THE MINIMED™ 670G SYSTEM
SCHOOL NURSE GUIDE
Indicated for type 1 patients 14 and over. Prescription required.

**WARNING:** Medtronic performed an evaluation of the MiniMed 670G system and determined that it may not be safe for use in children under the age of 7 because of the way that the system is designed and the daily insulin requirements. Therefore, this device should not be used in anyone under the age of 7 years old. This device should also not be used in patients who require less than a total daily insulin dose of 8 units per day, because the device requires a minimum of 8 units per day to operate safely.

For complete details, please see http://www.medtronicdiabetes.com/important-safety-information#minimed-670g
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Purpose
This guide is intended to help school nurses with the basic operation of a student’s MiniMed 670G system.

School Orders with Backup Plan

Every student on the MiniMed 670G system should have signed orders from the student’s healthcare professional. They should include:

- Statement that the student is on a Medtronic insulin pump & CGM system with programmed settings; the pump may have some level of automation (called Auto Mode), or may be operating like a traditional insulin pump system

- A Backup plan if the pump is not able to be used or deliver insulin with:
  - long-acting insulin pens or syringes, and dose
  - rapid-acting insulin pens, or syringes, and doses for food and for correcting high blood glucose (BG)

The responsibilities of the parents/guardians, school nurse, and other school personnel should also be established.

*Insulin pump systems are only approved for use with U-100 insulin.
UNDERSTANDING THE MINIMED 670G SYSTEM

You may have heard about the MiniMed 670G system – the world’s first hybrid closed loop system with SmartGuard™ HCL technology.

The MiniMed 670G system can be used in two different ways – **Manual Mode** and **Auto Mode**.

**Manual Mode** is using the pump with or without a continuous glucose monitor (CGM) in a traditional way, like previous pump systems from Medtronic.

**Auto Mode**, a SmartGuard HCL feature, automatically adjusts basal insulin every 5 minutes based on SG readings. A student using Auto Mode must still check BGs and calibrate (update) the sensor periodically, as well as bolus for carbs before meals.

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**HOME SCREEN IN MANUAL MODE**

**HOME SCREEN IN AUTO MODE**

**Manual Mode**
Using your pump in a traditional way,

- Basal rates are pre-programmed.
- Bolusing can be done with the Bolus Wizard™ feature or with Manual Boluses.
- May be used with or without CGM.

**Auto Mode**
Delivers basal insulin automatically based on your sensor glucose readings.

- Basal is automatically adjusted every 5 minutes.
- Bolusing for carbs before meals is necessary
- CGM is required.
Important information about Auto Mode:
- Basal insulin is delivered based on the SGs.
- Auto Mode uses a target of 120 mg/dL.
- You can temporarily change the target to 150 mg/dL, like for exercise.
- You are required to enter carbs into the pump before you eat.
- BG tests are necessary to calibrate the sensor.
- When you enter a BG over 150 mg/dL, Auto Mode may recommend a correction bolus.
- You may receive a BG required alert if the pump needs a BG for Auto Mode.

How to tell when the Pump is in Auto Mode

Safe Basal
There are times in Auto Mode when basal insulin is being delivered according to recent insulin needs, but is not being adjusted based on an SG reading. This is called Safe Basal, and when the pump is in Safe Basal, you will see the screen to the right.

Safe basal activates when, for example, an SG reading is not available, because the pump and transmitter are not communicating. Very often, these situations will resolve itself before you are aware of it.

If the pump is in Safe Basal and there is an action you can take to help resolve the issue, you will receive an alert letting you know what to do, like check a BG.
What tasks must a student do while in Auto Mode?

When a student is wearing the MiniMed 670G™ system and Auto Mode is active, the student must still perform certain tasks:

1. Test BG
2. Bolus for carbs before eating
3. Calibrate (or update) the sensor

Test BG — it is still a good idea for students to check their BGs prior to meals.

Bolus before meals — when the student is in Auto Mode, the student must bolus for carbs before each meal and snack.

Calibrating — Calibrating the sensor is performing a fingerstick, and using that BG value to update the device. It’s best to calibrate the sensor 3-4 times a day, like before meals and bedtime. So while at school, the student should calibrate, or update the sensor, before each meal.

