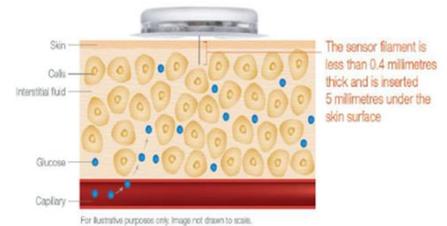


TOP TIPS FOR USING YOUR LIBRE SENSOR IN PREGNANCY

Your Libre sensor will be funded for one year to help you achieve the best possible blood glucose levels for pregnancy and during those early weeks after delivery. This information aims to help you get the most out of using your sensor.

• GLUCOSE MEASURED:

Your Libre sensor sits just under the skin and measures the glucose in the fluid around the cells (interstitial fluid). The glucose measured by the sensor is always "behind" what the blood glucose is measuring; usually around 5-10 minutes.



Please Note: your sensor glucose measurement will rarely be the same as your blood glucose measurement. This doesn't mean your sensor is inaccurate; it reflects that they are measuring different things.

• GLUCOSE INFORMATION:

The sensor glucose is displayed in 3 ways:

- What the glucose is now (within last 15 minutes)
- Which way it is heading (steady / rising / falling)
- Glucose history as it sits within your target glucose range for the last 8 hours

Libre reader



Mobile phone App



• HOW OFTEN SHOULD I SCAN?

An advantage of wearing the libre sensor is that it fills in the gaps of glucose information between meals and overnight without having to do lots of extra finger-stick checks

Aim to scan your sensor 7-10 times per day

- ✓ On waking
- ✓ Pre meal
- ✓ 1 hour post meal for reflection in real time
- ✓ 2 hours post meal for reflection in real time and possible correction action
- ✓ Pre bed
- ✓ If awake in the night



• USING YOUR LIBRE SENSOR DATA:

- Some people can find all this extra data a little over whelming, especially at the beginning. If this is the case please talk to us in clinic. It might be worth getting used to wearing the sensor and seeing the additional data for a week or so before starting to respond to it.
- Be prepared to see glucose readings out of target
- It is important not to over-react to readings out of target or this can cause more erratic glucose levels which are harder to keep in target



• WHEN TO DO FINGER STICK CHECKS:

Your sensor can replace many finger stick glucose checks but there are times it is recommended that a finger stick check is made:

- ✓ For insulin dose decisions e.g. pre meal / pre bed
- ✓ To confirm you are hypo and monitor recovery from a hypo
- ✓ If the sensor reading doesn't match how you feel or the glucose you were expecting to see



There are times when the Libre glucose data may be less reliable and you might want to do some additional finger stick checks to confirm the glucose level

- ✓ During first 24 hours of new sensor
- ✓ During times of rapidly changing glucose levels
- ✓ During moderate activity

• RECORDING DATA:

A glucose entry is created every time the sensor is swiped.

If not using an insulin pump please record all insulin given and amount of carbohydrate eaten using the "pencil" icon on the reader or the "Edit Note" on the phone App



• SHARING DATA:

Libre Reader: you can create a Libre view account on www.LibreView.com and follow the instructions to link to our clinic code. Please email and let us know every time you upload; ideally 1-2 times each week to review how things are

Libre Phone App: you can create a Libre view account on www.LibreView.com and follow the instructions to link to our clinic code. Your data is automatically shared but please email us 1-2 times per week for a review



Get the most out of your FreeStyle Libre system and manage your diabetes with your healthcare provider

Join your LibreView Clinic



LibreView

Follow the 3 easy steps to start reviewing your results.



- 1 Visit LibreView.com and click "Sign Up".
- 2 Download and follow the installation prompts.
- 3 Follow the on-screen instructions to input your clinic code and upload your data.

