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BEFORE TRAINING

INSULIN PUMP TECHNOLOGY MINIMED™ 630G SYSTEM™ WITH SMARTGUARD™ TECHNOLOGY

Medtronic

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BEFORE TRAINING
INSULIN PUMP TECHNOLOGY
MINIMED™ 630G SYSTEM
WITH SMARTGUARD™ TECHNOLOGY

WELCOME

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Welcome!

We are glad that you have chosen insulin pump technology and are excited for you to begin using your insulin pump.

Whether you've chosen pump technology because of its convenience, the flexibility it provides, or to help improve your glucose control, your pump will be a valuable tool in helping to manage your diabetes.

The information in this book will prepare you for your in-person training. Please take time to review before you meet with your trainer. We look forward to you getting started with pump technology!

Warning: Do not insert the reservoir until you have been instructed to do so by your healthcare professional and have received formal training with a certified product trainer. Attempting to use insulin in your pump before you have received training may result in the delivery of too little or too much insulin which can cause hypoglycemia or hyperglycemia.

A complete list of warnings and explanations of the technical aspects of your pump can be found in the **MiniMed 630G System User Guide**.

Section 1: Replacing Your Current Insulin

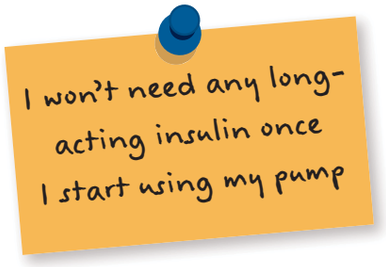
Your pump replaces the insulin injections that you have been taking. You will only be using one kind of insulin in your pump – rapid-acting insulin. This insulin is delivered in two ways – basal and bolus.

Basal

Basal insulin is the 'background' or 'baseline' insulin that your body needs between meals and while you are sleeping. When taking injections, this background insulin has been provided by your long acting insulin.

Right now, your background insulin is your long-acting insulin taken at bedtime and/or the morning OR the mixed insulin you take at breakfast and dinner. Once you start on your insulin pump, you will no longer need to take your long-acting or mixed insulin.

Your pump will give you small amounts of rapid-acting insulin all day and night. This works more predictably than the injections you are taking now and is much easier to adjust to give you the insulin your body needs.



LIFE WITH A PUMP

Before her pump...
Lynn had to remember to take her injection of long-acting insulin at bedtime. Taking it at the same time every night was difficult since some nights she would go to bed early, other nights it would be late. Now that she has a pump, she doesn't have to worry about taking an injection. She is getting her basal insulin automatically 24 hours a day.

Bolus

In addition to the basal insulin that will be delivered 'around the clock', you will be telling your pump when to give a bolus. There are two times when you will give bolus insulin:

1) when you eat meals and snacks that have carbohydrate

2) in-between meals if your Blood Glucose (BG) is high

Now, while you are taking injections, you get your bolus insulin from either:

- the injection of rapid-acting insulin you are giving at mealtime.
- the mixed insulin you have been giving at breakfast and at dinner time.

Giving boluses with the pump allows more flexibility and helps keep your BG in better control. Once you start using your pump, you can take more boluses of insulin than you are now, depending on how often you choose to eat or snack or correct a high BG.

LIFE WITH A PUMP

Giving a bolus with the pump...

Mary is excited that her insulin pump has made eating more convenient. She sometimes isn't sure how much she will want to eat. Before her pump, she took her injection and had to be sure she ate her entire meal whether she was still hungry or not. Now she takes a bolus for a smaller amount, knowing if she wants to eat more, she can take another bolus.

Review Questions (circle the best answer)

1. **The pump delivers small amounts of insulin all day and night. This is called:**
   - **A** basal insulin
   - **B** bolus insulin

2. **Only three boluses can be given each day:**
   - **A** True
   - **B** False

3. **The pump will give you insulin at meals, but you will need to continue to take your long-acting insulin.**
   - **A** True
   - **B** False

4. **A bolus should only be given at mealtime.**
   - **A** True
   - **B** False

Answers: 1. A **2.** B **3.** B **4.** B

Section 2: Getting to Know your Pump

Before we begin, let's make sure you know how insulin is delivered when using an insulin pump. The parts that make up the pump's delivery system are the infusion set, the reservoir, and the pump.