AUTO MODE

Sam’s pump is in Auto Mode, and he would like to eat a meal. He knows that he should first test his BG, calibrate the sensor when the pump asks him, and then enter carbs into the pump for the food he is about to eat.
Pump Buttons

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.
To use the pump, press Select twice. You will see a screen like the one shown here. Press the arrow key that is highlighted to unlock the pump.

Locking the Pump
If you would like to lock the pump, simply press and hold the Graph button.
Testing, Bolusing & Calibrating with a link meter

Using the CONTOUR®NEXT LINK 2.4 meter to enter a BG with or without carbs for food, deliver a bolus, and calibrate your sensor

1. Check BG.

2. Select Yes to confirm the BG meter reading.
   
   If you do not believe the meter result is accurate, do not confirm now. Select No, wash your hands, and recheck BG.

3. Bolus will be highlighted. If you want to calibrate with this BG, select Calibrate Sensor.

4. Select Yes if you want to calibrate.
   
   Select No if you do not want to calibrate.

5. If you want to give a bolus, select Bolus.
   
   If you do not want to give a bolus, press ✔ and select Done.
6. Select **Carbs** to enter carbs for food.

   If you are not eating carbs, go to the next step.

7. Select **Next** to review the calculated bolus amount.

8. Select **Deliver Bolus** to deliver the bolus.

   The Bolus Started message briefly appears, then the Home screen appears, with a banner showing the bolus being delivered.
Testing, Bolusing & Calibrating without a link meter

To manually enter a BG and carbs for food, deliver a bolus, and calibrate your sensor:

1. Press 🌴.
2. Select Bolus.
3. Select BG.
4. Press ↑ or ↓ to enter your BG reading, and press 🌴.
5. Select Carbs.
6. Press ▲ or ▼ to enter carbs for your food, and press ✔.

7. Select Next.

8. Review the calculated bolus amount.

9. Select Deliver Bolus to deliver the bolus.

The message Bolus Started briefly appears.

A message appears asking if you want to calibrate using the entered BG.

10. Select Yes if you want to calibrate.
    Select No if you do not want to calibrate.

The Home screen appears showing the bolus being delivered.
Bolusing for carbs without a BG entry

There may be times in Auto Mode when a student would like to eat a second helping of food or a snack without testing a BG.

1. Press 🍽.
2. Select Bolus.
3. Press ⬇️ to Carbs and press 🍽.
4. Press ⬆️ to enter the amount of carbs you are eating and press 🍽.
5. Select Next.

The Home screen appears showing the bolus being delivered.
**Entering a BG**

There may be times that Auto Mode requests a BG entry. You may test with the Contour Next Link 2.4 meter, or manually enter the BG.

If you are manually entering the BG, press Select, arrow down to Enter BG, and enter the BG there.

**Recommended Bolus**

If a BG entered is greater than 150 mg/dL, Auto Mode may recommend a correction bolus.

1. Read the message on the first screen.
2. Press \( \downarrow \) to finish reading the message.
3. Select **Bolus**. Auto Mode will calculate how much insulin to deliver.
Checking Last Bolus
There may be times when you need to see the time or amount of the last bolus that was given. For example, you may want to check to make sure a student took a bolus at lunch. You can see the last bolus delivered in the **Quick Status** screen.

1. Press  
2. Press  to **Status** and press  
3. Press  to **Quick Status** and press  

![Quick Status screenshot](image)

Checking Bolus History
You may also want to review the last several boluses that were delivered. For example, a parent might want to know the boluses their child gave throughout the day. You can see the last several boluses delivered in **Daily History**.

1. Press  
2. Press  to **Options** and press  
3. Press  to **History** and press  
4. Press  to **Daily History** and press  
5. Press  on the day you would like to review.

![Daily History screenshot](image)
To Enter a Temp Target

The standard Auto Mode target is 120 mg/dL, although a student may want to temporarily change the Auto Mode target to 150mg/dL, like for physical activity.

1. Press \( \text{O} \).
2. Select **Temp Target**.

3. Press \( \text{\textasciitilde} \) or \( \text{\textasciitilde} \) to set the Temp Target duration and then press \( \text{O} \). The duration can be set in 30 minute increments. The default is 2 hours.

4. Select **Start**.

The message Temp Target Started briefly appears, then the Home screen appears, where a banner shows the remaining Temp Target time.

To Cancel a Temp Target

To return to the standard Auto Mode target of 120 mg/dL before the Temp Target duration expires, you can cancel the Temp Target.

1. Press \( \text{O} \).
2. Select **Cancel Temp Target**.

The Temp Target screen appears and shows the details of the temp target.

