



t:slim X2™ Insulin Pump Training Guide



t:slim X2™
Insulin Pump

WITH BASAL-IQ™ TECHNOLOGY



TANDEM®
DIABETES CARE

Your Choice. Your Life. Your Freedom.®

Pump Start Equipment Checklist

- Tandem t:slim X2™ Insulin Pump
Insulin
- NovoRapid®
- Humalog®
Tandem Pump Consumables
- TruSteel™
- AutoSoft™ 30
- AutoSoft™ 90
- Tandem Cartridges
- Syringes
- Needles
Blood Glucose Meter/ Blood Ketone Meter/ Dual Meter
- Glucose Test Strips
- Ketone Test Strips
- Insulin Pen or Syringe
- Hypo Treatments
- Snack (Carb or Non-Carb)

Pre-Pump Start Record

Long Acting Insulin	
Time last taken	
Number of units	
Reduction from normal dose (% of units)	

Rapid Acting Insulin	
Time last taken	
Number of units for carbs	
Number of units for correction	
Glucose value	
Ketone value (if tested)	

Rapid Acting Insulin	
Time last taken	
Number of units for carbs	
Number of units for correction	
Glucose value	
Ketone value (if tested)	



This book belongs to

My trainer is.....

Pump serial number.....

Technical Support 24/7: 0508 634 103

Sales Enquiries: 0800 500 226

Website: nzmsdiabetes.co.nz

Your Choice. Your Life. Your Freedom.®

We're devoted to helping people living with diabetes. For over 20 years we've given thousands of people the tools and support they need to improve their quality of life.



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Important Definitions & Icons

- Basal Rate** Basal insulin takes the place of long-acting insulin and is sometimes called background insulin. When set correctly, your basal rates should maintain fairly even blood glucose levels between meals and overnight. The basal rate can be changed according to the time of day and is delivered over a 24-hour period. Even though the pump delivers basal insulin every 5 minutes, basal rates are recorded as the number of units/hour. This rate is called a segment.
- Bolus Dose** The insulin that is given whenever you eat or to bring your glucose level back down to target.
- Temporary Basal** The pump allows you to temporarily override your active basal programme for a set period. This is useful when you need to increase or decrease your active basal delivery for short term situations such as sick days or exercise.
- Correction Factor** This number estimates how much 1 unit of insulin will lower your blood glucose. For example, if this number is 5, then 1 unit of insulin will lower your blood glucose by about 5mmol/L. The Correction Factor (CF) is only used when you want to correct a high blood glucose.
- Insulin Carbohydrate Ratio** This is usually referred to as your Carb Ratio. To calculate how much insulin you need when you eat, you will need to know your Carb Ratio. This tells you how many grams of carbohydrate 1 unit of insulin will cover. For example, if your Carb Ratio is 1:15, you need to bolus 1 unit for every 15g of carbohydrate you eat. The Carb Ratio is only used when you want to eat.
- Total Daily Dose** This is usually referred to as TDD. This is all of the insulin you take in one day ie basal and bolus.
- Insulin Duration** The length of time that insulin is active in your body. The insulin duration setting in your pump will determine the Insulin on Board when a correction is required.
- Insulin on Board** This is usually referred to as IOB. This is all the bolus insulin remaining in your body from previous bolus doses.
- Cannula** The portion of the infusion set that sits under the skin.
- Tubing** The tubing that connects the pump cartridge to the infusion set.
- Cartridge** The reservoir that contains the insulin being infused into your body. The cartridge is filled directly from your insulin vial/pen cartridge and attached to the pump.



The video icon means there is an instruction video available online, scan the QR code on the page to access the video. Alternatively, visit our Youtube channel NZMS Diabetes.



The open book icon means full instructions/ more detailed information are in your Tandem t:slim X2 User Guide.

Ordering Consumables & Accessories

Via phone

Orders can be made via our toll-free number **0800 500 226** during the business hours of Monday to Friday from 8:30 am to 5 pm.

Online

Orders can also be made anytime via our website www.nzmsdiabetes.co.nz/shop/

NZMS Diabetes Website

NZMS Diabetes website (nzmsdiabetes.co.nz) contains a wealth of resources that can be downloaded including Quick Guides to using the pump, letters for airport security and prescription forms but there are a lot more so check it out.

Technical Support

We provide technical support 24/7 by a team of our very own certified pump/CGM trainers.

We love to hear from our pump and CGM users. However, outside of business hours (Monday –Friday 8.30 am – 5.00 pm), this number should be used only for urgent technical enquiries. This is because we have a large pool of customers and need to keep the line free for people who urgently need help.

For all other enquiries, including purchasing of consumables, please phone 0800 500 226 during business hours (Monday – Friday 8.30 am- 5.00 pm)

Using The Technical Support Line

Follow the phone prompts and you will be connected to the 24/7 technical support team. If for some reason the number is not answered, please make sure you leave a message with your name and phone number otherwise we will not know who to call back.

Remember the toll-free number is listed on the back of your pump.



Maintenance Tips for your t:slim X2™ Insulin Pump

Charging Tips



Your t:slim X2™ insulin pump contains a rechargeable lithium-polymer battery. Lithium-polymer batteries are not harmed by partial charging.

- Charge 15-20 mins each day, most easily done when you disconnect for a bath or shower
- Avoid frequent full discharges
- As the battery discharges it will count down in 5% increments
- Once pump battery reaches 100%, remove from charger
- Do not charge while sleeping - it is not recommended to charge the pump overnight
- If charging in the car please use a car power adapter
- You do not need to disconnect from the pump while charging but if you are connected it is important to only use the Tandem charging cable



Keeping Vents Clean

There are 6 vents on the back of your pump which keep the pump ventilated and adjust for pressure changes. These 6 vents need to be kept clear and clean at all times.

If you notice any dirt, moisture or debris on these vents, we recommend that you use a lint-free cloth to gently clean the back of the pump. We recommend using the cleaning kit that is provided to clean the pump. DO NOT poke anything into the vents as you may damage the pump.



Tips for avoiding blocked vents

When possible, always wear your t:slim X2™ insulin pump in its protective case – this protects the pump from damage and also keeps the vents clear, clean and dry.

If you are not wearing your pump in a case, make sure that the vents can breathe – i.e. face the back of the pump outwards.

Avoid placing the back of the pump directly against your skin as this limits air circulation around the pump and you may get an alarm.

t:case Instructions for Use

The t:case is designed to allow charging and cartridge changes without removing the pump from the case and can be used with or without the supplied metal clip. On the t:case, the clip can be oriented both vertically or horizontally.

To place the pump in the case:

1. Disconnect from your site.
2. Line up the wake button of the pump with the button on the top of the case, and thread the tubing through the cutout (Figure A).
3. Once the tubing is securely through the cutout, insert the right side of the pump into the case, then press down on the left side.
*If your pump and case buttons are not on the same side, then your pump is in the case upside down and will not properly sit within the case.



To remove the pump from the case:

1. Disconnect from your site.
2. Place the pump face down (away from you).
3. Press down with your thumbs while simultaneously pulling back on the thin case rim with your index fingers (Figure B).



To change the orientation of the clip (t:case only):

1. Remove the pump from the case.
2. Once the pump is removed, using your fingernail or a small flathead screwdriver, lightly lift up the plastic tab behind the clip and slide the clip out (Figure C).
3. Slide the clip into the other slot until it clicks.



Get to Know your Insulin Pump

Home Screen



- Status:** Displays current system setting and insulin delivery status.
- USB port:** Charge your t:slim X2 insulin pump battery. Close the cover when not in use.
- Bolus:** Programme and deliver a bolus.
- Options:** Stop/Resume insulin delivery, manage pump and CGM setting, programme a temp rate, load cartridge, and view history.
- Cartridge tubing:** Tubing attached to the cartridge.
- Tubing connector:** Connects the cartridge tubing to the infusion set tubing.
- Screen On/Quick Bolus button:** Turns on the t:slim X2 insulin pump screen or programmes a Quick Bolus (if activated).
- LED Indicator:** Illuminates when the t:slim X2 insulin pump is connected to a power supply and functioning properly.

Lock Screen



The Lock screen appears anytime you turn on the screen. You must tap 1-2-3 in sequential order to unlock the pump.

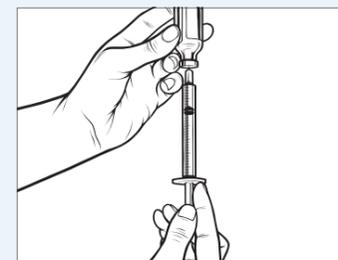
- Time and date display:** Displays the current time and date.
- Alert icon:** Indicates a reminder, alert or alarm is active behind the *Lock Screen*.
- Battery level:** Displays the level of battery power remaining. When connected for charging, the charging icon (lightning bolt) will display.
- 1-2-3:** Unlocks pump screen.
- Insulin on board (IOB):** Indicates the amount and time remaining for any active insulin on board.
- Active Bolus icon:** Indicates an active bolus.
- Status:** Displays current pump settings and insulin delivery status.
- Insulin level:** Displays the current amount of insulin in the cartridge.
- Tandem logo:** Returns to the *Home Screen*.

Filling a Cartridge

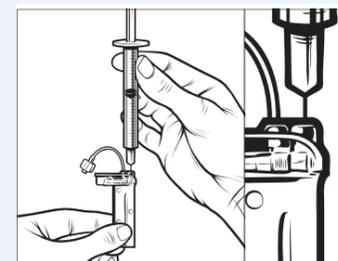


Before starting:

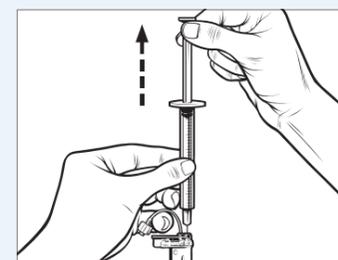
Open the pouch leaving contents on the inside of the packet and wash hands.



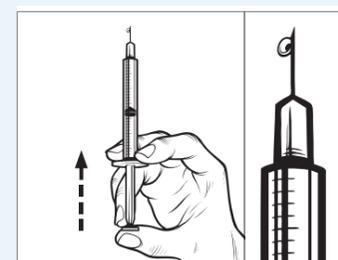
Attach the needle to the syringe and fill the syringe from the insulin cartridge. It is recommended to fill the cartridge 120-300u.



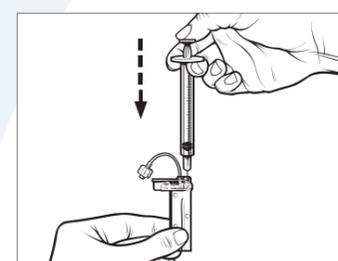
Insert the needle into the top of the white insulin fill port. Do not force the needle.



Make sure that the cartridge and syringe are upright and pull the top of the plunger upwards to remove any air that is left in the fill chamber. You should see one to two air bubbles. Release the plunger and it will return to a neutral position.



Remove the syringe from the cartridge. Turn the syringe so the needle is facing upwards and tap to release any air bubbles so they shift to the top. Push the air bubbles out of the top of the syringe making sure they clear all the way through the needle.



Reinsert the syringe into the fill port of the cartridge and slowly push the plunger down to fill the cartridge. It is normal to feel increased pressure towards the end.

Maintain pressure on the syringe as you remove the needle and remove the syringe from the cartridge.

Check to make sure that everything looks OK and there is no leakage from the cartridge.

DO NOT PUT COLD INSULIN INTO CARTRIDGE
Air bubbles are released out of cold insulin due to thermal expansion as it warms up.

t:slim X2™ Loading a Cartridge and Fill Tubing



Important Points When Loading a Cartridge

- Ensure the pump is disconnected from your body.
- Check for air bubbles while Fill Tubing.
- Wait for 3 drops to appear at the end of the line to complete the Fill Tubing.
- Maximum Fill Tubing volume is 30 units.
- Bolus screen cannot be entered into if Fill Tubing sequence has not been done during a cartridge change.

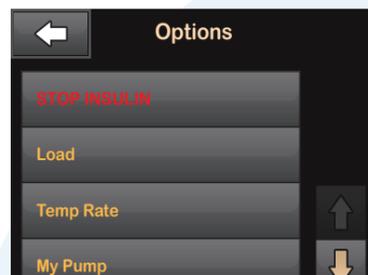
Unlock the pump 1, 2, 3



Tap on each button in order. The button is released when you lift your finger, not when you push on it.



Tap on Options to access the Options Menu.



Tap on Load and follow the instructions on the following page.

Quick Guide: Loading a Cartridge on t:slim X2™



The instructions below are provided as a reference tool for users who are already familiar with the use of an insulin pump and with insulin therapy in general. Not all screens are shown. For more detailed information on the operation of your Tandem insulin pump, please refer to your user guide.