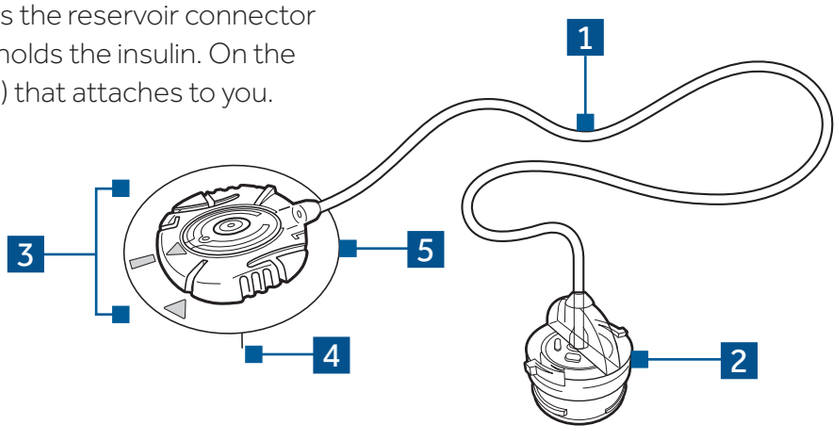
Infusion Set

The infusion set consists of tubing (1) that carries insulin from the pump to you. On one end of the tubing is the reservoir connector (2) that attaches to the reservoir which holds the insulin. On the other end is the insertion site section (3) that attaches to you.

The insertion site section has a small insertion needle that places a tiny flexible tube called a cannula (4) into your body.** Once the infusion set is inserted, you remove the needle, leaving just the cannula behind. A small piece of adhesive (5) holds the infusion set in place.

Infusion Set*

1. Tubing
2. Reservoir Connector
3. Insertion Site Section
4. Cannula
5. Adhesive
6. Reservoir Compartment



Reservoir

Reservoir

The reservoir is similar to a syringe and holds a 2- to 3-day supply of insulin. The reservoir fits into the pump's reservoir compartment (6). **You will be replacing both the infusion set and the reservoir every 2 to 3 days.**

Pump

Inside the pump, at the bottom of the reservoir compartment, is a piston. The piston acts like the plunger rod on a syringe, pushing up on the bottom of the reservoir, moving insulin into the tubing, through the cannula, and into your body.

The piston is controlled by a mini computer inside the pump that's able to deliver insulin in very small doses, sometimes as small as 0.025 units. It must be rewound each time a newly filled reservoir is placed into the reservoir compartment.

Pump

*Quick-set™ infusion set shown in illustration.

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

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

The Front of Your Pump

Up, Down, Left, and Right

- Press to scroll up or down through a menu or list
- Press to move to desired area on the screen
- Press to change the value in an area

Back

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

Select

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

Menu

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

Notification Light

- Flashes when an Alert or an Alarm is occurring

The Bottom of Your Pump

The Back of Your Pump

Pump Serial and Model Number

You may need to provide these numbers if you call the 24-Hour HelpLine for assistance.

Attaching the Skins

You have received a skin to attach to the back of the pump and the front of the belt clip. In addition, accessories are available to wear on your pump. Visit the MiniMed eShop to check them out.

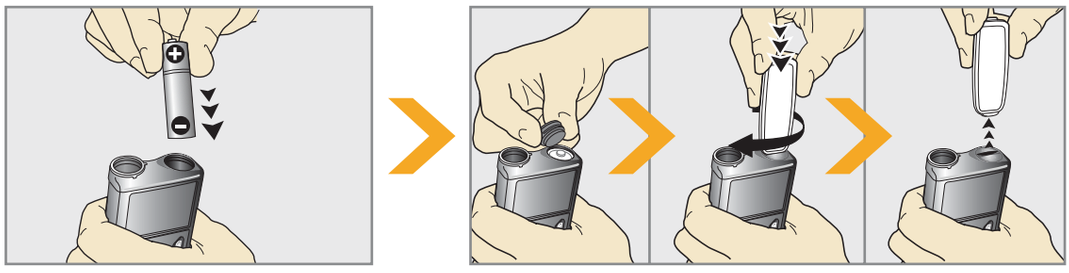
Inserting the Battery

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

Lithium batteries have been shown to have the longest battery life. Batteries should be stored at room temperature and not in the refrigerator or other cold locations.

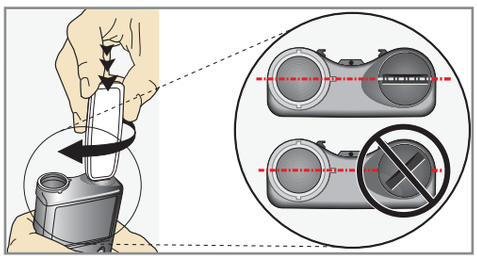
To insert the battery and get started, you will need:

- The battery cap found with the pump
- The belt clip found with the accessories
- The AA battery found with the accessories



Step 1. Place the battery into the battery compartment with the negative (flat) end going in first.

