

# GETTING STARTED WITH CONTINUOUS GLUCOSE MONITORING



Medtronic

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<b>SECTION 1:</b>	Introduction to Continuous Glucose Monitoring.....	3
<b>SECTION 2:</b>	Sensor Glucose (SG) and Blood Glucose (BG) .....	4
<b>SECTION 3:</b>	Trends.....	5
<b>SECTION 4:</b>	Personalised Alerts.....	6
<b>SECTION 5:</b>	Reading the Sensor Display.....	16
<b>SECTION 6:</b>	Connecting your Pump and Transmitter.....	18
<b>SECTION 7:</b>	Inserting and Starting the Sensor.....	20
<b>SECTION 8:</b>	Calibrating.....	28
<b>SECTION 9:</b>	Other Sensor Alerts.....	32

## APPENDIX

Charging and storing your transmitter .....	33
CareLink™ Personal Therapy Management Software.....	34
X-Rays and Travelling By Air.....	35
SmartGuard™ Suspend Features.....	36

## SECTION 1: INTRODUCTION TO CONTINUOUS GLUCOSE MONITORING

Continuous glucose monitoring (CGM) gives you a more complete picture of your glucose control:

- Using a sensor allows you to receive up to 288 sensor glucose readings every 24 hours, filling the gaps between your BG tests.
- **Graphs** and **trend arrows** show the speed and direction your glucose levels are moving.
- CGM alerts notify you of high and low glucose values.

MiniMed™ 640G insulin pump also includes **SmartGuard™** technology, Medtronic's exclusive closed loop technology.

SmartGuard™ technology mimics some functions of a healthy pancreas, to provide you with advanced protection from hypoglycaemia<sup>1</sup>. SmartGuard™ technology can:

- **PREDICT** when you are approaching low glucose levels 30 minutes in advance
- Automatically **STOP** insulin delivery before you go hypoglycaemic
- And automatically **RESUME** it when your glucose levels recover\*.

### YOUR CONTINUOUS GLUCOSE MONITORING (CGM) SYSTEM INCLUDES 3 KEY ITEMS:

- 1 GLUCOSE SENSOR** The Guardian™ Sensor 3 measures glucose levels in the body.
- 2 TRANSMITTER\*\*** The Guardian™ Link 3 transmitter connects to the glucose sensor and sends glucose readings to your insulin pump.
- 3 INSULIN PUMP** The MiniMed™ 640G insulin pump displays glucose readings.

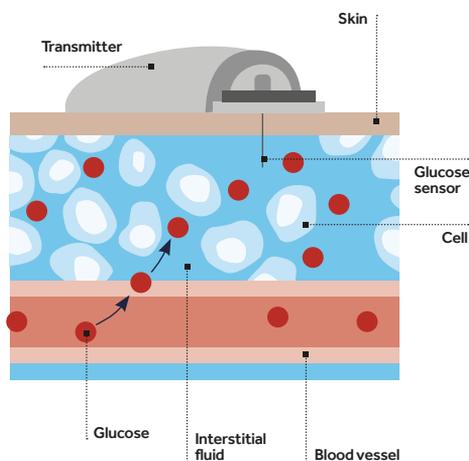
Other items include: One-press Serter, Oval tape, charger and tester.

*Always use the components that were sent with your MiniMed™ 640G system.*



## SECTION 2: SENSOR GLUCOSE (SG) AND BLOOD GLUCOSE (BG)

Your **BG meter** measures glucose levels in your **blood**. The **glucose sensor** measures glucose in the fluid surrounding the cells of your tissue called **interstitial fluid**.



Glucose travels between these two areas (blood and interstitial fluid). Most of the time, it travels to your blood first, and then to your interstitial fluid. Because of how glucose moves, **your BG meter readings (BG) and sensor glucose readings (SG) will be close, but will rarely match exactly**. This difference is normal and should be expected.

When glucose levels are rising or falling quickly, you should expect to see an even larger difference between your BG meter readings and the sensor glucose readings.

Examples of times when this larger difference may occur include:

- After meals or taking a bolus of insulin
- During exercise
- When arrows appear on your pump screen as explained in the next section



**IMPORTANT:** Sensor glucose is not the same as blood glucose. Your SG and BG readings will be close to one another, but will rarely match exactly. Sensor glucose values should not be used to make diabetes treatment decisions. **Always confirm your glucose value with a BG meter first.**

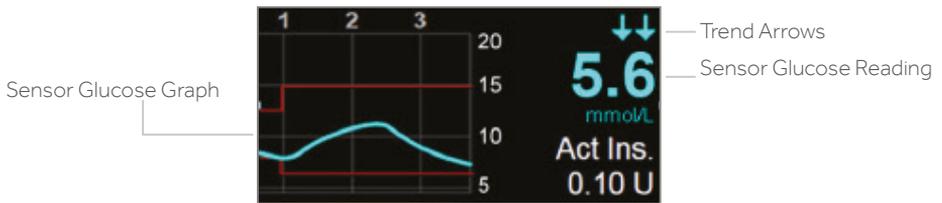
## SECTION 3: TRENDS

Sensor glucose trends give insight into the direction and the speed that your glucose is changing. The sensor graph and trend arrows are used to show your trend information.



**IMPORTANT:** When using CGM, focus less on each individual glucose number and more on the direction and speed that your glucose is changing.

### Example of Sensor information on the Home Screen



By looking at the sensor information above, you can see that your current glucose reading is 5.6 mmol/L. When you look at the graph, you can see that you are trending downward.

Furthermore, you see arrows above the number. These arrows indicate the rate that your glucose values are moving up or down:

↑ or ↓ - SG has been rising or falling by about 1-2 mmol/L over the last 20 minutes

↑↑ or ↓↓ - SG has been rising or falling by about 2-3 mmol/L over the last 20 minutes

↑↑↑ or ↓↓↓ - SG has been rising or falling by about 3 mmol/L over the last 20 minutes



**NOTE:** You may be likely to notice your glucose trending up or down after eating, giving a bolus, or when exercising.

## SECTION 4: PERSONALISED ALERTS

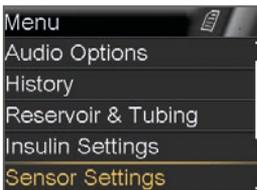
Your CGM alert and suspend settings are most beneficial if they are personalised for your needs. Your healthcare professional will work with you to determine your initial settings and help with adjustments that need to be made, as you learn more from the information that CGM provides.

