



Children's
of Alabama®

School Nurse Workshop 2026

Children's of Alabama
Department of Pediatric
Endocrinology



Objectives

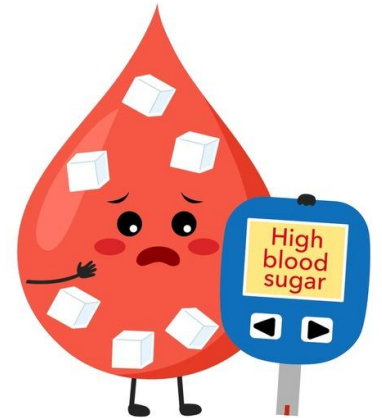
By the end of this presentation, participants should be able to:

1. Demonstrate proper insulin injection technique with pen and syringe.
 2. Differentiate between fingerstick blood sugar checks and continuous glucose monitoring (CGM) readings.
 3. Perform appropriate fingerstick blood sugar monitoring, including site selection and proper technique.
 4. Identify common CGM limitations and describe appropriate troubleshooting steps, including when to confirm readings with a fingerstick and when to escalate device issues.
 5. Explain the features and function of Minimed InPen system and how it supports diabetes management.
 6. Compare long-acting insulin therapy with insulin pump basal delivery and describe how basal concepts transition from injections to pump therapy.
- 

When to Check Blood Sugars

- Check blood sugar as prescribed on school orders.
- Common times to check at school:
 - Before meals
 - Symptomatic of high and/or low blood sugar
 - Before activity*
 - Before bus rides*

*not required unless specified by school orders



Blood Sugar Checks - Meter

- Supplies
 - Glucose meter
 - Test strips
 - Lancet device
 - Lancet
 - Alcohol wipes



Blood Sugar Checks - Meter



1. Wash hands with soap and water. Dry completely to ensure accurate readings.
2. Insert test strip into meter.
3. Load lancet into lancet device and adjust depth if needed.
4. Clean with alcohol, if desired.
5. Prick finger with lancet device. Use side of the fingertip. Avoid center of fingertip to reduce pain.
6. Gently squeeze finger if needed to get a small drop of blood.
7. Touch the blood to the end of the test strip in the meter. Wait for meter to read blood sugar number.
8. Apply gentle pressure to stop bleeding. Use bandage if needed.
9. Dispose of lancet safely in sharps container.



Continuous Glucose Monitors- CGM



Dexcom G7



Medtronic Simplerla



Freestyle Libre 3+



Medtronic Guardian

- Devices such as the **Dexcom** or **Freestyle Libre** CGM use a small subcutaneous sensor to measure glucose levels in interstitial fluid **continuously throughout the day and night**.
- They provide **real-time glucose values, trend data, and alerts** for hypoglycemia and hyperglycemia.
- Worn for 7-15 days before needing replacement.
- CGMs transmit glucose readings to a phone or receiver using Bluetooth. The student will need to be within about 20–30 feet of their device to maintain a stable connection.



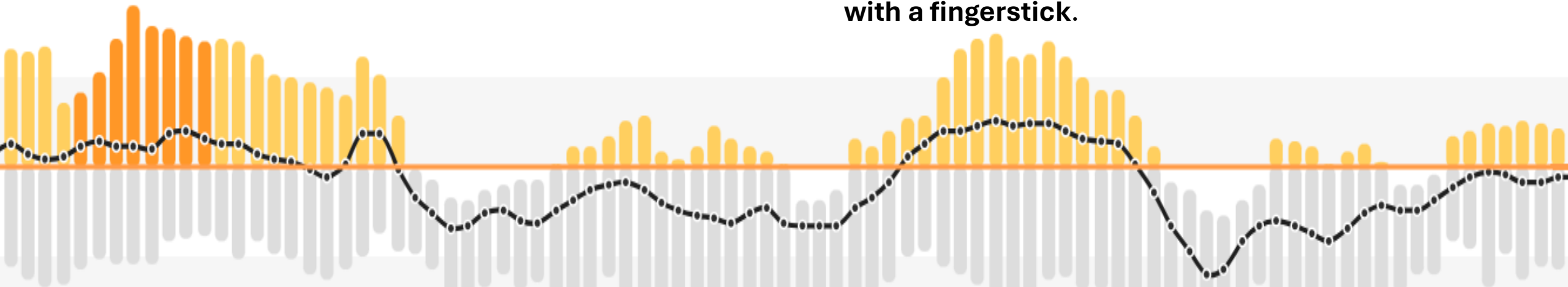
Fingerstick Blood Sugar

VS.

Continuous Glucose Monitor (CGM)

- Fingerstick blood sugar (glucometer) measures glucose **directly in the blood at that exact moment**.
- Directly measures glucose in capillary blood and provides the most immediate and accurate blood sugar result.

- CGM measures glucose in the **interstitial fluid (fluid under the skin between cells)**, not directly in the bloodstream.
- CGM readings are accurate and reliable.
- CGM values **fall behind fingerstick blood glucose readings**, especially when sugars are rising or falling quickly. There is a 5–10 minute delay.
- If the CGM value is within a reasonable range (**Not <70 or >300 mg/dL**) and matches how the patient feels, it can be **treated the same as a fingerstick reading**—there is **no need to confirm with a fingerstick**.



When to double check CGM reading with a fingerstick:



- Symptoms don't match the CGM reading
- Rapid glucose changes (arrows straight up/down)
- Sensor concerns (new sensor, pressure on site, suspected inaccuracy)
- **Extreme values (<70 or >300 mg/dL) (fingerstick required)**
 - Note: >300 with symptoms or insulin dosing is needed, check fingerstick. If insulin dosing is not needed (such as 1 hour after eating) and glucose is >300, fingerstick not required unless symptomatic.

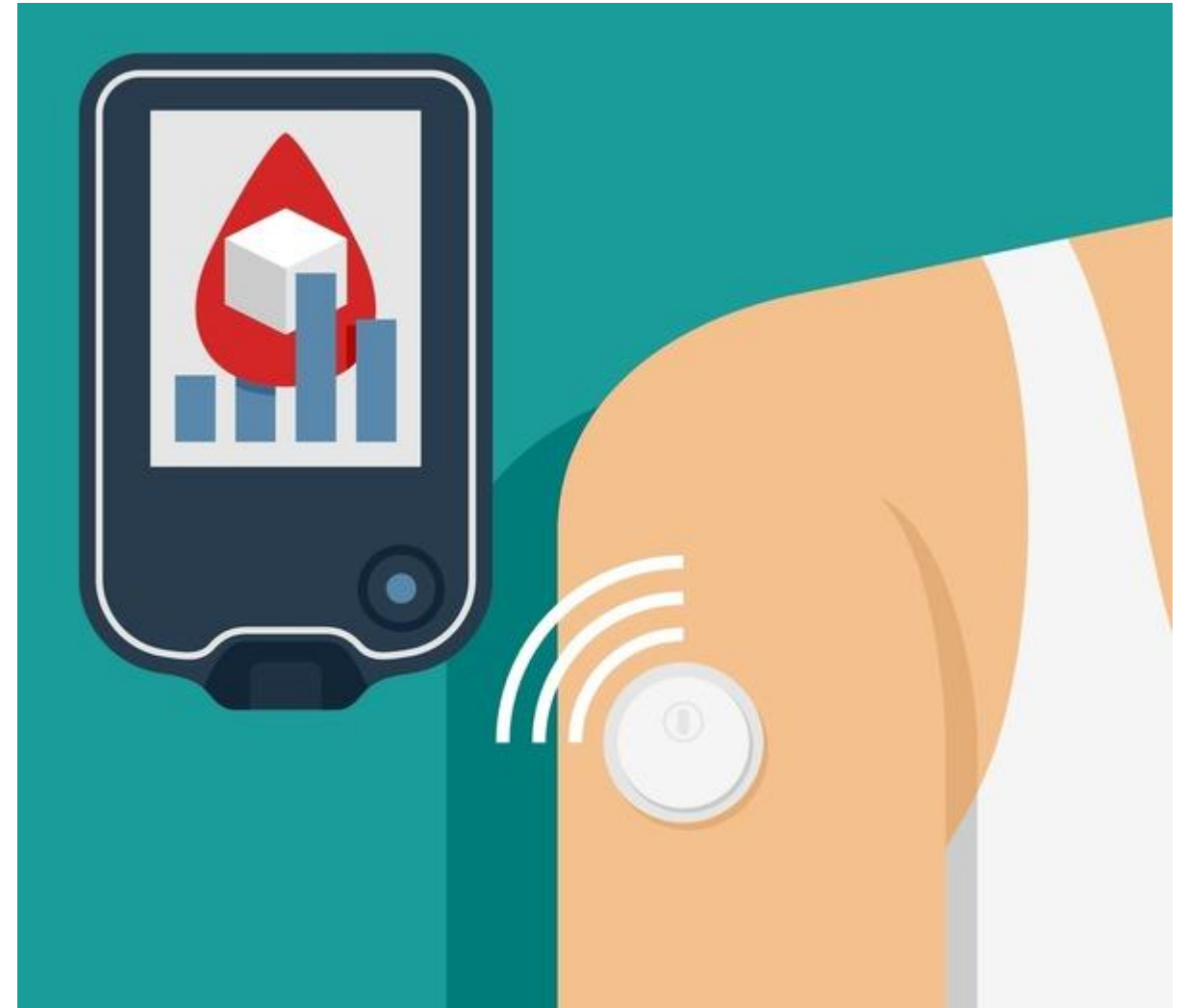
Troubleshooting – Continuous Glucose Monitor

If symptoms not matching reading on CGM –
verify with fingerstick blood sugar check.

School nurses are not covered to calibrate or
replace CGM.

- Use fingerstick blood sugar checks until caregiver able to replace CGM
- If concern CGM is not reading right, recommend contacting caregiver to reach out to CGM company to help trouble shoot or replace sensor.

Contact Children's of Alabama Endocrinology
department with additional questions.



Injection Basics: Insulin Pens



Wash your hands.



Get supplies.



Remove the pen cap.



Wipe stopper with
BD™ Alcohol Swab.



Take out new pen needle.



Position the needle along the
axis of the pen.



Pierce the center of the
cartridge.



Screw on the needle.



Pull off the outer and
inner shield.



Follow the pen manufacturer's
directions to prepare or prime
your particular pen.



Wipe injection site with
BD™ Alcohol Swab. Select
insulin dose.



Perform the injection
using the recommended
technique.

Injection Basics – Vial/Syringe



1. **Wash your hands and gather supplies.**

2. **Twist the orange shield, then pull straight off to expose the needle.** Be careful not to bend the needle.

3. **Clean the vial** - wipe the rubber top with alcohol.

4. **Draw air into the syringe** - pull back the plunger to the number of units you plan to inject.

5. **Inject air into vial** - insert needle into vial and push the air into the vial.

6. **Draw up insulin** - turn the vial upside down with the needle still inside. Pull back the plunger slowly to correct dose

7. **Check for air bubbles** - tap syringe gently and push bubbles back into the vial and redraw if needed

8. **Double check dose**

9. **Clean the skin** and ensure area is completely dry before injection.

10. **Inject insulin** - hold syringe like a pencil. Pinch up skin and push the needle quickly through the skin at 90° (straight in) to the skin surface. Push the insulin in with the plunger. Hold for 5 seconds. Pull the needle out of skin and release skin pinch.

