NDSS
National Diabetes Services Scheme
An Australian Government Initiative

FACT SHEET:

Continuous glucose monitoring

Continuous glucose monitoring (CGM) is a way to check glucose levels throughout the day and night without pricking your finger.

CGM can help you see the effects of insulin and other medicines, food, physical activity, and illness on your glucose levels. It can help you make decisions to keep your glucose levels in a healthy range. It can also help find trends or changes in your glucose levels. You can use this information to make day-to-day decisions about how to manage your diabetes. You can also share this information with your diabetes health professionals to help make decisions about your diabetes management. CGM provides more information than blood glucose monitoring with a finger prick check.

CGM devices have three main parts

A. The **sensor** is a small electrode inserted just under the skin, usually on the tummy or arm. It measures the level of glucose in the fluid between your cells. Depending on the device, you need to insert a new sensor every 7 to 10 days.

B. The **transmitter** is attached to the sensor and sends glucose readings to a wireless receiver, insulin pump or compatible smartphone or smart device. Depending on the type, you need to replace your transmitter every 3–12 months. Transmitters are not reusable.

C. The **receiver** shows your glucose data. The receiver can be a standalone device, an insulin pump or compatible smartphone or smart device (via an app). The receiver also stores glucose data. You can upload the glucose data for you and your diabetes health professional to review. This can help make decisions about changes to your insulin doses or insulin pump settings as well as food choices and physical activity.

NDSS Helpline 1800 637 700
ndss.com.au

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diabetes australia
The NDSS is administered by Diabetes Australia

How do CGM devices work?

CGM devices are small wearable monitors that measure and show your glucose levels throughout the day and night. They can be programmed to sound alarms and send alerts if your glucose levels are outside your set target range. CGM devices also display arrows to show when your glucose levels are rising or falling, and how quickly they are changing, or staying steady.

Why use CGM?

Some of the benefits of CGM include:

24/7 readings. CGM allows you to see the changes to your glucose levels across the day and night instead of just at a single point in time. The graph on the receiver can show patterns that may help you and your diabetes health professionals learn how different things, such as food and physical activity, affect your glucose levels.

Trend arrows. These show if your glucose levels are steady, rising or falling and how quickly they are changing. This allows you to respond to rising or falling glucose levels before they are out of your range.

Alarms. You can set the CGM device to sound an alarm if your glucose levels are rising too high or if you are at risk of a hypo (also known as hypoglycaemia or low glucose levels). This allows you to act before glucose levels rise too high or drop too low. Alarms can also be very useful if you cannot always tell when you are having a hypo.

Overnight monitoring. CGM devices measure glucose levels throughout the night without you having to wake up to do a finger prick blood glucose check.

Reduced need for finger prick checks. CGM does not completely replace finger prick checks, but it does reduce the number you need to do. Ask your diabetes health professionals for advice about when and how often you need to do finger prick checks.

Peace of mind. Seeing your glucose levels at any time and getting alerts if your glucose levels go outside your target range can provide reassurance and reduce fear of hypos.

Data sharing. Some CGM devices let you share glucose data with others via an app on their smartphone or smart device or notify them of alerts and alarms via SMS messages. This can be particularly useful for sharing your glucose levels with others such as friends, family, parents, or carers. You can also share with your diabetes health professionals.

Insulin pump integration to prevent hypos. Some CGM devices work with a compatible insulin pump. This means they can temporarily stop insulin delivery from the pump if glucose levels drop below your target range or if the sensor predicts that the glucose level will become too low. This may help reduce the risks of hypos or make them easier to correct.

Closed loop technology to help you stay in range. Some CGM devices and compatible insulin pumps work together to deliver less insulin when blood glucose levels are predicted to become too low, and more insulin if glucose levels are predicted to become too high. This can help keep your glucose levels in your target range.

Can help with blood glucose management. Always wearing your CGM device has shown to reduce average blood glucose levels (HbA1c), keep your levels in your target range more of the time and reduce blood glucose variability.

Downsides to CGM

Some of the downsides to CGM include:

It does not replace blood glucose monitoring. Using CGM can reduce the number of finger prick checks you need to do. Some devices still need calibrating at least twice a day by entering a finger prick check. Finger prick checks may also be recommended for other situations. Ask your diabetes health professional for advice about when you need to do blood glucose level finger prick check. This could be when glucose levels are changing rapidly, to confirm a hypo, when symptoms do not match the sensor reading or before adjusting or giving an insulin correction dose.