The graph below shows an example of the different settings that can be personalised for both High and Low sensor glucose readings.



## TURNING SENSOR FEATURE ON

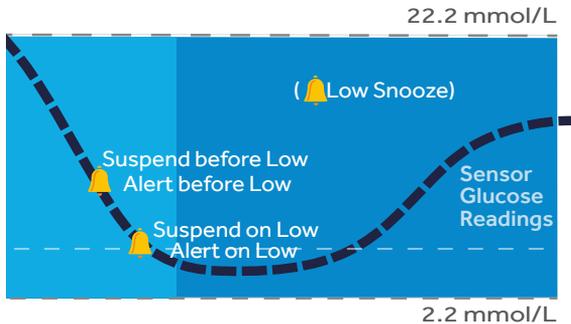
Before setting any of these **sensor** alerts, you must first turn the **sensor** feature on. To turn the sensor feature on, go to the Menu > **Sensor Settings** and select **Sensor**.



## LOW SETTINGS

Let's now look at the Low Settings. You can choose to be alerted before and/or when you have reached your low limit.

You can also use the SmartGuard™ suspend features to have insulin automatically suspended if you are approaching or have reached your low limit. The low settings that can be chosen are shown here:

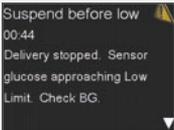


Your low (**Lo**) limit can be set from 2.8 to 5.0 mmol/L. This is the value on which the other low settings described below are based. You can set up to eight low limits for different periods of the day or night.

Alert	Reason	Steps to take
Alert before low	If <b>Suspend before low is on</b> , you will be alerted when insulin is suspended. If <b>Suspend before low is off</b> , you will be alerted when the sensor predicts you will reach your low limit in 30 minutes.	Do not treat your glucose based on SG. Confirm it using your BG meter. Treat if necessary based on instructions from your healthcare professional and continue to monitor.
Alert on low	Sensor glucose value is equal to or lower than your low limit.	



**NOTE:** If either Suspend on low or Suspend before low is turned on, Alert on low will automatically be set to on so you know that your glucose is at or below your low limit.

SmartGuard™ Suspend Features	Impact on insulin delivery if suspend feature is turned on	Information displayed by the pump	
Suspend before low	Insulin delivery is temporarily stopped if sensor glucose value is <b>approaching your low limit.</b>	<p>You will receive this alert message and need to check your BG. Insulin delivery will remain suspended after the alert is cleared.</p>  <p>If the alert is not cleared in 10 minutes, the pump will begin to siren.</p>	<p><b>Home Screen When Suspended</b></p> <p>After the alert or alarm message is cleared and insulin delivery has stopped, the Home screen will display:</p> <ul style="list-style-type: none"> <li>▪ <b>Suspended before low</b> or <b>Suspended on low</b> at the bottom of the screen</li> <li>▪ a shaded area to represent the time when insulin has been suspended</li> <li>▪ a flashing SmartGuard™ Suspend icon.</li> </ul>
Suspend on low	Insulin delivery is temporarily stopped if sensor glucose value <b>has reached or fallen below your low limit.</b>	<p>You will receive this alarm message and need to check your BG. Insulin will remain suspended after the alarm is cleared.</p>  <p>If the alarm is not cleared after 10 minutes, the pump will begin to siren and an emergency message will appear on the pump screen.</p>	



**NOTES:**

- Only one suspend feature can be used during each time segment; you cannot turn both Suspend before low and Suspend on low on.
- Insulin delivery will not be suspended if you are more than 3.9 mmol/L above your low limit.

## RESUMING BASAL INSULIN

### Automatic Basal Resume

In addition to suspending insulin delivery, the pump can also automatically resume delivery of basal insulin. If insulin has been suspended by either Suspend before low or Suspend on low, insulin delivery will automatically be resumed:

- if SG values are above the low limit and are trending upward. If you have the **Resume basal alert** on, you will be alerted when this occurs.

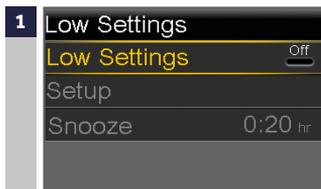
- after a maximum suspend time of 2 hours. You will always be alerted (even if the Resume basal alert is off) when this occurs. It is important that you check your BG and ensure your glucose is at a safe level.

### Manual Basal Resume

You can choose to resume basal insulin delivery yourself at any time. You simply need to select Suspended before/on low on the Home screen and follow the instructions on the screen.

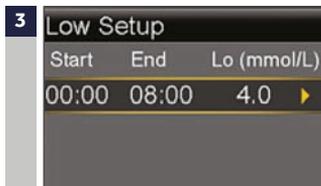
## SETTING UP YOUR LOW SETTINGS:

In this example, we will set up multiple time segments with different alert and suspend settings.



From the Menu, go to **Sensor Settings** > **Low Settings** and select **Low Settings** to turn On.

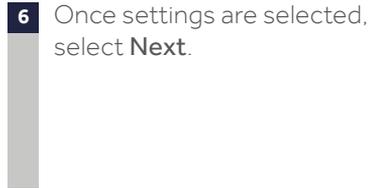
Press  on the time segment.



Press  to continue onto the next screen.

Press  or  to set **Lo** limit and press .

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Select each feature you wish to turn on. *In this example, Suspend before low has been turned on. Notice that Alert on low is automatically turned on.*



Press  on the time segment. Repeat steps 3 to 7 to enter the next time segment and select the features you want to turn on for this segment. *In this example, Alert before low, Suspend on low, and Resume basal alert have been turned on.*



Select **Done**.

Verify that settings are correct and select **Save**.



11 Press or to the correct time and press .

If snooze time needs to be changed, press to Snooze and press . The low snooze time can be set from 5 minutes to 1 hour.