11. **Dispose syringe** - do not recap needle. Use the needle once and then discard properly in sharps container.

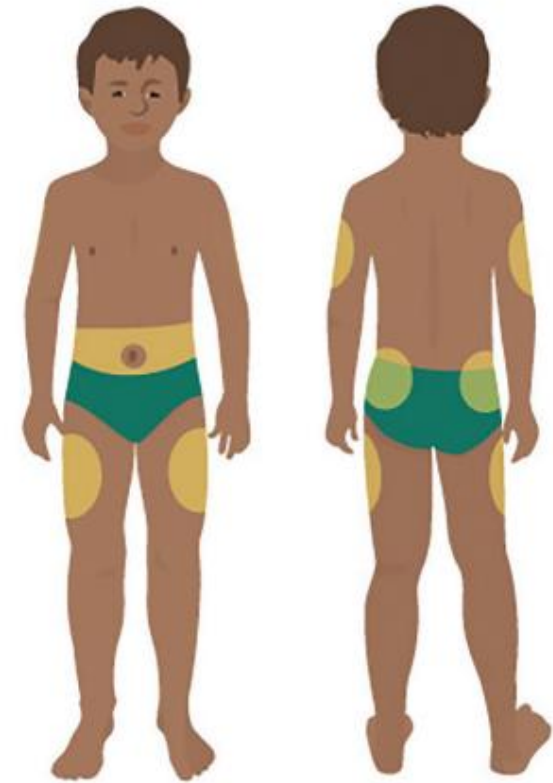
It is NOT recommended to draw insulin out of a pen using a syringe.

- This can interfere with pen calibration and increase risk of incorrect dosing for future use.



Injection Basics

- Sites:
 - Abdomen, thighs (sides), upper arms (back), upper buttocks
 - Change location with every injection to prevent knots that may turn into scar tissue.
 - Plan your rotation pattern to ensure sites have time to heal.
- Clean skin with alcohol wipe and wash hands prior to injections to prevent infections.



Injection Basics

- Sites to Avoid:
 - Highly sensitive areas
 - Over a bone
 - Blood vessels
 - Scar tissue or surgical scars
 - Fatty tissue overgrowth
 - Bruised areas, body piercings and tattoos
 - Do not get too close to the belly button if giving an injection in the stomach

Safety Tips



Never reuse needles



Double check insulin type and dose



Store insulin properly



Dispose of sharps safely



MiniMed Go System with the InPen: Smart Insulin Pen Overview



What it Does:

Delivers rapid-acting insulin via pen injections

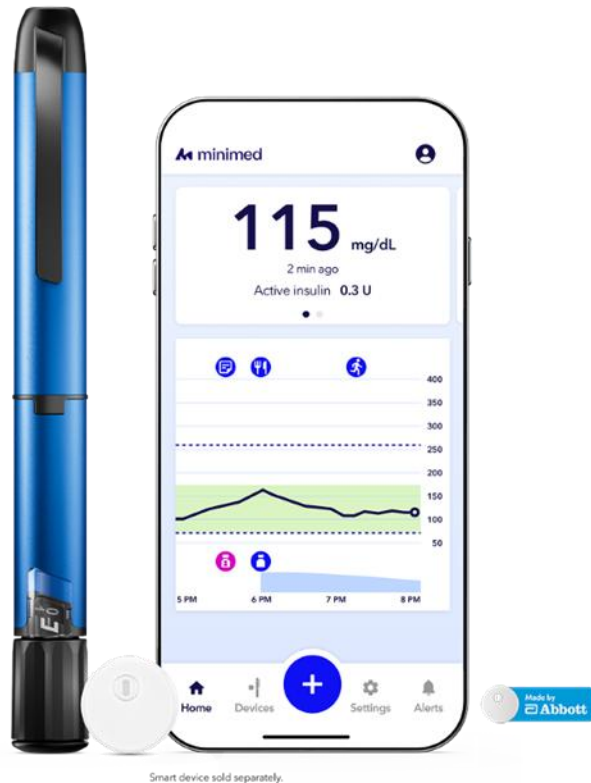
Tracks every insulin dose automatically through Bluetooth

Works with a mobile app to calculate dosing recommendations

Helps reduce missed or duplicate doses

Integrates with MiniMed CGMs (Instinct or Simplera sensors) to display glucose data and support insulin dose calculations

Key Features of the MiniMed InPen:



Smart dose calculator (suggests doses based on carbs, glucose, and insulin on board)



Dose reminders (alerts if a dose is missed or due)



Tracks insulin “on board” to help prevent stacking



Temperature sensor (alerts if insulin is too hot or too cold)



1-year reusable pen (cartridges replaced, not the whole device)

InPen Education continued:

Important notes

- Still requires manual injections (not a pump)
- Works only with specific rapid-acting insulin cartridges
- Does not replace glucose monitoring (often used alongside CGM or fingersticks)



Why it's used:

- Helps improve dosing accuracy
- Reduces risk of missed insulin doses
- Provides better insight into glucose and insulin patterns
- Useful for people not on insulin pumps but wanting more tech support



Omnipod 5



Beta Bionics iLet



Tandem T-Slim

Tandem Mobi

Same Job, Different Way: Shots vs Pump



What Is Basal Insulin?

- Basal insulin is the background insulin your body needs continuously, even in the absence of food intake. It works to maintain stable blood glucose levels between meals and overnight.

Basal insulin with injections

What it is: Long-acting insulin that provides steady background coverage. Keeps blood sugar steady between meals and overnight

How it's given:

- Subcutaneous injection
- **Once daily** at the same time each day
- Can be administered with lunch at school.

Insulin:

Insulin glargine (Lantus, Basaglar, Toujeo)

Insulin degludec (Tresiba)

Limitations:

Can't adjust hour by hour like a pump



Basal insulin with an insulin pump.

What it is: Continuous small doses of rapid-acting insulin for background coverage. Basal insulin with a pump is delivered continuously in small, adjustable amounts throughout the day and night to mimic the body's natural insulin release.

How it's given:

- Delivered through an insulin pump via a small infusion site (changed every 2-3 days)
- Runs automatically 24/7

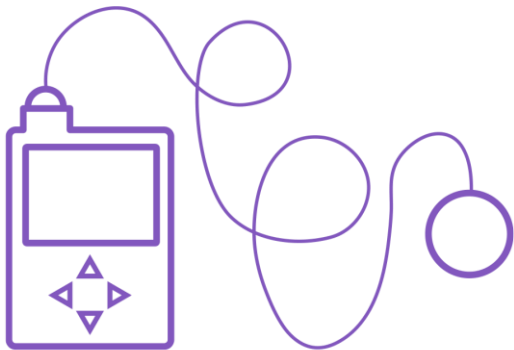
Insulin: Rapid-acting (Novolog (Aspart), Humalog (lispro), Fiasp)

Advantages:

- Can be adjusted hour by hour to match the body's needs

Limitations:

- Site issues: occlusions, leaks, or dislodgement
- Needs frequent monitoring and adjustments
- More hands-on management (site changes, troubleshooting)



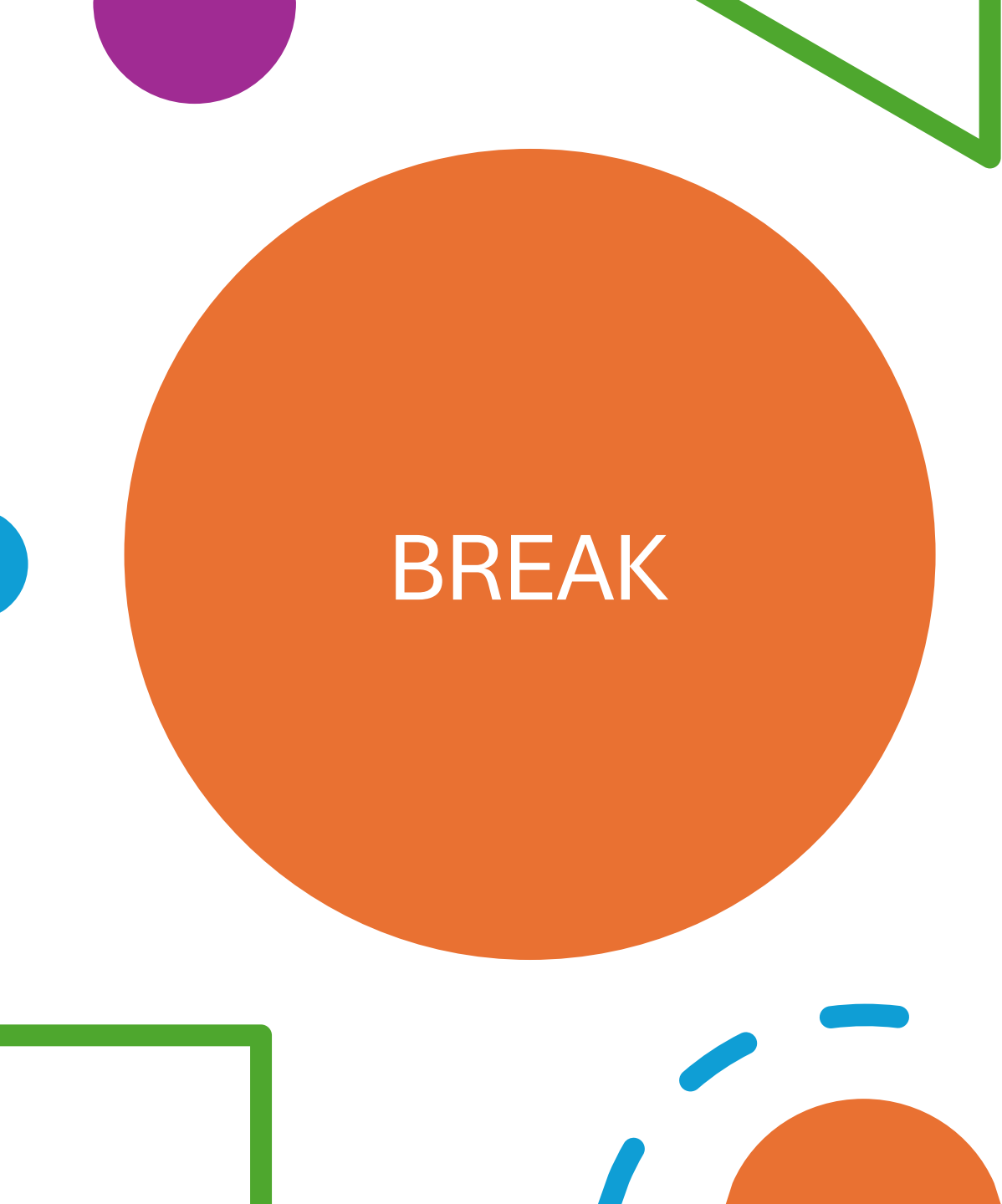
Updates to the Diabetes Medical Management Plan

- Pg 1: Activity mode
- Pg 4: Medtronic MiniMed CGMs
- Pg 5: Information regarding pump automation
- Pg 6-8: Updated hypoglycemia parameters
- Pg 7: New Ketone Action Plan
- Pg 9-10: Updated hypoglycemia algorithm
- Pg 14: Updated blood sugar recommendations for the Athletic Plan
- Pg 15: When to check blood sugar for bus rides

Available on myschoolnurse.net

FYI

- (205) 638-9107
 - Monday-Friday 8:30am-4pm
 - If you have an URGENT need, ask for a “sick day page” to receive a callback more quickly
 - This is for circumstances such as Glucagon being given, student is in the office and you do not know how to dose/treat at that time, etc.
 - This page is not for school orders, routine blood sugar reporting, etc.
- Diabetes.educator@childrensal.org
 - We are unable to reply to your emails, nor email you school orders directly. Please provide student's name and date of birth, along with a phone/fax number to reach you
- Fax (205) 638-9821
- We ask when you reach out to us for blood sugar reporting or any additional needs, please notify family as well. Please send family a copy of blood sugars as well, as we will be contacting them regarding the information you send to us.