YOUR FREESTYLE LIBRE SYSTEM
DIGITAL HEALTH SOLUTIONS CLINIC CODE:
Addenbrookes Adult Diabetes Team
Practice ID: 01223348769
Account Settings>My Practices>Clinic Code>Add
Get started today at LibreView.com

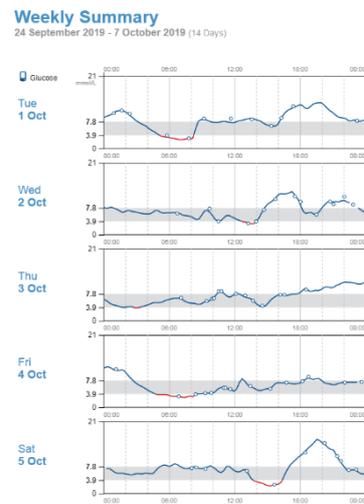
• **USING LIBRE SENSOR DATA REFLECTIVELY:**

Libreview reports your sensor glucose data in a number of ways to help reflect on patterns - **Daily Log / Weekly Summary / Glucose Pattern Insights**

Because things change so frequently when pregnant it is helpful to review these reports every 3-4 days



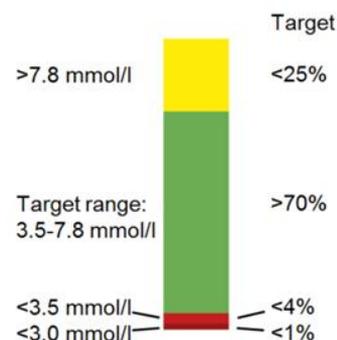
- ✓ You can look to see where glucose is mostly in target and showing what is working well
- ✓ Steady / gentle changes in glucose tends to indicate carbohydrate choices, insulin to carbohydrate ratio and timing of insulin bolus worked well
- ✓ You can identify where the glucose is out of target and reflect on what might need changing. Consider:
 - Type and amount of carbohydrate eaten
 - Timing of insulin bolus
 - Insulin to carbohydrate ratio
 - Activity post meal
 - Basal review overnight



• **TIME IN RANGE:**

This is another way of looking at overall glucose control that gives a better indication of how your glucoses are sitting within the pregnancy targets
In pregnancy aim for:

- ✓ 70% or more time in range 3.5-7.8 mmol/l
As you work towards this target research has shown that every 5% increase in time in range reduces risk and improves pregnancy outcomes
- ✓ Less than 25% above 7.8 mmol/l
- ✓ Less than 4% below 3.5 mmol/l
- ✓ Less than 1% below 3.0 mmol/l



Source: Battelino T et al. *Diabetes Care* 2019;42:1593-1603

• **WHAT DO THE ARROWS MEAN?**

Directional Arrows	Over past 20 minutes the glucose has been	If Trend continues how will glucose change?	
		In 10 minutes	In 30 minutes
↑	Rising quickly	At least 1 mmol/l	3-5 mmols/l
↗	Rising	0.5-1.0 mmol/l	2-3 mmols/l
→	Stable or changing slowly	Change by less than 1 mmol/l	Change by less than 2 mmols/l
↘	Falling	0.5-1.0 mmols/l	2-3 mmols/l
↓	Falling Quickly	At least 1 mmol/l	3-5 mmols/l

- **USING LIBRE SENSOR DATA IN REAL TIME:**

There are times when using the sensor glucose information at the time of seeing it can be helpful

- ✓ Checking if you are safe to drive (“above 5 to drive”)
- ✓ If your sensor glucose is showing a glucose at the lower end of the target range with arrows down you might want to take action to avoid a hypo such as bring a meal forward or take a small amount of carbohydrate (remembering 10g carbohydrate will raise glucose by 2-3 mmols) see hypo section below



It is worth noting that sensors can measure your glucose to be lower than they actually are when at the lower end of the glucose range. If there is any sense that your sensor is reading on the low side it is worth checking your glucose with a finger stick measurement to confirm you need to take action.