## YOUR LOW SETTINGS SETUP IS NOW COMPLETE.



**REMEMBER:** Sensor glucose values must be confirmed with a BG meter reading before diabetes treatment decisions can be made.

## HIGH SETTINGS

The High Settings allow you to be alerted if your sensor glucose:

- is rising rapidly (**Rise Alert**)
- is approaching your high limit (**Alert before high**)
- has reached your high limit (**Alert on high**)



CGM Alert Setting

Your high (**Hi**) limit can be set from 5.6 to 22.2 mmol/L. This is the value on which other high settings described below are based.



**REMEMBER:** Your high limit is not the same as your glucose target. Your healthcare professional will help you determine the best setting so that you are alerted when needed while preventing unnecessary or inconvenient alerts.

Alert	Reason	Steps to take
Alert before high	Sensor glucose reading is expected to reach the high glucose limit in the length of time that you set for the Time before high*.	
Alert on high	Sensor glucose value is equal to or higher to the high limit you set.	
Rise Alert	<p>Sensor glucose reading is increasing at a rate that is equal to or faster than the Rate Limit that you set.</p> <p>The Rise Alert can be set to alert if glucose is rising as follows:</p> <ul style="list-style-type: none"> <li>↑ - SG is rising at a rate of 0.056 mmol/L per minute or more</li> <li>↑↑ - SG is rising at a rate of 0.111 mmol/L per minute or more</li> <li>↑↑↑ - SG is rising at a rate of 0.167 mmol/L per minute or more</li> <li><b>Custom</b> - SG is rising at the rate that you set. This can be set from 0.050 to 0.275 mmol/L per minute</li> </ul>	

Do not treat your glucose based on SG. Confirm it using your BG meter. Treat if necessary based on instructions from your healthcare professional and continue to monitor.

\*Time before high determines how many minutes before reaching the high limit that you will receive an Alert before high. This can be set from 5 to 30 minutes.



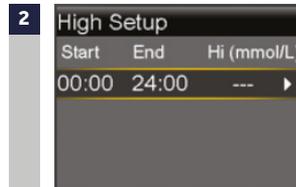
**REMEMBER:** You can set up to 8 different time segments throughout the day and night. Each time segment can have different high limits and high alerts that work best for you during that time of day or night.

## SETTING UP YOUR HIGH SETTINGS:

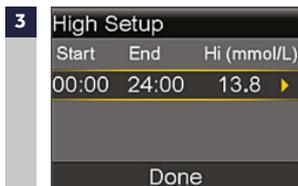


From the Menu, go to **Sensor Settings > High Settings** and select **High Settings** to turn **On**.

If you are changing settings that are already entered, press to **Setup** and press .



Press on the time segment. If you are setting multiple time segments with different high limits and alerts, press to set the first **End** time and press . *In this example, only one time segment is set.*



Press or to set **Hi** limit and press . *In this example, the limit is set to 13.8 mmol/L.*



Press to continue onto the next screen and select each alert you wish to turn on.

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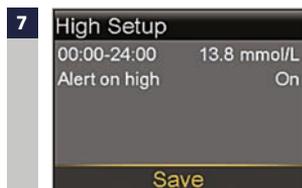




Once settings are selected, select **Next**. In this example, the *Alert on high* has been turned on.



Select **Done**.



Verify that settings are correct and select **Save**.



If snooze time needs to be changed, press  to **Snooze** and press . The high snooze time can be set from 5 min to 3 hours.

9 Press  or  to the correct time and press .

**YOUR HIGH SETTINGS SETUP IS NOW COMPLETE.**

## CHANGING HIGH AND LOW SETTINGS

To make changes to your existing High or Low settings, go to **Sensor Settings** > **High Settings** or **Low Settings** > **Setup** and select **Edit**.

## ALERT SILENCE

If a sensor alert occurs when Alert Silence is on, a Sensor alert occurred message is displayed and the notification light flashes, but there is no beep or vibration during the set period of time.

To set Alert Silence: from the Menu, go to **Sensor Settings** > **Alert Silence**.

You can select which alerts you would like to silence and set the time you want these alerts to be silent for.

*Alerts will automatically return to audio and/or vibrate at the end of the duration that you set.*



**NOTE:** If an alert is received during Alert Silence, go to the Menu > **History** and select **Alarm History** to see the alerts that occurred.

## SECTION 5: READING THE SENSOR DISPLAY

Once the sensor has started giving you sensor glucose readings, the Home screen will display them similar to what you see here.



The Sensor Glucose reading is updated every 5 minutes.

## STATUS BAR

In addition to the pump icons, you will see additional sensor icons on the Status Bar when using CGM.



**Connection icon:** shows radio frequency (RF) communication between the pump and sensor.



**Calibration icon:** represents the time left until next calibration is due. The icon empties as time decreases. Down arrow means calibration is needed.



**Sensor Life icon:** represents the number of days before sensor needs to be changed.



**Additional icons:** appear when the sensor is in warm up, pump and transmitter are out of range, system cannot be calibrated, or calibration or sensor age are unknown.

## SMARTGUARD™ SUSPEND ICON

During any time segment when either Suspend before low or Suspend on low is set to on, you will see the Suspend icon on the Home screen:



Suspend before low or Suspend on low is on and ready. If either suspend becomes active, the icon will flash while insulin delivery is stopped.



Suspend before low or Suspend on low is on but is unavailable. This can be due to a recent suspend or when no SG values are available.

## SENSOR STATUS

You can go to the Sensor status menu to see, for example, when your next calibration is due, time left on your sensor, and battery life remaining on your transmitter.

From the Home screen, select the Status Bar and select **Sensor**. You will also see additional sensor status information in **Notifications**, **Quick Status**, and **Settings Review** screens.

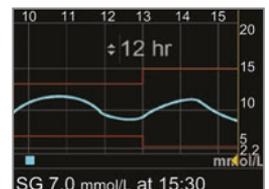


## SENSOR GRAPH

A graph that shows the last 3 hours of sensor glucose readings will always display on the Home screen. Your high and low glucose limits entered in your sensor settings will be shown in red.

You can also view 6-hour, 12-hour and 24-hour glucose trend graphs by selecting the sensor graph. Blue squares at the bottom of the graph represent a bolus.