BREAK

**Up Next:
Pump
Training**



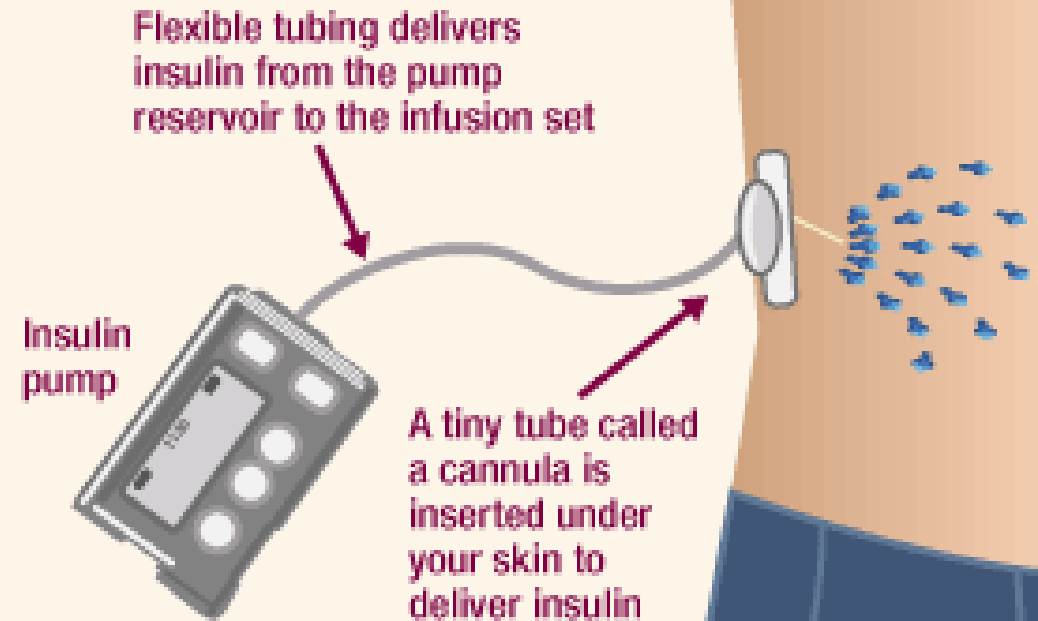
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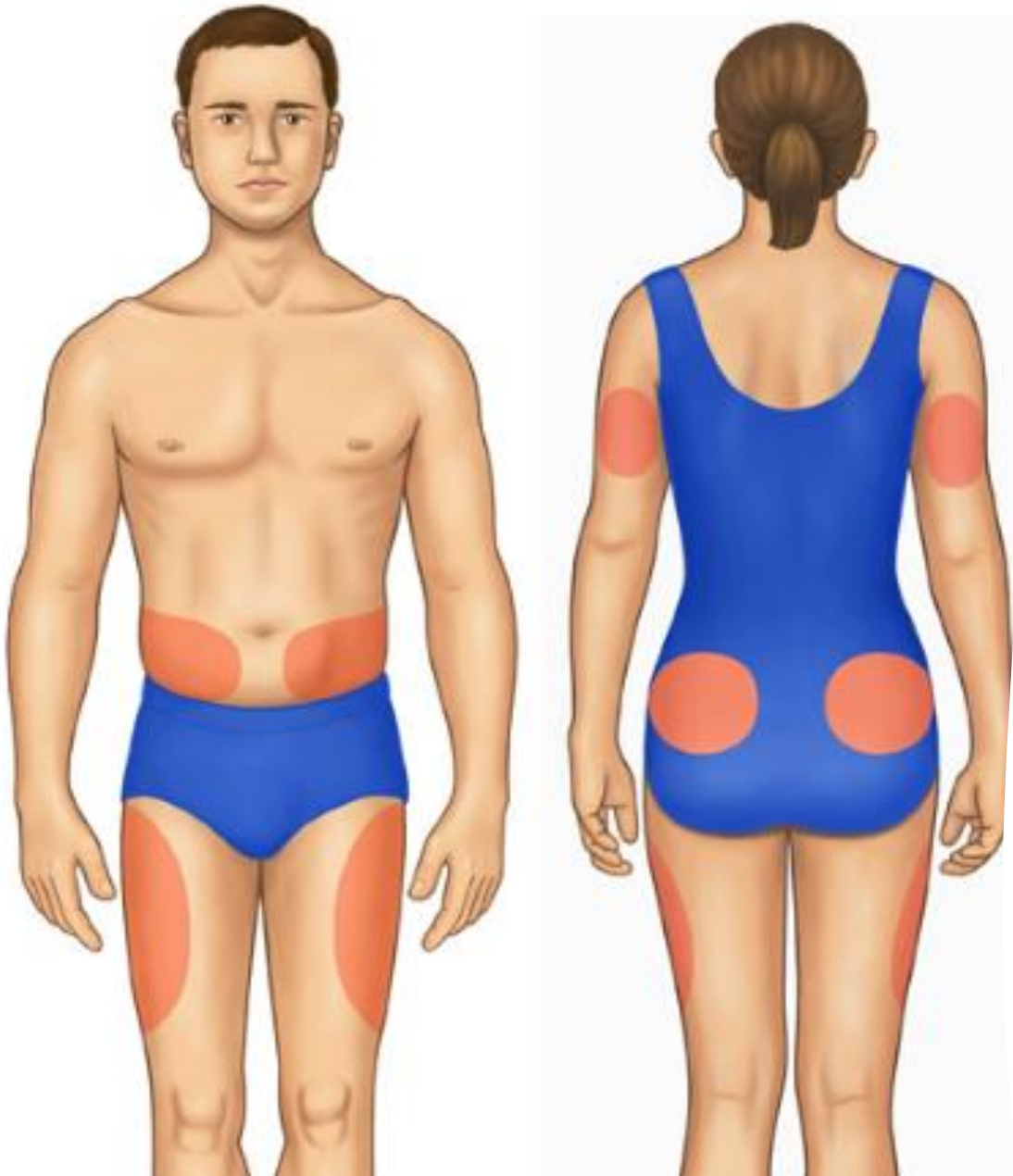
- Identify different types of insulin pumps and gain a basic understanding of how they function.
- Understand which continuous glucose monitors (CGMs) are compatible with insulin pumps to enable automatic insulin delivery.
- Learn how and when to use activity, exercise, or temporary target modes in school settings.
- Review appropriate strategies for treating hyperglycemia and hypoglycemia.

How Does Insulin Pump Therapy Work?

How does the insulin get into your body?

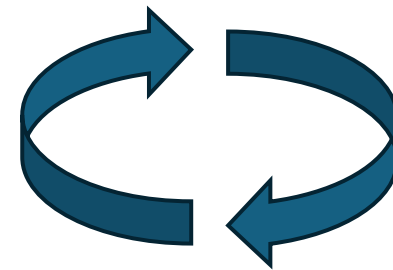
➡ Insulin in the blood





Site Rotation

- Move insulin site at least one inch from where the previous site was located to help with insulin absorption
- If wearing a CGM, must be at least 3 inches from the pump site
- Some Automated insulin pumps require the CGM and pump to be on the same side of the body for connection purposes



Insulin Duration

  INSULIN WFLURENURSEDAY 			
TYPE:	onset:	Peak:	Duration:
RAPID-ACTING APIDRA (GLULISINE) HUMALOG (LISPRO) NOVOLOG (ASPART)	15 MINUTES	1-2 HOURS	3-4 HOURS

Insulin Duration/Food Digestion

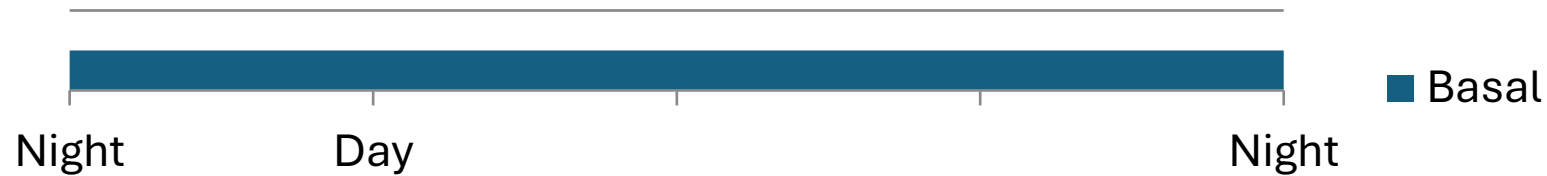
- It takes fast-acting insulin approximately 15 minutes to start working after delivered.
- It is best to take insulin before eating.
 - This gives fast-acting insulin the necessary head start to match the glucose spike as food digests.
- Food digestion in the stomach takes around 2-4 hours.
- Fast-acting insulin continues to work for around 3-4 hours.



Basal and Bolus Doses

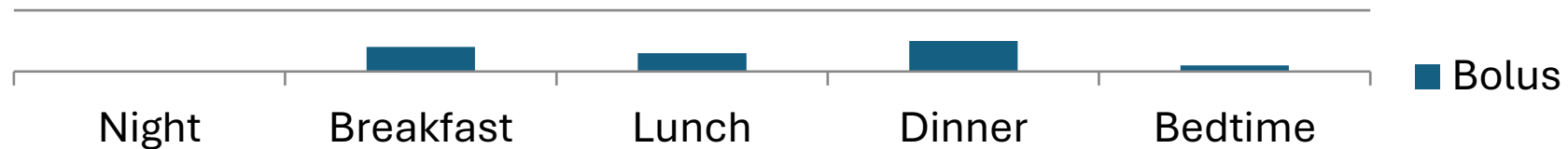
The insulin pump delivers insulin very similar to the way a functioning pancreas does.

Basal



Basal Rate: A continuous flow of fast-acting insulin given over 24 hours. This rate can be programmed to increase or decrease according to individual needs. A properly set basal rate will keep blood glucose (BG) within target range with no food or exercise.

Bolus



Bolus: A delivery of insulin given for food and high blood glucose. Requires user input to deliver bolus insulin for meals, snacks, and high BG.

Insulin Pump Basics

- Only use fast-acting insulin in an insulin pump.
 - **Basal rate:** 24-hour continuous insulin
 - **Bolus:** carbohydrate ratio and correction formula
- Enter carbohydrates for meal/snack before eating.
 - Carbohydrates should be entered as often as they are eaten.
- Must wait 2 hours between entering a blood glucose reading or sensor reading for correction calculations – exceptions: treating hypoglycemia
 - Note: a sensor reading entered into the insulin pump will be used for a correction bolus calculation.
- For bolus calculations, a bolus can be delivered for:
 - Carbohydrates only
 - Blood glucose/sensor only
 - Or both entered together

Insulin Pump Basics

- If the insulin pump site comes off a replacement is needed within one hour.
- If the pump site is not on the body, then no insulin is being delivered!
 - If no insulin, Diabetic Ketoacidosis (DKA) can occur.
- If unable to restart an insulin pump:
 - Start using the carbohydrate ratio and correction formula (provided on PPA forms)
 - Give correction formula injections every 3 hours
 - Give long-lasting dose, if available (provided on PPA forms)



Insulin on Board/Active Insulin

- Used in both Manual and Automated insulin pump calculations when suggesting a meal or correction bolus for delivery.
- The purpose is to prevent “insulin stacking” of overlapping doses.
- The insulin pump will take into consideration the fast-acting insulin remaining in the body from previous bolus doses.
 - Fast-acting insulin last approximately 3-4 hours
- Automated Insulin Delivery Pumps will also account for the increased basal delivery when calculating.

Basal Insulin: Automated vs Manual Insulin Pump

Manual:

- Continuously delivers a programmed basal rate
- Does not communicate with a CGM

Automated:

- The insulin pump uses an algorithm to calculate and deliver basal insulin based on real time CGM data
- The system predicts blood glucose based off the CGM and automatically increases, decreases, or pauses basal insulin to achieve a blood glucose target

Automated Insulin Delivery Pumps



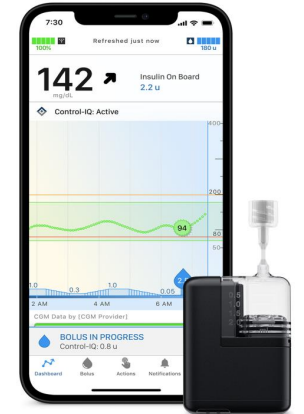
MiniMed 780G



MiniMed Flex



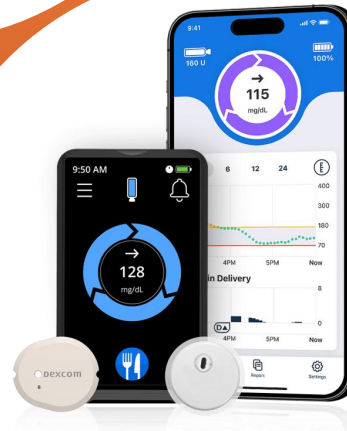
Tandem t:slim X2



Tandem Mobi



Omnipod 5



Beta Bionics iLet



Twist

Automated Options

**Insulin pumps
that have the
automated
insulin delivery
option:**

- **MiniMed 780G in SmartGuard Mode**
 - (Abbott Instinct, Simpleria Sync)
- **MiniMed Flex in SmartGuard Mode**
 - (Simplera Sync)
- **Tandem t:slim X2 with Control IQ Technology**
 - (Dexcom G6, Dexcom G7, Libre 3 Plus)
- **Tandem Mobi with Control IQ Technology**
 - (Dexcom G6 or Dexcom G7)
- **Omnipod 5 in Automated Mode**
 - (Dexcom G6, Dexcom G7, Libre 2 Plus, Libre 3 Plus)
- **Beta Bionics iLet**
 - (Dexcom G6, Dexcom G7, Libre 3 Plus)
- **Twist with Loop**
 - (Libre 3 Plus)

Automated Insulin Pump Requirements

Automated Insulin Delivery (AID)

(i.e., Smart Pump, Hybrid Closed Loop, Artificial Pancreas)

- Not all automated insulin pump algorithms work the same way
- Must have a CGM that can communicate with the insulin pump
- Does not “do everything” for you
- If you do not have a sensor/CGM, then the patient can still use the insulin pump, but it would not have the automated delivery option (iLet is the exception)
- AID pumps have the ability to use CGM readings in order to automatically adjust the basal insulin
- Most systems use predicted CGM glucose values 30 to 60 minutes in the future; they will increase, decrease or pause basal insulin accordingly

Automated Insulin Pump

- Important to enter in all carbohydrates eaten
 - Exception: fast-acting carbohydrates used for treatment of hypoglycemia
- Bolus before eating
- Best practice is to enter a glucose reading (CGM or finger stick) into the pump for bolus calculations at least 4 times per day.
 - Breakfast, lunch, dinner, and bedtime
- Enter a glucose reading at mealtimes even if it is below or in target range. This will ensure correct calculations are completed.
 - Reverse Correction
- A blood glucose or CGM sensor reading can be entered into the insulin pump every 2 hours, as needed for a correction bolus.
- Insulin on Board/Active Insulin is still used in calculations for automated insulin pumps.

How to tell the pump is Automated



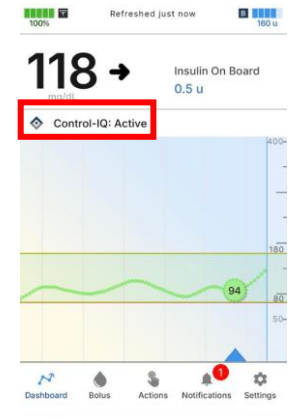
MiniMed 780G



MiniMed Flex



Tandem t:slim X2



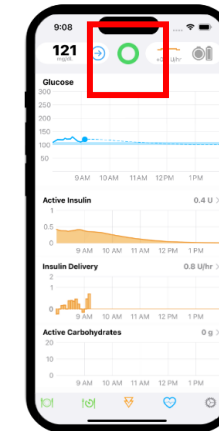
Tandem Mobi



Omnipod 5



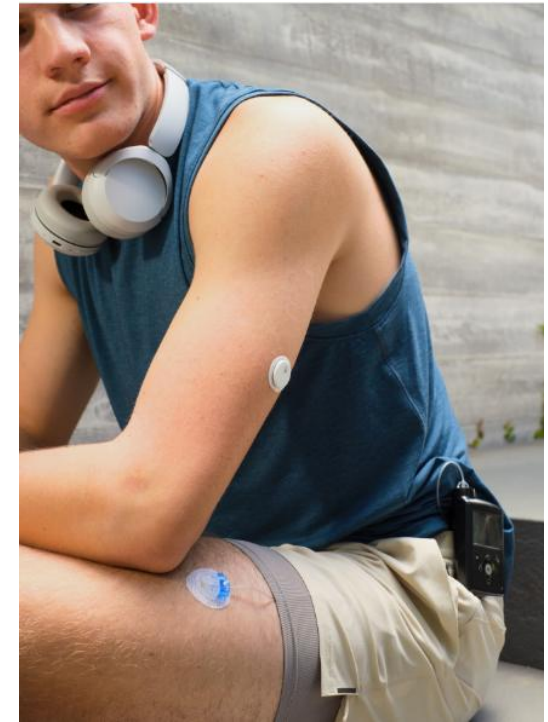
Beta Bionics iLet



Twist

MiniMed 780G

- Communicates with MiniMed CGM's:
 - Abbott Instinct
 - Simpler Sync
- **SmartGuard Mode: (Adjustable Target 100-120)** When turned “ON” and wearing the approved sensor. The algorithm will increase, decrease, and suspend basal insulin to keep the glucose at the programmed target.
- **Meal detection:** Uses sensor glucose trends to identify when glucose is rising rapidly – will deliver corrective insulin doses every 5 minutes to help hyperglycemia.
- Must enter in carbohydrates.
 - Enter before eating to keep from causing hypoglycemia
- Can correct every 2 hours if needed.



MiniMed 780G

- **Manual Mode:** Pump can be worn in Manual mode when no CGM available
 - Does not use the algorithm and delivers insulin strictly based on your programmed basal rates, carb ratios, and correction factors.
- If worn with the sensor but not in SmartGuard, then the pump can only adjust the basal insulin to suspend before low
- Uses one AA battery
 - If battery dies, no insulin will be delivered
- Has tubing
- Waterproof up to 12ft for 24hrs
- **Caregiver Share App:** CareLink Connect (user can have up to 5 followers)

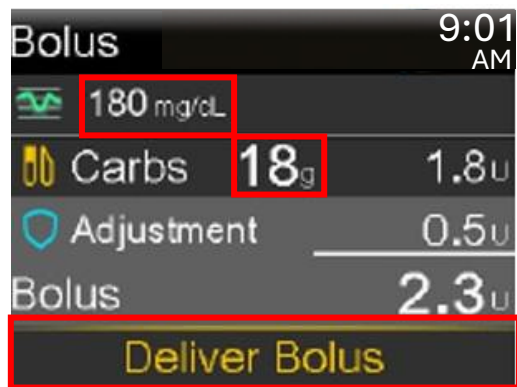


MiniMed 780G with Activity

- **Temp Target** changes target to 150 mg/dL.
- Once the programmed time runs out it will convert back to previous set target.



MiniMed 780G Bolus



MiniMed Flex

- Communicates with CGM:
 - Simplera Sync sensor
- **SmartGuard Mode: (Adjustable Target 100-120)** When turned “ON” and wearing the sensor. The algorithm will increase, decrease, and suspend basal insulin to keep the glucose at the programmed target
- **Meal detection:** Uses sensor glucose trends to identify when glucose is rising rapidly – will deliver corrective insulin doses every 5 minutes to help hyperglycemia.
- Must enter in carbohydrates
 - Enter before eating to keep from causing hypoglycemia
- Can correct every 2 hours if needed



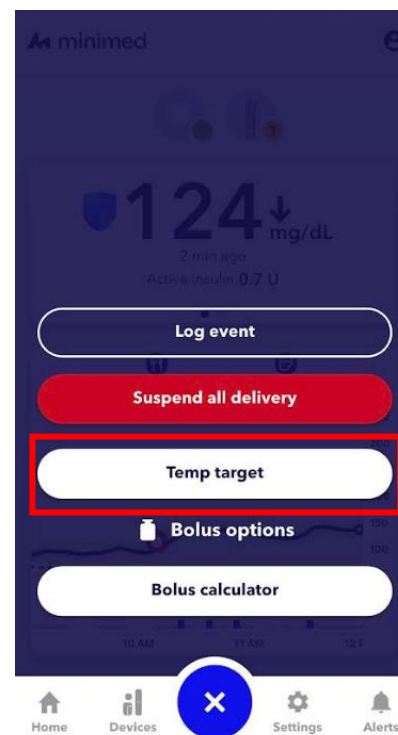
MiniMed Flex

- **Manual Mode:** Pump can be worn in Manual mode when no CGM available
 - Does not use the algorithm and delivers insulin strictly based on your programmed basal rates, carb ratios, and correction factors.
- If worn with the sensor but not in SmartGuard, then the pump can only adjust the basal insulin to suspend before low
- Requires phone app to control (Android and iPhone)
 - no screen on pump
- Rechargeable battery
 - If battery is not charged, no insulin will be delivered
- Has tubing
- Waterproof up to 8ft for 1 hour and 45 minutes
- Caregiver Share App: CareLink Connect (user can have up to 5 followers)

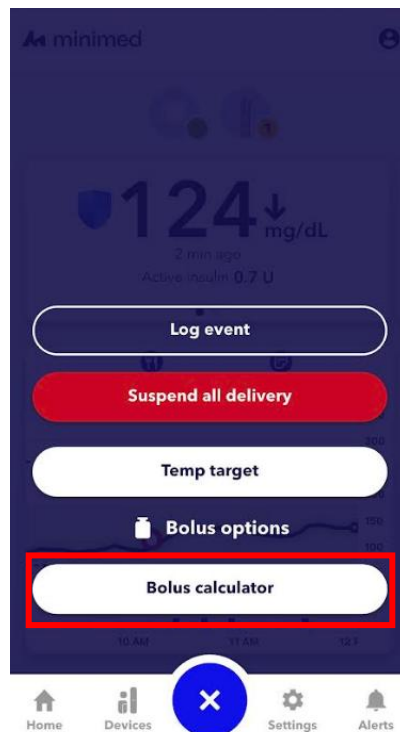


MiniMed Flex with Activity

- **Temp Target** changes target to 150 mg/dL.
- Once the programmed time runs out it will convert back to previous set target.

The 'Temp Target' settings screen shows the 'Set temp target' section with a 'Temp target of 150 mg/dL'. Below this, the 'Duration' is set to '1:00 hr' (highlighted with a red box). A note below the duration field states: 'Enter 0:30-24:00 hr, in 0:30-hr increments'. At the bottom of the screen, a blue button labeled 'Start temp target' is highlighted with a red box.

MiniMed Flex Bolus

A screenshot of the 'Bolus Calculator' app screen, Step 1 of 3. The screen prompts the user to 'Add glucose value' and provides three options: 'Use sensor glucose' (highlighted with a red box and selected with a blue checkmark), 'Enter blood glucose', and 'Skip glucose'. The 'Use sensor glucose' option shows a value of 124 mg/dL. A 'Next' button is at the bottom.A screenshot of the 'Bolus Calculator' app screen, Step 2 of 3. The screen prompts the user to 'Add carbs' and shows a numeric keypad. The value '30' is entered in the 'grams' field (highlighted with a red box). The 'AC' button is also highlighted with a red box. A 'Next' button is at the bottom.A screenshot of the 'Bolus Calculator' app screen, Step 3 of 3. The screen displays the 'Review & deliver bolus' summary, including 'Sensor glucose' (124 mg/dL), 'Carbs' (30 g), 'SmartGuard adjustment' (-0.4 U), and 'Calculated bolus' (1.6 U). The 'Deliver bolus' button at the bottom is highlighted with a red box.

Tandem t:slim X2

- Communicates with
 - Dexcom G6
 - Dexcom G7
 - Libre 3 Plus
- **Control IQ+ technology: (Automatically sets Target to 110mg/dL)**
When turned “ON” and wearing a CGM. The algorithm will increase, decrease, and suspend basal insulin.
 - Attempts to keep the user’s glucose range between 112-160.
- **Automatic Correction Bolus:** Will deliver automatic boluses hourly if predicted to be above 180mg/dL
 - This will be a 60% partial correction to help bring the user’s blood glucose back into range.
 - Still requires user’s input for full blood glucose correction bolus
- Must enter in carbohydrates.
 - Enter before eating to keep from causing hypoglycemia
- Can correct every 2 hours if needed.



Tandem t:slim X2

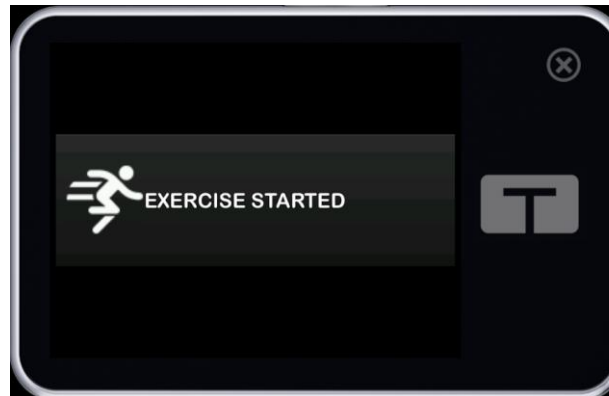
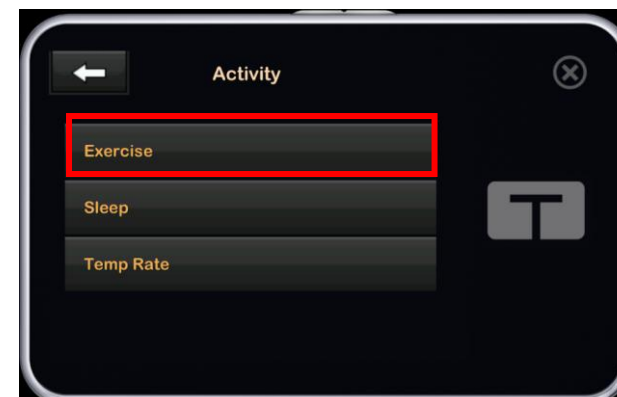
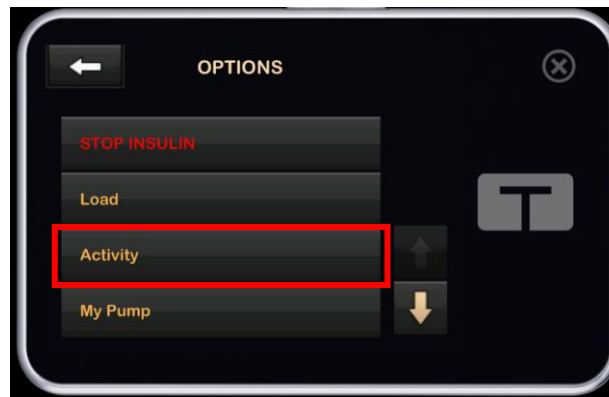
- **Manual Mode:** Pump can be worn in Manual mode when no CGM available
 - Does not use the algorithm and delivers insulin strictly based on your programmed basal rates, carb ratios, and correction factors.
- Bolus can be delivered directly from the insulin pump or from iPhone/Android app
- Rechargeable battery
 - If battery is not charged, no insulin will be delivered
- Has tubing
- Watertight up to 3 feet for 30 minutes
- **Caregiver Share App:** Sugarmate App (user can have up to 20 followers)



Tandem t:slim X2 with Activity

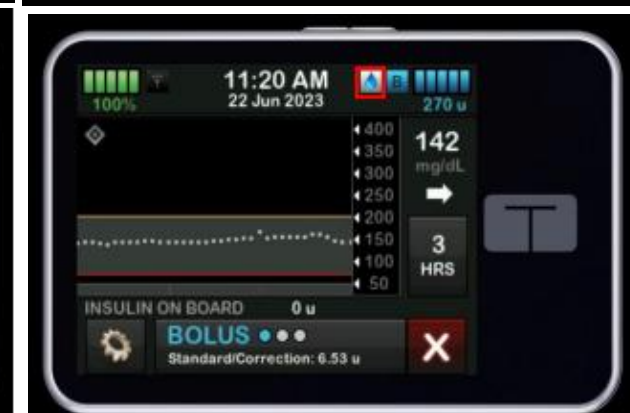


- **Exercise mode** changes blood glucose range to 140-160 mg/dL.
- Once the programmed time runs out it will convert back to previous set target.



Tandem t:slim X2 Bolus

- May bolus via insulin pump or Tandem t:connect Mobile App
 - In order to use app, user must have a compatible phone



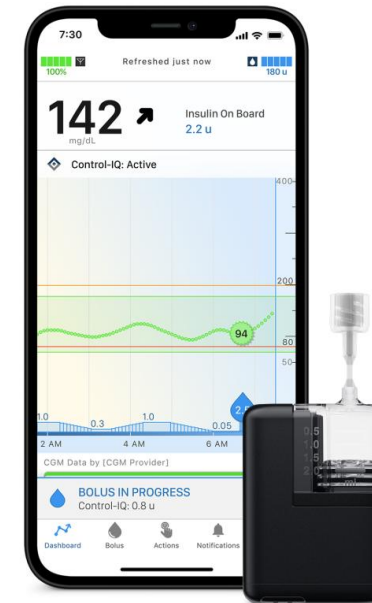
Tandem Mobi

- Communicates with
 - Dexcom G6
 - Dexcom G7
- **Control IQ+ technology:** (Automatically sets Target to **110mg/dL**) When turned “ON” and wearing a CGM. The algorithm will increase, decrease, and suspend basal insulin.
 - Attempts to keep the user’s glucose range between 112-160.
- **Automatic Correction Bolus:** Will deliver automatic boluses hourly if predicted to be above 180mg/dL
 - This will be a 60% partial correction to help bring the user’s blood glucose back into range.
 - Still requires user’s input for full blood glucose correction bolus
- Must enter in carbohydrates.
 - Enter before eating to keep from causing hypoglycemia
- Can correct every 2 hours if needed.



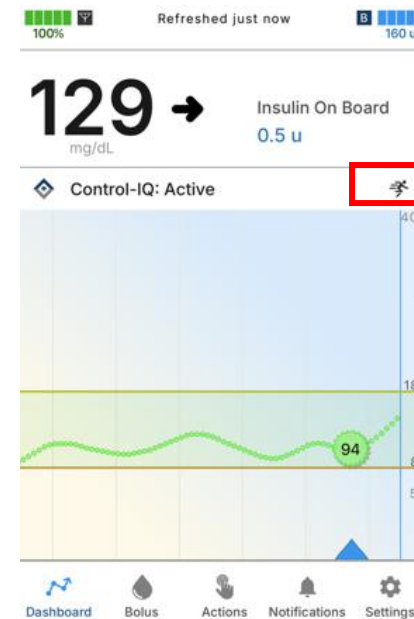
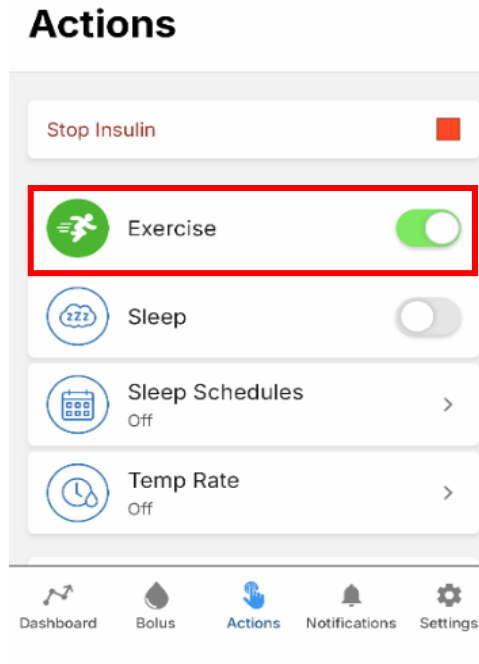
Tandem Mobi

- **Manual Mode:** Pump can be worn in Manual mode when no CGM available
 - Does not use the algorithm and delivers insulin strictly based on your programmed basal rates, carb ratios, and correction factors.
- Requires phone app to control (Android and iPhone)
 - no screen on pump
- Rechargeable battery
 - If battery is not charged, no insulin will be delivered
 - Uses a charging pad
- Has tubing but can be worn in the “sleeve” on the body
- Water resistant up to 8 feet for 2 hours
- **Caregiver Share App:** not available at this time

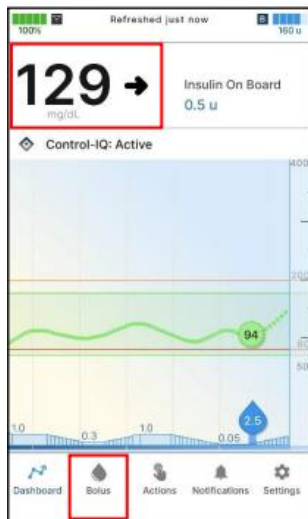


Tandem Mobi with Activity

- **Exercise mode** changes blood glucose range to 140-160 mg/dL.
- Must cancel Exercise mode. No programmable timer.



Tandem Mobi Bolus



Cancel Bolus Next

0 units

Carbs Glucose

Add Correction Bolus?
Your glucose is above your Target BG value of 110 mg/dL.

No Yes

Delivery Calculation

Correction 0 u

Food 0 u

Insulin On Board 0.5 u

Total Units to Deliver 0 u

Cancel Bolus Next

0 units

Carbs Glucose

0 grams **129** mg/dL

Delivery Calculation

Correction 0 u

Food 0 u

Insulin On Board 0.5 u

Tandem Mobi with Activity Total Units to Deliver 0 u

Cancel Bolus Next

5.5 units

Carbs Glucose

60 grams **129** mg/dL

Due to IOB, no correction will be calculated. Re-test BG as necessary.

Delivery Calculation

Correction 0 u

Food 6 u

Insulin On Board 0.5 u

Total Units to Deliver 5.5 u

Cancel Bolus Next

5.5 units

Carbs Glucose

60 grams **129** mg/dL

Due to IOB, no correction will be calculated. Re-test BG as necessary.

Delivery Calculation

Correction 0 u

Food 6 u

Insulin On Board 0.5 u

Total Units to Deliver 5.5 u

Back Confirm Bolus Confirm

5.5 units

Correction N/A

Food 6 u

Back Confirm Bolus Confirm

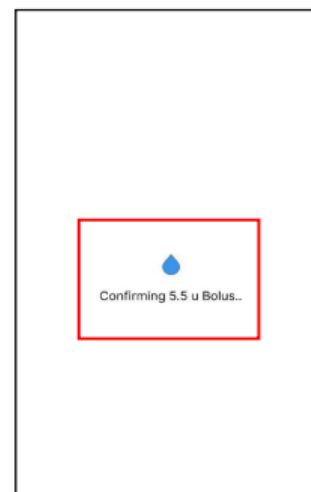
5.5 units

Correction N/A

Food 6 u

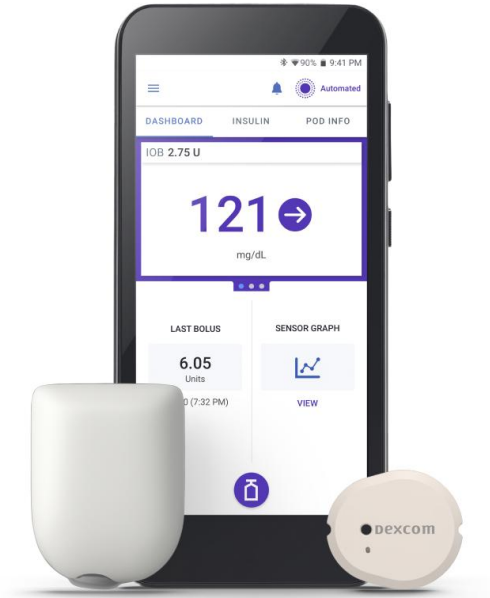
Deliver 5.5 u Bolus? Cancel

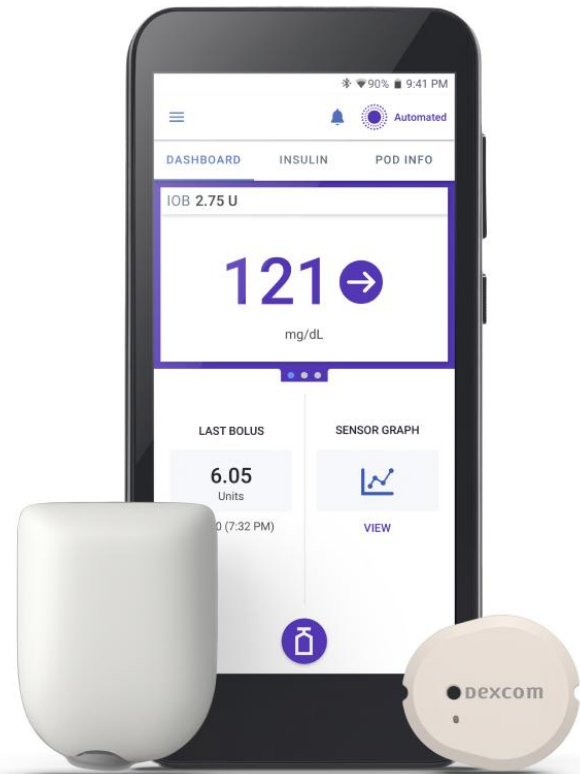
Deliver Bolus



Omnipod 5

- Communicates with:
 - Dexcom G6
 - Dexcom G7
 - Libre 2 Plus
 - Libre 3 Plus
- **Automated Mode: (Adjustable Target 100-150)** When in Automated Mode and wearing the CGM, the algorithm will increase, decrease, and suspend basal insulin to keep the glucose at the programmed target.
- **Smart Bolus Calculator:** Uses sensor glucose value and the trend arrow to identify bolus amount to deliver.
 - When you press “use sensor”
- Must enter in carbohydrates.
 - Enter before eating to keep from causing hypoglycemia
- Can correct every 2 hours if needed.





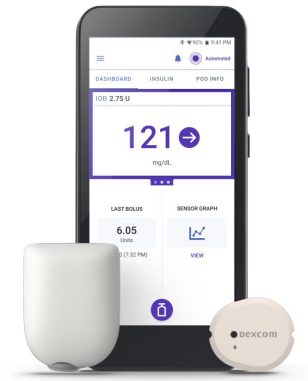
Omnipod 5

- **Manual Mode:** Pump can be worn in Manual mode when no CGM available
 - Does not use the algorithm and delivers insulin strictly based on your programmed basal rates, carb ratios, and correction factors.
- Requires phone app OR controller to control pod
 - Android and iPhone App available
 - Can only use one device at a time (does not save history between devices)
- Rechargeable battery for controller
 - If the phone/controller is dead, the pod will continue in Automated Mode to give basal insulin and communicate with the CGM.
 - User will not be able to bolus until phone/controller is charged.
 - Pod battery will automatically deactivate after 80 hours.
- Custom food option
 - This is helpful for set dose users
- Tubeless pod
- Waterproof up to 25 feet for 60 minutes
- **Caregiver Share App:** not available at this time



Omnipod 5 with Activity

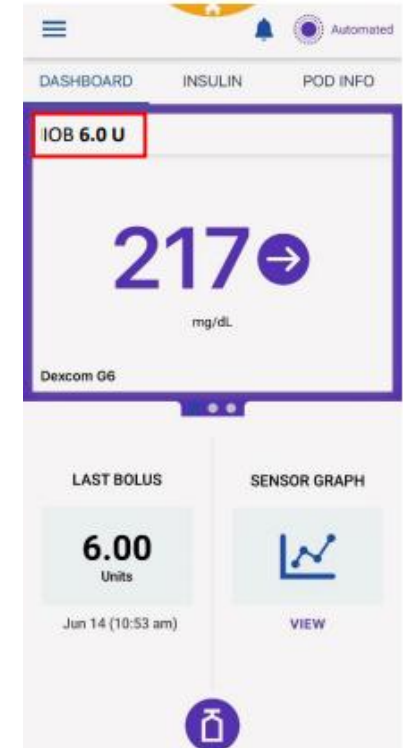
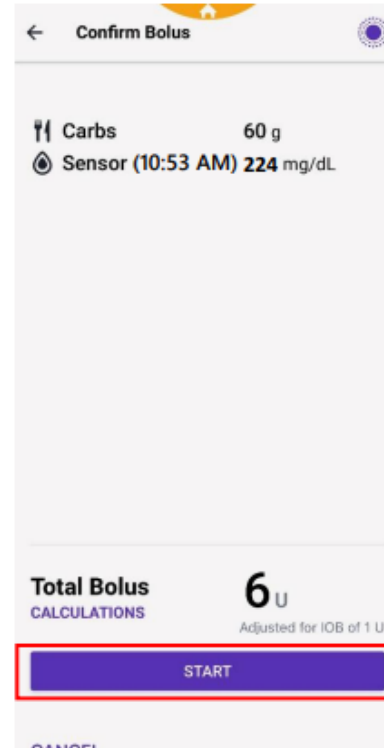
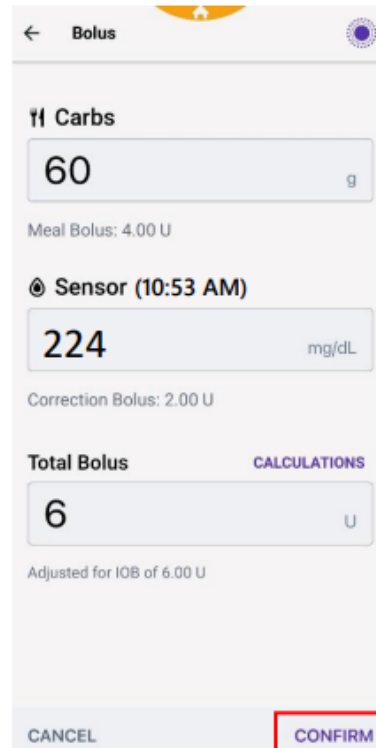
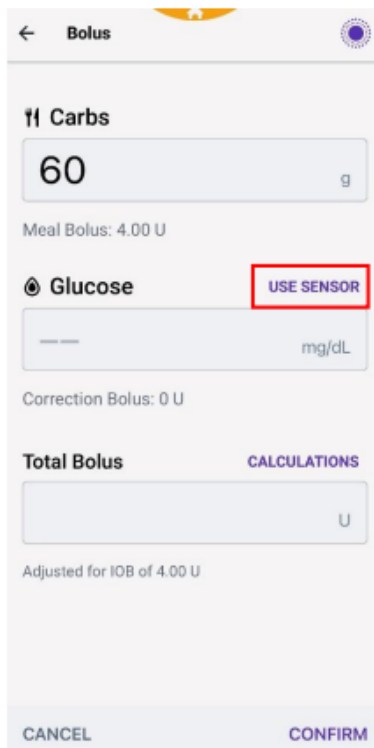
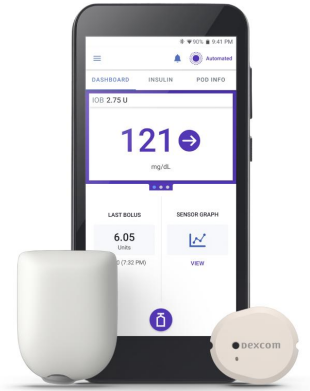
- **Activity Mode** changes the target to 150 mg/dL
- Once the programmed time runs out it will convert back to previous set target.



The sequence of screenshots illustrates the process of activating Activity Mode:

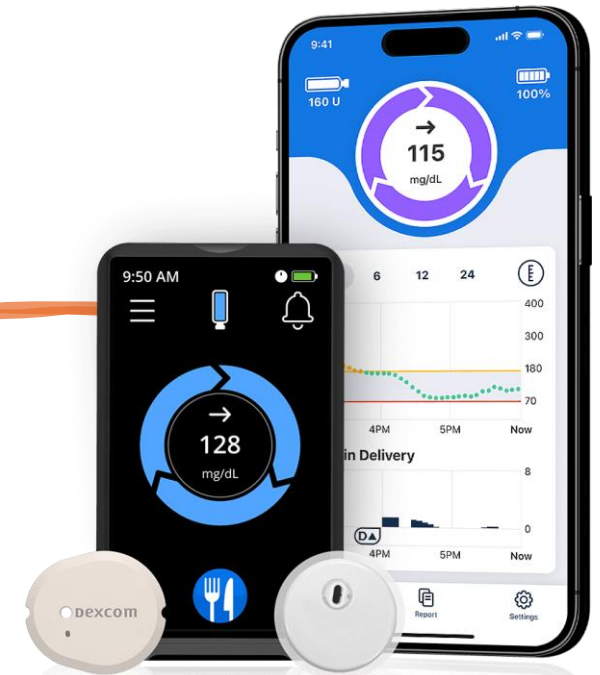
- Dashboard:** The main screen shows a glucose reading of 125 mg/dL. The 'Automated' mode is selected. A red box highlights the menu icon (three horizontal lines) in the top left corner.
- Activity Selection:** The 'Activity' option is selected from the 'Switch Mode' menu. A red box highlights the 'Activity' option.
- Activity Information:** The 'Activity' screen displays instructions: 'Use the Activity feature during times of increased risk of hypoglycemia.' and 'The Activity feature reduces basal insulin delivery and sets basal delivery Target Glucose to 150 mg/dL.' A red box highlights the 'Duration' field, which is currently empty.
- Duration Input:** The 'Duration' field is set to 3 hours. A red box highlights the '3' in the duration field.
- Confirmation:** A confirmation dialog box asks 'Set Activity feature for 3 hours?'. The 'Start' button is highlighted with a red box.
- Final Dashboard:** The dashboard shows the glucose reading has changed to 126 mg/dL. The 'ACTIVITY' mode is now selected, highlighted with a red box.

Omnipod 5 Bolus



Beta Bionics iLet

- Requires a CGM to function and is compatible with:
 - Dexcom G6
 - Dexcom G7
 - Freestyle Libre 3 Plus
- **Adjustable Target** (Lower, Usual, Higher) Increases, decreases, or suspends basal insulin delivery based on CGM readings.
- Automatic blood glucose correction
 - Do not need to enter in blood glucose or sensor reading for correction calculations. The insulin pump algorithm will deliver as needed.
- Announce meals before eating for meal bolus delivery
 - Choose meal type (Breakfast, Lunch, or Dinner)
 - Choose Usual for me, Less, or More



Beta Bionics iLet

- Rechargeable battery
 - If battery is not charged, no insulin will be delivered
 - Uses a charging pad
- Has tubing
- Water resistant up to 12 feet for 30 minutes
- **Caregiver Share App:** Bionic Circle (user can have 10 followers)



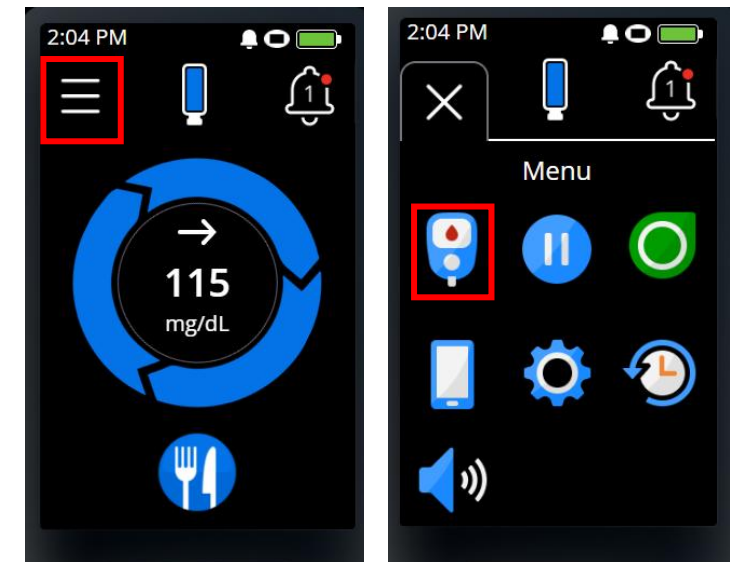
Beta Bionics iLet

BG Run Mode: If the CGM is unavailable the pump will continue to function for a short period of time. It will ask for a finger stick blood glucose entry.

- A timer countdown will start, if a blood glucose is not entered during this time the insulin pump will shut down/power off.
- If the insulin pump is powered off no insulin is being delivered.
- If available replace CGM as soon as possible.
- If CGM is not available to replace, then the student does not need to go longer than one hour without receiving insulin.
 - Refer to the carbohydrate ratio/set dose and correction formula prescribed on the PPA form.
 - If using insulin injections, remember that a correction formula dose can be given every 3 hours.



How to enter BG, if required



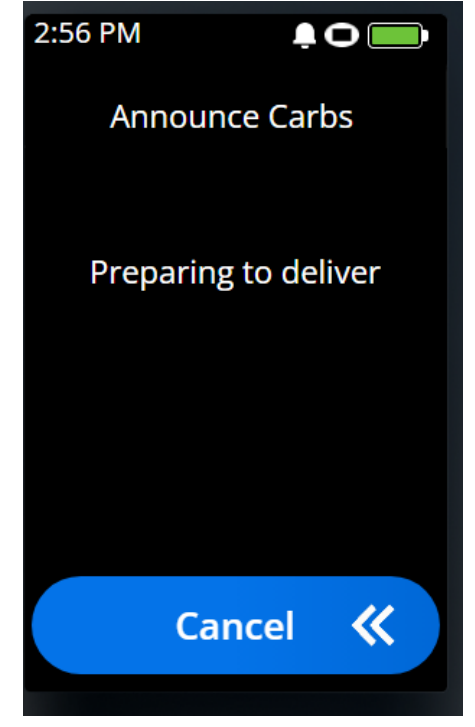
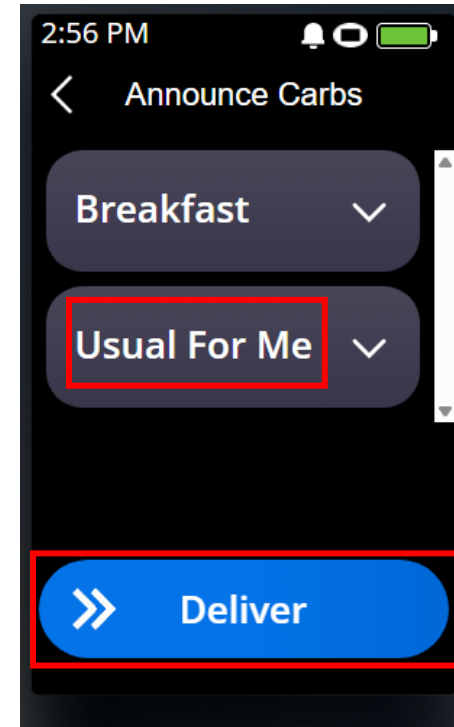
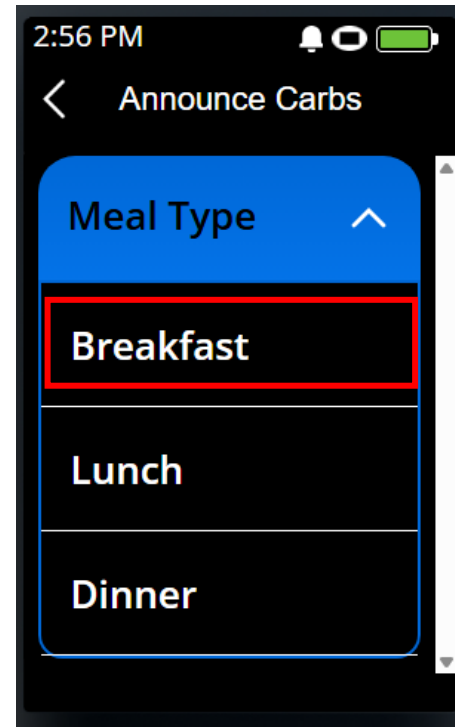
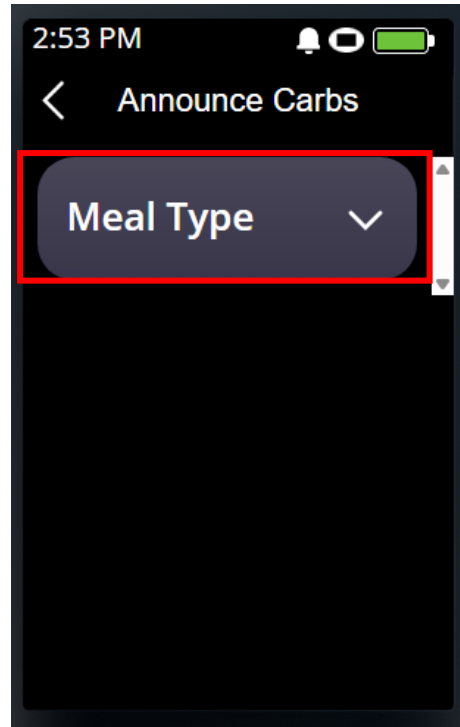
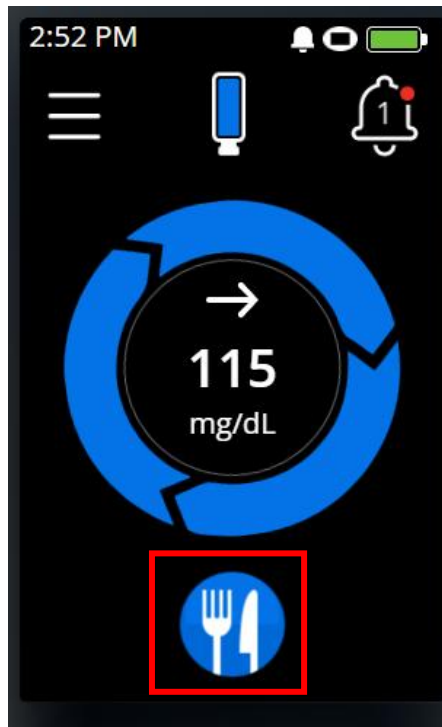
Beta Bionics iLet with Activity

- No activity/exercise mode
- Pump will automatically suspend insulin delivery if user is predicted to have hypoglycemia.
- Be careful pre-treating with carbohydrates
 - This will likely increase the blood glucose and cause the algorithm to automatically deliver more insulin.
- If treating hypoglycemia
 - Be cautious of overtreatment that may cause hyperglycemia and in turn the pump gives more insulin.
 - Wait until the pump alerts of the impending low before fast-acting carbohydrate treatment is given.



Beta Bionics iLet Bolus

- Must announce for meals and snacks
- User must be “carb aware” to estimate carbs in meal (Usual for me, More, or Less)



Beta Bionics iLet

Important!

- Do not announce:
 - If it has been more than 30 minutes since the student started eating.
 - If eating less than 15 grams of carbohydrates.
- It is very important to announce before eating due to the automatic correction bolus algorithm.
- Do not “fake announce” to treat hyperglycemia.
 - Check the battery, insulin, site, and ketones if needed
 - If ketones- follow the Ketone Action Plan for iLet on page 7
- When treating hypoglycemia wait until the pump alerts of the impending low before fast-acting carbohydrate treatment is given.
- If a manual injection of fast-acting insulin is given, the pump cannot be restarted for 90 minutes.



Twiiist –Coming Soon...

- Communicates with:
 - Freestyle Libre 3 Plus
- **Loop On (Adjustable Target 87-180)** When turned “ON” and wearing the approved sensor. The algorithm will increase, decrease, and suspend basal insulin to keep the glucose at the programmed target.
- **Loop Off (Manual)** Pump can be worn in Manual mode when no CGM available
 - Does not use the algorithm and delivers insulin strictly based on your programmed basal rates, carb ratios, and correction factors.
- Requires phone app to control (iPhone only at this time)
 - No screen on pump
 - Compatible with Apple watch
- Must enter all carbohydrates
- Has tubing
- Rechargeable Batteries
- Water-resistant up to 12 feet for 1 hour
- **Caregiver Share App:** Twiiist Insiight App (unlimited number of followers)



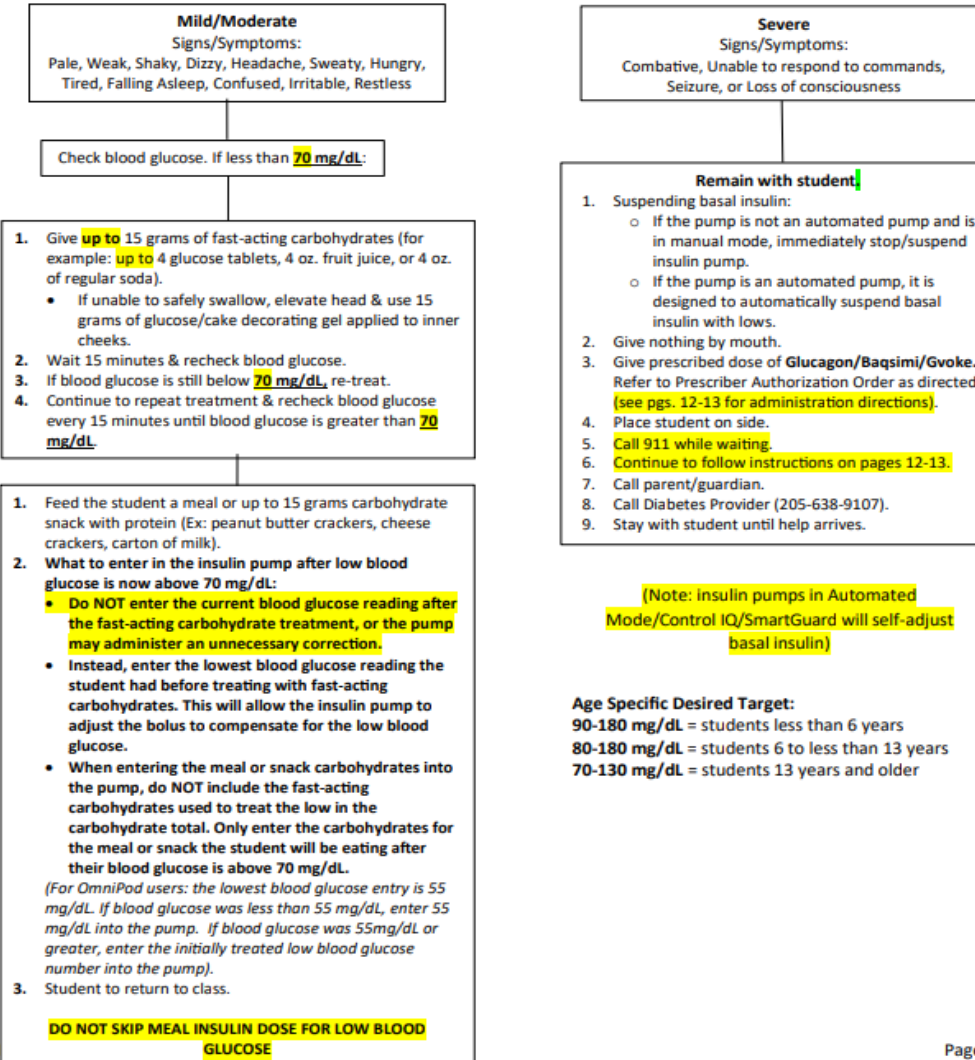
Hyperglycemia

- If using an insulin pump, the student can receive a glucose correction every 2 hours if needed for treatment of hyperglycemia.
- If blood glucose/sensor is greater than 250mg/dL for more than 90 minutes check for ketones and follow the Medical Management Plan on page 6.
- If ketones are present this means the student is not getting enough insulin.
 - Check the infusion site, battery, insulin volume and quality.
 - Consider that the site may need to be changed.

New Hypoglycemia School Packet Information

Hypoglycemia: Insulin Pump

*****The ADA recommends treating hypoglycemia for blood glucoses less than 70 mg/dL using up to 15 grams of fast-acting carbohydrates.*****



Hypoglycemia

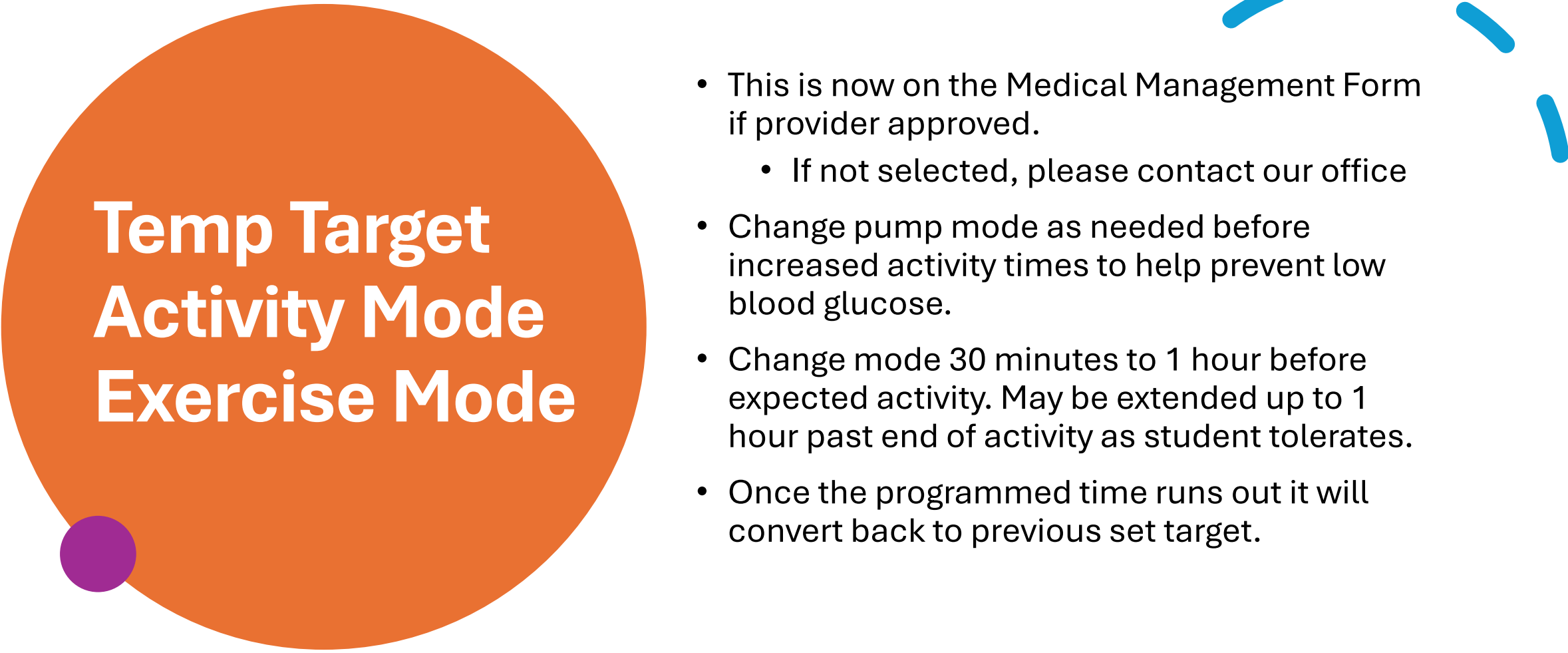
If blood glucose is less than 70mg/dL

1. Follow the “rule of 15”
 - 15 grams of fast-acting carbohydrates, repeat every 15 minutes if needed until blood glucose is above 70mg/dL.
2. Feed the student a meal or up to 15 grams carbohydrate snack with protein (Ex: peanut butter crackers, cheese crackers, carton of milk)

What to enter in the insulin pump after low blood glucose is now above 70 mg/dL:

- Do NOT enter the current blood glucose reading after the fast-acting carbohydrate treatment, or the pump may administer an unnecessary correction.
- Instead, enter the lowest blood glucose reading the student had before treating with fast-acting carbohydrates. This will allow the insulin pump to adjust the bolus to compensate for the low blood glucose.
- When entering the meal or snack carbohydrates into the pump, do NOT include the fast-acting carbohydrates used to treat the low in the carbohydrate total. Only enter the carbohydrates for the meal or snack the student will be eating after their blood glucose is above 70 mg/dL.

DO NOT SKIP MEAL INSULIN DOSE FOR LOW BLOOD GLUCOSE



Temp Target Activity Mode Exercise Mode

- This is now on the Medical Management Form if provider approved.
 - If not selected, please contact our office
- Change pump mode as needed before increased activity times to help prevent low blood glucose.
- Change mode 30 minutes to 1 hour before expected activity. May be extended up to 1 hour past end of activity as student tolerates.
- Once the programmed time runs out it will convert back to previous set target.

Simulator Apps

MiniMed 780G

Minimed Virtual Pump
App



Medtronic

MiniMed Flex

Minimed Simulator
App



Tandem t:slim

T:Simulator App



Tandem Mobi

Simulator Website



Omnipod 5

Omnipod 5 Simulator
App



Beta Bionics iLet

Simulator Website



Twiiist

Simulator Website





For More Information:

MiniMed 780G + Flex (www.minimed.com)

Tandem t:slim + Mobi (www.tandemdiabetes.com)

Omnipod 5 (www.omnipod.com)

Beta Bionics iLet (www.betabionics.com)

Twiiist (www.twiist.com)

Diabetes Resources (www.myschoolnurse.net)

Myschoolnurse.net

- Diabetes Medical Management Plan
- Bolus example PDFs
- Information on Twiist coming soon
 - Will update on myschoolnurse.net when available



QUESTIONS?



THANK YOU FOR
ATTENDING!

References

- Abbott. (n.d.). *FreeStyle Libre 3 continuous glucose monitoring system*. Retrieved April 20, 2026, from <https://www.freestyle.abbott/us-en/products/freestyle-libre-3.html>
- Dexcom. (n.d.). *Continuous glucose monitoring (CGM) systems*. Retrieved April 20, 2026, from <https://www.dexcom.com/>
- Medtronic. (n.d.). *InPen™ smart insulin pen*. Retrieved April 20, 2026, from <https://www.medtronic.com/en-us/healthcare-professionals/products/diabetes/smart-insulin-products/inpen-smart-insulin-pen.html>

User Guide Links

[MiniMed 780G User Guide](#)

[Minimed Flex User Guide](#)

[Tandem T:Slim X2 User Guide](#)

[Tandem Mobi User Guide](#)

[Omnipod 5 User Guide](#)

[Beta Bionic iLet User Guide](#)

[Twist User Guide](#)