

# Are Continuous Glucose Monitoring wearables for weight loss worth the hype?



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## Key Points

- Over 1 billion people suffer from obesity or excess body weight, which is a contributing factor to cardiovascular diseases, diabetes, and certain types of cancer
- Sustainable weight management is integral to preventative healthcare and reducing the risk factors that lead to illness. High blood sugar as a result of a poor diet can lead to weight gain; thus, wearable devices that can be used to monitor and manage blood sugar (i.e. glucose) are gaining popularity
- For people with diabetes, pre-diabetes, or other health conditions that require them to know what their glucose levels are at all times, continuous glucose monitoring (CGM) wearables have a wide range of benefits
- For people who don't have diabetes and are using CGM wearables to provide insights that can support weight loss (e.g. what to eat and when, the best time to exercise, hormonal activity), results from published studies and clinical trials as to their efficacy are inconclusive
- CGM wearables are expensive and mostly inaccessible for people with diabetes who don't have medical insurance or national health coverage.
- For people who don't have diabetes, CGM wearables are arguably an expensive option for obtaining health-related insights, which other wellness wearables, such as fitness trackers, calorie counters, or nutrition apps, could do just as effectively

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In a world population of 8 billion, more than 1 [billion people are obese](#) or overweight, contributing to cardiovascular diseases, type 2 diabetes, and certain types of cancer. One of the many [benefits of wearable healthcare devices](#) is their ability to provide data-generated insights that facilitate a personalised approach to illness prevention - weight loss management being one of them. In this post, we'll look at whether continuous glucose monitoring (CGM) wearables can help users and healthcare providers to manage weight loss to improve health outcomes sustainably and effectively.

Generic reasons for weight gain, i.e. eating too much and moving too little, and the resulting approach for weight loss, i.e. eating less and exercising more, aren't helpful as they don't take other factors such as metabolism, hormones, and sleep patterns into account. But what if a single wearable device could do all that? Continuously monitor your body's response to biological stimuli (e.g. food, activity, sleep) and provide insights into what to eat, the best time to exercise, or junk foods you might be craving because you didn't get enough sleep.

CGM wearables, one of the latest in health tech trends, promise to do just that - but does the hype

merit the healthcare benefits or claims to help with weight loss?

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## **The relationship between glucose and body weight**

When the stomach digests food, the [carbohydrates in the food](#) are broken down into a type of sugar, glucose (fun fact: glucose is the Greek word for sweet). These sugars are released into the bloodstream, and as blood sugar levels rise, the pancreas releases insulin. This hormone acts as a key that unlocks our cell's ability to absorb blood sugar and use it for energy or storage.

As cells begin to absorb blood sugar and sugar levels in the bloodstream then start to fall, the pancreas produces glucagon – a hormone that signals the liver to release stored sugar. This interplay and balance between insulin and glucagon, pancreas and liver, ensures that cells throughout the body, especially the brain, have a steady supply of blood sugar.

## **What happens when there's too much insulin in the bloodstream?**

If your [diet contains too many added sugars](#) and processed or refined carbohydrates (e.g. pasta and white bread), this can lead to elevated blood sugar levels, causing the pancreas to produce too much insulin in response. Over time, this can cause:

- [Insulin Resistance](#): Cells become less sensitive to insulin's action, causing the pancreas to produce even more insulin so the cells can take in sugar
- The liver converts excess sugar into fat instead of using it for energy
- This excess fat is stored in the liver, fat tissue, and other parts of the body
- Excess stored fat contributes to health issues such as an increased risk for heart disease, type 2 diabetes, and cellular damage, [which can lead](#) to the progression of certain kinds of cancer

## Can continuous glucose monitoring wearables prevent excess insulin production?

No.

[Continuous glucose monitoring \(CGM\)](#) is a small sensor worn on the arm or abdomen that measures glucose levels every few minutes and transmits the information to a monitor or an app. Users can then check their glucose levels at any time, observe patterns or trends, and use these insights to make more informed decisions throughout the day on balancing food, physical activity, and medication.

For people with diabetes who need easy and non-invasive (i.e. no finger pricking for blood samples) access to their blood sugar levels at all times, these CGM wearables are particularly beneficial.

- They can be worn while showering, working, exercising, or sleeping
- An alarm can sound when glucose levels get too high or too low
- Some models can send alerts to a caregiver's smartphone, e.g. to alert parents to their child's low/high glucose levels
- Users can make notes (e.g. what they ate or how much sleep or exercise they got) alongside their glucose level readings to gain further insights on personal trends and habits over time
- A graphic on the screen shows how rapidly glucose levels are rising/falling so users can choose the best way to reach their target glucose levels

The [American Diabetes Association](#) further states that people with type 1 and 2 diabetes who use CGM wearables are better equipped to avoid or delay serious short and long-term health complications such as hypoglycemia (low blood sugar) and high A1C (a form of haemoglobin chemically linked to sugar).

