

# Value of Blood Sugar Monitoring

**M**any people with diabetes, who are on insulin often use continuous glucose monitoring called CGMs using a skin patch. However, there are advantages for people who don't have diabetes to be mindful about their blood sugar. Often people want insight into how their eating and exercise pattern affect blood sugar fluctuations. These devices used to be available only through prescription in the past.

However, at least two companies have developed over-the-counter continuous monitoring devices and are available without prescription and they are not very expensive Lingo from Abbott and Stella from Dexcom, two of the over-the-counter devices available.

**HOW DO THEY WORK:** The sensor, a “a small, flexible wire”, is inserted under your skin by an applicator and it tracks your blood sugar levels 24/7. The device comes with two sensors, each one lasts up to 15 days and connect to an app on your iPhone or android that delivers your readings.

**ADVANTAGES** Monitoring your blood sugar may be useful for some people, even if you don't have diabetes and being mindful of glucose levels can help almost everyone move through the days more smoothly, helping with the issues such as fatigue, cravings, and mood swings. Many of us have more unhealthy habits than healthy habits.

Even though genes play a major role in developing prediabetes and diabetes, it can still develop solely from unhealthy lifestyle habits, such as poor eating choices, stress, inadequate sleep, and lack of exercise. This can all affect how our body processes sugar.

Pre-diabetes is defined as blood sugar levels which are higher than normal, but not high enough to be diagnosed as type two diabetes ( blood sugar level between 100 and 126). Nearly half of those 65 and older have pre-diabetes and this typically does not produce any warning signs.

While obesity place a major role in the development of diabetes and pre- diabetes, often people diagnosed with pre-diabetes are quite healthy and not overweight. Stress, being too sedentary, not sleeping well.-these all lead to blood sugar not being processed properly.

In women, menopause can also play a significant role to have pre-diabetes because of diminished estrogen and progesterone levels promote fats storage in the belly. This belly fat is associated with insulin resistance, meaning they are making insulin but body don't use it as efficiently. Incidence of diabetes has been gradually increasing over the past several years.

According to the CDC data, nearly 12% of the people in the United States, have diabetes, and more than 29% of the people 65 and older have diabetes too. American Diabetic Association recommends all adults, 35 and older, regardless of their risk factors, be screened at least once every three years for pre-diabetes and diabetes.

**WHY BLOOD SUGAR FLUCTUATES** When we eat carbohydrate-rich meals, blood sugar spikes, and then a short time later, blood sugar goes down dramatically, which may make us feel drained. By eating, balanced meals, and snacks, which include protein, fat and carbohydrate, we maintain more stable, blood sugar levels, which may keep our energy level consistent.

Surprisingly, blood sugar levels are not just a function of what we eat. Chronic stress and sleep deprivation can also increase blood sugar levels. Irregular meals and snack times can also lead to much bigger fluctuations in the blood sugar levels. One way to decrease the cravings and mood swings is to keep a narrow range of blood sugar, making sure that it never gets too high or too low.

If it goes too low you may over eat because you are too hungry, it can then swing too high, which can impair your mood. Too much fluctuations can also affect your body weight by altering your metabolism.

**WHAT CAN YOU DO TO KEEP THE BLOOD SUGAR BALANCE -EATING AT REGULAR INTERVAL.** This habit should prevent extreme blood sugar fluctuation.

-PORTION CONTROL. Portion control and regular meal time are the two things that is best bet for having more consistent blood sugar in a narrower range

-EATING HEALTHY- Mediterranean style diet, eating fruits, vegetables, legumes, whole grains, nuts, seafood, and skinless poultry-these foods will keep our body fuller longer and minimize blood sugar swings

-REGULAR EXERCISE- At least 30 minutes of moderate intensity exercise, five times a week would make your body better able to use the insulin you make —  
SMOKING CESSATION- Smoking can indirectly affect the blood sugar by increasing insulin resistance and encouraging other unhealthy habits, such as poor diet, excess alcohol intake.

SOME INFORMATION ABOUT METFORMINE AND LONGIVITY: People with diabetes are living longer nowadays than in the past decades. Often it is suspected that most of the people with type two diabetes are taking a medication called METFORMIN.

And there is some evidence that metformin may be responsible for the longevity Researchers evaluated data from the WOMEN'S HEALTH INITIATIVE, a large national study that tracked nearly 162,000 participant between the ages of 50 to 79 for more than 30 years.

This analysis focused on 438 women 60 years and older, who are newly diagnosed with type 2 diabetes and hadn't used any diabetes medication before starting treatment. Half were taking metformin and other half another type of medication called Sulfonylurea.

Researchers also looked at participants' age, lifestyle habits, how long they had diabetes, other health conditions ( such as High blood pressure, heart disease, lung disease or cancer), body weight, and any other medications they were taking. The study showed that older women with diabetes who used metformin were less likely to die before the age of 90 than those who took Sulfonylurea.

Researchers thought that benefits of metformin come from its effect in increasing the insulin sensitivity and lowering the level of a growth factor implicated in cancer risk. There is also some evidence metformin may decrease inflammation and slow something called cellular senescence, where cells stop dividing and replicating.

One of the study authors envision a future, where even people without diabetes might take metformin because of its potential effect on longevity. Clearly, we are not there yet, and certainly there is no recommendation for people to take metformin for this purpose at present. Time alone will tell.

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