- If your sensor glucose is reading above the glucose target range with arrows up – avoid correcting unless 4 hours after a previous insulin dose (unless you are unwell or showing ketones then follow Sick Day Rules)

- **AVOIDING HYPOGLYCAEMIA**

In pregnancy you may find your symptoms of hypoglycaemia change, they may become more subtle making it more challenging to pick up those early signs. Being able to check your glucoses more frequently and using the directional arrows on your Libre can be especially helpful to avoid hypos.

Important: Libre sensors can read lower at the lower end of the glucose range so it is important to confirm a hypo with a finger stick measurement

Directional Arrows	Over past 20 minutes the glucose has been	If Trend continues how will glucose change?	
		In 10 minutes	In 30 minutes
↘	Falling	0.5-1.0 mmols/l	2-3 mmols/l
↓	Falling Quickly	At least 1 mmol/l	3-5 mmols/l

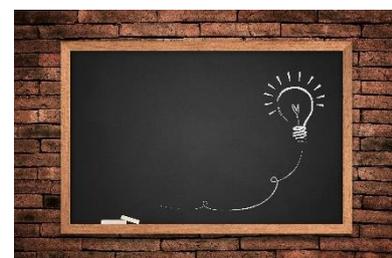
- **In pregnancy most hypos are caused by the bolus insulin and occur 1.5 – 4 hours after mealtimes so this might be a time to scan your sensor more frequently (especially if your hypo symptoms are less clear)**
- 5-10g can raise glucose by 1-3 mmols/l and may be enough to prevent a hypo
- **Always use finger stick measurements to monitor your recovery from a hypo**

Remember your sensor glucose is 5-10 minutes behind what your blood glucose is measuring and can show a low reading even when your blood glucose is back in range. Using sensor glucose to monitor recovery from hypoglycaemia usually results in over treatment of hypoglycaemia.

- **LEARN MORE:**

If you want to learn more about how to get the most from your Libre sensor please visit

<https://progress.freestylediabetes.co.uk/>



CORRECTING

When checking glucose before meals the directional arrows from the sensor can be used to adjust the insulin dose to level the glucose out e.g. give a little more if seeing arrows up and a little less if seeing arrows down.

Libre Arrows	Over past 20 minutes the glucose has been	Option A	Option B (10%/20% rule)
		Calculate bolus (for food and any corrective) and:	
↑	Rising quickly	Add 0.5 units (if TDD < 25) Add 1 unit (if TDD 25-60) Add 2 units (if TDD >60)	increase by 20%
↗	Rising	Add 0.2 units (if TDD < 25) Add 0.5 unit (if TDD 25-60) Add 1 unit (if TDD >60)	increase by 10%
→	Stable or changing slowly	No adjustment	No adjustment
↘	Falling	Subtract 0.2 units (if TDD < 25) Subtract 0.5 unit (if TDD 25-60) Subtract 1 unit (if TDD >60)	reduce by 10%
↓	Falling Quickly	Subtract 0.5 units (if TDD < 25) Subtract 1 unit (if TDD 25-60) Subtract 2 units (if TDD >60)	reduce by 20%

Post meal: It is not recommended to correct glucose readings above target within 2 hours of eating as this can result in a low glucose later.

At 1 hour: If glucose is checked within 1 hour of a meal and glucose is reading above target and or with upward trending arrows reflect on what might have caused the glucose to behave in this way and can it be avoided in the future: type carbohydrate / amount carbohydrate / timing insulin / activity post-meal

Remember: you can use activity such as a longer walk or being more active after a meal to reduce glucose if practical.

At 2 hours: If sensor glucose is still above target **AND** sensor glucose is stable (no arrows) or increasing (upward arrow) then it is reasonable to give a corrective dose. Pump users should use the bolus advisor (which takes into account active insulin on board) to calculate the correction dose. If using injected insulin use half the dose calculated using your individualised correction factor.

Do not correct if sensor glucose is above target but showing downward arrows