Accuracy. CGM devices measure glucose levels in the fluid between your cells instead of in the blood. Given glucose travels to the blood first and then to the fluid between the cells, CGM readings and blood glucose levels will not usually be the same. The difference is because of a time delay between 6-12 minutes from when glucose moves from the blood (finger prick check) and into the fluid between your cells (CGM). The readings may be close when glucose levels are stable. You will see the greatest difference between these readings when your glucose levels change quickly.

Discomfort. You may have some mild pain or discomfort when inserting your CGM. Ask your diabetes health professional for advice on reducing the risk of these problems and managing them if they do occur.

Being attached. Some people do not like wearing the sensor and transmitter. For example, if they already use an insulin pump, they will have two different devices attached to their body. For young children, lean adults, and older people, it can also be challenging to find suitable sites to insert the sensor because they do not have much body fat. Ask your diabetes health professional to help you work out the best sites for wearing the sensor.

Staying attached. It can be challenging for some people to keep the sensor attached, particularly if they spend a lot of time in water and/or sweat a lot during physical activity. The sensor might also get knocked off while playing or during sport. If the sensor falls out, it cannot be reused.

Skin reactions. Some people may have allergic reactions, skin rashes, itching, bleeding, or bruising in the area where the sensor is inserted.

Information overload. It can be overwhelming to see what your glucose levels are doing all the time. It can also be overwhelming for carers if you have chosen to share your readings with them.

Alarm fatigue. CGM alarms can be very helpful, but if they happen often some people can find them annoying and disruptive. Your diabetes health professional can help you set up the alarms to best suit your needs.

Data sharing. It is important to first consider your privacy and security before sharing your glucose data. Sharing your glucose data is a personal choice and should not put you off using CGM.

Government-subsidised CGM

The Australian Government provides access to subsidised CGM products through the NDSS. People in the following groups are eligible to access subsidised CGM products:

Type 1 diabetes. People with type 1 diabetes

Type 1 diabetes; Pre-Pregnancy/Pregnancy/ Post-Pregnancy. Women with type 1 diabetes who are actively planning pregnancy, pregnant or immediately post-pregnancy

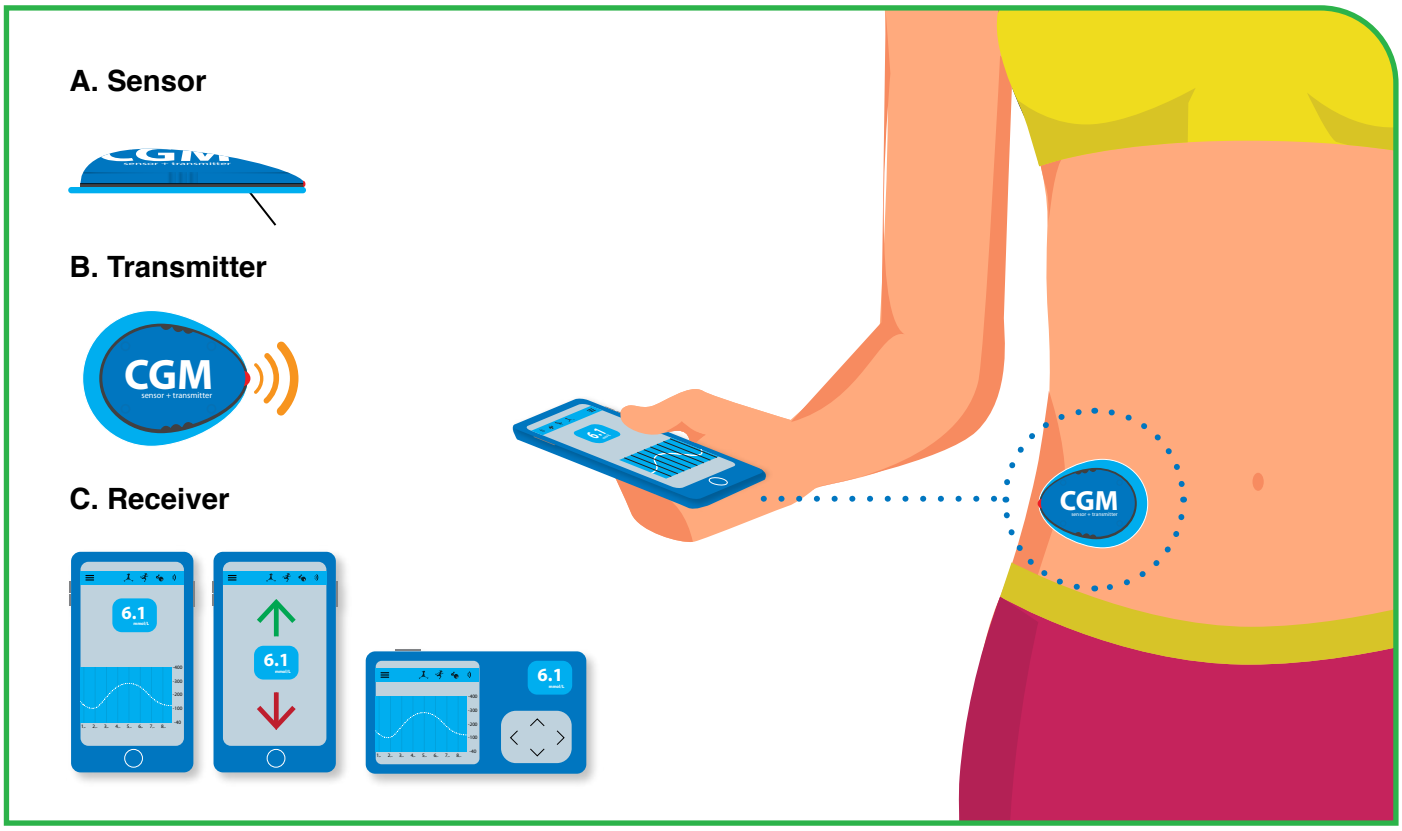
Conditions similar to type 1 diabetes; Age Under 21 Years. Children and young people aged under 21 years with conditions very similar to type 1 diabetes who require insulin

