugar (from the breakdown of the consumed carbohydrate) to be stored as glycogen in the cells of the muscles and liver primarily. This glycogen will be used as energy as and when needed.

The only exception to this rule is in diabetes when the pancreas has either stopped producing any insulin (Type 1) or is still producing large amounts of insulin but the cells are no longer recognising it and therefore the glucose is not being stored as glycogen effectively (Type 2 diabetes). The term insulin-resistance is often used to describe a pre-diabetic state, and this is because despite large levels of circulating insulin, blood sugar levels are remaining high because the cells have become resistant to the insulin over time.

#### **Why does it matter?**

The key to maintaining good levels of energy throughout the day is to have stable amounts of sugar in the blood, i.e. to have good blood sugar control. There will be fluctuations before and after meals, but the key is to avoid large fluctuations as these cause the symptoms of poor blood sugar control: **fluctuating energy, low mood, fatigue, headaches, dizziness, irritability, cravings for sweet foods or for caffeine.** These are the outward symptoms of poor blood sugar control but there are more sinister detrimental effects going on inside the body meanwhile.

Poor blood sugar control leads to weight gain because when all the glycogen stores have been filled up, any excess sugar in the bloodstream will be stored as fat. Very often this fat is stored around the middle and this is known as visceral fat which is the most dangerous kind in terms of health outcomes. It is dangerous because fat in this area is surrounding the vital organs such as the liver, contributing to development of fatty liver disease.

## Cravings for sweet foods

Poor blood sugar control also leads to cravings for sweet foods, which in turn leads to weight gain. When the blood sugar level drops too low the brain starts to cry out for more glucose, because the brain is a very sensitive organ and relies on glucose to function. If you have low blood sugar you may feel dizzy, irritable and unable to concentrate, and this is because there is not enough glucose in the blood for the brain to function effectively. Therefore you feel the need for a quick sugar fix, like a chocolate bar or a coffee with sugar, and this causes a rapid rise in blood sugar. This makes you feel better in the short term as you get a burst of energy, but not long afterwards, when the insulin produced in response to the blood sugar surge has done its job, you are back to square one again with low blood sugar and craving something sweet.....it is a vicious cycle.

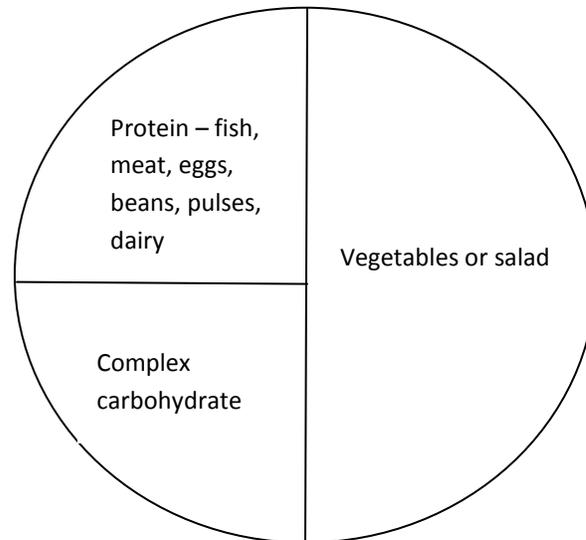
## How to achieve good blood sugar control

There are a few key principles to follow, and they are easily implemented into your everyday life:

1. **Eat little and often.** Five small meals a day is better than three large meals with big gaps in between. Eat something every three hours or so.
2. **Do not skip meals,** this causes blood sugars to drop too low, causing cravings and over-eating later in the day.
3. **Eat protein and complex carbohydrates with every meal and snack.** The protein helps keep you fuller for longer and also slows down absorption of the sugars from the carbohydrates into your bloodstream.
4. **Eat slowly.** Eating too quickly causes blood sugar to rise more rapidly, can often lead to over-eating, and can cause indigestion or symptoms of irritable bowel such as bloating and excess gas.
5. **Avoid refined carbohydrates completely.** This includes white bread, white rice, white pasta, biscuits, cakes, muffins, doughnuts, bagels, crisps, sweets and fizzy drinks. Fruit juice is also best avoided, unless diluted with water.
6. **Limit caffeine to 1-2 cups a day.** Drink plenty of other liquids such as filtered water, herbal teas like Roibosh and Green tea which have many health benefits.
7. **Alcohol is very disruptive to blood sugar,** especially those containing a lot of sugar such as lager, cider, white wine and champagne. Always have some food when drinking alcohol and drink one glass of water for every alcoholic drink. You will thank yourself the next day!
8. **Don't be fooled into thinking diet versions of fizzy drinks are ok.** The artificial sweeteners they contain cause the body to crave carbohydrates, therefore leading to increased appetite and poor food choices. If you are sceptical about this you might try a can of diet coke on an empty stomach and see what happens.
9. **Manage your stress levels.** Stress hormones like adrenalin and cortisol raise blood sugar levels. Exercise helps to dissipate stress and improves the body's handling of sugar. Yoga and meditation are clinically proven to reduce levels of stress hormones, and will therefore benefit blood sugar levels too.