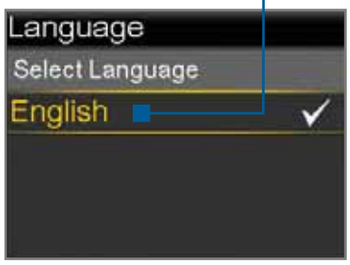
Step 2. Place the battery cap onto the pump. Use the edge of the belt clip to turn the cap to the right (clockwise) and tighten until the slot is horizontal to the pump. See image below.



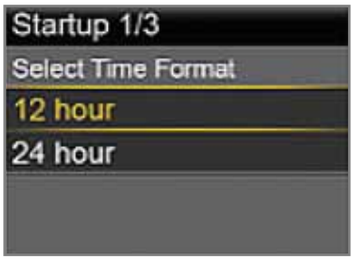
Startup Wizard

The pump will power on and Startup wizard will begin.

Always look for the item on the screen that is highlighted in yellow. This is the item that can be selected. Use ^ and v buttons to highlight the item you want to choose and press the O button to select it.



Select **English**.



Select **12 Hour** (AM/PM) or press v to **24 Hour** and press O. *This example uses 12 hour.*

The hour will be flashing. Press ^ / v to the correct hour and press O.

The minutes will be flashing. Press ^ / v to the correct minutes and press O.

The AM/PM will be flashing. Press ^ / v if needed and press O.

Select **Next**.

Select **Year.** Press ^ to the correct year and press O.

Select **Month.** Press ^ / v to the correct month and press O.

Select **Day.** Press ^ / v to the correct day and press O.

Select **Next**.

Wait a moment.

Select **OK**.

To scroll faster, press and hold the ^ or v button.

Once you reach the correct value or item, press O to select.

Home Screen

You are now on the Home screen. The Home screen will be your starting place to access all features in the pump.

The following information is displayed on the Home screen.

Backlight

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

LIFE WITH A PUMP

Keeping the screen on longer...

Margaret noticed when she wasn't pressing buttons on her pump, the screen would turn off very quickly. Her trainer helped her to change the Backlight setting so it wouldn't turn off as quickly.

Unlocking the Pump

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

If the wrong arrow key is pressed, you will see the screen here. Select OK to return to the Home screen and try again.

You can press and hold if you wish to put the pump into Sleep mode and keep it locked when you are not using it. Doing this can also help save battery life.

Status Bar

The Status bar displays the following icons so you can quickly view important information. When using your pump, you will see 3 of these icons.

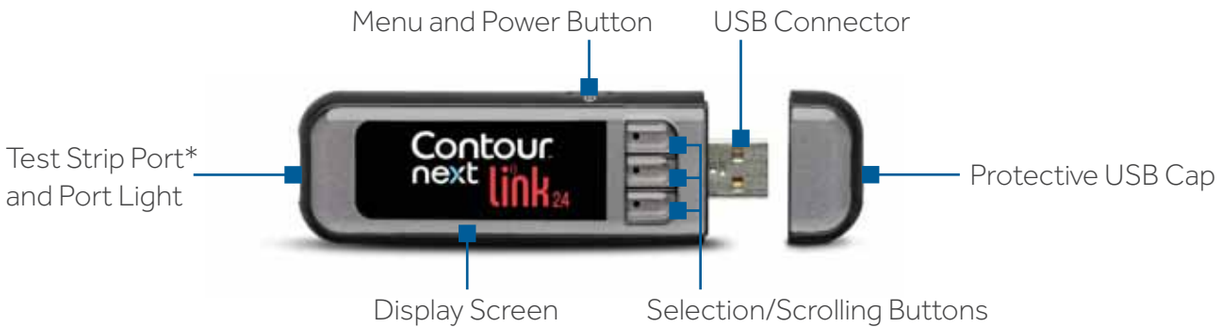
Battery icon: Shows the level of charge your battery has. As the battery charge decreases, the icon will become less full and change to yellow and then red.

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

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

Section 3: Charging the CONTOUR®NEXT LINK 2.4 Meter

The CONTOUR®NEXT LINK 2.4 Meter is the only meter able to communicate wirelessly with your MiniMed 630G insulin pump. This can make your diabetes management easier by automatically sending accurate BG meter readings over to the pump. This is especially helpful when using the Bolus Wizard™ feature.