A gold shaded area represents time when insulin was suspended by a suspend feature.



## SECTION 6: CONNECTING YOUR PUMP AND TRANSMITTER

Before using the sensor for the first time, you will need to wirelessly connect the pump and transmitter so that they can communicate with each other. This allows the sensor information to be displayed on the pump screen.

### TO WIRELESSLY CONNECT YOUR PUMP AND TRANSMITTER:



Attach your transmitter to the charger and make sure it is fully charged.

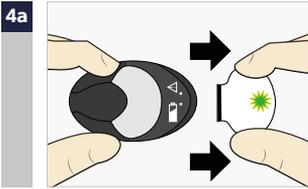


Press  and select **Utilities** > **Device Options** > **Connect Device**. Only one transmitter can be connected to the pump at one time. When you need to connect a new transmitter, you must first select **Manage Devices**, select the transmitter number and select **Delete**.



Select **Auto Connect** > Press  > Select **Continue**. Steps for Manual Connect can be found in the MiniMed™ 640G system User Guide.

**4** Make sure the transmitter is on the charger before proceeding. Now start the search processes on both devices.



Remove transmitter from charger. *If green light on transmitter does not flash, reconnect to charger until fully charged.*



Immediately select **Search** on the pump. *The search can take up to 2 minutes.*

**5** Once device is found, confirm that the serial number (SN) shown on the pump is the serial number on the back of your transmitter and select **Confirm**. *If you receive the **No devices found** message, place the transmitter back onto the charger. Then remove the transmitter from the charger and immediately select **Retry** on the pump.*

**6** Connection is now complete. The transmitter serial number will be displayed on the pump screen.



**NOTE:** These steps only need to be done as a first time set-up. You will not have to repeat with each new sensor you start.

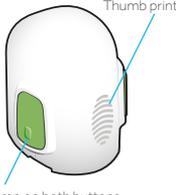


**NOTE:** If you stop using CGM for a period of time and need to store your transmitter, please make sure to leave it connected to the charger during the storage period. This will help ensure you get the most life out of your transmitter battery.

## SECTION 7: INSERTING AND STARTING THE SENSOR\*\*\*

Before you insert your sensor, gather all of your supplies:

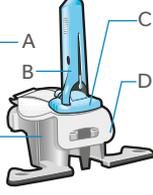
**SYSTEM COMPONENTS\***



Thumb print

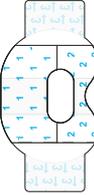
Bump on both buttons

**One-press Serter**



A – Pedestal  
B – Needle Housing  
C – Sensor  
D – Clear Liner

**Guardian™ Sensor 3 & Pedestal**



**Oval tape**  
A – Pre-cut Hole



**Guardian™ Link 3 Transmitter**

\*For more details on the system component, consult the User Guides

**One-press Serter** is required in order to insert the sensor properly.

**Guardian™ Sensor 3** is individually packaged and comes attached to a plastic pedestal which is necessary for proper loading into the serter.

**Oval tape** is required to keep the sensor securely in place.

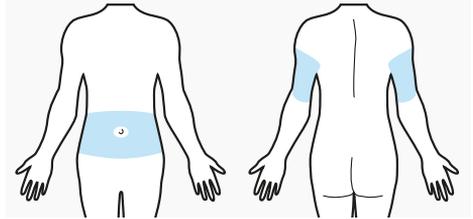
**Guardian™ Link 3 transmitter** is connected after the sensor is inserted and covered with the oval tape.

\*\*\*Please refer to the One-press Serter user Guide and your HCP for more information.

## SELECTING YOUR SITE

Your sensor can be inserted in any of the shaded areas shown here \*\*. The sensor insertion site should be at least:

- 5 centimetres from your navel
- 2.5 centimetres from your insulin pump infusion site
- 2.5 centimetres from any manual insulin injection site



**NOTE:** Assistance may be needed for insertion into the upper arm. Some users found it difficult to insert the sensor into their arm by themselves.

\*\*Clinical trials for glucose sensors were performed on sensors inserted in the shaded area shown in the image above.

Assistance may be needed for insertion into the upper arm. Some users found it difficult to insert the sensor into their arm by themselves.

## FOR GOOD SENSOR GLUCOSE PERFORMANCE, AVOID SITES:

- Where clothing may rub or constrict (for example, your beltline)
- Where your body naturally bends a great deal which may cause the sensor to pull out
- That are scarred or have hardened tissue or stretch marks
- Where there is a great deal of motion or friction

## PREPARING YOUR SITE

- Wash your hands with soap and water
- Do not use IV prep or the sensor may not work properly

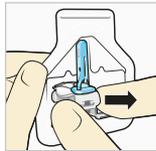
## INSERTING YOUR SENSOR

The instructions below only refer to the One-press Serter. If you have a different serter model, please refer to your serter User Guide for instructions on how to insert the sensor.

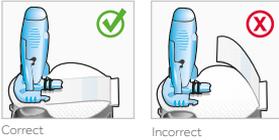
- 1** Open the sensor package. Pull the corner of the paper covering to open the sensor package.



- 2a** Hold sensor by plastic pedestal. Remove the sensor with attached pedestal by holding the pedestal only. Place the sensor/pedestal on a clean, flat surface (such as a table).



- 2b** Tuck adhesive tab. Make sure that the sensor's adhesive tab is tucked under the sensor connector and snaps.



Correct

Incorrect

- 3** **NOTE:** Refer to the illustrations for correct and incorrect ways to hold serter for loading.



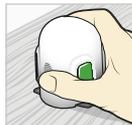
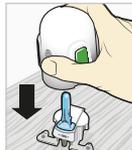
Correct



Incorrect

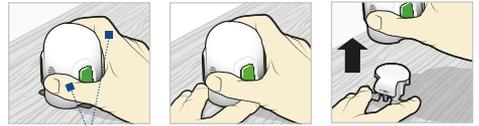
**Load sensor into serter.** Grip the serter exactly as shown with your thumb placed on the thumb print on the serter.

**Do not hold the side buttons.** Push the serter down onto the pedestal until the base of the serter sits flat on the table.