## Meal and snack ideas for good blood sugar control

When thinking about your meals, it can be helpful to visualise the plate in this way:



- Eat as much salad and vegetables as you like. Vary what you eat from day to day.
- Your meat or fish portion need be no bigger than the size of a deck of cards.
- If you eat cheese then the size of a match box is enough, as it is high in both saturated fat and calories.
- Use fresh herbs and spices liberally, ideally instead of salt. High salt diets can lead to high blood pressure and heart disease.
- Complex carbohydrates are low on the glycemic index, this means they don't cause rapid rises in blood sugar. They include brown rice, wholegrain pasta or bread, quinoa, lentils, pulses and beans (these contain some protein too).

### Breakfasts:

- Porridge oats with a grated apple or pear, or a handful of berries, with chopped nuts and seeds on top. If you want to add a sweetener then use stevia or xylitol which are natural sweeteners but do not affect blood sugar levels.
- A poached or boiled egg with a slice of wholegrain toast, with grilled tomatoes and mushrooms on the side if you have time.
- A bowl of natural live unsweetened yoghurt with a handful of no sugar added granola and some berries.
- Scrambled egg with a slice of smoked salmon on wholegrain toast. Try rye or spelt toast for a change.

### **Lunches:**

- Salad nicoise with green leaves, green beans, small tin of tuna, olives, hard-boiled egg, anchovies (optional), new potatoes, and a dressing made with extra virgin olive oil and lemon juice or vinegar
- Soup and a wholegrain roll
- Baked sweet potato with goats cheese and a side salad
- Lentil, bean, or quinoa salads, homemade or shop-bought (M&S have some good ones)
- Hummus wrap with roasted red peppers and spinach
- Open chicken or salmon salad sandwich (using one slice of bread instead of two)

### **Evening meals:**

- Roast cod with cannellini bean mash and two servings of steamed vegetables. Cannellini bean mash can be made easily in a food mixer with garlic, shallots, lemon juice and parsley.
- Vegetable, beef, prawn, chicken or tofu stir-fry with brown rice or buckwheat noodles.
- Shakshuka – a middle eastern dish made with eggs, tomatoes, peppers, onions and lots of fresh herbs
- Vegetarian chilli with lentils, served with guacamole, sour cream and grated cheese

### **Snacks:**

- A piece of fruit and a handful of unsalted nuts (almonds, brazils, walnuts, hazlenuts) or seeds (pumpkin, sunflower, sesame, linseed)
- Two oatcakes with nut butter or hummus
- Raw vegetable sticks with a tzatziki (yoghurt, cucumber, garlic) or bean dip
- Protein shake made with unsweetened protein powder and milk of your choice
- Unsweetened natural yoghurt with blueberries and golden linseeds

### **Further reading and low GI recipe books:**

There are many low GI and low GL cookbooks available, this is only a small selection:

*Antony Worrall Thompson's GI Diet: With Dr Mabel Blades and Jane Suthering* (2010) by Antony Worrall Thompson

*The Low GL Diet Cookbook: Easy recipes for weight loss, health and energy* (2010) by Patrick Holford and Fiona McDonald Joyce

*The Raw Food Diet: The Healthy Way to Get the Shape You Want* (2012) by Christine Bailey

*The Low-Carb Bible: A Three-Stage Plan for Permanent Weight Loss* (2005) by Linda Gassenheimer (There are lots more books by this same author, all available via Amazon)

*Low-GI Vegetarian Cookbook* by Rose Elliot

For a full list of the glycemix index of different foods: <http://www.mendosa.com/gilists.htm>