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

1. Remove the cap to reveal the USB connector.
2. Plug the USB connector into the wall charger or a computer.
   The computer must be ON and not in sleep, hibernate or power save mode.
3. The meter will briefly display **Do Not Test-charging** and the test strip port light will flash. You cannot do a blood glucose test while the battery is charging.
4. When charging is complete, the test strip port light will turn off. You can then unplug your meter.

You will connect your pump and meter at your in-person training. For more information on using your CONTOUR NEXT LINK 2.4 Meter, see the User Guide found in the meter box.

*The CONTOUR NEXT LINK 2.4 Meter only works with CONTOUR NEXT glucose testing strips. Make sure you ask your healthcare professional for a branded prescription for CONTOUR NEXT Test Strips.

Section 4: Pump Safety – Managing Low and High Glucose

Two of the most important things you can do to be safe and successful with pump technology are:

- checking BG readings regularly.
- responding to these readings appropriately.

There may be times, just like on injections, when blood glucose levels get too high or too low. Knowing what to do when this happens is important.

Low Glucose

Low glucose (hypoglycemia) is usually defined as a glucose less than 4.0 mmol/L. Low glucose occurs when there is too much insulin in the body.

Too much insulin and not enough glucose → **Low glucose level** → **Need to eat or drink sugar**

Anyone taking insulin should always keep food or drink with them to manage a low glucose.

Some fast-acting carbohydrates that can be used to manage a low are:

- 3-4 glucose tabs
- 2 tablespoons of raisins
- ½ cup juice or regular soda
- 1 tablespoon of sugar

Some reasons for low glcose levels
- Basal rates too high
- Too much bolus insulin taken
- Estimating too many carbs
- Excercise
- Drinking alcoholic beverages

High fat foods such as chocolate, should not be used since they take longer to digest and longer for the glucose to move into the bloodstream. This means your glucose level will not rise as quickly.

Managing a Low BG: The 15-15 Rule

1. Eat 15 grams of fast-acting carbohydrate
2. Recheck your BG in 15 minutes
3. If your BG is still below 4.0 mmol/L, repeat steps 1 and 2

If BG is less than 4.0 mmol/L, start with 20-25 grams of carbohydrate

Managing a Severe Low Glucose

Glucagon injections are used if your glucose becomes so low that you are unable to manage it on your own and need help. Glucagon causes stored glucose in the liver to be released into the bloodstream causing glucose levels to increase. Although we don't expect you to have severe lows when using the pump, anyone who takes insulin should keep a glucagon emergency kit on hand.

Important things to do:

- Ask your healthcare professional for a prescription for a glucagon emergency kit.
- Have your prescription renewed every year.
- Make sure a family member, friend, or colleague knows how to properly give glucagon.

High Glucose

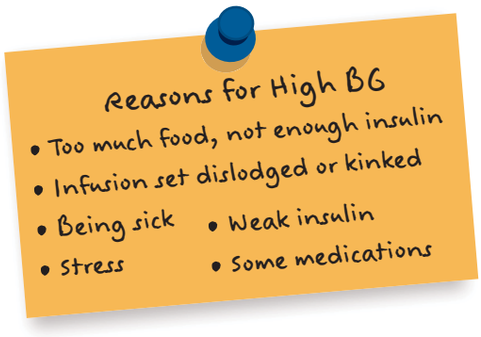
High glucose (hyperglycemia) means there is too much glucose in the blood – that there is not enough insulin available to move glucose into the cells.

An important goal of diabetes management is to try to avoid high BGs as much as possible and to properly manage them when they do occur. This is important because:

- high glucose over time can cause complications to eyes, kidneys, and nerves.
- high glucose due to a lack of insulin can cause diabetic ketoacidosis (DKA).

Most high glucose levels occur either because you have under-estimated your carbohydrate intake, you are stressed, you are ill, or your activity level is lower than usual.

When using pump technology, these highs can usually be corrected by giving a correction bolus.



Managing a High BG Lower than 13.9 mmol/L

1. Confirm the BG reading sent from your CONTOUR®NEXT LINK 2.4 Meter or enter it into your pump.
2. Give the amount of insulin estimated by the Bolus Wizard calculator.
3. Recheck your BG in an hour to make sure your BG is coming down.