# Do CGM wearables have benefits for people who don't have diabetes?

As [wearable technologies for sports and fitness](#), as well as diet and nutrition apps, continue to demonstrate their meaningful impact on helping users achieve their goals, this opens up space for more niche wearables to enter the marketplace.

It's in this area that companies such as [Veri](#) and [NutriSense](#), who develop wearable CGM devices for people who don't necessarily have diabetes, are hoping to gain traction. By using these devices, users can:

- See their unique blood sugar response to the food they eat
- Leverage the power of data to improve personal insights to achieve optimal metabolic health
- Benefit from less hunger and reduced cravings
- Sleep better and enjoy more energy throughout the day
- Avoid chronic health issues and enhance hormonal health
- Receive real-time feedback to support weight sustainably

The general idea is that by constantly monitoring their glucose levels, users can modify their dietary habits and reach their wellness or weight goals in a way that's personalised to them instead of following a generic 'one-size-fits-all' approach (i.e. eat less and exercise more) that may - or may not - work.

## What's the verdict on CGM wearables for weight loss?

For people with diabetes or other health conditions (e.g. pre-diabetes or a genetic predisposition to diabetes) that require them to have constant and accurate glucose readings to avoid serious health consequences, CGM wearables have proven merit. However, there's no conclusive evidence that CGM wearables are the answer for generally healthy users looking for technology to improve or support weight loss.

According to a Harvard Medical School report on [whether blood sugar monitoring is worthwhile for people without diabetes](#), no published studies, clinical trials, or peer-reviewed medical journals suggest it leads to better health outcomes. In one study, obese and overweight users reported feeling more motivated to exercise, but whether they followed through and became more active is debatable.

In addition, the 'ideal' blood sugar range for people who don't have diabetes is uncertain. An unintended consequence of empowering users with information to make 'better choices' could lead to them making the wrong choice. For example, a drop in blood sugar, normally considered insignificant

for healthy people, could cause them to snack more and gain weight.

Lastly, while obesity and being overweight can contribute to preventative health conditions such as diabetes and cardiovascular diseases, they aren't the only risk factor. [Thin people can](#) develop diabetes or have unhealthy lifestyles that leave them predisposed to heart disease. By allowing body weight to take up all the space in the blood sugar and preventative healthcare conversation, other contributing factors (e.g. high cholesterol, smoking), which are significant, get less of a say.

## Challenges & Limitations

One limitation of wearable devices in healthcare is their affordability and subsequent accessibility. CGM wearables, unlike a fitness watch, aren't a once-off purchase. Because the sensors are worn on the skin continuously, they need to be replaced every two weeks. The cost for the most popular and commonly used CGM wearables, such as the [FreeStyle Libre](#), can start at £200 for the initial setup and £50 every month thereafter.

In the UK, people with diabetes may be able to receive financial aid for [CGM wearables through the NHS](#) or medical insurance in other countries. However, most people with diabetes in developing countries who don't have access, those who don't qualify for medical aid, and those who can't afford it are excluded from the health benefits of CGM wearables.

For otherwise healthy people interested in the insights that continuous glucose monitoring wearables could provide to improve their overall health, purchasing sensors and paying for an app subscription every month costs an average of £95 per month. This could be expensive for a wearable intended to be worn continuously - especially if other wearable alternatives and nutrition apps could provide the same insights at a cheaper cost.

## A final word on wearables for glucose monitoring for weight loss

Take them with a pinch of salt, and before investing, consult your GP or a qualified medical practitioner to see if it's the right fit for your first. Weight loss fads come and go, and time will tell whether CGM is truly the [weight loss bio hack you never knew you needed](#).

In our research and experience, one factor contributing to the success of products that survive past the 3-year make-or-break mark is their ability to differentiate (e.g. on cost, quality, or solutions consumers need but can't find elsewhere). As a health monitoring tool for people with diabetes or pre-diabetes, continuous glucose monitoring wearables have clear-cut points of differentiation. As a health technology device that could help users make informed decisions regarding nutrition, exercise, and hormonal balance for weight loss, these points of differentiation become more blurred.

Are you developing health monitoring wearables or interested in knowing [which type of body sensor to integrate into your wearable device](#)? Our team of wearable specialists can help you create products that differentiate - please get in touch so we can discuss how to meet your business needs.

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