3. Select **Cancel Temp Target** to cancel the temp target.

The Temp Target Ended message and duration of the Temp Target briefly appear. Then the Home screen appears.
What to do if there is an Auto Mode exit?
There are times when the pump will exit Auto Mode and return to Manual Mode. It’s best to read the pump screen for information and what steps to take next. When in doubt, call the Medtronic 24-hour helpline for device-related questions, or the student’s parent or caretaker.

Why do Auto Mode exits occur?
There could be an alarm that needs attention. For example, a student could have a high SG (over 300) for more than 1 hour. The pump will ask the student for a BG to remain in Auto Mode. If the alarm is ignored, the pump will exit Auto Mode, and return to Manual Mode.

Manual Mode
If there is an Auto Mode exit, the pump will go into Manual mode. In Manual Mode, a student’s pre-programmed Basal rates will start automatically. Also, a student can use the Bolus Wizard feature to bolus for meals and corrections.
How to use the Bolus Wizard feature for Manual Mode

Deliver food and correction bolus

1. Test BG.
2. Press \( \bigcirc \).
3. Select Bolus.
4. Select Bolus Wizard.
   
   If using a linked meter, the \( \text{BG} \) is on screen. If not, select \( \text{BG} \).

5. Press \(^{\uparrow}\) or \(^{\downarrow}\) to enter BG and press \( \bigcirc \).
6. Select Carbs.
7. Press \(^{\uparrow}\) to enter grams of carbs and press \( \bigcirc \).
8. Select Next.

Deliver correction bolus—no food

1. Test BG.
2. Press \( \bigcirc \).
3. Select Bolus.
4. Select Bolus Wizard.
   
   If using a linked meter, the \( \text{BG} \) is on screen. If not, select \( \text{BG} \).

5. Press \(^{\uparrow}\) or \(^{\downarrow}\) to enter BG and press \( \bigcirc \).
6. Press \(^{\downarrow}\) and select Next.
7. Select Deliver Bolus.
**Deliver food bolus—no correction**

1. Press \( \text{\textcircled{1}} \).
2. Select **Bolus**.
3. Select **Bolus Wizard**.
4. Press \( \text{\textdownarrow} \) and select **Carbs**.
5. Press \( \text{\textuparrow} \) to enter the amount of carbs you are eating and press \( \text{\textcircled{1}} \).
6. Select **Next**.
7. Select **Deliver Bolus**.
Here are some common alarms & alerts that you might see on a student’s pump, and how to respond.

<table>
<thead>
<tr>
<th>Alert</th>
<th>Reason</th>
<th>Steps to take</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG required 12:00 AM Enter a new BG for Auto Mode.</td>
<td>A new BG entry is required for Auto Mode.</td>
<td>Perform fingerstick and enter a new BG.</td>
</tr>
<tr>
<td>Bolus recommended For 102 mg/dL entered, a correction bolus is recommended.</td>
<td>Auto Mode recommends a correction bolus based on a BG that you have entered.</td>
<td>Consider delivering the recommended correction bolus.</td>
</tr>
<tr>
<td>Cal required for Auto Mode 12:00 AM Enter a BG and calibrate sensor for Auto Mode.</td>
<td>A Calibration is required to keep your pump in Auto Mode.</td>
<td>Perform a fingerstick. Enter BG and calibrate your sensor.</td>
</tr>
<tr>
<td>High SG 12:00 AM SG has been high over 1 hour. Check infusion set. Check ketones. Monitor BG.</td>
<td>SG has been high for over one hour. This value is based on a set glucose threshold and length of time: 300 mg/dL or higher for one hour; 250 mg/dL or higher for three hours.</td>
<td>High SG Check infusion set. Check ketones. Monitor BG.</td>
</tr>
<tr>
<td>Auto Mode exit 12:00 AM Basal 1 started. Would you like to review the Auto Mode Readiness</td>
<td>Auto Mode Exit Monitor BG and treat as necessary. Enter BG to continue in Auto Mode.</td>
<td></td>
</tr>
<tr>
<td>Low SG 48 mg/dL 9:00 AM SG is under 50 mg/dL. Check BG and treat.</td>
<td>SG is under 50 mg/dL.</td>
<td>Perform fingerstick and treat as needed. Monitor BG.</td>
</tr>
<tr>
<td>Alert</td>
<td>Reason</td>
<td>Steps to take</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sensor updating 12:00 AM</td>
<td>The sensor is updating</td>
<td>Do not calibrate unless notified. This could take up to 3 hours.</td>
</tr>
<tr>
<td>Do not calibrate unless</td>
<td></td>
<td></td>
</tr>
<tr>
<td>notified. This could take</td>
<td></td>
<td></td>
</tr>
<tr>
<td>up to 3 hours.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calibration not accepted</td>
<td>Your system was unable to use the BG you entered</td>
<td>In 15 minutes, your pump will prompt you to enter a new BG for calibration.</td>
</tr>
<tr>
<td>12:00 AM</td>
<td>to calibrate your sensor</td>
<td>Wash hands before checking.</td>
</tr>
<tr>
<td>Wait at least 15 minutes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wash hands, test BG again</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and calibrate.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low battery Pump 12:00 PM</td>
<td>Low battery</td>
<td>Change battery when possible. See next page for how-to instructions.</td>
</tr>
<tr>
<td>Replace battery soon.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery failed 12:00 PM</td>
<td>Failed battery test</td>
<td>Try again, or change battery and use new battery.</td>
</tr>
<tr>
<td>Insert new AA battery.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low reservoir 12:00 PM</td>
<td>Low Reservoir</td>
<td>Change reservoir when possible.</td>
</tr>
<tr>
<td>5.0 units remaining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change reservoir.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulin flow blocked 12:00 PM</td>
<td>Insulin Flow Blocked</td>
<td>Read message on screen to understand the alarm and choose the desired option.</td>
</tr>
</tbody>
</table>
CHANGING THE BATTERY

The pump is powered by a AA battery. A brand new Lithium, Alkaline, or fully-charged rechargeable battery can be used.

1. Unscrew the battery cap using the bottom edge of the belt clip. (Or use a thick coin.)
2. Insert battery with negative (flat) end going in first.
3. Place battery cap into the pump and use the edge of the belt clip to screw the cap back on.

Battery Alerts
- Low battery pump alert — 8-10 hours of battery life remains
- Replace battery alert — 30 minutes of battery life remains
- Replace battery now alarm — insulin delivery stopped due to low power

Do not under-tighten or try to over-tighten the battery cap. It should be aligned horizontally with the pump case as shown here.
The MiniMed 670G system with SmartGuard HCL technology can help keep your students’ glucose levels in target range. More time spent in target range means your student can live a healthier life and focus on learning!

Things to remember in Auto Mode:
- A student must check BGs and calibrate the sensor, bolus before meals, and respond to alarms and alerts
- Highs and lows can still occur, so make sure to have a plan in place on how to address them

For any urgent technical questions, please call the Medtronic 24-hour helpline at 1-800-646-4633, option 1.

For additional information & support, go to www.medtronicdiabetes.com

Other Helpful Resources:
American Diabetes Association — www.diabetes.org
JDRF (Juvenile Diabetes Research Foundation) — www.jdrf.org
<table>
<thead>
<tr>
<th></th>
<th>Manual Mode</th>
<th>Auto Mode</th>
<th>Auto Mode - Safe Basal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Home screen display</strong></td>
<td><img src="image1.png" alt="Without CGM" /> <img src="image2.png" alt="With CGM" /></td>
<td><img src="image3.png" alt="Auto Mode" /></td>
<td><img src="image4.png" alt="Auto Mode-Safe Basal" /></td>
</tr>
<tr>
<td><strong>Availability</strong></td>
<td>When Auto Mode is not active</td>
<td>Auto Mode is active</td>
<td>Pump automatically transitions to Safe Basal when SGs are available</td>
</tr>
<tr>
<td><strong>Basal</strong></td>
<td>Uses the basal settings programmed into the pump</td>
<td>Automatically adjusts basal insulin every 5 minutes depending on the SG value</td>
<td>A fixed rate is delivered for a maximum of 90 minutes. If the cause doesn’t resolve, then pump exits to Manual Mode</td>
</tr>
<tr>
<td><strong>Bolus</strong></td>
<td>Uses the programmed Bolus Wizard settings to recommend a dose</td>
<td>Must enter carbs into pump. Uses carb ratio to recommend a bolus. Auto Mode calculates and recommends a correction if BG &gt;150 entered</td>
<td>Same as Auto Mode - Bolus</td>
</tr>
</tbody>
</table>