- From the Options menu, tap **Load**.
- Tap **Change Cartridge**. A screen will appear to confirm that all insulin deliveries will be stopped. Tap to continue.
- Disconnect the infusion set from your body and tap to continue.
- Remove the used cartridge. Install filled cartridge. Tap the unlock icon when completed. Tap to continue.
- Verify that the infusion set is disconnected from your body. Connect the infusion set tubing to the tubing connector on the cartridge. Tap .
- Hold the pump vertically to ensure any air in the cartridge will be dispelled first. Tap **START**. The pump will beep and vibrate regularly while the tubing is filled.
- Tap **STOP** after three drops of insulin are seen at the end of the infusion set tubing, or after a minimum of 10 u have been filled. Verify that drops are seen and tap .
- From the load menu, tap **Fill Cannula**. Insert a new infusion set and connect filled tubing to site, then tap .

NOTE: If you are using a steel needle infusion set, there is no cannula. Skip this section.
- Tap **Edit Fill Amount**. Select amount needed for cannula fill. Refer to your infusion set instructions for use for proper cannula fill amount. Tap **START**.
- After the cannula fill is complete, you can set a Site Change reminder. Tap if correct. Tap **Edit Reminder** if settings need to be changed.
- A confirmation screen is displayed. Tap . A reminder to test BG in 1-2 hours will display. Tap .
- The RESUMING INSULIN screen will appear.

Initial Display of Insulin Level in Cartridge

After the Fill Tubing is complete, when the pump returns to the Home Screen, an estimate of how much insulin is in the cartridge is displayed in the upper right portion of the screen. One of the following levels will be displayed.

- >> + 40u More than 40 units detected in the cartridge
- >> + 60u More than 60 units detected in the cartridge
- >> + 120u More than 120 units detected in the cartridge
- >> + 180u More than 180 units detected in the cartridge
- >> + 240u More than 240 units detected in the cartridge

After 10 units have been delivered, the actual number of units remaining in the cartridge will be displayed on the Home Screen.

The amount of insulin remaining displayed on the Home Screen will decrease 5 units at a time (e.g. 140, 135, 130, 125). When less than 40 units remain, it will begin decreasing 1 unit at a time (e.g. 40, 39, 38, 37).

Personal Profile Set Up



Options > My Pump > Personal Profiles >

Profile No 1: Choose a name for your profile e.g. Weekday Time Setting

Time	00:00
Basal	
Correction Factor	
I:C	
Target	

Time	
Basal	
Correction Factor	
I:C	
Target	

Time	
Basal	
Correction Factor	
I:C	
Target	

Time	
Basal	
Correction Factor	
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Time	
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Correction Factor	
I:C	
Target	

Time	
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Correction Factor	
I:C	
Target	

IOB : _____ Max Bolus: _____ Carbs: ON

Total Daily Basal _____ Basal Limit _____ u/hr

Rates transferred by : _____

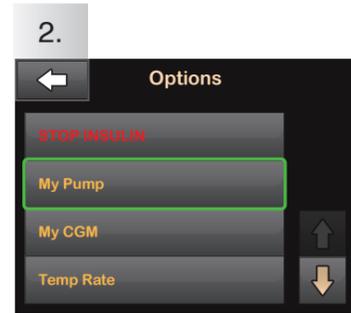
Quick Guide: Personal Profile Set Up



The instructions below are provided as a reference tool for users who are already familiar with the use of an insulin pump and with insulin therapy in general. Not all screens are shown. For more detailed information on the operation of your Tandem insulin pump, please refer to your user guide.



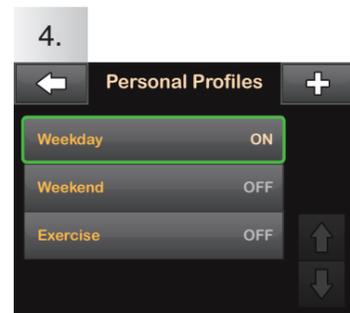
1. Tap **OPTIONS**.



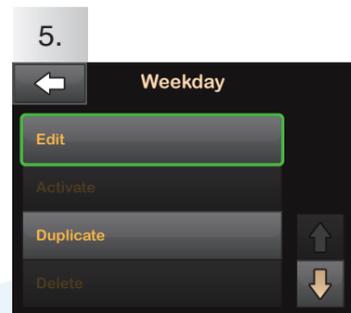
2. Tap **My Pump**.



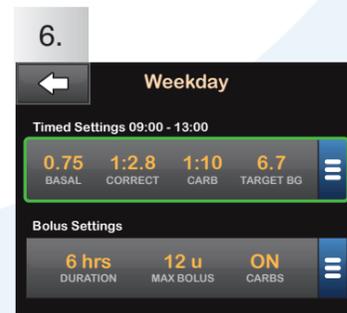
3. Tap **Personal Profiles**.



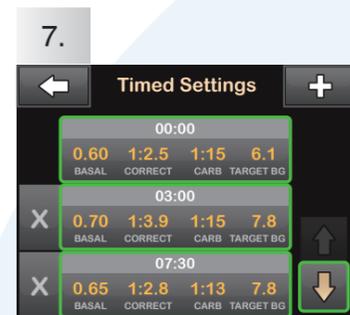
4. Tap the name of the Personal Profile to view or edit.



5. Tap **Edit** to edit or view your settings.



6. Tap your current settings to see the other segments of your day.



7. Tap the time segment you wish to edit.
If not all segments are visible, tap the **Down Arrow**.



8. Tap **Basal**, **Correction Factor**, **Carb Ratio**, or **Target BG** to make changes, then tap **Done**.
When you are finished, tap **Done**.



9. Confirm settings. Recent changes appear in orange.
Tap **Done** to confirm.

Personal Profile Set Up: Pump Settings Quick Bolus, Max Bolus, Basal Limit



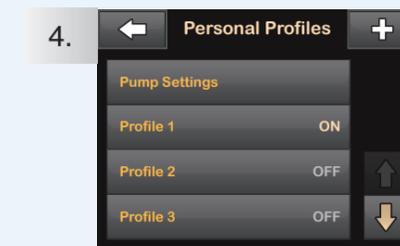
1. Select **OPTIONS**



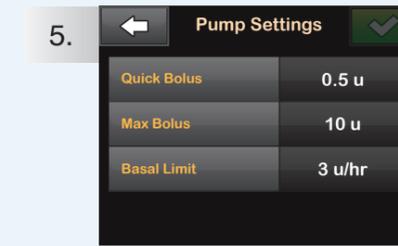
2. Select **My Pump**



3. Select **Personal Profiles**



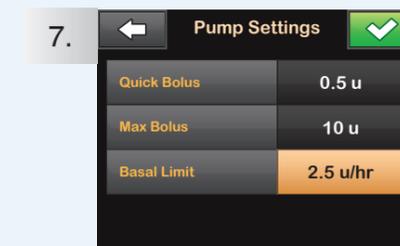
4. Select **Pump Settings**



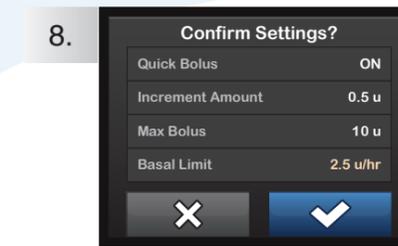
5. Select: **Quick Bolus**
Max Bolus
Basal Limit



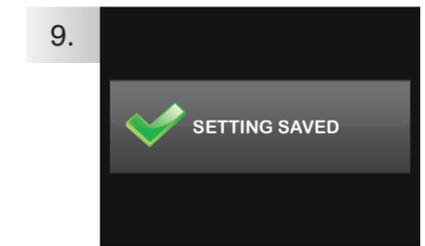
6. Adjust value settings



7. Save changes by selecting green checkbox



8. Confirm changes



9. New Setting Saved

IMPORTANT NOTES:

Quick Bolus is only recommended to be turned **ON** if using regularly.

Quick Bolus is recommended to be turned **OFF** for all paediatric patients.

Site Selection and Care

Your pump team will assist you in site selection. The most commonly recommended areas for site insertion are the abdomen and buttocks. Legs and arms can be used however they are muscular and move a lot which can affect the insulin absorption dramatically and lead to the unpredictability of blood glucose levels.

Sites should be changed every 2-3 days or as directed by your health care professional. This is because sites degrade and insulin absorption is reduced over time. The risk of infection also increases the longer the site remains in.

As sites deteriorate, you may notice that you need more insulin for boluses or you need more corrections and your blood glucose just keeps getting higher.

Remember aseptic technique.

Make sure you wash and dry your hands thoroughly before performing a site change - don't cough or sneeze into them, rub them through your hair or do any other activity. If you do, start again.

Keep the new site and line inside the sterile site packaging while you prepare the site, it makes a convenient work surface.

When using alcohol wipes or IV Preps, wipe in an outward spiral and not side to side. If you are using IV Preps, you will notice better site adhesion if you insert the site after the alcohol has evaporated but while the skin is still tacky.



DO always remember when using IV Preps or alcohol wipes to move in an outward spiral motion



DON'T smear wipes from side to side and don't blow on it to dry

Always insert your new site before removing the existing one because:

1. You may transfer an infection that could be developing in the existing site. The infection may not be apparent at the time.
2. If you are away from home and something goes wrong with a routine site change then at least you can reconnect to the existing site (as long as the existing site has not failed) until you get home.

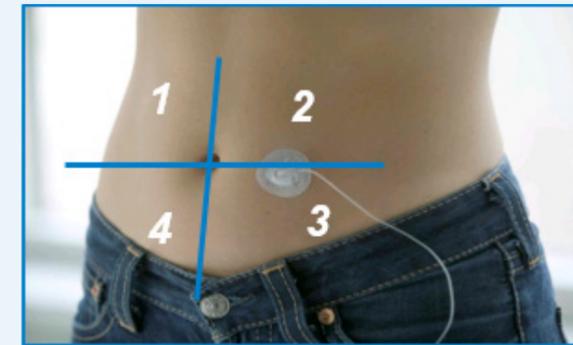
Always check your blood glucose 2 hours after insertion to check the site is functioning correctly.

Site Rotation

Rotating the site location will help to ensure ideal insulin absorption, reduce the risk of infection and lessen the chance of lipohypertrophy occurring. (Lipohypertrophy is the clinical name for those bumps that develop under the skin from excessive use of an area). If you have these bumps, avoid the area for several weeks to allow them to heal.

The recommended rotation method is:

- Each site should be at least 2-3 finger-widths (~5cm) from the tummy button and the previous site.
- Avoid inserting a site into scar tissue or moles.
- Avoid the waistline or belt area and underwear lines otherwise, friction can occur, leading to irritation or the site being dislodged.



Importance of Safety Loops

Your TruSteel™ infusion set has a built-in safety loop.

If you are using an AutoSoft 90™ or AutoSoft 30™ infusion set, you will be required to create your own safety loop (see picture below).

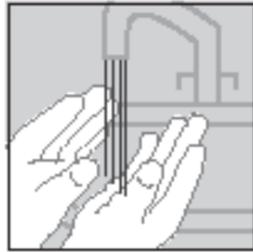
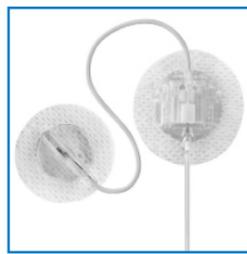
Constant tugging at the site can cause a leak in the set by rupturing the cannula where it connects to the set.

Not wearing a safety loop is a very common cause of increased scarring, nasty irritations, site infections, and tunneling because of the increased tugging.

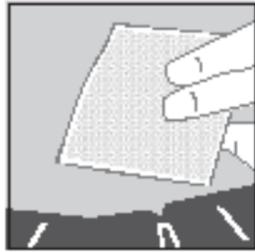


Insertion of TruSteel™ Infusion Set

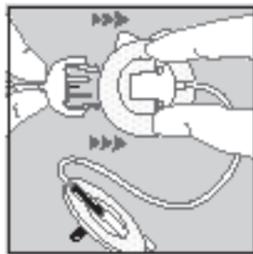
This guide is a summary only and intended as a quick reference guide only. Please refer to the package insert for full instructions and precautions.



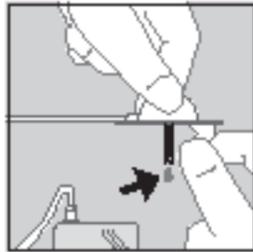
Wash and dry your hands thoroughly.



Clean your site with alcohol wipes.



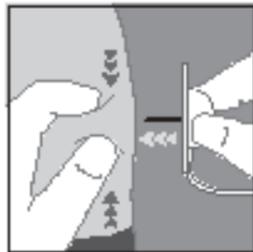
Connect the infusion set line to the tubing connector of the cartridge and then connect the needle part of the infusion set to the tubing.



