All about blood sugar

While people with diabetes definitely need to monitor their blood sugar levels, does this help those nd without the disease?

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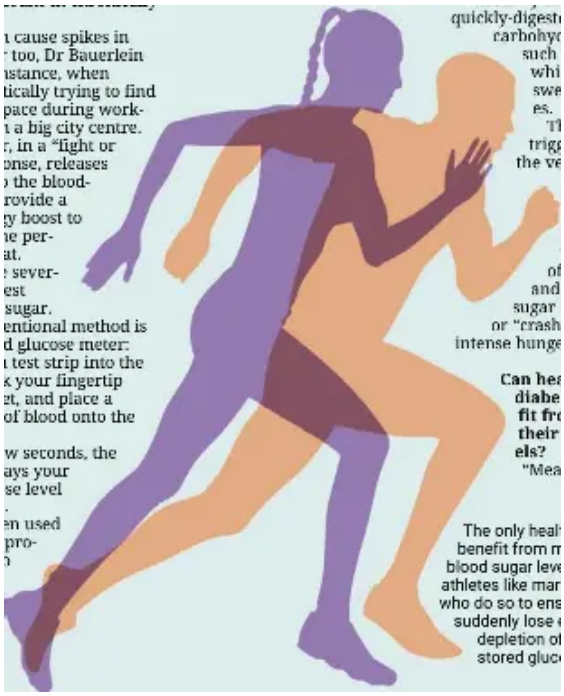
FEWER food cravings, sounder sleep, clearer skin – all because of stable blood sugar (glucose) levels.



A growing number of social media users are touting the benefits of blood sugar monitoring to avoid blood sugar spikes and their adverse effects.

For people with diabetes – a chronic disease characterised by high blood sugar levels – monitoring the level to keep it near normal helps manage the condition and prevent potentially serious complications.

Can it be useful for nondiabetics too?

We delved into common questions and found some answers:

What is blood sugar?

Glucose, a simple sugar, is the body's primary fuel source.

It comes mainly from carbohydrates that our digestive system breaks down in the food and drinks we consume.

The glucose is then absorbed into the bloodstream and carried to the body's cells.

"It's our currency in energy metabolism," as German nutritional scientist Dr Brigitte Bauerlein puts it.

The blood sugar level is the amount of glucose in a specific volume of blood, measured in milligrammes per decilitre (mg/dl).

It typically rises after eating – especially with quick-digesting, or high glycaemix index, carbs – when the small intestine releases glucose into the bloodstream.
Insulin, a hormone released by the pancreas, then helps cells absorb it for energy or storage.
“It docks onto the cells that need energy at the moment,” Dr Bauerlein says.
Blood sugar levels return to normal within a couple of hours in healthy individuals.
In diabetics, however, insufficient production or function of insulin results in chronically high levels.
Stress can cause spikes in blood sugar too, Dr Bauerlein notes, for instance, when you’re frantically trying to find a parking space during working hours in a big city centre.
Your liver, in a “fight or flight” response, releases glucose into the bloodstream to provide a quick energy boost to deal with the perceived threat.
There are severtest al ways to your blood sugar.
The conventional method is with a blood glucose meter: You insert a test strip into the meter, prick your fingertip with a lancet, and place a small drop of blood onto the strip.
After a few seconds, the meter displays your blood glucose level on a screen.
A test often used by medical professionals to diagnose diabetes is a haemoglobin A1c (Hba1c) test, which provides the average blood glucose level over two to three months.
Another method is a continuous glucose monitor (CGM), a device that measures glucose levels in the interstitial fluid of your subcutaneous tissue, which reflects blood glucose levels with a slight delay.
CGMS use tiny sensor wires inserted under the skin of your upper arm or abdomen with an applicator.
Readings are displayed on a receiver or your smartphone.
What is a glucose spike?
Also known as a blood sugar spike, it’s a sharp, marked rise in the amount of glucose in your blood.
It usually occurs after eating quickly-digested, short-chain carbohydrates, i.e. sugars, such as those found in white-flour products, sweets and fruit juicthese es. spikes can trigger cravings for the very foods that caused them. If too much insulin is released to move glucose out of the bloodstream and into cells, blood sugar can rapidly drop, or “crash”, leading to intense hunger.
Can healthy, nondiabetic people benefrom fit monitoring their blood sugar levels?
“Measurements aren’t
the only healthy people who benefit from monitoring their blood sugar levels are endurance athletes like marathon runners, who do so to ensure they don’t suddenly lose energy due to depletion of their body’s stored glucose. — Vecteezy
really needed by non-diabetics,” says research institute head Bernhard Kulzer of the Bad Mergentheim Diabetes Academy in Germany, pointing out that a healthy body regulates blood sugar levels itself.
The pancreas releases insulin if it’s elevated, and glucagon – a hormone that stimulates the liver to release stored glucose – if it’s low.
Endurance athletes are an exception, he says.

Monitoring their blood sugar levels can help keep them from “hitting the wall”, a sudden loss of energy due to depletion of glycogen (the stored form of glucose) in the liver and skeletal muscles.
If they know their level is low, they can fuel up on fast carbs.
According to Dr Bauerlein, people with a family history of diabetes might also want to check their blood sugar level to see how it reacts to certain foods.
“Doing it for a few weeks is enough,” she says.
What are the pluses and minuses if you do decide to check your blood sugar levels?
A plus, says Kulzer, is that “you get biofeedback”.
In other words, you eat something and then see straight away how it affects your blood sugar.
Or you exercise and then see how the level drops.
This can help you if you want to lose weight by changing your habits, he says.
However, “the readings are just a diagnostic tool and of no use unless you draw conclusions from them”.
This requires knowledge of how to interpret them, so “without instruction and training they make little sense”, he says.
If you do use a blood glucose measuring device, he advises that it be temporary.
“There’s no point in wearing a sensor all of the time, especially considering that it’s not cost-free for healthy people.”
Dr Bauerlein, for her part, warns that constantly worrying about what you eat could become compulsive.
Are stable blood sugar levels the key to losing weight, or to other health benefits? Generalisations need to be treated with caution, Dr Bauerlein says, since “everyone, whether they’re healthy or have diabetes, reacts differently to sugar in food”. Their reaction depends in part on cell fitness – on their age, in other words. Musculature and exercise play a role too. If you want to lose weight, Kulzer says, you’ve got to realise that your calorie intake is decisive.
So to shed a few kilogrammes, you must consume fewer calories than your body burns through your metabolism.
What nutrition practices should you follow to prevent food cravings and reduce sugar intake?
A balanced diet is always a wise choice, says Dr Bauerlein.
That means plenty of fruit, vegetables and dietary fibre; good oils; always a protein source; and not too many empty carbs whose calories come with little nutritional value.
This will help prevent glucose spikes and food cravings.
She also advises against consuming isolated, dissolved sugars such as those found in soft drinks, juices and smoothies.
It is also important to identify sugar sources in your diet and not, for instance, add sugar to your coffee.
This can help you permanently reprogramme your food preferences.
A final tip is to begin a meal by eating vegetables or a salad.
“Everything that falls onto this foundation will then be absorbed into the bloodstream more slowly than if you start by eating noodles.” – dpa