

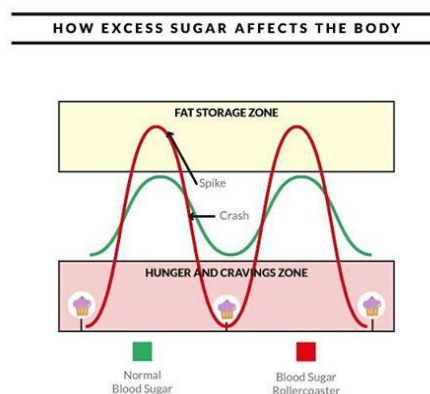
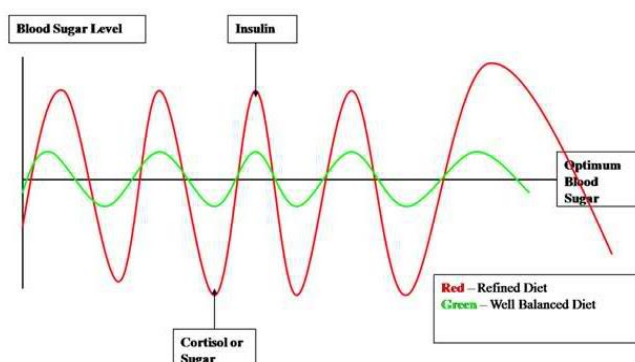
Blood Sugar Balance

The Basics

If you have ever experienced sleepiness in the afternoon or after meals, then you already have an example of why it might be important to maintain proper blood sugar levels. This sheet will help you better understand how our bodies regulate energy.

- Blood sugar - is the glucose that circulates in the blood. Obtained from digested food, glucose is one of the body's main sources of fuel, providing cells with energy, and glucose is the only source of energy for brain cells.
- Glucose that is not taken up by cells for energy use is mostly stored as fat.
- Insulin - is the hormone made by the pancreas that helps shuttle glucose into cells for energy use and converts excess glucose into fat.
- It is essential for metabolizing carbohydrates.
- The insulin allows glucose to enter cells throughout the body, and as glucose enters the cells, blood glucose levels fall back to a normal range.
- Cortisol - is an adrenal gland hormone with many important functions including regulating blood glucose. Cortisol is used to bring blood sugar up when the body is under stress caused by the blood sugar rollercoaster ride.

Blood Sugar Rollercoaster – Why is this bad?



- The Blood sugar Rollercoaster is caused by regular consumption of too many carbohydrates or the wrong kind of carbohydrates (refined and processed)
- It produces chronically-elevated levels of insulin.
- Leads cells to lose their sensitivity to insulin and no longer respond normally.
- Excess glucose is stored as fat and even more insulin are released by the pancreas.
- A diet containing a lot of refined carbohydrates causes a depletion of the nutrients needed to maintain cell sensitivity to insulin.
- These factors contribute to the development of insulin resistance, or pre-diabetes (aka metabolic syndrome).

Symptoms of blood sugar imbalance?

Increased appetite, food cravings, feeling fatigued (tired and sleepy), feeling hyper, jittery, or nervous; brain fog (spacey, unable to concentrate), depressed mood, pessimistic thoughts, irritability, anxiousness, and/or obsessive thought patterns.

Finding the Balance

- A balanced diet is crucial to maintaining Blood sugar levels within their normal range.
- Regular Exercise 5 times a week for half an hour has been shown to have a significant blood glucose balancing effect.
- Stress management is very important to keeping blood sugar even. Breathing exercises, relaxation, yoga and coaching can all be very helpful.

Simple, healthy, enjoyable suggestions for breakfast, lunch, evening meal and snacking that will help boost energy levels and improve your mood! If you are using any fasting protocols for weight loss then you may experiment with carbohydrates in the evening but keep them low. Anything in **blue** is considered a particularly beneficial food source for one or more of the following reasons: good or excellent source of fiber, vitamins, minerals and other nutrients; high in phytonutrients and antioxidant compounds, such as vitamins A and E and beta carotene; may help reduce risk of heart disease and other health conditions; most have low calorie density, enabling larger portions but lower calories. Try and get as many blues as possible in your week.