Select Fill Tubing to push the insulin through the line until you maintain a steady flow of insulin for at least 3 drops at the end of your needle. Ensure there are no air bubbles.

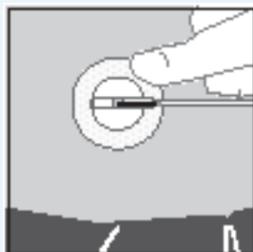


Remove the adhesive tape backing and then the needle protector from the set.

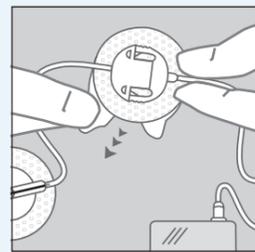


Hold the infusion set just above the needle with one hand. Pinch the skin at the injection site with the other hand.

Insert the infusion set to its full length at a 90° angle (straight in).



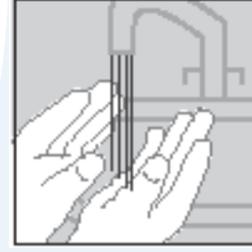
Ensure the material is properly placed and adequately covers the injection site. Remove the adhesive back taping from the connection point and secure firmly onto the skin.



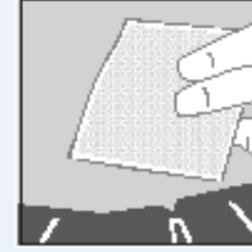
The Fill Cannula is not required for this infusion set.

Insertion of AutoSoft™ 30 Infusion Set

This guide is a summary only and intended as a quick reference guide only. Please refer to the package insert for full instructions and precautions.



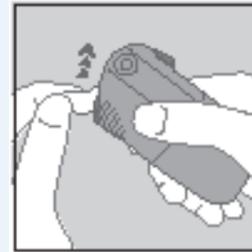
Wash and dry your hands thoroughly.



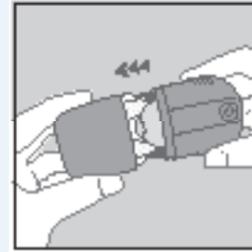
Clean your site with alcohol wipes.



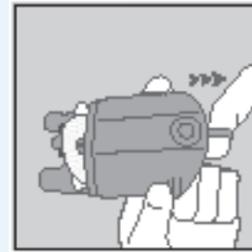
Pull the red tape to remove the seal.



Remove the sterile paper from the bottom of the set housing.



Hold the lined indentations with one hand pull the lid off with the other.

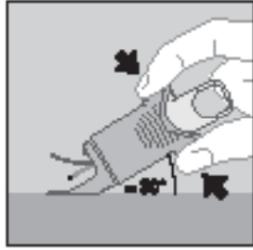


With one hand, place your fingers on the indentations on either side of the housing.

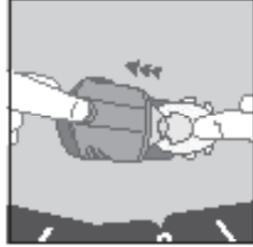
With the other hand pull back the spring softly until you hear a click. The needle protector will automatically lift up or peel off.



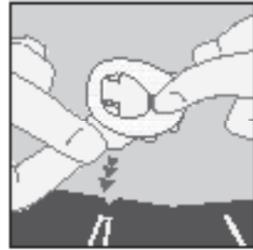
Carefully bend back the needle protector. This will also remove part of the adhesive tape. Ensure that the tape is not stuck to the needle.



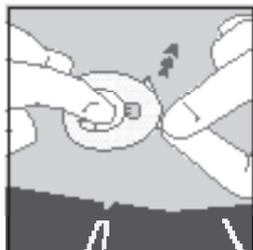
Place your index finger on the top release button and your thumb on the bottom release button. Position AutoSoft™ 30 with its legs level (flat) on the skin to ensure an insertion angle of 30°.



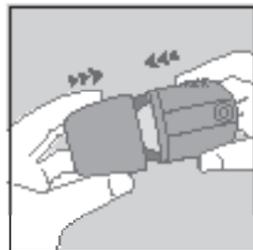
Gently squeeze on the top and underside of the housing to insert the set.



Secure the infusion set with one finger in front of the clear window.



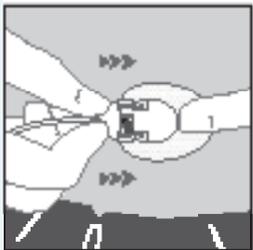
Remove the insertion device and introducer needle by pulling gently straight back.



Place one finger in front of the clear window. Gently remove the backing tape from the other half of the site. Hold the skin tight and gently press outside of adhesive tape to secure edges.



Replace the lid back on for safe disposal.



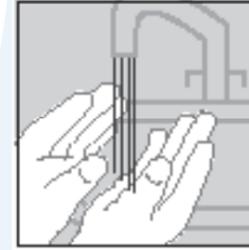
Connect the line to the cartridge in the pump and fill tubing. Ensure there are no air bubbles.



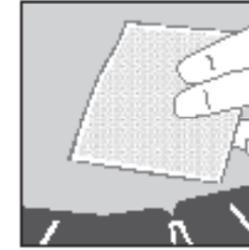
Connect the line to the site and make sure an audible click is heard and fill the cannula.

Insertion of AutoSoft™ 90 Infusion Set

This guide is a summary only and intended as a quick reference guide only. Please refer to the package insert for full instructions and precautions.



Wash and dry your hands thoroughly.



Clean your site with alcohol wipes.



Pull the tape to remove the seal.



Remove the sterile paper from the bottom of the set housing.



Press the three raised dots on each side of the lid firmly with one hand and lift up with the other hand.



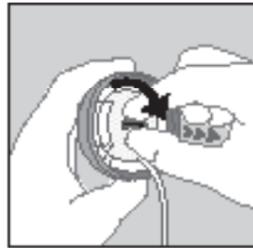
Carefully twist the beginning of the tubing out of the slot. Pull up gently. Gently unwind the tubing from the insertion device by pulling it carefully upwards.



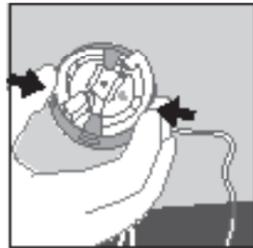
Pull up gently to remove the adhesive backing paper.



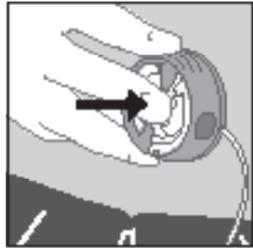
Prepare the inserter by placing fingers on lined indentations. Press lined indentations on each side and pull spring up until you hear a "click".



Carefully remove the needle guard by gently twisting and then pulling it.



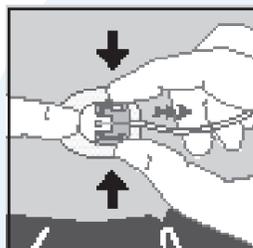
Position AutoSoft™ 90 over the insertion site. Simultaneously press the round indentations on either side of the insertion device to insert AutoSoft™ 90.



Push gently on the centre of the inserter to secure the adhesive on the skin.



Remove the inserter/introducer needle by grasping the centre and pulling it gently back. Massage the tape thoroughly into the skin.



Disconnect the site. Connect the line to the cartridge in the pump and fill tubing. Ensure there are no air bubbles. Reconnect the line to the site and fill the cannula.



Push the lid back in place until you hear a "click". With the lid properly connected, AutoSoft™ 90 can be disposed of safely.

REMEMBER TO FILL NEW CANNULA

6 mm cannula: 0.30 units
9 mm cannula: 0.50 units

Food Bolus



Your Insulin to Carbohydrate Ratio (I:Carb) is the number of grams of carbohydrate that 1 unit of insulin will cover.

The ratio often varies depending on the time of day.

The higher the number of the ratio - the less the amount of insulin given will be.

To calculate the food bolus, add all of the grams of carbohydrate without rounding. Only round the total to the nearest gram at the end.

Example:	Two pieces of toast	30 g
	Small Banana (122g)	28 g
	Latte	12 g
		70 g so 70 g of carbohydrate

Carbohydrate	÷	Carb Ratio	=	Units Needed
70	÷	10	=	7u
	÷		=	

NEVER BOLUS FOR HYPO TREATMENT

Correction Bolus in the Absence of Ketones

Your Correction Factor (CF) will tell you how much 1 unit of insulin will drop your blood glucose by in mmol/L. We use your CF to work out how much insulin you need to return your blood glucose down to your target range.

Example of a correction bolus calculation for someone with a CF of 2 and a target of 6				
i.e. $\frac{\text{Current BG} - \text{Target blood glucose}}{\text{CF}} = \# \text{ units needed}$				

Current BG	-	Target BG	=	Gap	÷	CF	=	Units Needed
12	-	6	=	6	÷	2	=	3
	-		=		÷		=	
	-		=		÷		=	

NOTE: When you give a correction bolus, we recommend that you initially check your blood glucose at 2 and 3 hours. Check more often if your blood glucose is dropping quickly or you feel you may go low.

Quick Guide: Delivering a Bolus



The instructions below are provided as a reference tool for users who are already familiar with the use of an insulin pump and with insulin therapy in general. Not all screens are shown. For more detailed information on the operation of your Tandem insulin pump, please refer to your user guide.



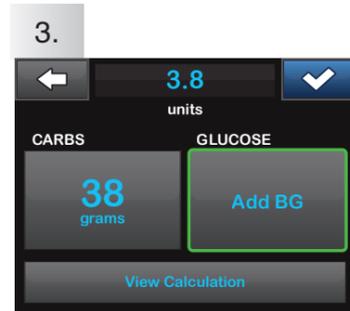
Tap **0 grams** to enter the carbs for your bolus.

NOTE: If this area reads "units," the carb feature is turned off in the active profile.



Enter desired value. Be sure "grams" is displayed above keypad for food boluses.

Tap to continue.



Tap **Add BG** to enter your blood glucose (BG).

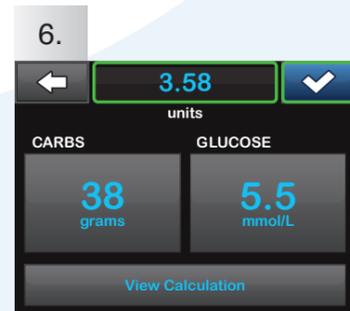
NOTE: If you have a CGM session active, and if there is both a CGM value and a CGM trend arrow available on the CGM Home Screen, your glucose value is auto-populated in the GLUCOSE field.



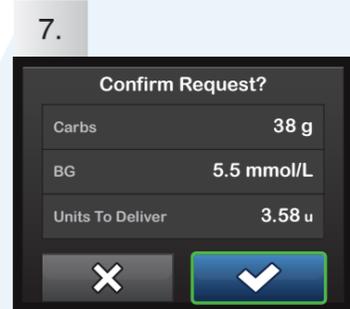
Enter desired value. Be sure "mmol/L" is displayed above keypad when entering BG values.



If a BG is entered that is below the target, but above or 3.9 mmol/L, you will be offered the option to reduce the bolus amount. To accept that reduction tap ; otherwise, tap .

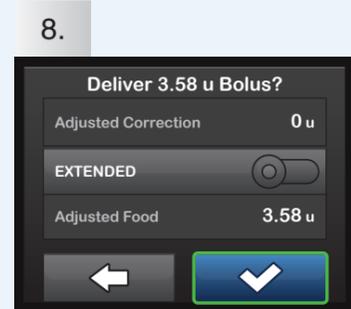


Tap to continue. Tap the calculated units value to manually adjust recommended dose.



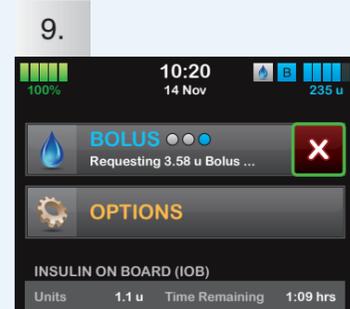
Verify the dose and tap to confirm.

NOTE: Calculations above are based on preset insulin-to-carb ratios and correction factors, which may be set in Personal Profiles.



Tap to deliver the food bolus immediately.

The BOLUS INITIATED screen will appear to confirm delivery has started.

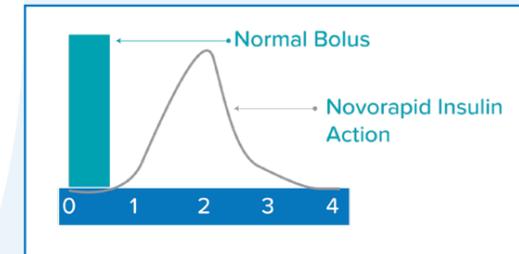


To cancel the undelivered portion of the bolus, tap next to BOLUS on the Home Screen, then tap to confirm cancelled bolus.