Accessing subsidised CGM products

You need to be registered with the NDSS and meet the eligibility criteria to access products. Go to **ndss.com.au/cgm** to find out more about how to access subsidised CGM products.

Your diabetes health professional will need to fill out and sign the Continuous and Flash Glucose Monitoring Access Form for your eligibility group. These forms include a list of the health professionals who can confirm eligibility in each group.

- Go to **ndss.com.au/forms#cgm** to download the form and to find out how to submit it.
- Once your application has been approved, you will receive an email or a letter from the NDSS explaining how to start accessing your subsidised CGM products.
- If you are new to CGM, a Starter Kit will be sent to the diabetes health professional nominated on your Continuous and Flash Glucose Monitoring Access Form. The diabetes health professional nominated on your form will work with you to set up and start using your CGM device. After this, you can start to order CGM products through your community pharmacy (also known as an NDSS Access Point), just like you can order blood glucose monitoring strips, insulin pen needles and/or insulin pump consumables.
- If you are already using CGM, you can order your products through your community pharmacy, once you have been notified that your application has been approved.



Non-subsidised CGM

- CGM devices and supplies are considerably more expensive than finger prick blood glucose monitoring supplies.
- If you are not eligible to access subsidised products through the NDSS, the cost of CGM is around $4,000–$5,000 per year. Most private health insurance companies do not cover CGM devices however you can make a request.

More information and support

- Go to **ndss.com.au/about-diabetes/resources/find-a-resource/cgm-device-summary-and-compatibility-chart/** for an up-to-date list of subsidised CGM products and their compatibility with insulin pumps and smartphones.
- Go to **ndss.com.au/cgm** or email **info@ndss.com.au** to find out more about access to CGM products. You can also call the NDSS Helpline on **1800 637 700** for more information or to speak to a diabetes health professional.
- For more information about AMSL Diabetes (Dexcom) CGM devices, go to **amsl.com.au**.
- For more information about Medtronic CGM devices, go to **medtronic.com.au**.

Top tips

- Discuss all the pros and cons with your diabetes health professional before deciding if CGM may be right for you.
- Your choice of CGM device will depend on many factors. Your diabetes health professional can help you to choose the right CGM device for you.
- Work with your diabetes health professionals to get the most out of CGM. They can help you learn how to use and interpret the information you get, so that you can use it to make decisions about how to manage your diabetes.
- CGM provides more information than blood glucose monitoring with a finger prick check. It can help you keep your glucose levels in a healthy range.

Notes

The NDSS and you

Whether you have just been diagnosed with diabetes, or have been living with diabetes for a while, the NDSS provides a range of support services, information, and subsidised products to help you manage your diabetes, stay healthy and live well. For access to more resources (including translated versions), or to find out more about support services, go to **ndss.com.au** or call the NDSS Helpline on **1800 637 700**.

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