- 4** Detach serter from pedestal. To detach the serter from the pedestal, grip the serter as shown with thumb placed on thumb print on the serter.

With the other hand, place two fingers on the pedestal arms, and slowly pull the serter straight up.



Fingers are NOT holding the side buttons.



**NOTE:** Make sure the pedestal is firmly on the table before pulling the serter away.

The thumb print on the serter can be used for either left-handed or right-handed insertion.



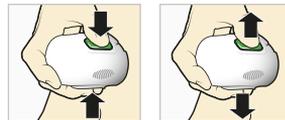
**CAUTION:** Do not detach the pedestal from the serter in mid-air as this may damage the sensor.

- 5a** Place serter on body. Hold the serter steadily against your cleaned insertion site, without pushing the serter too deeply into the skin.



- 5b** Insert serter. Press and release the bump on both buttons at the same time.

Do not pull the serter away from your body just yet.



**NOTE:** Failing to hold the serter flat against the body may allow the serter to spring back after pressing the buttons and result in improper insertion of the sensor.

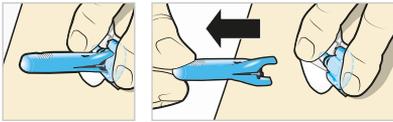
**5c** **Hold serter against body.**  
Continue to hold the serter against your body for at least five seconds to allow the adhesive to stick to your skin.



**5d** **Remove serter from body.**  
Slowly pull the serter away from the skin, making sure the buttons are not pressed.



**6** **Remove needle housing.**  
Gently hold the base of the sensor against the skin with one hand. With other hand, hold the needle housing at the top and slowly pull it straight away from the sensor. Dispose of the needle housing in a sharps container.



**NOTE:** Apply additional liquid adhesive.

You may use an optional adhesive such as Skin Tac™ under the adhesive pad, prior to removing the liner. Allow it to dry.

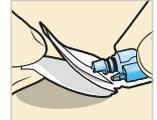


**IMPORTANT:** All sensor tapes and adhesives stick best when you apply pressure after putting them on your skin.

Doing so helps the sensor stay securely placed and fully inserted.

**7a** **Remove adhesive pad liner.**  
Hold the sensor in place and gently remove the adhesive liner from under the adhesive pad.

Do not remove the liner on the rectangular adhesive tab yet.



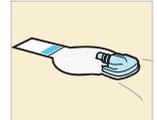
**7b** **Press entire adhesive pad to skin.**  
Firmly press the adhesive against the skin and smooth the entire adhesive pad so that it sticks to your skin.



**8a** **Untuck adhesive tab.**  
Untuck the tab from under the sensor connector.



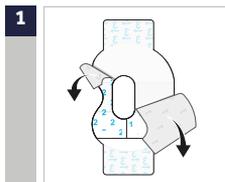
**8b** **Straighten adhesive tab.**  
Straighten the adhesive tab so that it lies flat against your skin, but do not remove the adhesive liner yet.



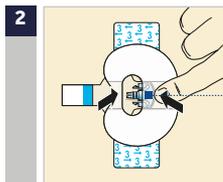
**NOTE:** The Guardian sensor adhesive is sensitive to pressure. Continue applying pressure on the adhesive to ensure that the sensor remains inserted in the skin for 7 days of wear.

## TAPING YOUR SENSOR

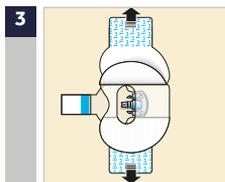
Before you connect the Guardian™ Link 3 transmitter to your Guardian™ 3 Sensor it is very important that you properly secure the sensor against your skin using the sensor oval tape.



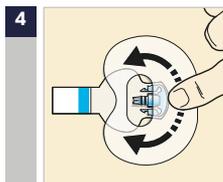
1 Remove liner 1 and liner 2.



2 Apply the tape as shown and press down firmly.



3 Remove liner 3 from each side.



4 Smooth the tape.



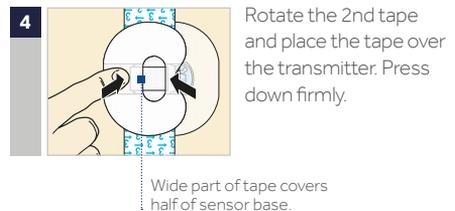
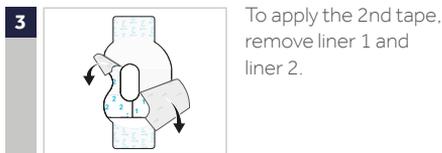
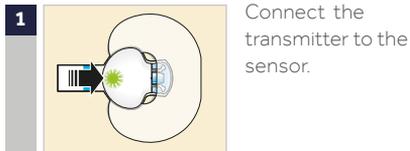
**IMPORTANT:** All Guardian™ 3 Sensor tapes and adhesives stick best when you apply pressure for several seconds after putting them on your skin. Doing so helps the Guardian™ 3 Sensor stay securely placed and fully inserted.



Properly applying the oval tape is key to ensuring your success with the Guardian™ 3 Sensor. Due to the sensor's small size and flexible nature, the oval tape helps to secure it from body motion or physical activity that can cause it to be pulled out.

## CONNECTING YOUR TRANSMITTER TO YOUR SENSOR

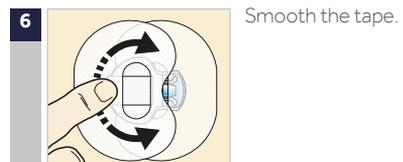
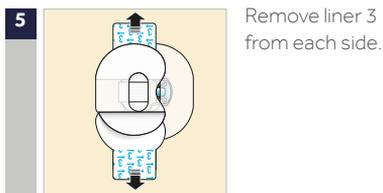
Before connecting the transmitter, make sure the **Sensor** feature is **On**. See page 6 if you need help with these steps.



**NOTE:** Wait for the green light on the transmitter to flash. If the green light does not flash, refer to the Troubleshooting section of your Transmitter User Guide.



**IMPORTANT:** If you do not see a green light flashing on the transmitter after it is connected to the sensor, then disconnect the transmitter and place it back on the charger to ensure that it is fully charged. Then reconnect the transmitter to the sensor.



**NOTE:** Check your sensor site regularly. Apply additional off-the-shelf tape if the sensor and transmitter are not secure.

It is very helpful to remember the order of these steps when changing your sensor:

- 1 **Insert** the sensor.
- 2 **Tape** the sensor in place.
- 3 **Connect** the transmitter.
- 4 **Apply** a second oval tape.

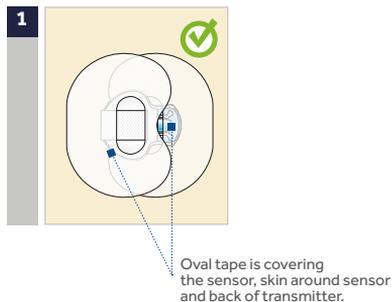


**NOTE:** When your transmitter is connected to your sensor they form a water-tight seal to a depth of 2.4 meters for up to 30 minutes. You can shower and swim without removing them.

Properly applying the oval tape is key to ensuring your success with the sensor. Due to the sensor's small size and flexible nature, the oval tape helps to secure it from body motion or physical activity that can cause it to be pulled out.

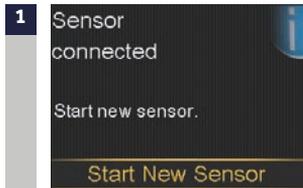
## CHECKING PROPER TAPE APPLICATION

It is important to check your sensor site periodically to make sure the sensor is still secure and has not been pulled out. If the sensor has been pulled out, do not try to push it back into place. A new sensor may need to be inserted.

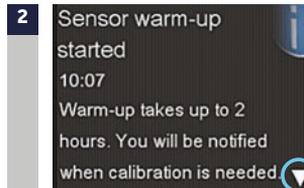


## STARTING THE SENSOR

Once you have inserted the sensor and connected the transmitter, the pump and transmitter will begin to communicate. Make sure your pump is on the Home screen so that the message below (in step 1) will be displayed when the sensor is ready to be started. *This typically takes less than a minute, but may take up to 10 minutes.*



Select **Start New Sensor**.



The **Sensor warm-up started** message will appear.

- 3** Press and then to clear. **Warm up...** will appear on the Home screen until sensor is ready for the first calibration.  
*If 15 minutes have passed and the Warm up bar does not appear or it looks like it is not progressing, look in the **Quick Status** screen, if you see the time of **Next cal** listed, the sensor is in Warm up.*



**NOTE:** The next time you connect a transmitter, you will see these screens. Select **Start New Sensor** if you have just inserted a new sensor. Select **Reconnect Sensor** if you have only disconnected and reconnected the transmitter.

Sensor connected  
If new sensor, select Start New. If not, select Reconnect.

Sensor connected  
Reconnect.  
Start New Sensor  
Reconnect Sensor

## SECTION 8: CALIBRATING

Your continuous glucose monitoring system requires blood glucose meter readings in order to provide you with sensor glucose readings. These BG meter readings are entered into the pump and are for sensor **calibrations**. Calibration is essential for optimal CGM performance. CGM does not eliminate the need for BG meter tests.

To calibrate, you must test your blood glucose on your meter and then enter that value into your pump. The pump will accept BG meter readings between **2.2 mmol/L** and **22.2 mmol/L**.

After inserting a new sensor, a calibration is needed:

- Within **2 hours** after you connect the transmitter to your sensor and start the **Warm up** period. Your pump will notify you with a **Calibrate now** alert when it is ready for its first calibration.
- Again within **6 hours** (first day of inserting sensor only)
- Again every **12 hours**.
- When the system detects that a calibration is needed for optimal performance.



**IMPORTANT:** After the first day, the minimum number of calibrations required is one every 12 hours, but you may receive a Calibrate Now alert if one is needed sooner. However, **calibrating 3-4 times a day is optimal** and these can be done when it is convenient for you. To help you remember to calibrate, think "before is best" – typically the best times to calibrate are before meals, before taking insulin, and before bedtime. Also check for arrows – **calibrating when there are 2 or 3 arrows may decrease sensor accuracy** until the next calibration.

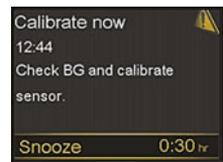
## EXAMPLE OF OPTIMAL CALIBRATION TIMES



When receiving a **Calibrate now** alert, if you cannot calibrate right away, you can set the **Snooze** to remind you to calibrate in the time that you set.

If you plan to test BG and calibrate right away, simply select **Snooze**.

Once you select Snooze, **Calibration required** will appear on the Home screen until you enter a BG to calibrate.



**REMEMBER:** Calibrations are necessary in order to continue to receive sensor glucose readings, alerts and alarms.

## CALIBRATING THE SENSOR

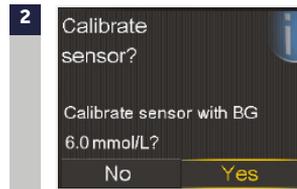
There are 5 different ways that you can enter a BG reading to calibrate the sensor.

### CALIBRATING BY USING THE CONTOUR® NEXT LINK 2.4 METER

When you use the compatible Ascensia meter, you will see the meter value automatically displayed on the home screen, as shown here.



Select **Calibrate Sensor** or if you plan to give a bolus using Bolus Wizard, select **Bolus**.

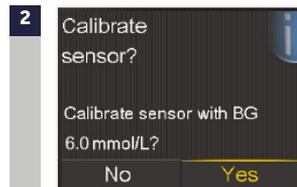


If you have selected **Bolus**, select **Yes** to Calibrate Sensor? after bolus is delivered.

### CALIBRATING THROUGH THE BOLUS WIZARD™



In the Bolus Wizard:  
Select **Deliver Bolus**.

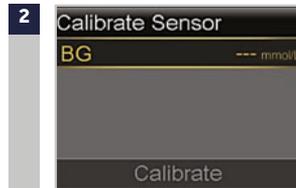


Select **Yes** to calibrate sensor.

## CALIBRATING THROUGH HOME SCREEN GRAPH



Select to the **sensor graph**, press and hold.



Press or to enter BG value, press and select **Calibrate**.

## OTHER WAYS TO CALIBRATE

The 2 other ways to calibrate your sensor are through:

- **Sensor Settings:** from the Menu, go to **Sensor Settings > Calibrate Sensor**, select **BG** and press or to enter BG value > press and select **Calibrate**.
- **Event Markers:** from the Menu, go to **Event Markers > BG > Enter BG > press > select Save > select Yes** to calibrate sensor.

Once you have entered a calibration BG, the Home screen will show you that the system is calibrating.

You will start seeing sensor glucose readings again within 5 minutes.



**IMPORTANT:** If you notice a large difference between your BG meter reading and sensor glucose readings, wash your hands and do another BG fingerstick test to help ensure a more accurate reading. Also check the sensor site and make sure the sensor oval tape is holding the sensor in place. If it is not, you will need to remove and insert a new sensor. Wait at least 15 minutes in between calibration attempts.

You can use the **Calibration Reminder** to give you notice before the next calibration is necessary.

The Calibration Reminder defaults On with a reminder time of 1:00 hour and you can change it by going to the **Reminders** menu option.

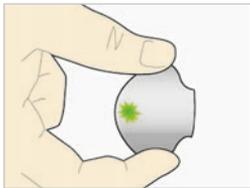
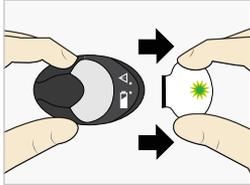
## SECTION 9: OTHER SENSOR ALERTS

We discussed personalised alerts earlier in Section 4. There are other sensor alerts that you will receive as well. The most common alerts that you can expect to receive when using CGM can be found in the table below.

Alert	Reason	Steps to take
Calibrate now	A calibration is needed in order to receive sensor glucose readings.	Enter BG value into your pump to calibrate.
Lost sensor signal	Communication between pump and transmitter has been lost for 30 minutes during or after warm-up.	Check that the sensor is still inserted in the skin and the transmitter and sensor are still connected. Move your pump closer to your transmitter.
Calibration not accepted	Your system was unable to use the BG meter readings you entered to calibrate your sensor.	Wait 15 minutes. Wash your hands and repeat the BG test. Use this value to calibrate again. If you receive a Calibration not accepted alert on your second calibration after 15 minutes, a Change sensor alert occurs.
BG not received	The transmitter was unable to receive the calibration BG reading from the pump.	Move your pump closer to your transmitter and select OK. The pump will try sending the BG again.
Sensor expired	Sensor has reached the end of its useful life.	Remove the sensor and follow the instructions for inserting and starting a new sensor.
Change sensor	You have received two Calibration not accepted alerts in a row.	Remove the sensor and follow the instructions for inserting and starting a new sensor.
Cannot find sensor signal	The pump has not received a signal from the transmitter.	Disconnect and reconnect your transmitter and sensor and select OK.

For a complete list of Alerts and Alarms, refer to the MiniMed™ 640G system User Guide.

## CHARGING AND STORING THE GUARDIAN™ LINK 3 TRANSMITTER



### Charge the transmitter before each use.

When the transmitter is charging, a green light will flash on the charger. This green light will turn off when the transmitter is completely charged. You will need to charge the transmitter after each sensor use. A fully charged transmitter can be used for a maximum of six days without recharging. It can take up to two hours to fully recharge.

### When you remove the transmitter from the charger, a green light should flash on the transmitter.

This indicates that it has enough battery power to be connected to the sensor. If you do not see the green flashing light on the transmitter place it back on the charger until it is fully charged.

**Store the transmitter, charger, and test plug in a clean, dry location at room temperature.** Although not required, you may store the transmitter on the charger. If the transmitter is not in use, you must charge it at least once every 60 days.

**If you connect transmitter to charger and you see no lights on the charger:** replace the battery in the charger.

**While charging your transmitter you see a flashing red light on the charger:** replace the battery in the charger.

**While charging your transmitter you see a mix of short and long flashing red lights on the charger:** replace the battery in the charger and fully charge the transmitter.

Refer to your Guardian™ Link 3 transmitter and charger User Guides for more information.

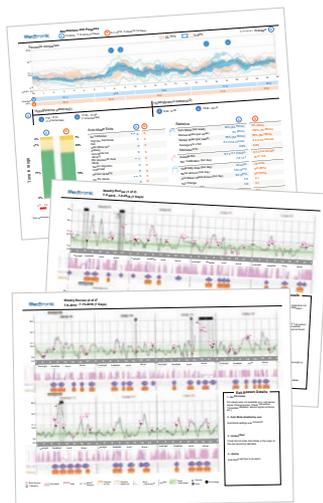
## CARELINK™ PERSONAL SOFTWARE

### WHAT IS CARELINK™ SOFTWARE?

CareLink™ Personal software is a web-based software that allows you to upload information from your MiniMed™ 640G system to a secure online (internet) site for viewing.

CareLink™ software organises all of your insulin pump, sensor glucose and blood glucose meter information into reports (charts, tables and graphs) that can help you track glucose levels, insulin usage and carbohydrate intake over time.

With CareLink™ software, you can grant your healthcare provider online access, so that your information can be discussed at your next appointment.



### BENEFITS OF CARELINK SOFTWARE

CareLink™ Personal software makes it easier to track your glucose levels and see how they are affected by your insulin delivery, meals and exercise routines. CareLink™ Personal software provides a secure place to store your information and uncover patterns in your glucose

control that meter and logbooks alone cannot reveal.

Information from CareLink™ software can help you and your healthcare provider make more informed therapy decisions aimed at improving your glucose control.



CareLink reports can help you and your healthcare provider make decisions that improve your control and fit your lifestyle.

The combination of insulin pump therapy, continuous glucose monitoring and CareLink software provides you with the tools and information you may need to optimise your therapy.

## X-RAYS, MRI, OR CT SCAN

If you are going to have an X-ray, MRI, CT scan, or other type of diagnostic imaging involving radiation exposure, remove your insulin pump, transmitter, and glucose sensor and place them outside of the testing area.



## TRAVELLING BY AIR

If you wear a CGM device, you may need to stop the wireless communication between the transmitter and the pump during the flight.

**To temporarily stop wireless communication, turn Airplane Mode on.** From the Menu, go to **Utilities > Airplane Mode**, select Airplane Mode to turn **On** and **Save**.

The transmitter continues to measure glucose levels when in Airplane Mode.

**To resume wireless communication, turn Airplane Mode off:**

When Airplane Mode is turned off and communication resumes, the transmitter will send up to 10 hours of sensor data to your pump.

If Airplane Mode was on for <6 hours:

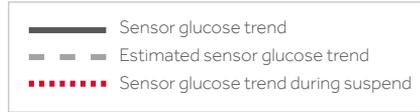
- 1) Wait 15 minutes for sensor data to appear on pump screen

If Airplane Mode was on for >6 hours:

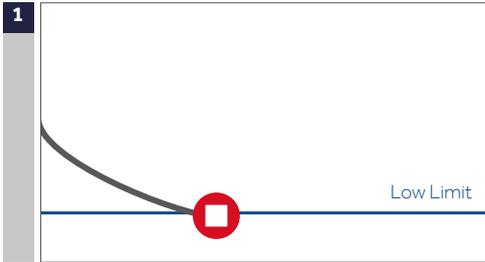
- 1) Disconnect transmitter from sensor and then reconnect it.
- 2) Select **Reconnect Sensor** when it appears on the pump screen to begin sensor warm-up.
- 3) The sensor data (up to 10 hours) will appear on the pump.
- 4) You will be asked to calibrate in 2 hours to resume sensor readings.

Always remember that it is important when traveling to be extra attentive to monitoring your glucose and prepared to respond if needed.

The images below show additional detail about using the SmartGuard™ Suspend features of your MiniMed™ 640G system.



**Suspend on low event:**



If sensor glucose (SG) reaches your low limit, insulin delivery will be stopped.

You will always receive a message and alarm when this occurs.

You will have 10 minutes to respond before the pump begins to siren and emergency message appears.

**Suspend before low event:**

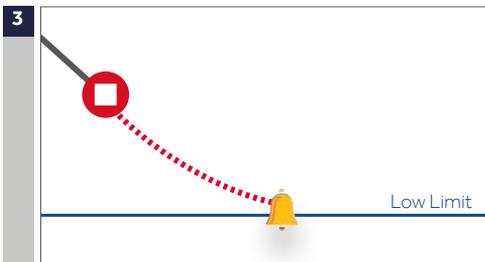


To help keep sensor glucose (SG) from reaching your low limit, insulin delivery will be stopped if SG is:

- at or within 3.9 mmol/L above the low limit
- predicted to be approaching the low limit in 30 minutes

If **Alert before low** is on, you will receive an alert when insulin is suspended.

**Alert on low during Suspend before low:**

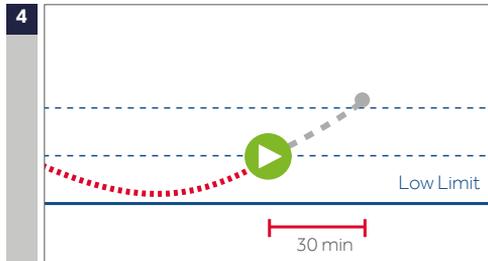


If insulin delivery has stopped due to **Suspend before low**, SG may still reach your low limit.

You will always be alerted when this occurs.

You will have 10 minutes to respond before the pump begins to siren.

Automatic basal resume based on sensor glucose (SG) value:

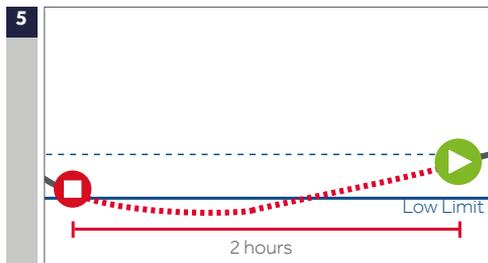


During **Suspend before low** or **Suspend on low**, basal insulin will automatically resume if:

- SG is above the low limit and trending upward
- insulin has been suspended for at least 30 minutes

If **Resume basal alert** is on, you will receive an alert when this occurs. Remember you can manually resume basal insulin at any time.

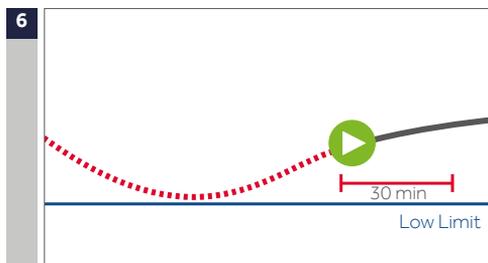
Automatic basal resume due to 2 hour maximum suspend:



During either **Suspend before low** or **Suspend on low**, if basal insulin is not resumed due to SG values, it will automatically resume after 2 hours.

You will always receive an alert when you reach the 2 hour maximum suspend time, even if the **Resume basal alert** is set to off. Remember you can manually resume basal insulin at any time.

Suspended unavailable:



Once basal insulin resumes following either a **Suspend before low** or a **Suspend on low**, there will be a period of time when Suspend feature is unavailable.

This will most often be 30 minutes if you respond to the suspend alarm, but can be up to 4 hours. See the User Guide for more specific information about this unavailable period.





# WHO TO CONTACT AND WHEN?

## CONTACT MEDTRONIC

Please contact Medtronic for further guidance and technical advice on using your MiniMed pump:

- If you have any concerns that your pump isn't functioning correctly.
- If your pump displays a warning sign or alarm which you cannot switch off.
- For more information about a certain pump function.
- For guidance when adjusting your basal insulin dose, as instructed by your doctor.

Medtronic Diabetes 24-hour toll free helpline  
(Australian landlines): 1800 777 808

[www.medtronic-diabetes.com.au](http://www.medtronic-diabetes.com.au)

Medtronic Australasia Pty Ltd  
2 Alma Road, Macquarie Park NSW 2113 Australia

Please note: In contacting the Diabetes Toll Free, your personal and health information may be disclosed to an operator located outside Australia.

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