Bolus Options on Insulin Pumps

Normal Bolus (whole bolus given at once)

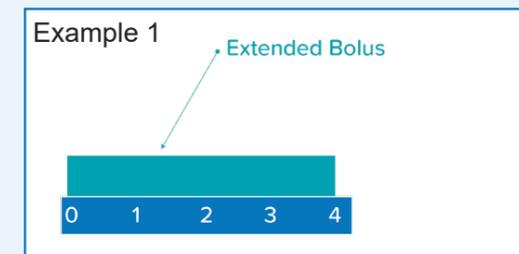
This will be used for the majority of meals.



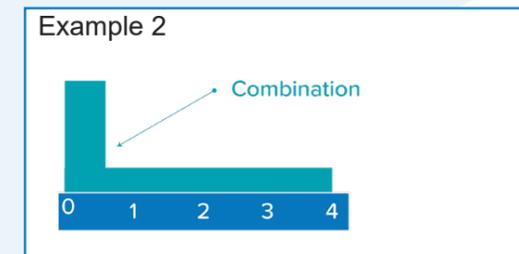
Notes

Extended Bolus (bolus given over longer duration)

is a slow infusion of insulin spread out over time. Using this delivery method, the bolus avoids a high initial dose of insulin that may enter the blood and cause low blood glucose before digestion can facilitate sugar entering the blood. An extended bolus is appropriate for high-fat meals such as pizza, deep-fried foods and low GI foods such as pasta (especially with heavy cream sauce).



Notes



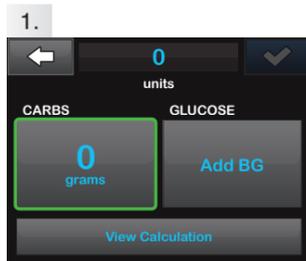
Notes

Type of Bolus	Indications for use	Recommended starting point
Normal Bolus	Most meals and snacks	
Extended Bolus	Slow eating (e.g. movies) Low GI foods (i.e. pasta and high-fat foods)	30 mins - 2 hours 50/50 split over 2 hours (50% of the bolus is given straight away and the remaining 50% is extended over 2 hours)

Quick Guide: Delivering an Extended Bolus



The instructions below are provided as a reference tool for users who are already familiar with the use of an insulin pump and with insulin therapy in general. Not all screens are shown. For more detailed information on the operation of your Tandem insulin pump, please refer to your user guide.



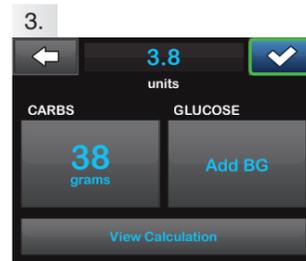
1. Tap **0 grams** to enter the carbs for your bolus.

NOTE: If this area reads "units," the carb feature is turned off in the active profile.



2. Enter desired value. Be sure "grams" is displayed above keypad for food boluses.

Tap **✓** to continue.



3. Tap **✓** to continue, then tap **✓** to confirm.

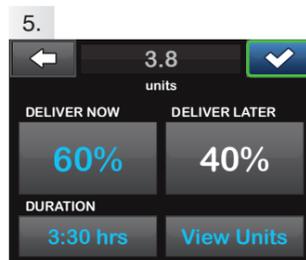
NOTE: If an above-target blood glucose (BG) is entered, the correction bolus will not be extended.

NOTE: If you have a CGM session active, and if there is both a CGM value and a CGM trend arrow available on the CGM Home Screen, your glucose value is auto-populated in the GLUCOSE field.

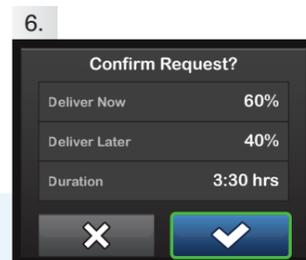


4. Tap the toggler to the on position to extend the bolus.

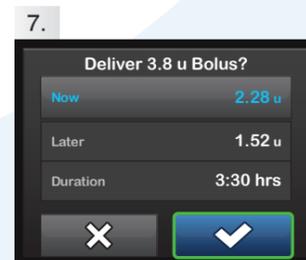
Tap **✓** to continue.



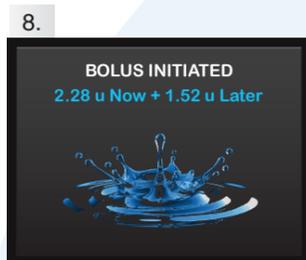
5. Tap **✓** to use default settings or tap **DELIVER NOW** and **DURATION** and set your desired values, then tap **✓** to continue.



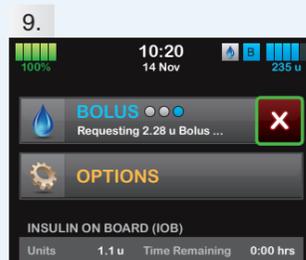
6. Tap **✓** to confirm.



7. The delivery screen will confirm how much insulin will be delivered up front for carbs (and any correction bolus), how much will be delivered over time, and the delivery duration. Tap **✓** to start the bolus.



8. The BOLUS INITIATED screen will appear to confirm delivery has started.



9. To cancel the undelivered portion of the bolus, tap **✗** next to BOLUS on the Home Screen, then tap **✓** to confirm cancelled bolus.

Hypoglycaemia

You will still have episodes of low blood glucose while on the pump, but the good news is that most people on pumps report less frequent and less severe hypos.

In general, the main causes of hypoglycaemia are:

- Insufficient food for the insulin bolus
- Too much insulin
- Increase in activity and/or lag effect of exercise
- Alcohol intake

It is important to always be prepared to treat a low blood glucose. You will find that treating a hypo when on a pump is slightly different from when you were on injections.

In some instances, complex carbohydrates may be required on recovery. Generally, you will not need to follow your hypo treatment with a complex carbohydrate snack.

Blood Glucose	Action	Follow Up
3-4mmol/L	___ grams glucose	Recheck blood glucose after 10 - 15 minutes. Repeat treatment if BG still under 4mmol/L.
2.0-3mmol/L	___ grams glucose	Recheck blood glucose after 10 - 15 minutes. Repeat treatment if BG still under 4mmol/L.
<2.0mmol/L	___ grams glucose	Recheck blood glucose after 10 - 15 minutes. Repeat treatment if BG still under 4mmol/L.

Grams of glucose	Examples
10g	<ul style="list-style-type: none"> • 4 x average size jelly beans • 2 x teaspoons of sugar • 2 x teaspoons of ordinary jam • 2 x Dextro Tablets
15g	<ul style="list-style-type: none"> • 5 x Mentos (3g in each one) • Orange twist drink (13g) • Blackcurrant twist drink (17.7g) • ½ can of regular coke/sprite

Physical Activity

An insulin pump can offer you one of the best ways to optimise your blood glucose control during periods of increased physical activity by adjusting your basal rate (temporary basal rate). You can also decrease your food bolus at the meal or snack before you exercise or do a combination of both!

What can happen during increased physical activity:

- Blood glucose levels may drop and you may require less insulin as your body is working harder and uses up glucose for the extra fuel the muscles need.
- You may need to either adjust insulin or eat extra carbohydrates to compensate.
- During very high-intensity exercise and/or competitive events, stress hormones may be released. These hormones trigger stored glucose to be released into the bloodstream causing your blood glucose to rise. On many occasions, this high glucose will come down to target on its own a short time after the exercise.
- If your blood glucose is high before exercise and insulin levels are low, your blood glucose can rise with the increased activity. The low insulin level will trigger your liver to release stored glucose. Since the insulin level is low, the extra glucose has no way to enter the cells and eventually, ketones will be released as your body resorts to breaking down fat to meet the muscles' need for energy. This is a dangerous situation and DKA could result.

General Exercise Tips

- Avoid exercising if blood glucose levels are >14mmol/L and ketones are present, use caution if glucose levels are >17mmol/L and no ketones are present
- Check blood glucose before, during and after various activities to establish patterns
- Carry fast-acting carbohydrates to treat low blood glucose
- Drink plenty of water to stay hydrated
- In general, exercise lasting longer than 30 minutes will require extra carbs or a decrease in insulin
- Adjust the insulin that has the greatest effect during the exercise session; basal insulin or the bolus dose
- If you are exercising within an hour or two of a bolus, decrease the bolus
- If your exercise is not close to a bolus, consider a temporary basal rate adjustment
- You may find that adjusting both basal and bolus insulin is best for you
- When adjusting your basal insulin, begin 30-60 minutes before the increase in activity if possible
- Remember, because of the lag effect of exercise, you may need to decrease insulin for as long as 24-36 hours after the exercise. This is especially true for activities that last for several hours or more
- It is recommended to remove the pump during contact sports. Do not remove the pump for longer than 1-2 hours without advice from your health care team
- Your energy level peaks one to three hours after a meal, exercising during this time can be more effective than other times

Exercise Intensity and Duration	Blood Glucose	Dietary Carbohydrates (g)
Brief high-intensity of 30 minutes e.g. weights, sprints	6-10mmol/L	No food required
Light 30-60 minutes e.g. walking 30 minutes easy pace aerobic exercise 60 minutes	<6.0mmol/L	15g
	>6.0mmol/L	No food required
Moderate <45 minutes e.g. swimming, jogging, tennis, basketball, netball	<6.0mmol/L	30g
	6-10.0mmol/L	15g
	10-14.0mmol/L	No food required
	>13.5mmol/L	See note below

Please consult your Healthcare professional regarding bolus for exercise carbohydrates and any concerns around high blood glucose when exercising.

Temporary Basal

Where else can I use my Temporary Basal?

Examples of how a temporary basal rate affects your pump's basal delivery are listed below.

A basal rate of 100% is as programmed in your personal profile.

A temp basal rate >100% is an increase in basal rate whereas a temp basal rate <100% is a reduction in basal rate.

Basal rate	Temp basal change	Adjusted basal rate
0.455u/hr	120%	0.546u/hr
	100%	0.455u/hr
	80%	0.364u/hr

I should activate a temporary basal at least ___ hour before an event

S

S

S

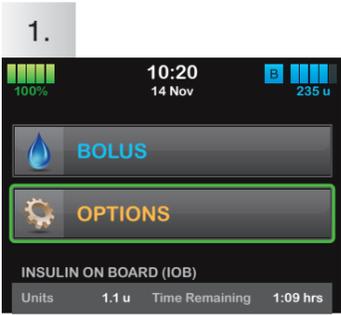
S

S

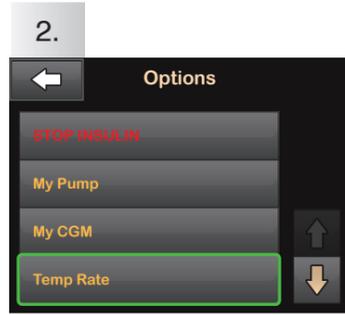
Quick Guide: Setting a Temp Basal



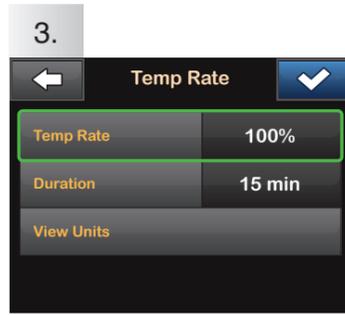
The instructions below are provided as a reference tool for users who are already familiar with the use of an insulin pump and with insulin therapy in general. Not all screens are shown. For more detailed information on the operation of your Tandem insulin pump, please refer to your user guide.



Tap **OPTIONS**.



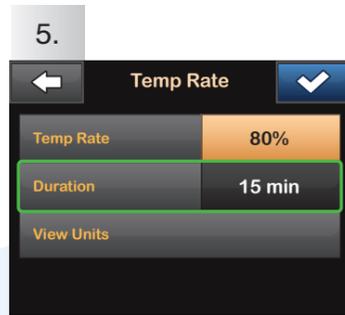
Tap **Temp Rate**.



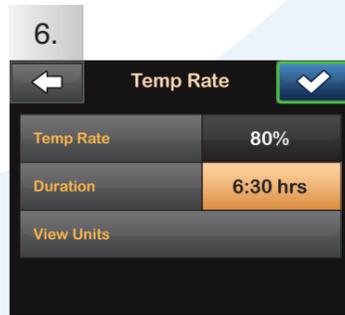
Tap **Temp Rate**.