Eating Goal	breakfast	snacks	lunch	evening
not concerned about weight loss	porridge with milk and honey/dried fruit/fresh fruit + wheat germ granary bread with honey/peanut butter poached eggs on toast frozen berries (blueberries) blended with low-fat bio-live yoghurt , handful of raw porridge oats with flax seed and semi-skimmed milk (or fruit juice) to dilute - add honey or peanut butter to sweeten	banana, clementine organic dried apricots apple , small bar of dark chocolate, grapes (try them frozen!), unsalted nuts, mixed dried fruit with nuts (almonds), carrot, celery or cucumber with hummus pot or cottage cheese, green or white tea; no caffeine past midday unless intending to drive late and need to be alert. Citrus fruit good source of folate	granary bread sandwiches with eggs, lean meats, seafood, fish plus salad filling; pasta with any of the above fillings but keep pasta light to avoid sleepy feeling after carbs; wild rice with any of above or/plus red beans , spinach , sweet corn, peas, onions (pre prepare and bring in tupperware) sweet potato (see below) . Avoid drinking tea with meals - it may reduce intake of iron	Skin less, lean meats such as breast of chicken and turkey or 90% ground lean beef/lamb, fresh fish such as cod, haddock, sardines, salmon and mackerel; if avoiding meats and fish then protein should be sourced from variety of beans , nuts and vegetables - be careful of higher calories in nuts; eat protein with plenty of vegetables especially broccoli and sweet potato ; keep carbs low
weight/fat loss is part of goal	high protein breakfast of any of following: poached eggs, lean bacon, kippers, sardines, mackerel, smoked salmon, grilled tomatoes; or porridge with water with small amount of honey to sweeten; or raw porridge oats mixed with zero fat bio-live yoghurt and scoop of protein powder	zero fat bio-live yoghurt , boiled egg, apple , dried apricot, handful of almonds , protein bar, green or white tea, carrot and celery with low fat cottage cheese; try to reduce caffeine throughout day but especially after midday	low fat soup; low sodium vegetable juice (inc tomato juice) ; sweet potato microwave (approx 5 mins) and mush in tuna /other tinned fish; salad of lettuce, watercress, spinach , chicken, turkey or fish, flax seed oil , sweet corn, red beans , red onion and chopped apple or tangerines; raw porridge oats mixed with zero fat yoghurt + scoop of protein powder - bring in tupperware	as box directly above but exclude potato, rice, pasta or fast food in the evening. Beans can be good source of protein, help stabilise blood sugar and energy levels and are also source of folate - folate deficiency can increase feelings of depression particularly in older people
maintaining active lifestyle with regular exercise; no fat loss have a regular meal/eating pattern which includes a low fat, high carbohydrate snack/light meal 2-3 hours before exercise. Then after exercise start replenishing your glycogen stores with high carbohydrate low fat snack. The most effective re-fuelling occurs within 0-30 minutes after exercise.	any of above two breakfast selections but add some sources of carbohydrates (e.g. baked beans/granary bread toast) if you are going for a high protein breakfast - maybe slightly larger portions depending upon your gender, size and amount of activity. Milk is good recovery drink after training in the morning	any of above boxes but add nuts as good sources of healthy fats/calories - in particular walnuts , brazils and almonds - dip them in honey. More fresh fruit would be good too. Protein bar or protein smoothies - same blending recipe as breakfast option in first box but add protein powder too. Or have this at lunch or small smoothie + light lunch	any of above boxes plus wild rice; granary bread for sandwich or half jacket potato if you don't suffer from carb coma and feel sleepy in afternoon. May be wise to keep lunch relatively light but snack a little more through the day particularly if you intend to train after work and before your evening meal	Any of above boxes directly above plus potato, pasta and wild rice - depending upon your size/weight and how hard you train then probably 50g of carbohydrate is the minimum you should be consuming within 2-4 hours of training. Chocolate Milk is good recovery drink after endurance training