Sensor - Frequently Asked Questions

How does CamAPS FX use glucose sensor information?

- The CamAPS FX app is compatible with the Dexcom G6 and FreeStyle Libre 3 / 3 Plus glucose sensors.
- These sensors continually measure glucose in the tissues of the body.
- Every few minutes, sensor glucose readings are sent, via Bluetooth®, to the CamAPS FX app.
- Every 8-12 minutes, the algorithm uses these sensor readings as well as glucose trends to decide how much insulin to deliver.
- Occasionally, people may find that their symptoms and the sensor glucose reading do not match, or they do a blood glucose fingerprick test and find that the sensor is giving a different value.
- If the sensor is continually giving a very different reading to the blood glucose value, the amount of insulin delivered by the app might not be correct. For example:
  - ⇒ If the sensor is over-reading, the algorithm, based on this sensor information, may deliver more insulin than needed, increasing the risk of having a hypo.
  - ⇒ Likewise, if the sensor is under-reading, the algorithm will reduce or even stop insulin delivery, which may ultimately lead to high glucose levels and ketones.

Why can a glucose sensor read differently to a blood glucose reading?

- There are many factors that can influence the glucose sensor reading, for example:
  - ⇒ When glucose levels are changing very rapidly, there may be a lag time between the sensor and blood glucose reading.
  - ⇒ If there is external pressure on the area, like when someone is sleeping on the sensor, the sensor glucose reading can be falsely low. This is often called a compression hypo.
  - ⇒ If someone is dehydrated, the sensor glucose value can be affected.
  - ⇒ Recently inserted sensors may read differently for a short period of time.
  - ⇒ If the sensor is not correctly inserted or becomes dislodged.

What should I do if I think the sensor is reading differently?

- Do a fingerprick blood glucose test with a calibrated blood glucose meter to confirm your suspicion.
- Please follow the blood glucose meter manufacturer's guidelines to obtain an accurate blood glucose reading, for example:
  - ⇒ Ensure the testing area is clean as any residue can affect the reading.
  - ⇒ Ideally, wash the area with soap and water and allow it to dry before testing.
  - ⇒ The blood glucose test strips are in date and have been stored appropriately.
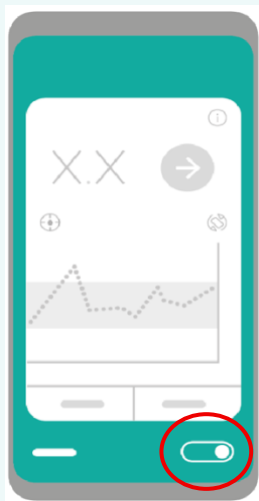 - ⇒ The correct amount of blood is applied to the testing strip.

How close should the sensor and blood glucose reading be?

- A sensor is over- or under-reading, if the value is more than 3 mmol/L (54 mg/dL) above or below the blood glucose value, when the glucose trend arrow on the App's home screen is stable (→).
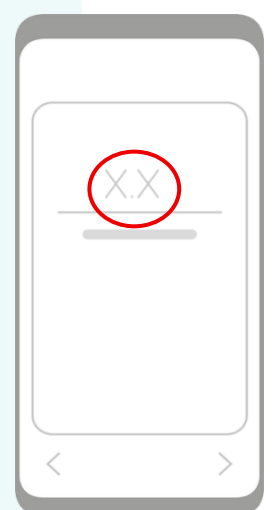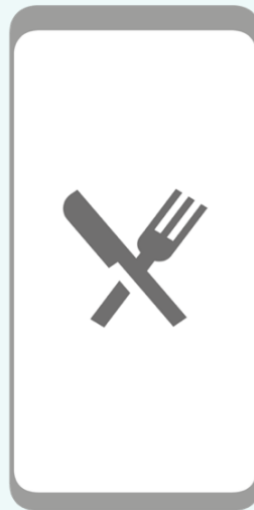
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Which glucose reading should I base therapy decisions on?

- Always use the accurate blood glucose reading for therapy-based decisions, while the sensor is reading differently.
- This includes:
  - ⇒ Switching off "Auto mode", by sliding the toggle on the App's home screen, so that the insulin pump is delivering the pre-programmed basal rate.
  - ⇒ Manually entering the blood glucose value into the bolus calculator when deciding how much insulin to deliver for a meal or snack. To enter your blood glucose reading into the bolus calculator,
    1. Tap on the knife and fork icon to open the bolus calculator in the app.
    2. Tap on the grey glucose value or "---" if a glucose reading is not available.
    3. Enter the glucose value using the keypad.
    4. Continue to use the calculator by entering carbohydrates and pressing "Next" to be offered the suggested insulin dose.
    5. If happy, press "Deliver". If not, you can adjust the dose, by tapping on the blue numbers and using the scroll wheel to change the dose.

Toggle to turn off "Auto mode"

Bolus calculator icon and screens to enter glucose value and change dose

What should I do if the sensor is reading differently?

- If the sensor reading is different to the blood glucose value, you might like to consider calibrating it.
  - ⇒ You can calibrate a Dexcom G6 sensor, by entering the blood glucose reading in the App's Calibration menu (blood drop icon).
  - ⇒ FreeStyle Libre 3 and 3 Plus sensors cannot be calibrated.
- If calibration is not possible or fails, please replace the sensor.
- Please contact the sensor company to report the sensor error and seek advice.
- Please speak with your Diabetes team, if you have any concerns or need further support.