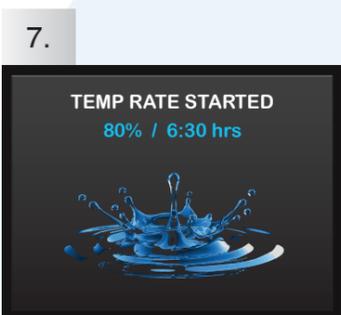
Using the onscreen keypad enter desired percentage. Tap **✓**.
NOTE: Current rate is 100%. An increase is greater than 100% and a decrease is less than 100%.



Tap **Duration**. Using the onscreen keypad enter desired length of time for Temp Rate. Tap **✓**.



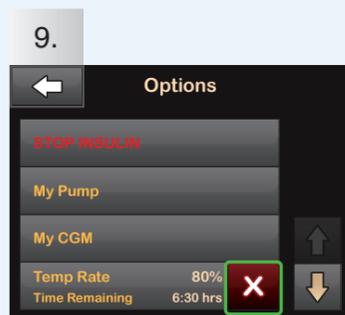
Verify settings and tap **✓**.
NOTE: To see the actual units to be delivered, tap View Units.



The **TEMP RATE STARTED** screen will appear to confirm the Temp Rate has started.



The Screen Lock screen will appear with the orange T icon indicating a Temp Rate is active.
NOTE: If a Temp Rate of 0% is currently active, the orange T icon will be replaced with a red T icon.



To stop Temp Rate at any time, tap **OPTIONS**, then tap **X**. A confirmation screen will appear. Tap **X**.

Correction Bolus in the Presence of Ketones

You will need to check your ketone level every time that you have an unexpected blood glucose > _____ mmol/L.

If you use a meter to measure your blood ketones then the interpretation guidelines are as follows:

<0.6mmol/L	Readings below 0.6mmol/L are within the normal range. (i.e. considered negative)
0.6-1.5mmol/L	When your blood ketone reading is between 0.6 and 1.5mmol/L you are positive for ketones. This may indicate the development of a problem that may require medical assistance but is generally manageable at home
>1.5mmol/L	When your blood ketone reading is >1.5mmol/L you are positive for ketones and you may be at risk of developing diabetic ketoacidosis. Contact your healthcare professional immediately for advice.

The presence of ketones will make you more resistant to insulin so often a larger dose of insulin is required to bring you back down to your target blood glucose. We do this by adding an extra 50% to the correction dose if ketones are present.

Current BG	-	Target BG	=	Gap	÷	CF	=	SUM	x 1.5	=	Units Needed
16	-	6	=	10	÷	2	=	5	x 1.5	=	7.5
	-		=		÷		=		x 1.5	=	
	-		=		÷		=		x 1.5	=	

If ketones are present you must assume there is a problem with insulin delivery and inject manually. **DO NOT USE THE PUMP.** Once the pump and infusion set can be ruled out as the cause of the ketones e.g. ketones induced by illness, then the pump can be used for further corrections.

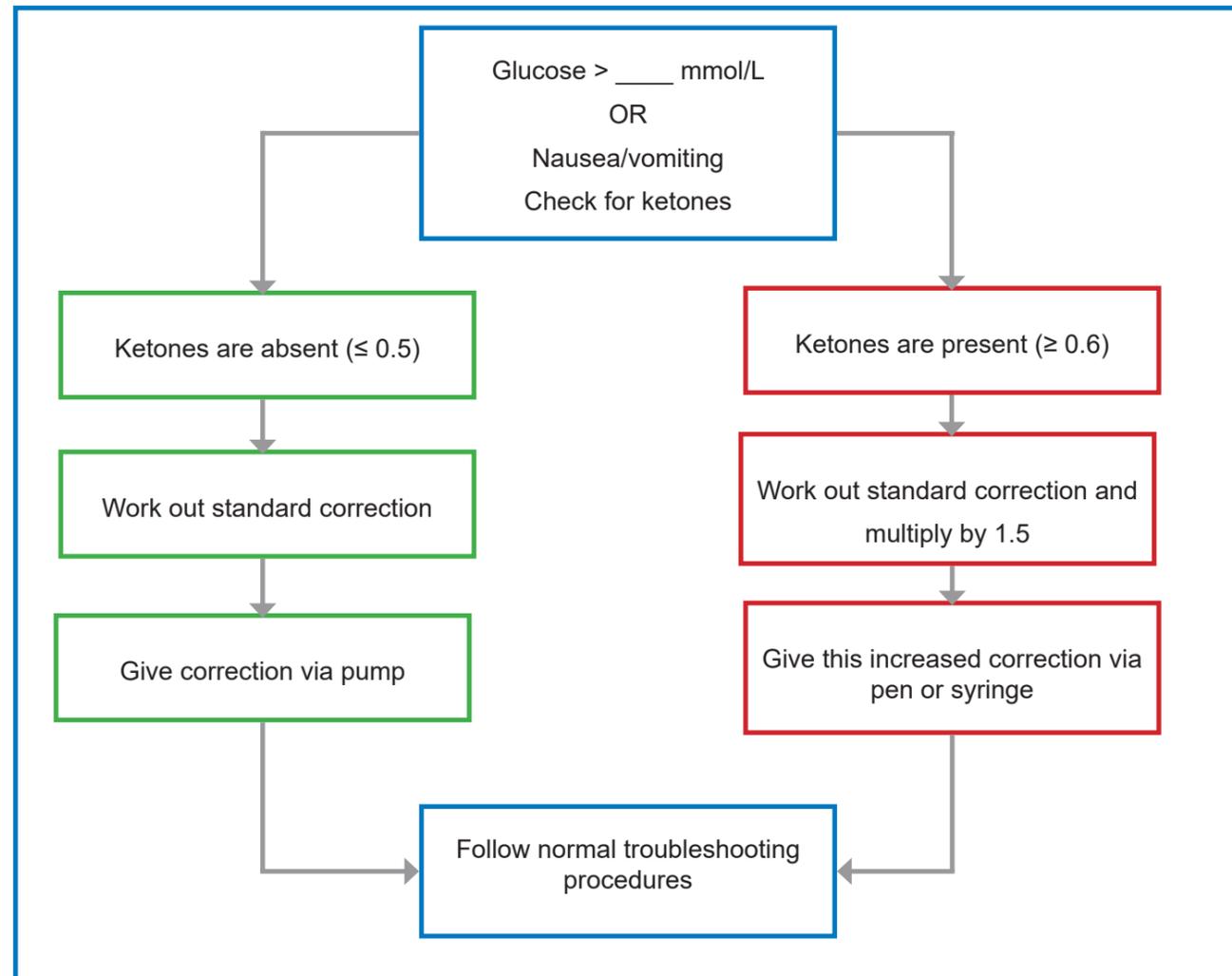
After injection, follow the troubleshooting circle on p.35 and seek medical advice if needed or if you are unsure about anything.

Hyperglycaemia Treatment Summary

When using pump therapy, high blood glucose needs to be treated as seriously and as quickly as low blood glucose.

If the ketones are positive, immediate action is needed to prevent DKA from occurring. This is because there is no long-acting insulin in your system. Diabetic ketoacidosis is life-threatening.

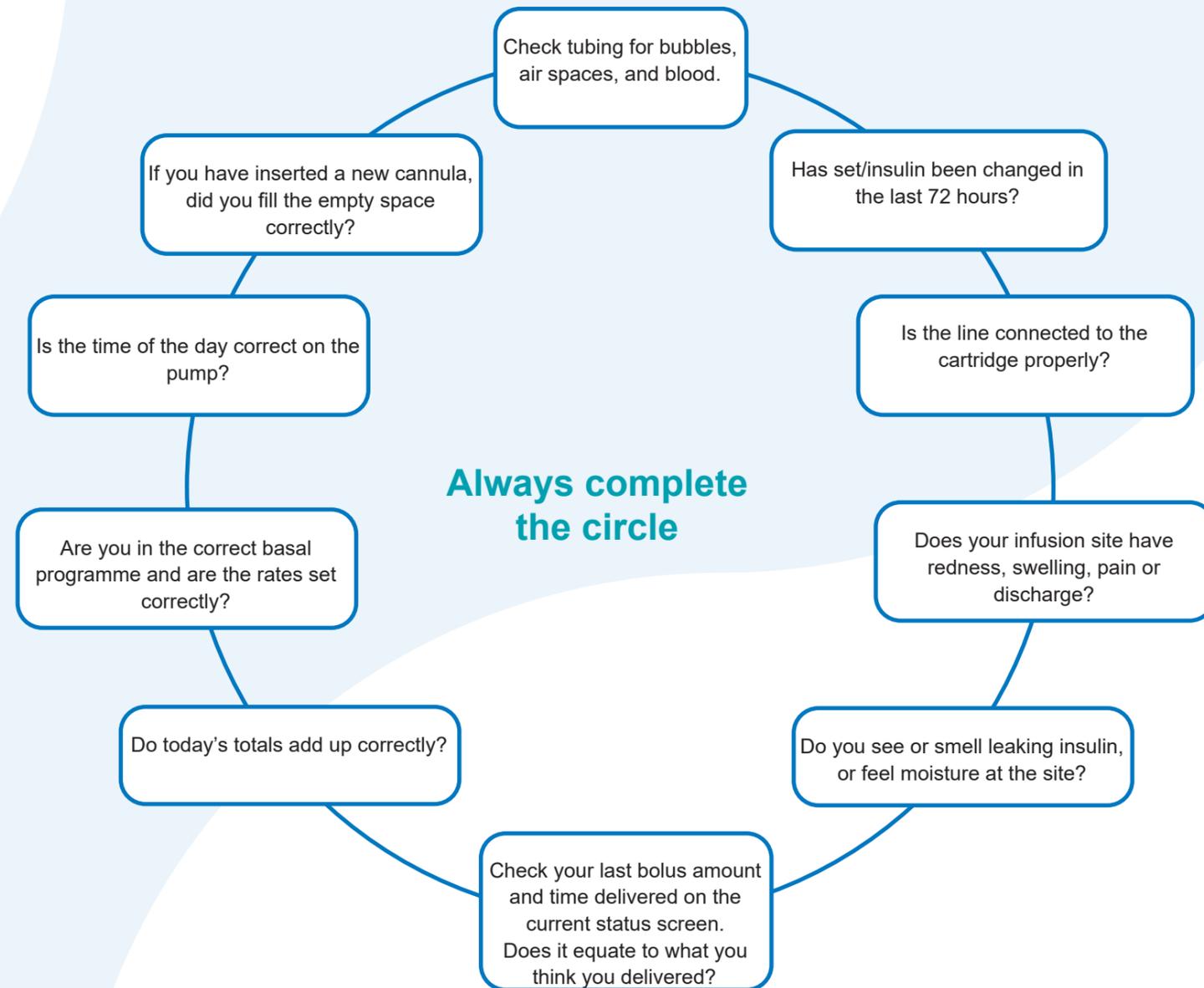
If your glucose level is unexpectedly above _____ mmol/L or if you have nausea and/or vomiting, follow the guidelines below



Check blood glucose and ketones after 1 and 2 hours to make sure the blood glucose is coming down and the ketones have gone. Drink water.

Troubleshooting the Pump

When glucose \geq _____ mmol/L



**IF KETONES ARE POSITIVE:
GIVE CORRECTION BOLUS USING SYRINGE/PEN
DO NOT TROUBLESHOOT UNTIL MANUAL CORRECTION HAS BEEN GIVEN**

Sick Day Management



It may be more difficult to maintain good blood glucose control during times of illness, surgery and major stress. Follow the general guidelines below to manage your blood glucose during these times.

- Never skip your insulin. Even if you are unable to eat, your need for insulin continues and may even increase due to illness.
- Continue your basal insulin and take additional corrections using your correction factor as needed.
- A temporary increase in basal rate is sometimes a good option if the blood glucose levels stay high for >4 hours. Always phone your clinical team if you are unsure. Do not wait.
- Check your blood glucose before meals and snacks as usual. Besides, check blood glucose every 2-4 hours.
- Check for ketones when your blood glucose is >15mmol/L and treat accordingly if positive.
- Consume adequate liquids to prevent dehydration and maintain electrolyte balance.

Consider calling your healthcare professional if:

- Your illness continues without improvement for more than 24-48 hours.
- Vomiting or diarrhoea continues for more than 4 hours.
- Ketones are present.
- Your blood glucose is still above 15mmol/L after taking extra bolus doses and temporary basal is active.
- You have signs of ketoacidosis, dehydration or other serious problems such as increased drowsiness, abdominal or chest pain, difficulty breathing, fruity odour to the breath, dry cracked lips, mouth or tongue.
- You are unsure about anything.

Diabetic Ketoacidosis

Without any long-acting insulin (e.g. Lantus) on board, blood glucose can rise quickly and a condition called Diabetic Ketoacidosis (DKA) can occur. DKA is a serious medical condition that needs to be treated immediately. Understanding the cause and signs will help you manage it.