If you do not use the Bolus Wizard calculator, follow the guidelines provided by your healthcare professional

Managing BGs Higher than 13.9 mmol/L – Preventing DKA

It is important to never ignore a blood glucose over 13.9 mmol/L. Often times taking a bolus to bring the BG level down will be all that is needed. However, if your glucose stays high because you are getting little or no insulin, a serious condition called diabetic ketoacidosis (DKA) can occur.

Getting little or no insulin will occur if your pump is disconnected for too long or if your infusion set pulls loose without you knowing it. Remember, your pump uses only rapid-acting insulin so when disconnected, it won't be long before you will have very little insulin working in your body. When this happens, you are unable to use the glucose in the blood. Your body is forced to use fat for energy which makes waste products called ketones. Ketones are acids and are dangerous when they begin to accumulate in the blood.

It is a good idea to always investigate high BGs and identify the cause of the high glucose level. You might ask the following questions:

- Did I count my carbs correctly?
- Did I give my last bolus?
- Is my infusion set connected?
- Is my infusion set leaking?

You will then want to check for ketones.

Checking for Ketones

Ketones are typically not present unless you have had little or no insulin over a period of time. Ketone strips are used to measure the level of ketones in the urine. A ketone meter may also be used to measure the level of ketones in the blood. You can ask your healthcare professional which is the better method for you.

The steps on the next page should be taken anytime a ketone test is positive. If you have moderate to high ketones, nausea or vomiting, notify your healthcare professional or go to the emergency room. If you have difficulty breathing, call 911.

Checking ketones is an important step in preventing DKA.

Follow these steps any time you have an unexplained BG over 13.9 mmol/L.

Managing a BG Higher than 13.9 mmol/L

CHECK KETONES

KETONES are **NEGATIVE**	KETONES are **POSITIVE**
Take a correction bolus of insulin using your pump.	Take a correction dose of insulin using a syringe
RE-check BG in one hour • If BG has decreased: continue to monitor until BG is normal. • If BG has NOT decreased or has increased: take a correction dose of insulin using a syringe. Change infusion site, infusion set, reservoir, and insulin. Continue to monitor BG until normal.	Change your infusion site, infusion set, reservoir, and insulin
	Check your BG every 1 to 2 hours and give correction boluses as needed.
	Drink plenty of water or non-carbohydrate fluids.
	If your BG continues to rise or if you have moderate to high ketones, nausea, or vomiting, notify your healthcare professional or go to the emergency room. If you have difficulty breathing, call 911.

Review Questions (circle the best answer)

1. **What steps are included in the 15/15 rule?**
   - **A** eat 15 grams of fast-acting carbohydrate
   - **B** re-check BG in 15 minutes
   - **C** if BG is still below 4.0 mmol/L, repeat the process every 15 minutes until your BG returns to normal
   - **D** all of the above

2. **Glucagon can be given by injection to help raise glucose levels if a severe low occurs.**
   - **A** True
   - **B** False

3. **If your BG is higher than 13.9 mmol/L you should:**
   - **A** eat and drink something
   - **B** check for ketones
   - **C** call your doctor

4. **If the ketone strip indicates that you have positive ketones you should:**
   - **A** immediately take a correction dose of insulin by syringe
   - **B** change your infusion site, infusion set, reservoir, and insulin
   - **C** start drinking plenty of non-carbohydrate fluids
   - **D** notify your healthcare provider if your BG continues to rise, you have moderate or high ketones, if you have nausea or vomiting, or if you have difficulty breathing
   - **E** all of the above

5. **It is important to check your BG a minimum of 4 times a day and never ignore a high BG reading. The pump uses rapid-acting insulin and glucose levels will rise quickly if your infusion set has pulled out without you realizing it.**
   - **A** True
   - **B** False

Answers: 1. D 2. A 3. B 4. E 5. A

Section 5: What to Bring to Training

You are now ready for your in-person training. Please use this checklist to make sure you take what you need to your insulin pump training.

Stopping or reducing your long acting insulin the day before your training:
Make sure you receive instructions from your healthcare professional for stopping or reducing your long acting insulin the day before your training.

☐ **Your Pump Training Bag with all contents:**

- Insulin pump
- CONTOUR®NEXT LINK 2.4 Meter Kit
- Reservoirs
- Infusion sets
- Serter (if applicable)
- Prep wipes (if ordered)

☐ **Training Packet:**

- Before Training guide
- During Training guide
- After Training guide

☐ **A vial or cartridge of rapid-acting insulin (U100)**

☐ **Pump Initiation Settings**

- