GETTING STARTED WITH
THE MINIMED™ 640G SYSTEM

Medtronic
INTRODUCING THE MINIMED™ 640G SYSTEM

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At Medtronic we aim to develop new and innovative products to help improve the lives of people with diabetes.

We are committed to providing you with ongoing personalised support and education to help you achieve your goals whilst being on insulin pump and continuous glucose monitoring.

**REGISTER FOR MINIMED™ CARE**

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Access to product and therapy resources

**Newsletters**
Tips and tricks and ongoing support

**MiniMed™ eShop**
Order diabetes supplies 24/7

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Visit:
www.medtronic-diabetes.co.uk/minimedcare/
INTRODUCTION | WELCOME

MINIMED™ 640G SYSTEM COMPONENTS

ADVANCED PROTECTION FROM HYPOGLYCAEMIA

Some user interaction required.

Guardian™ Sensor 3
Our most accurate sensor drives our exclusive SmartGuard™ technology with a smart and reliable design.

MiniMed™ 640G insulin pump

MiniMed™ Mio™ Advance infusion set
Medtronic offers a wide range of infusion sets so that you can choose the right one for your comfort and safety.

CareLink™ Software
Upload to CareLink™ software to conveniently track your glucose control and remotely share this information with your healthcare professional.

Contour® Next LINK 2.4 blood glucose meter
The only meter to link wirelessly to the MiniMed™ 640G insulin pump for highly accurate sensor calibration.

References:
GETTING STARTED WITH THE MINIMED™ 640G SYSTEM

Welcome! We are glad that you have chosen insulin pump therapy and are excited for you to begin using your MiniMed™ 640G system.

The MiniMed™ 640G system features innovative technology to more closely mimic the way a healthy pancreas delivers basal insulin to the body and help you achieve better glucose control. The MiniMed™ 640G system has been designed to provide you with:

- **Advanced protection** from dangerous high and lows
- **Personalised convenience** to help you manage daily diabetes tasks

The MiniMed™ 640G insulin pump also has **improved design** for consistent ease of use.

Whether you are just starting pump therapy or upgrading from a previous pump model, this guide provides you step-by-step instructions on the basic operation and programming of your MiniMed™ 640G system, including Continuous Glucose Monitoring.

During your in-person training, your trainer will build on this information and help ensure you are confident to begin using your MiniMed™ 640G insulin pump.

We hope you enjoy learning about your new insulin pump.

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**DID YOU KNOW?**
A complete explanation of the technical and operational aspects of your pump can be found in the MiniMed™ 640G system User Guide.

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**IMPORTANT:** Do NOT attach the insulin pump to your body or attempt to use insulin in your pump as you use this guide to practice and learn. Attaching and using must only be done when you receive formal training with your healthcare professional or a certified product trainer.
This document does not replace the Instructions for Use. For a listing of indications, contraindications, precautions, warnings, and potential adverse events, please refer to the Instructions for Use.
THE DELIVERY OF INSULIN

INFUSION SET*

1. Tubing: carries insulin from the pump to you
2. Reservoir Connector: end of the tubing that attaches the reservoir which holds the insulin
3. Insertion Site Section: other end of the tubing that attaches to you
4. Cannula: tiny flexible tube placed into your body** by the insertion needle included in the insertion site section
5. Adhesive: holds the infusion set in place
6. Reservoir Compartment: part of the pump where the reservoir fits

You should replace both the infusion set and the reservoir every 2 to 3 days.

*MiniMed™ Mio™ Advance infusion set shown in illustration.

**Some infusion sets do not use a cannula but have a small needle that remains inserted in the body.
**INTRODUCTION** | **MENU MAP**

**MENU MAP**

![Home Screen](image)

**NAVIGATION**

Press \( \) from any screen to open the Menu.
Press \( \) and \( \) to scroll through the menu items.
Press \( \) on the desired menu item to open.
The scroll bar appears on menus to indicate when additional text is available.
Press \( \) to scroll down to view additional items.
Press \( \) to scroll back up.
Press \( \) to go to previous screen. Hold \( \) to return to the Home screen.
### INTRODUCTION | MENU MAP

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*Only available when Sensor feature is on.
SECTION 1: PUMP BASICS

Before inserting the battery or pressing any buttons, let’s take a closer look at your pump.

THE FRONT OF YOUR PUMP

- **Up, Down, Left, and Right**
  - Press to scroll up or down through a menu or list
  - Press to move to desired area on the screen
  - Press to change the value in an area

- **Back**
  - Press to return to a previous screen
  - Press and hold to return to the starting screen, called the Home screen

- **Select**
  - Press to select or confirm a value or menu option that is highlighted
  - Press when directions say 'select'

- **Menu**
  - Press to get to the Menu
  - Press and hold to put pump into sleep mode

- **Notification Light**
  - Flashes when an Alert or an Alarm is occurring

THE BOTTOM AND BACK OF YOUR PUMP

- **Medtronic Diabetes HelpLine Telephone Number**
  - You may need to provide this information if you call for assistance.

**Pump Serial and Model Number**

- **Medtronic Diabetes HelpLine Telephone Number**
  - You may need to provide this information if you call for assistance.
INSERTING THE BATTERY

Your insulin pump is powered by a AA battery. A lithium, alkaline, or rechargeable AA battery can be used. The battery you place into your pump should always be new or fully charged.

To insert the battery and get started, you will need:
- The battery cap found with the pump
- The pump clip found with the accessories
- The AA battery found with the accessories

Once the battery is inserted, the pump will power on and the Startup Wizard will begin. You will need to follow it step-by-step to set up your language, time format, time and date.

Select your language.
**SECTION 2: HOME SCREEN**

The Home Screen will be your starting place to access all features in the pump.

- **Status bar:** provides a quick look at the pump’s status.
- **Bolus:** gives you access to the bolus delivery screen and other bolus insulin options.
- **Current time**
- **BG reading:** displays a BG taken in the last 12 minutes.
- **Active insulin:** displays any insulin still active from a previous bolus.
- **Basal:** gives you access to basal insulin options.

**BACKLIGHT**

When you are not pressing buttons on your pump, you will notice that the Backlight will soon turn off. The pump is still on; it is just saving battery life. You can simply press any button to make the screen reappear.

**UNLOCKING THE PUMP**

After the Backlight has been off for a few minutes, the pump goes into Sleep mode and the pump is locked. When you begin using your pump again, you will see a screen like the one shown here when you leave the Home screen. You will need to press the arrow key that is highlighted to unlock the pump. This confirms you are reading the screen and the button presses are not accidental.

If the wrong arrow key is pressed, you will be asked to try again.

You can press and hold if you wish to put the pump into Sleep mode and keep it locked when you are not using it. Doing this can also help save battery life.
The Status Bar displays the following icons so you can quickly view important information.

**Battery icon:** Shows the level of charge your battery has. As the battery charge decreases, the icon will become less full and change to yellow and then red.

**Reservoir icon:** Shows the approximate amount of insulin left in your reservoir. As insulin is used, the icon will become less full and change to yellow and then red.

**Audio icon:** Shows the audio mode you are using: audio, vibrate or audio and vibrate.

**NOTE:** If you are using a 1.8mL insulin reservoir, the range of reservoir icons will start with the second green icon.

If starting with a full 1.8mL reservoir and using the minimum amount of insulin recommended to fill the shortest tubing (45 cm) and a steel cannula, the pump will display the second green (not full) reservoir icon after the reservoir and infusion set change is complete.

There will be times when you need additional status information such as the number of insulin units left in your reservoir, the last BG entered or your current basal rate.

To access the Status Screens, press to highlight the Status Bar and press .

**REMEMBER:** You can go back to the previous screen by pressing .
SECTION 3: BASAL PATTERNS

Basal insulin is delivered throughout the day and night to cover insulin needs between meals and during the night.

The pump supplies basal insulin by delivering small amounts of short-acting insulin throughout each hour, every hour of the day and night. This allows for insulin to be increased and decreased to adjust for your body’s needs. Basal insulin amounts must be programmed into your pump. This is done by setting a basal pattern. A basal pattern consists of one or more basal rates being delivered over the course of 24 hours.

BASAL PATTERNS SET UP - MULTIPLE BASAL RATES

It is likely when you start on pump therapy, that you will need more than one basal rate throughout the day and night to meet your body’s insulin needs. For example, a Basal Pattern may look like this:

In this example, the basal pattern includes 5 different basal rates over 24 hours.

NOTE: The basal rates shown are for illustration purposes only – your basal settings will be different.
SETTING MULTIPLE BASAL RATES

From the Home screen, select Basal > Insulin Settings > Basal Pattern Setup.

Select Basal 1 > Options > Edit.

Press on the time segment. The End time will be flashing.

Press to change End time to 03:00 and press .

You can see you are automatically asked to enter the end time of the second basal rate. This basal rate will need to end at 8:00 and will need to be changed to 0.800 U/hr.

Press to 0.700 U/hr and press .

Continued on next page
Change End time to 08:00 and basal rate to 0.800 U/hr using ▲ and press ○. You can now enter the next end time.

Repeat steps 3 to 6 to enter the 3 next time segments and basal rates. For the last time segment, you will need to enter 24:00 as the end time to complete the full 24 hours.

Select Done.

Verify that Basal 1 is entered correctly. Press ○ to view all basal rates.

This basal pattern delivers 15.85 U over 24 hours.

If NO changes need to be made: Select Save.

If changes need to be made: Press ○. Press ▲ and press ○. Repeat steps 7 to 9.

Select Save.

**TEMPORARY (TEMP) BASAL RATE**

This feature lets you immediately increase or decrease your basal insulin for the period of time (duration) that you set. It is the easiest way to immediately adapt your basal rate according to your daily life and is often used for exercise and sick days.

A Temp Basal can be set in either Percent (delivers a percent of the current basal rate) or by Rate (delivers the amount that you enter).
### SET TEMP BASAL RATE

1. From the Home screen, select **Basal > Temp Basal**.

2. Press the up or down arrow to set duration and press **Enter**.

3. Select **Next**.

4. Select **Percent**.

5. Press the up or down arrow to enter the percent of current basal rate desired and press **Enter**.

6. Select **Begin**.

**Note:** If you choose to use Rate, select **Type**, and you can then enter the U/hr desired.

**NOTE:** The Home screen reads Basal (T) since you have a Temp Basal active. Select **Basal (T)** to review the details of the active Temp Basal. When the Temp Basal is complete, the basal will automatically return to the regularly programmed basal rate.

### CANCEL TEMP BASAL RATE

If you ever set a Temp Basal and decide you do not need it, it can be canceled.

1. From the Home screen, select **Basal (T)**.

2. Select **Cancel Temp Basal**.

**Note:** Basal rate has now returned to the currently programmed rate.
SECTION 4: GIVING BOLUSES

A bolus is given to cover food that contains carbohydrate and/or to correct glucose levels that are above your target range.

BOLUS WIZARD™ CALCULATOR

Calculating how much bolus insulin to give can be challenging. When using the Bolus Wizard™ feature, all you will need to do is enter your current BG reading along with the amount of carbs you are about to eat.

Once you do this, the Bolus Wizard™ calculator uses the individual settings provided by your health care professional to estimate your bolus amount. Because these settings are specific to you, you can use it to calculate the precise amount of bolus insulin you need for your food and BG. This can help you better control your glucose levels.

NOTE: Before using the Bolus Wizard™ calculator, you need to program your individual settings with the help of your health care professional.

TURNING THE BOLUS WIZARD™ FEATURE ON AND SETUP

From the Menu, select Insulin Settings > Bolus Wizard™ Setup > Bolus Wizard.

Press ☑ to continue reading text and select Next.
Follow the instructions to program the following settings: Carb Ratio, Insulin Sensitivity Factor (Sensitivity), BG Target and Active Insulin Time. Each setting will include a short description: you need to select Next and enter the requested data.

3

Select Save.
THE BOLUS WIZARD™ CALCULATOR SETUP IS NOW COMPLETE.

USING THE BOLUS WIZARD™ FEATURE

Here you can see the Bolus Wizard™ calculation screen and a short description of the steps below:

If you have tested your glucose using your compatible Ascensia meter, the BG and correction dose will already be showing.

You will first test and enter your current BG.
You will then enter grams of carbohydrates to be eaten.
The pump displays estimated amount of insulin to be delivered.

NOTE: The boluses shown are for illustration purposes only — your settings and bolus results will be different.
GIVING A MANUAL BOLUS

When giving a manual bolus, you simply enter the amount of bolus insulin that you think you need for the carbohydrates you are eating, or to lower your BG if it is high.

1. From the Home screen, select **Bolus**.

2. Press ▲ to 1.0 u and press ◼.

3. Select **Deliver Bolus**.

4. Confirmation that Bolus has started will appear.

The Home screen will show the amount as it is being delivered.

Notice that **Stop Bolus** also now appears.

Once the bolus has finished delivering, the pump will return to the normal Home screen.

Notice there is **Active Insulin** now displayed. Active insulin is insulin from boluses that are still working to lower your blood glucose level and/or to cover your carbohydrate intake that is still not absorbed. Each time you give a bolus, it is added to the active insulin amount. As time passes, the amount will decrease. You will learn more about active insulin during your training.
STOPPING A BOLUS

To stop a bolus while it is delivering:

From the Home screen, select Stop Bolus.

Press ☻ and select Yes.

Select Done.

CHECKING LAST BOLUS

There may be times when you need to see the time or amount of the last bolus that was given. You can see the last bolus delivered in the Quick Status screen.

From the Home screen, select the Status Bar > Quick Status (see page 13).

The (N) behind the Last bolus amount means the bolus was delivered as a normal bolus. There are additional ways to give a bolus which you will learn about later.

CHECKING BOLUS HISTORY

You may also want to review the last several boluses that were delivered. You can see the last several boluses delivered in Daily History. Press Menu button > History > Daily History.
SECTION 5: Contour® Next LINK 2.4 METER

The Contour® Next LINK 2.4 meter from Ascensia is the only blood glucose meter able to communicate wirelessly with your MiniMed™ 640G insulin pump. With the Contour® Next LINK 2.4 meter, you can:

- Wirelessly send glucose readings to your pump
- Deliver a bolus remotely
- Upload your pump data to CareLink Personal software

Review the parts of your meter here:

**CHARGING YOUR METER**

Your meter has a permanent rechargeable battery. **It is important that the meter be charged prior to your in-person training.** To charge your meter:

1. Plug the USB connector into a computer.**
   The computer must be ON and not in sleep, hibernate or power save mode.

2. The meter will briefly display **Do Not Test-charging** and the test strip port light will flash. You cannot do a blood glucose test while the battery is charging.

3. When charging is complete, the test strip port light will turn off. You can then unplug your meter.

* The Contour® Next Link 2.4 meter only works with Contour® Next glucose testing strips.
** If you would prefer not to charge your meter using your computer, you can purchase a compatible outlet charger by calling Ascensia Customer Service.
CONNECTING YOUR PUMP AND METER

You will connect your pump and meter at your in-person training. For more information on using your meter, see the User Guide found in the meter box.

1. Connect to a MiniMed Pump?

2. Select “Connect Device” on your Pump. Press OK.

3. Press Auto Connect.

4. Press ON on your pump.

5. Select Utilities.


7. Select Connect Device.

8. Select Auto Connect.


10. Select Continue.

Place the meter and pump next to each other.
UPLOADING YOUR PUMP TO CARELINK™ PERSONAL SOFTWARE

CareLink™ Personal software is a web-based program that is provided free of charge. This software allows you to upload the data from your pump and glucose meter and review it on easy-to-read reports. This enables you to conveniently track your glucose control and remotely share this information with your healthcare professional.

To upload information from your pump to CareLink™ Personal software, you will use the Contour® Next LINK 2.4 meter as the communication device from the pump to your computer, through the USB connector of the meter.

To set up your CareLink™ Personal software account, go to www.medtronicdiabetes.com/carelink
SECTION 6: INFUSION SET AND RESERVOIR

The following is a step-by-step guide to changing the Mio™ Advance Infusion set.

START HERE:

1. Wash your hands. Press 🔄.

2. Select Reservoir & Tubing.


4. Remove the infusion set you have been using by loosening the adhesive and pulling away from body.

5. Remove the used reservoir from the pump.


Continued on next page
FILL RESERVOIR & CONNECT TO THE INFUSION SET TUBING

Follow the next steps to fill reservoir with insulin and connect to the infusion set tubing.

1. Remove from package. Make sure insulin vial is at room temperature to reduce the risk of air bubbles.
2. Pull plunger down to the amount that you plan to fill with insulin.

3. Wipe vial with alcohol. Place vial on table. Firmly press the blue transfer guard onto the vial without pushing down the plunger.
4. Push and hold plunger down.
5. With your thumb still on the plunger, flip over so vial is on top. Release thumb and pull plunger down to fill with insulin.

6. Tap the reservoir to move air bubbles to top of reservoir. Push plunger up to move air into vial.
7. If needed, pull plunger back down to amount of insulin needed for 2-3 days.
8. To avoid getting insulin on top of the reservoir, turn vial over so it is upright. Hold transfer guard and turn reservoir counterclockwise and remove from transfer guard.

IMPORTANT: If insulin or any liquid gets inside the tubing connector, it can temporarily block the vents that allow the pump to properly fill the infusion set. This may result in the delivery of too little or too much insulin, which could cause hyperglycaemia or hypoglycaemia.
**CONNECT RESERVOIR TO INFUSION SET**

You will place the tubing connector onto the end of the infusion set to the filled reservoir.

Gently push the tubing connector onto reservoir. Turn clockwise until locked. You will hear a click.

Remove infusion set from package. Remove the paper that holds the tubing together and unwind.

If you see air bubbles, tap reservoir to move them to top. Push plunger just a bit to move them into tubing.

Twist plunger counterclockwise to loosen and remove.

**THE BACKLIGHT MAY HAVE TURNED OFF**

Press any button to turn the screen back on.

Press (○) to open the menu. If the pump is locked, you will need to unlock the pump after pressing (○).

Select **Load Reservoir** from the menu.

Select **Next**.
PLACE RESERVOIR INTO PUMP
Now place the filled reservoir into the reservoir compartment of the pump.

LOAD RESERVOIR AND FILL TUBING
Follow these steps to load the reservoir and fill the tubing.

1. Select Load and keep holding.
2. When you see this screen, select Next.
3. Select Fill and keep holding until you see drops at the end of tubing, then let go.
4. After you see drops, press and select Next.
INSERTING THE MIO™ ADVANCE INFUSION SET

Next, follow the steps to insert the infusion set into your body.

1. Remove the paper backing from the adhesive. Be careful not to touch the adhesive.

2. Remove the disconnect cover from the insertion device by gently squeezing the sides of the disconnect cover then pulling it away from the insertion device. Keep the disconnect cover for later use.

3. Choose an insertion site from the shaded areas shown here. Wipe with alcohol or other antiseptic.

4. Stretch the skin until smooth. Place the insertion device in the desired location on your skin. The raised arrows indicate the direction to connect the tubing. Press the top button completely down to insert the infusion set.

5. Gently and carefully remove the insertion device by pulling straight away from your body.
Select Fill Now.

**NOTE:** Dispose of the insertion device in an appropriate sharps container and in accordance with your local laws.

**FILL CANNULA**

You will now fill the cannula, the little tube under your skin, with insulin.

1. Fill Cannula
   - Insert infusion set into body.
   - Select Fill to fill cannula or Done if not needed.
   - Select Fill.

2. Fill Cannula
   - Verify Fill amount.
   - Select Fill Now when ready. Select Back to cancel.
   - Fill amount 0.600 (if using 6mm cannula)
   - Fill amount 0.600 (if using 9mm cannula)
   - Then press .

3. Fill Cannula
   - Verify Fill amount.
   - Select Fill Now when ready. Select Back to cancel.
   - Fill amount 0.600
   - Then press .

Select Fill Now.

**NOTE:** Your pump will remember the Fill amount that you used last. Always verify that the Fill amount is correct.
- If it is correct, press to Fill Now and press .
- If it is incorrect, press . Change to correct amount and. Press .

Select Fill Now.

Press the adhesive onto the skin with your finger. Replace the infusion set if the adhesive does not stick to the skin.

Gently hold the cannula housing steady with your finger. Then push the site connector straight into the cannula housing until you hear a click.
The Home screen displays the insulin as it fills the cannula.

YOUR INFUSION SET CHANGE IS NOW COMPLETE!

DISCONNECTING THE INFUSION SET FROM YOUR BODY

1. To disconnect, gently hold the cannula housing steady with your finger. Then squeeze the sides of the site connector and pull it out from the cannula housing.

2. Put the white cap on the site connector.

3. Put the disconnect cover on the cannula housing. Then push the cover into the cannula housing until you hear a click.

RECONNECTING THE INFUSION SET TO YOUR BODY

1. Remove the white cap from the site connector by squeezing the side of the site connector then pulling the white cap off.

2. Ensure there is no air in the tubing. ONLY if there is air in the tubing: Fill the tubing with insulin and watch for drops as instructed. Do not leave any air in the tubing.

3. Use your finger to gently hold the cannula housing steady. Push the site connector into the cannula housing until you hear a click.

NOTE: Select Stop Filling if you need to stop, for example, if you notice the Total amount is incorrect. This should rarely happen if you have verified the Fill amount on the previous screen.
SECTION 7: ALERTS AND ALARMS

ALERTS

An alert makes you aware of a situation that may need your attention. When an alert occurs, you should check to see what your pump is telling you. Examples of alerts include **Low reservoir** or **Low battery**.

ALARM

When an alarm occurs, something has been detected that is preventing insulin from being delivered. You are not getting insulin. It is important that you address an alarm right away. Examples of alarms are **Insulin flow blocked** and **Replace battery now**.

WHEN AN ALERT OR ALARM OCCURS:

<table>
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<th>ALARM</th>
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| **Notification Light** | The red light on the pump will blink once followed by a pause. This sequence continues until the alert is cleared.  

The flashing pattern is shown here: 

1 1 1 1 1 1 1  |
| **Audio** | Depending on your Audio Option settings, the pump emits a repeated alert tone, a continuous three-pulse vibration, or both. |
| **Display** | The pump will display a notification with a yellow icon and instructions on what to do. |

| **ALARM** | The red light on the pump will blink twice followed by a pause. This sequence continues until the alarm is cleared.  

The flashing pattern is shown here: 

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  |
| **Audio** | The pump will display a notification with a red icon and instructions on what to do. |
| **Display** | The pump will display a notification with a red icon and instructions on what to do. |
TO ADDRESS AND CLEAR THE ALERT OR ALARM:

1. Read the text on the screen to understand the alert or alarm and the steps that should be taken
2. Press ✓
3. Press on the desired option.

Example of alarm:

- Alert: the audio/vibration pattern repeats every 5 minutes or every 15 minutes (depending on the alert) until the alert is cleared.
- Alarm: the audio/vibration pattern repeats every minute for 10 minutes if the alarm is not cleared. After 10 minutes, the alarm begins to siren.

IMPORTANT: It is important that you are able to address an Insulin flow blocked alarm. This alarm means that insulin is not able to get through the tubing or cannula. If this alarm occurs, check your blood glucose and check to see if your infusion set has become dislodged or if your tubing is kinked.

- If you don’t detect an issue and are unable to change your reservoir and infusion set right away, you might choose to select Resume Basal. If an Insulin flow blocked alarm occurs again, follow the steps on the screen. Select Rewind and change your reservoir and infusion set.
- If you detect an issue or if your reservoir has run out of insulin, follow the steps on the screen. Select Rewind to change your reservoir and infusion set.

You can call the Product helpline if you have questions about your pump, alerts or alarms.
SECTION 8: SUSPEND DELIVERY

Remember your pump is delivering basal insulin throughout every hour of the day. Although you should never stop this insulin delivery for more than an hour or so, there will be times when you will want to manually suspend, or stop delivery, and disconnect from your pump.

This is done using the Suspend Delivery feature. Using Suspend Delivery stops all insulin delivery.

The most common reasons to manually suspend delivery might include bathing and water activities. Infusion sets are designed so you can easily disconnect from your pump and leave it in a safe place.

When the pump is manually suspended, all insulin delivery stops. All insulin delivery will remain stopped until you resume delivery.

When the delivery is resumed, basal insulin will begin to deliver again. The pump will not deliver any of the basal insulin you missed while the pump was suspended.

If you manually suspend delivery while a bolus is delivering, the bolus delivery will stop. When you resume delivery, the remainder of the bolus will not be delivered.

To place the pump in Manual Suspend: from the Menu, select Suspend Delivery > Press ☑️ and select Yes.

Notice that the Home screen has changed.

To resume Basal Insulin Delivery, select Resume from the Home screen.

Drawings throughout this document are only generic representations of the system components.

* See Appendix pages 66-67 for further details on how SmartGuard™ technology works.
** The transmitter must be within 1.8 meters of the insulin pump in order to communicate sensor readings. The MiniMed™ 640G insulin pump will not communicate with MiniLink transmitters.
SECTION 9: 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. 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, changer and tester.

*Always use the components that were sent with your MiniMed™ 640G system.*
SECTION10: 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 11: 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 12: 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.
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.

<table>
<thead>
<tr>
<th>Alert</th>
<th>Reason</th>
<th>Steps to take</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert before low</td>
<td>If Suspend before low is on, you will be alerted when insulin is suspended. If Suspend before low is off, you will be alerted when the sensor predicts you will reach your low limit in 30 minutes.</td>
<td>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.</td>
</tr>
<tr>
<td>Alert on low</td>
<td>Sensor glucose value is equal to or lower than your low limit.</td>
<td></td>
</tr>
</tbody>
</table>
### CGM | PERSONALISED ALERTS

**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.

<table>
<thead>
<tr>
<th>SmartGuard™ Suspend Features</th>
<th>Impact on insulin delivery if suspend feature is turned on</th>
<th>Information displayed by the pump</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspend before low</td>
<td>Insulin delivery is temporarily stopped if sensor glucose value is approaching your low limit.</td>
<td>You will receive this alert message and need to check your BG. Insulin delivery will remain suspended after the alert is cleared. If the alert is not cleared in 10 minutes, the pump will begin to siren.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Home Screen When Suspended</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>After the alert or alarm message is cleared and insulin delivery has stopped, the Home screen will display:</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Suspended before low</em> or <em>Suspended on low</em> at the bottom of the screen</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>a shaded area to represent the time when insulin has been suspended</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>a flashing SmartGuard™ Suspend icon.</em></td>
</tr>
<tr>
<td>Suspend on low</td>
<td>Insulin delivery is temporarily stopped if sensor glucose value has reached or fallen below your low limit.</td>
<td>You will receive this alarm message and need to check your BG. Insulin will remain suspended after the alarm is cleared.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

**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 Suspend 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.

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

2. Press on the time segment.

3. Press or to set Lo limit and press .

Continued on next page
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.*

Once settings are selected, select **Next**.

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**.
If snooze time needs to be changed, press \( \square \) to Snooze and press \( \circ \). The low snooze time can be set from 5 minutes to 1 hour.

**YOUR LOW SETTING SETUP IS NOW COMPLETE.**

**REMINDER:** 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)
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 | Sensor glucose reading is increasing at a rate that is equal to or faster than the Rate Limit that you set.  
The Rise Alert can be set to alert if glucose is rising as follows:  
- SG is rising at a rate of 0.056 mmol/L per minute or more  
- SG is rising at a rate of 0.111 mmol/L per minute or more  
- SG is rising at a rate of 0.167 mmol/L per minute or more  
Custom | SG is rising at the rate that you set. This can be set from 0.050 to 0.275 mmol/L per minute | 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.
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.

Continued on next page
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.

Press or to the correct time and press .

YOUR HIGH SETTINGS SETUP IS NOW COMPLETE.
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 13: 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 14: 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:

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

2. Press \( \text{and select Utilities} \) > \( \text{Device Options} \) > \( \text{Connect Device} \). 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.


4. Make sure the transmitter is on the charger before proceeding. Now start the search processes on both devices.
Immediately select **Search** on the pump. The search can take up to 2 minutes.

---

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

---

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.*

---

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 15: INSERTING AND STARTING THE SENSOR***

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

<table>
<thead>
<tr>
<th>System Components*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-press Sfter</strong>&lt;br&gt;A – Pre-cut Hole&lt;br&gt;B – Needle Housing&lt;br&gt;C – Sensor&lt;br&gt;D – Clear Liner</td>
</tr>
<tr>
<td><strong>Guardian™ Sensor 3 &amp; Pedestal</strong>&lt;br&gt;A – Pedestal&lt;br&gt;B – Needle Housing&lt;br&gt;C – Sensor&lt;br&gt;D – Clear Liner</td>
</tr>
<tr>
<td><strong>Oval tape</strong>&lt;br&gt;A – Pre-cut Hole</td>
</tr>
<tr>
<td><strong>Guardian™ Link 3 Transmitter</strong></td>
</tr>
</tbody>
</table>

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

**One-press Sfter** 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 sfter.

**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 Sfter 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

**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 the sensor’s adhesive tab is tucked under the sensor connector and snaps.

3. 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.

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: Refer to the illustrations for correct and incorrect ways to hold serter for loading.

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.

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.
Hold sensor against body. Continue to hold the sensor against your body for at least five seconds to allow the adhesive to stick to your skin.

Remove sensor from body. Slowly pull the sensor away from the skin, making sure the buttons are not pressed.

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

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.

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.

Untuck adhesive tab. Untuck theive tab from under the sensor connector.

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 press on the adhesive to ensure that the sensor remains inserted in the skin for 7 days of wear.

**NOTES:**
- 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.
- 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 inse
TAPPING 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 38 if you need help with these steps.

1. Connect the transmitter to the sensor.

2. Remove the liner from the adhesive tab. Cover the transmitter with the adhesive tape. Do not pull the tab too tightly.

3. To apply the 2nd tape, remove liner 1 and liner 2.

4. Rotate the 2nd tape and place the tape over the transmitter. Press down firmly. Wide part of tape covers half of sensor base.

5. Remove liner 3 from each side.

6. Smooth the tape.

**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 8 feet (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.

Oval tape is covering the sensor, skin around sensor and back of transmitter.
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.*


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

3. Press \(\checkmark\) and then \(\circlearrowleft\) 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.
SECTION 16: 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.
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.

**EXAMPLE OF OPTIMAL CALIBRATION TIMES**

<table>
<thead>
<tr>
<th>Glucose level (mmol/L)</th>
<th>Blood glucose reading</th>
<th>Target range</th>
<th>Low limit</th>
<th>Sensor glucose</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</tr>
</tbody>
</table>

**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.

1

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

2

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

CALIBRATING THROUGH THE BOLUS WIZARD™

1

In the Bolus Wizard: Select Deliver Bolus.

2

Select Yes to calibrate sensor.
CALIBRATING THROUGH HOME SCREEN GRAPH

1. Select \(\text{Sensor graph}\) press \(\text{and hold}\).
2. Press \(\text{or}\) \(\text{to enter BG value, press}\) \(\text{and select Calibrate}\).

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 \(\text{or}\) \(\text{to enter BG value} > \text{press}\) \(\text{and select Calibrate}\).

- **Event Markers**: from the Menu, go to **Event Markers** > **BG** > **Enter BG** > press \(\text{} > \text{select Save} > \text{select Yes} \text{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.
We discussed personalised alerts earlier in Section 12. 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.

<table>
<thead>
<tr>
<th>Alert</th>
<th>Reason</th>
<th>Steps to take</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibrate now</td>
<td>A calibration is needed in order to receive sensor glucose readings.</td>
<td>Enter BG value into your pump to calibrate.</td>
</tr>
<tr>
<td>Lost sensor signal</td>
<td>Communication between pump and transmitter has been lost for 30 minutes during or after warm-up.</td>
<td>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.</td>
</tr>
<tr>
<td>Calibration not accepted</td>
<td>Your system was unable to use the BG meter readings you entered to calibrate your sensor.</td>
<td>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.</td>
</tr>
<tr>
<td>BG not received</td>
<td>The transmitter was unable to receive the calibration BG reading from the pump.</td>
<td>Move your pump closer to your transmitter and select OK. The pump will try sending the BG again.</td>
</tr>
<tr>
<td>Sensor expired</td>
<td>Sensor has reached the end of its useful life.</td>
<td>Remove the sensor and follow the instructions for inserting and starting a new sensor.</td>
</tr>
<tr>
<td>Change sensor</td>
<td>You have received two Calibration not accepted alerts in a row.</td>
<td>Remove the sensor and follow the instructions for inserting and starting a new sensor.</td>
</tr>
<tr>
<td>Cannot find sensor signal</td>
<td>The pump has not received a signal from the transmitter.</td>
<td>Disconnect and reconnect your transmitter and sensor and select OK.</td>
</tr>
</tbody>
</table>

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.

For more information on how to upload information to CareLink™ Personal software using the CONTOUR® NEXT LINK 2.4 glucose meter from Ascensia, see page 24.
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.

TRAVELING 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.

Visit our website at: www.medtronic-diabetes.co.uk
Alternatively call our customer support helpline 01923 205167

CONTACT YOUR HEALTHCARE PROFESSIONAL

For all other inquiries regarding your health and continuing care please contact your healthcare professional.