Cause:

Insulin is needed to move glucose from the blood and into the cells where it is used for energy. Without insulin, this does not happen so your body will begin to burn fat for energy. Ketones are an acidic by-product of the fat being broken down and are extremely toxic.

If you have elevated blood glucose and moderate to high ketones levels you should assume there is a problem with the insulin delivery from your pump. Usually, the problem is related to the infusion set or site. If it is not a pump problem, site issue or bad insulin, you may be ill or have another medical problem that needs attention.

Symptoms include:

Early signs:	Advanced signs:
Unusually tired	Rapid or difficulty breathing
Nausea	Sore stomach
Fruity odour to the breath	Thirsty/ dry mouth
	Vomiting

What to do if Ketones are present:

- Treat the high blood glucose with manual injection (see p.31 "Correction Bolus in the Presence of Ketones" for Correction dose calculation)
- Drink water to flush out the ketones
- Troubleshoot your site and pump
- Recheck ketones and blood glucose in 1-2 hours to make sure they are coming down
- Call your doctor immediately if blood glucose remains high, you continue to have ketones or nausea after two correction doses.
- If you have ketones and begin vomiting, go to the nearest emergency room

Insulin On Board

Levels of rapid-acting insulin e.g. Humalog® and NovoRapid® decrease at a rate of approximately 30% every hour. This means that we can easily calculate the approximate amount of insulin remaining from a bolus at any given time.

If you know how much insulin is remaining from your last bolus, then you can adjust your new correction bolus and prevent stacking of insulin by subtracting the insulin on board from the correction bolus calculated.

	After 1 hour	After 2 hours	After 3 hours	After 4 hours
Amount used	30%	60%	90%	100%
Amount remaining	70%	40%	10%	0%
Alternative Factor	0.7	0.4	0.1	

The chart above illustrates approximately how much insulin is remaining from recent boluses.

Number of units given x % remaining = units of insulin left

If **1u** was given 2 hours ago, then **1u x 40% (0.4) = 0.4u** remaining

If **7u** were given 3 hours ago, then **7u x 10% (0.1) = 0.7u** remaining

# units given	x	% remaining	=	Units of insulin left
7 units	x	10 %	=	0.7 units
units	x	%	=	
units	x	%	=	

Only deduct the amount of Insulin On Board from any correction boluses.
Do not take Insulin On Board into account for regular food boluses.

Application of Insulin On Board

Once you know how much insulin is still on board from previous boluses within the last 3-4 hours, you can use this information to adjust your correction. This adjusted correction will prevent insulin stacking and subsequent hypoglycaemia from over correcting.

Step One: Calculate correction as per normal.

Current BG	-	Target BG	=	Gap	÷	CF	=	Units Needed
	-		=		÷		=	(A)

Step Two: Have you had a correction bolus using a pen in the last 3 hours? If yes, calculate how much insulin is still on board. If more than one bolus has been given, each bolus must be calculated separately and added together to get the final IOB.

No. of Units given in the last three hours	x	<table border="0" style="width: 100%; text-align: center;"> <tr> <td colspan="3">% bolus left after</td> </tr> <tr> <td><u>1 hour</u></td> <td><u>2 hours</u></td> <td><u>3 hours</u></td> </tr> <tr> <td>70%</td> <td>40%</td> <td>10%</td> </tr> </table>	% bolus left after			<u>1 hour</u>	<u>2 hours</u>	<u>3 hours</u>	70%	40%	10%	=	Insulin On Board (B)
% bolus left after													
<u>1 hour</u>	<u>2 hours</u>	<u>3 hours</u>											
70%	40%	10%											
	x		=	(B)									

Step Three: Do you require any extra insulin?

Units Needed (A)	-	Insulin On Board (B)	=	Adjusted Correction (C)
	-		=	(C)

If **C** is a positive number then a correction needs to be given.

If **C** is a negative number then a correction does not need to be given.

If you are going to give a food bolus, simply add the adjusted correction to the food bolus and give it at the same time.

- Food bolus followed by Food bolus = Do not calculate IOB**
- Food bolus followed by a correction = Calculate IOB**
- Correction followed by Food bolus = Do not calculate IOB**
- Correction followed by a correction = Calculate IOB**

Return to Multiple Daily Injections

Although uncommon, there could come a time when you need to return to injections temporarily. In the event of this happening, you must have instructions on the recommended doses of long-acting insulin you should return to. This needs to be provided by your Healthcare Professional and should be established before the completion of training.

It is up to the patient to keep the dose recommendations current.

When bolusing for carbohydrates or corrections, your dose of rapid-acting insulin i.e. NovoRapid® or Humalog® will remain the same but will be delivered by pen or syringe.

Supply Check List

We recommend that you carry the following:

Testing Equipment

Blood ketone meter and test strips

Blood glucose meter, strips and finger pricker with lancets

Pump Consumables

Alcohol wipes

Charger or µUSB cable or power pack

Spare cartridges

Spare infusion sets

Treatment of hypos and high glucose levels

Pen/Syringes with rapid-acting insulin

Glucose tablets or other sources of quick-acting carbohydrate

Long-acting insulin for overnight or longer trips away

Glucagon (if recommended by your healthcare team)

Other

Contact numbers

Medical identification – mediband.co.nz

Radiology Procedures

(quick reference guide)

Procedure	Patient is Pumper	Healthcare Professional is Pumper
Dental X-rays	Disconnect and leave outside the room.	Disconnect and leave outside the room.
UltraSound	<ol style="list-style-type: none"> 1. No need to disconnect. 2. The transducer should not be pointed directly at the pump or site. If the site is directly in the range of the transducer, site should be removed. 	<ol style="list-style-type: none"> 1. No need to disconnect. 2. The transducer should not be pointed directly at the pump or site.
Mammogram and Bone Density test	<p>DO NOT expose the pump to the test.</p> <ol style="list-style-type: none"> 1. Disconnect the pump before the test and leave the pump in a locked dressing room. 2. Infusion set can remain in place during the test. 	<ol style="list-style-type: none"> 1. No need to disconnect. 2. Follow normal x-ray safety practices and proceed to the designated safe area while each test is being performed.
Body x-rays, Fluoroscopy (chest, neck, abdomen)	<p>DO NOT expose the pump to the x-ray beam.</p> <ol style="list-style-type: none"> 1. Disconnect the pump before treatment and leave the pump in a locked dressing room. 2. If the infusion set doesn't interfere with the area being treated, the set can remain in place during radiation. 	<ol style="list-style-type: none"> 1. No need to disconnect. 2. Follow normal x-ray safety practices and proceed to the designated safe area when each x-ray is taken.
Therapeutic Radiation/ Onc. (cancer treatment by radiation)	<p>DO NOT expose the pump to radiation treatment.</p> <ol style="list-style-type: none"> 1. Disconnect the pump before treatment and leave the pump in locked dressing room. 2. If the infusion set doesn't interfere with the area being treated, the set can remain in place during radiation. 	<ol style="list-style-type: none"> 1. No need to disconnect. 2. Follow normal radio-protection practices and proceed to the designated safe area while the patient is undergoing treatment.
CT Scans and MRIs (Magnetic Resonance Imaging)	<p>DO NOT bring the pump into the exam room at any time.</p> <ol style="list-style-type: none"> 1. Disconnect the pump and metal needle infusion set before the exam and leave in a locked dressing room. 2. Soft cannula infusion sets can remain in place. 3. If the pump is accidentally allowed in the exam room, disconnect the pump immediately and contact Tandem Pump Support for instructions. 	<p>MRI: DO NOT bring the pump into the same room as the MRI machine at any time.</p> <p>If the pump is accidentally allowed in the exam room, disconnect the pump immediately and contact Tandem Pump Support for instructions.</p> <p>CT scan: No need to disconnect.</p> <p>Follow normal CT scan safety practices and proceed to the designated safe area when each scan is performed.</p>
Electro-cautery surgery	<p>Disconnect from the pump during surgery.</p> <ol style="list-style-type: none"> 1. Disconnect before surgery and leave in a locked dressing room. 2. If the infusion set doesn't interfere with the area being treated, the set can remain in place during surgery. 	No need to disconnect.

When in doubt, disconnect and leave the pump in a locked dressing room

Follow usual instructions for bolusing to cover any missed basal insulin if needed when you reconnect.

Medical Procedures

Procedure	Patient is Pumper	Healthcare Professional is Pumper
Pacemaker AICD	1. Disconnect the pump and leave outside the room during the insertion of the device and reprogramming. 2. Infusion set can remain in place.	Follow normal safety practices and proceed to the designated safe area while each x-ray is taken and during programming.
ECG	No need to disconnect.	No need to disconnect.
Cardiac Catheter	Disconnect the pump and leave outside the room during the procedure	Follow normal safety practices and proceed to the designated safe area while each x-ray is taken.
Nuclear Stress Test	Disconnect the pump and leave outside the room during the scan. It can remain connected during the injection of the radioisotope.	Follow normal safety practices and proceed to the designated safe area while each x-ray is taken.
Colonoscopy	No need to disconnect.	No need to disconnect.
Laser Surgery	The pump and infusion set can be worn; however, some lasers can create interference and cause the pump to alarm.	The pump and infusion set can be worn; however, some lasers can create interference and cause the pump to alarm.
General Anaesthesia	Determination based on what medical equipment is being used in the procedure.	Determination based on what medical equipment is being used in the procedure.

Amusement Parks & Aviation

“Free-Fall” Rides	Very powerful electromagnets are sometimes used on “free-fall” amusement park rides. Insulin pumps should be removed and not taken on these “free-fall” types of rides.
Roller-Coasters	High gravity forces can be experienced when riding on some roller-coasters. It is recommended that you disconnect (NOT suspend) the pump while on roller-coaster rides.
Aircraft without Cabin Pressurisation	If flying in aircraft without cabin pressurisation or flying in aircraft used for aerobatics or combat simulation pressurised or not), it is recommended that you disconnect (NOT suspend) the pump.
Airport Security	No need to disconnect unless going through a walkthrough x-ray. DO NOT expose to security checkpoint x-rays by putting through conveyor belt x-ray or walk-through x-ray.

Flying with your Tandem Insulin Pump

If you plan to travel by air with your insulin pump, some advance planning may make your security screening go smoother. Your device is safe for use during air travel and complies with FAA wireless transmission standards. It is also designed to withstand common electromagnetic interference and can be safely carried through metal detectors.

However, your Tandem insulin pump should NOT be put through machines that use x-rays, including airline luggage x-ray machines and full-body scanners. We recommend asking the security agent for an alternative screening method and request to go through a standard metal detector wearing your pump.

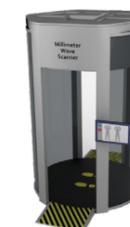
It may be helpful to provide a printout of the information below to the security agent with your pump during screening. If you have any questions about travelling with your pump, please call NZMS Diabetes Customer Care at 0508 634 103. We are here for you 24 hours a day, 7 days a week.



Metal Detectors, hand held body scanners



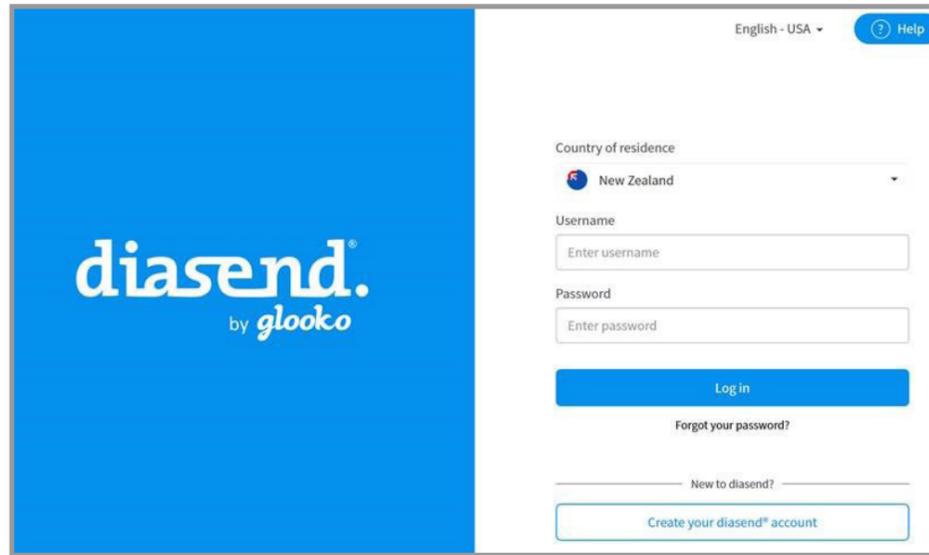
x-rays, including full body scanners and luggage screening machines



Glooko + Diasend® Data Management

Diasend is our web-based software package designed to help you and your healthcare team manage your diabetes better. Simply download your Tandem t:slim X2™ insulin pump and Dexcom together for a more comprehensive analysis and trend identification in an easy to read format with graphs, tables, and statistics. The Glooko + Diasend Uploader is available free of charge to all Tandem pump users.

1. Log in or start a new account at www.diasend.com



2. Download the diasend® Uploader Software

Complete the registration for a new account and download the diasend® Uploader software in the final step of the registration process.

*If you would like to install the diasend® Uploader, you can access the installation file from your account. To do so, log into your account and go to **UPLOAD***

3. Save the installation file

You have chosen to open:
DiasendUploaderPatient2.4.0_BuildR2e02.exe
Which is a: binary file (16,2 MB)
From: <https://www.diasend.com>
Would you like to save this file?
Save File Cancel

Compatibility operation systems
7,8 and 10, macOS X 10.6-10.13

4. Locate the installation file and run the file

Depending on your web browser you may need to search for the downloaded installation file, or you may just get a pop up window to run the file.

If you are a PC user: Look in your recent downloads folder.

If you are a Mac user: look in the downloads folder in Finder.

5. Start Diasend Uploader

Double click on the diasend® Uploader icon on your desktop to start the program.

Make sure you have restarted your computer before starting up diasend® Uploader for the first time.

6. Connect your diabetes device cable to the computer

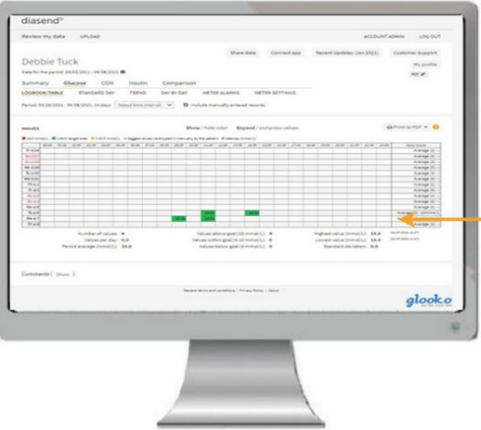


Connect the microUSB cable to the computer. Once the cable is connected, wait a few seconds for the cable drivers to be recognised, then connect to the X2 insulin pump.



Make sure to use the cable that came with your t:slim X2™ insulin pump.

7. Log in at www.diasend.com to view your data



All your uploaded data is presented in easy-to-grasp tables and graphs.

The reports are divided into the following tabs:

Summary Glucose CGM Insulin Comparison

8. Share your data with a clinic



You can share your data with your healthcare provider by entering their data clinic ID, under the tab **Share data**

Remember to click **Share data** and **Save my information**

9. View your uploaded data in the diasend® Mobile app



Download the app from Google Play or the App Store.

Log in with your diasend personal details or create a new account.

With the diasend® Mobile app you get:

- A summary of the latest uploaded data
- Easy to grasp reports on your insulin intake and glucose levels over time

Tandem Basal-IQ Online Training

Your new Tandem t:slim X2 insulin pump has been supplied with Basal-IQ software installed. Tandem Basal-IQ online training is recommended before you use this software on your pump for the first time.

The training will take approx. 30 minutes to complete and gives a detailed overview of Basal-IQ Technology and its function including the rules the pump software uses to predict low blood glucose, suspend basal insulin delivery and auto-resume delivery.

At the end of the training a certificate will be generated. It is recommended that you fill in your name and pump serial number, screenshot the certificate and email to: tandemupdate@nzms.co.nz

Please scan the following QR Code with a smart device to begin the training.



The training can also be accessed by following the link below:

www.nzmsdiabetes.co.nz/Courses2020A/TRG1004470BBasalIQTechnologyCGMSensorSessionsTRG1006307BFeaturesof64PatientTrainingNZ210720/story.html

t:slim X2™
Insulin Pump

WITH BASAL-IQ™ TECHNOLOGY

Responsible Use of Basal-IQ

Systems like the t:slim X2 insulin pump with Basal-IQ technology are not substitutes for active diabetes management, as there are common scenarios in which automated systems cannot prevent hypoglycaemia. The Basal-IQ technology feature relies on continuous CGM readings and will not be able to predict glucose levels and suspend insulin delivery if your CGM is not working properly or is unable to communicate with your pump. Be sure to always use your pump, cartridges, CGM, and infusion sets as instructed and check them regularly to make sure they are working properly. Always pay attention to your symptoms, actively monitor your glucose levels, and treat according to your healthcare provider's recommendations.

Warnings

Basal-IQ technology is not a substitute for active management of your diabetes and is not designed to prevent all hypoglycaemia (low BG).

Basal-IQ technology suspends insulin; Basal-IQ does not treat low BG. Always pay attention to your symptoms, manage your BG level, and treat according to the recommendations of your healthcare provider.

Do not use Basal-IQ technology until you have received training.

We recommend that you enable the Low Glucose Alert when using Basal-IQ technology so that you will be notified if sensor glucose readings are below your target range, and you can treat low BG according to your healthcare provider's recommendations.

This user guide provides instructions for using the Basal-IQ technology with your t:slim X2 pump. Use of the Basal-IQ technology is optional and, when used, allows insulin to be stopped and resumed automatically based on sensor glucose readings. The status of insulin delivery will be displayed on the t:slim X2 pump screen. In order to use this feature you will need to utilize the CGM features. For more information please refer to your User Guide.



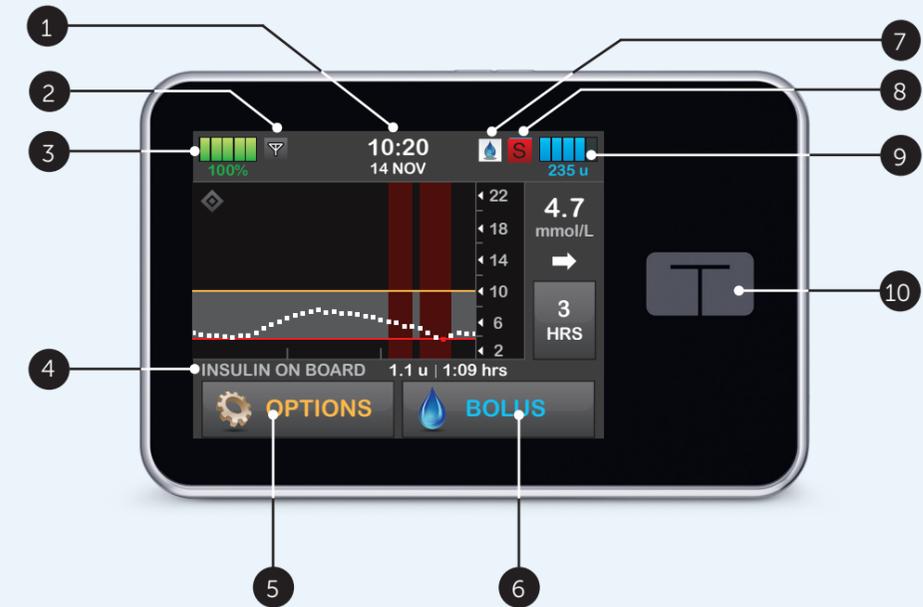
Basal-IQ Lock Screen



1. **Alert icon:** Indicates a reminder, alert, or alarm is active behind the screen lock
2. **USB port:** Charge your t:slim X2 insulin pump battery. Close the cover when not in use
3. **Basal-IQ technology status:** Indicates the status of the Basal-IQ technology
4. **CGM graph shading:** Red shading indicates the Basal-IQ technology is, or was, active for the period indicated
5. **CGM graph:** Visual view of data from the continuous glucose monitor
6. **1–2–3:** Unlocks pump screen
7. **Screen On/Quick Bolus button:** Turns on the t:slim X2 insulin pump screen or programmes a Quick Bolus (if activated)
8. **LED Indicator:** Illuminates when the t:slim X2 insulin pump is connected to a power supply and functioning properly
9. **Cartridge tubing:** Tubing attached to the cartridge
10. **Tubing connector:** Connects the cartridge tubing to the infusion set tubing

Symbol	Meaning
	Basal-IQ technology is enabled and the pump is delivering the active Personal Profile basal rate.
	Basal-IQ technology is currently active. All insulin deliveries have been suspended.
	Basal-IQ technology is enabled and active: all insulin deliveries have been suspended.

Basal-IQ Home Screen



1. **Time and date display:** Displays the current time and date
2. **Antenna:** Indicates communication status between pump and transmitter
3. **Battery level:** Displays the level of battery power remaining. When connected for charging, the charging icon (lightning bolt) will display
4. **Insulin on board (IOB):** Indicates the amount and time remaining for any active insulin on board
5. **Options:** Stop/Resume insulin delivery, manage Pump Settings, Load Cartridge, programme a Temp Rate, and view History
6. **Bolus:** Programme and deliver a bolus
7. **Active Bolus icon:** Indicates an active bolus
8. **Status:** Displays current pump settings and insulin delivery status
9. **Insulin level:** Displays the current amount of insulin in the cartridge
10. **Tandem logo:** Returns to the Home Screen

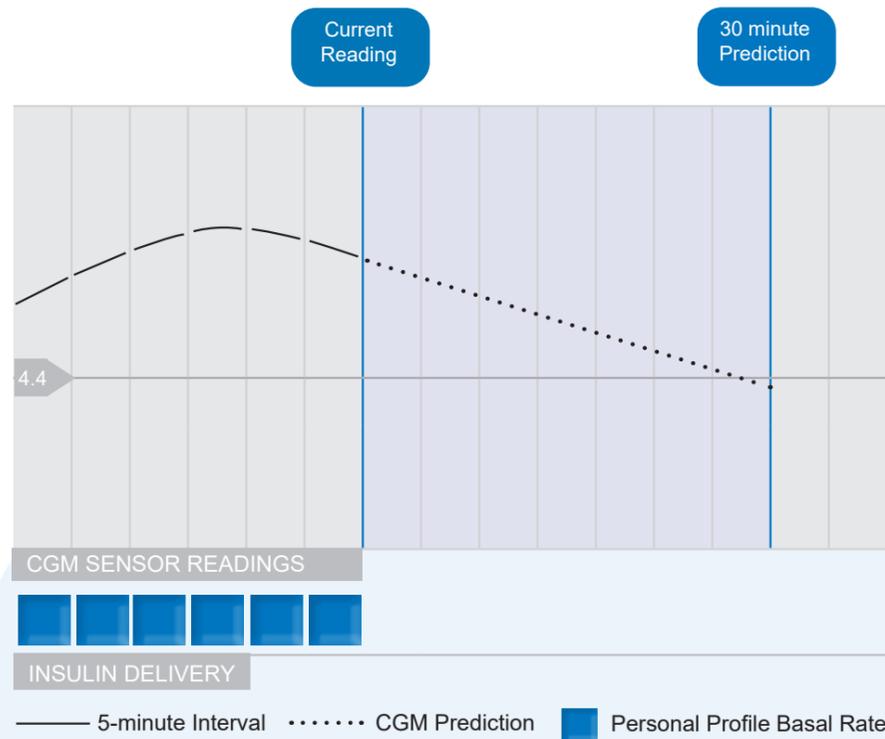
How Basal-IQ Works

Basal-IQ technology relies on current CGM sensor readings and will not be able to accurately predict BG levels and suspend insulin delivery if, for any reason your CGM is not functioning properly or does not transmit three of the last four sensor readings to your pump.

Your CGM is providing the data that Basal-IQ needs to make predictions to suspend insulin delivery. Accordingly, we recommend that you enable the CGM Out of Range Alert to notify you if your CGM is disconnected from your pump whenever you are not actively monitoring your pump status.

The Basal-IQ technology utilises CGM sensor readings to stop and resume insulin based on the current sensor value and a 30 minute future predicted value along with the following five rules:

1. Insulin delivery is suspended if the current CGM sensor reading is less than 3.9 mmol/L.
2. Insulin delivery is suspended if the glucose value is predicted to be less than 4.4 mmol/L in 30 minutes.



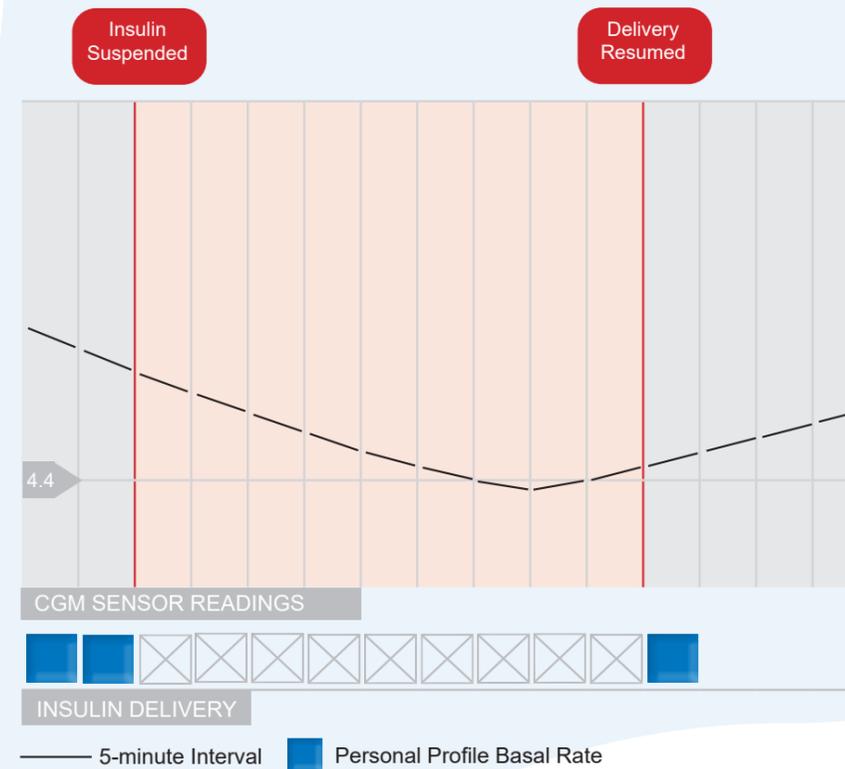
NOTE: Diagrams are Representations Only
The diagrams depicted here are sample representations only, and not to be interpreted as actual system performance.

Basal-IQ Insulin Delivery Suspend

NOTE: Bolus During Suspension During a Basal-IQ suspension of insulin delivery, any correction, food or quick bolus will continue until completed. Any remaining portion of an extended bolus will be cancelled. All basal insulin delivery will stop.

NOTE: Temp Rate After Insulin Resumption If insulin is suspended while a Temp Rate is active, the temp rate timer will remain active. The Temp Rate will be resumed when insulin delivery is resumed as long there is time remaining on the Temp Rate timer.

3. Basal insulin delivery is resumed once the current CGM sensor reading increases compared to the previous reading.



NOTE: Diagrams are Representations Only
The diagrams depicted here are sample representations only, and not to be interpreted as actual system performance.

Basal-IQ Insulin Resume

4. Basal insulin delivery will also be resumed if the 30 minute predicted CGM reading is above 4.4 mmol/L, even if the CGM reading has not increased compared to the previous reading.
5. Basal insulin delivery is resumed if insulin delivery has been suspended for 2 hours in a 2.5 hour window.

For example: If insulin is suspended for 2 hours, it will resume for at least 30 minutes. After 30 minutes have passed, if either rule 1 or 2 above is true, then insulin will be suspended.

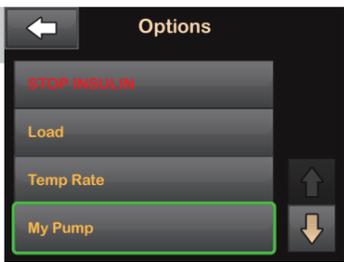
NOTE: Calibrating a Sensor While Insulin is Suspended

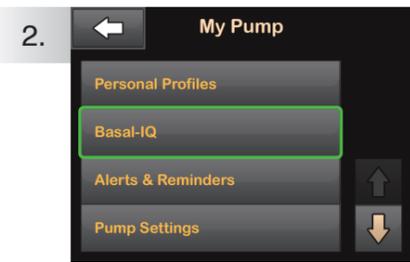
If you need to calibrate your sensor while Basal-IQ technology is currently active, and insulin deliveries have been automatically suspended, insulin delivery will automatically be resumed if the CGM sensor reading is above 3.9 mmol/L. The Basal-IQ technology requires three new CGM sensor readings to make a prediction after a sensor calibration.

Turn Basal-IQ On/Off

The instructions below are provided as a reference tool for caregivers who are already familiar with the use of an insulin pump and with insulin therapy in general. Not all screens are shown. For more detailed information on the operation of the Tandem insulin pump, please refer to its user guide.

To turn the Basal-IQ™ feature ON or OFF:

- 

From the Options menu, tap My Pump.
- 

Tap Basal-IQ.
- 

Tap the toggle next to Basal-IQ to turn the feature ON or OFF. To save the setting, tap .

NOTE: No alerts or alarms are required to use Basal-IQ technology. On the Basal-IQ screen, users can choose whether or not to receive alerts when insulin is suspended or resumed based on personal preferences. Alerts remain off unless manually turned on.

WARNING: Basal-IQ technology can only suspend insulin delivery when the CGM is in range. If users go out of range during insulin suspension, insulin will resume at the current profile rate. The CGM Out of Range Alert is defaulted to ON and we recommend not turning this setting off when using Basal-IQ technology.

Once Basal-IQ technology is ON, monitor activity from the Home Screen:

A red icon with the letter "S" indicates that all insulin delivery is suspended.

A gray diamond icon indicates the Basal-IQ feature is turned on. When insulin is suspended, the bottom half of the diamond will turn red.



Red bars on the CGM graph indicate when insulin delivery has been suspended.

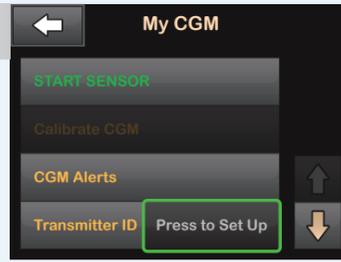
NOTE: A CGM session must be currently running in order to use Basal-IQ technology.

Connect the CGM and pump together

The instructions below are provided as a reference tool for caregivers who are already familiar with the use of an insulin pump and with insulin therapy in general. Not all screens are shown. For more detailed information on the operation of the Tandem insulin pump, please refer to its user guide.

To connect the CGM transmitter and pump: EVERY 3 MONTHS

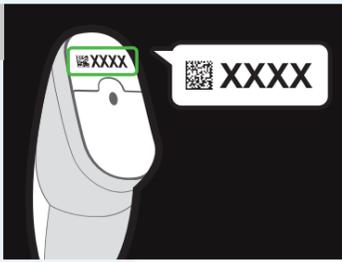
- 

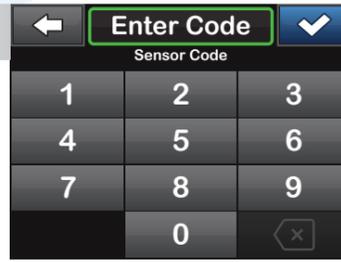
Locate the ID on the bottom of the transmitter before attaching it to a sensor.
- 

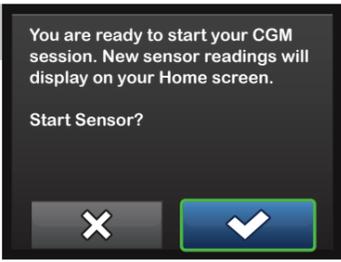
In the Options menu, tap the Down Arrow, then: My CGM > Transmitter ID. Tap Press to Set Up.
- 

Enter transmitter ID and tap . Users will be prompted to enter the ID again to verify accuracy, after which the transmitter will be connected.

To start a new sensor session: EVERY 10 DAYS

- 

Locate the sensor code on the adhesive strip found on the bottom of the applicator.
- 

In the Options menu, tap the Down Arrow, then: My CGM > START SENSOR > CODE and enter sensor code. If the user intends to calibrate the sensor using a blood glucose meter, tap My CGM > START SENSOR > SKIP.
- 

Tap  to confirm the start of a new CGM sensor session.

A screen will appear to indicate the two-hour startup process has begun. During this time, users will not receive sensor data or be able to use Basal-IQ technology.

NOTE: The countdown symbol fills in over time to show how much time is left before the system is ready to display current CGM reading.

If a sensor code is not entered prior to starting a sensor session, the t:slim X2™ insulin pump will prompt users to calibrate using a blood glucose meter at regular intervals. By entering a Sensor Code, users will not be prompted to calibrate the sensor. If glucose alerts and readings do not match symptoms or expectations, use a blood glucose meter to make diabetes treatment decisions.

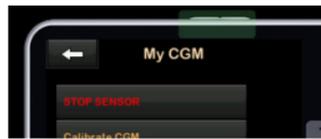
Dexcom G6 CGM 2 Device Change Workflow with Tandem Pump - Sensor Only

Please note that your transmitter has a 3-month life.

When replacing your Dexcom G6 CGM sensor, you should only perform the workflow described below on the Tandem t:slim X2 pump. If you have your pump and your phone connected to your CGM transmitter, you should only perform the sensor change workflow on your pump first.



1 Select **"STOP SENSOR"** on your pump or let sensor session end.



2 **REMOVE** your G6 CGM sensor and transmitter from body.



3 Remove CGM transmitter from its holder and **DISCARD SENSOR ONLY**.

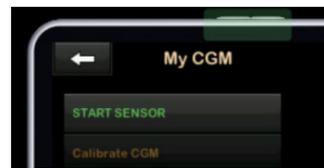
Save for later: 

4 After waiting 15 mins, **PLACE** new sensor on the body and insert transmitter.

Clean transmitter with alcohol wipe and allow to dry before placing in next sensor.



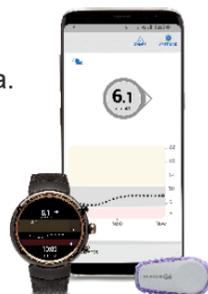
5 Within 5 minutes of inserting sensor, select **"START SENSOR"** on the pump.



6 **ENTER** sensor **CODE**.
Entering the code on the sensor eliminates the need for fingerprick calibrations after the two-hour warmup.



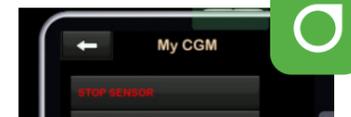
7 Dexcom mobile app will automatically join the sensor session and begin displaying data. This may take up to 10 mins.



If calibrations are needed: perform 2 fingerprick calibrations on pump once warmup period is complete. Both initial fingerprick calibrations must be entered on the same device. After initial calibrations, calibration can be entered on pump or Dexcom mobile app.

Dexcom G6 CGM 2 Device Change Workflow with Tandem Pump - Sensor and Transmitter

1 Select **"STOP SENSOR"** on pump AND Dexcom mobile app, or let sensor session end.



2 **REMOVE** CGM sensor and transmitter from body and **DISCARD BOTH**.

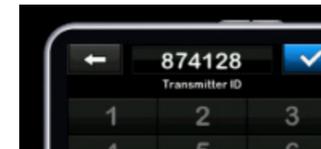


3 After waiting 15 mins, enter new **TRANSMITTER ID** on pump.

See transmitter box or back of transmitter



4 **CONFIRM** new Transmitter ID on pump.

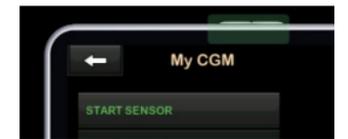


5 **PLACE** new sensor on the body and insert new transmitter.

Clean transmitter with alcohol wipe and allow to dry before placing in next sensor.



6 Within 5 mins of inserting sensor, select **"START SENSOR"** on the pump.



7 **ENTER** sensor **CODE**.
Entering the code on the sensor eliminates the need for fingerprick calibrations after the two-hour warmup.

If calibrations are needed: perform 2 fingerprick calibrations on pump once warmup period is complete. Both initial fingerprick calibrations must be entered on the same device. After initial calibrations, calibration can be entered on pump or Dexcom mobile app.

8 **ENTER** new **TRANSMITTER ID** on Dexcom mobile app.



9 Select **"START SENSOR"** and **ENTER** sensor **CODE** on the Dexcom mobile app.

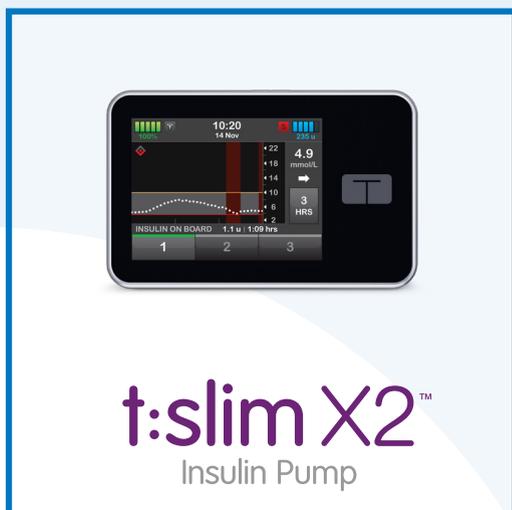


At this step, you should be in the warmup period on both devices.

10 **CGM data** should start appearing on both devices within 10 mins assuming no loss of connection.



24/7 Technical Support 0508 634 103



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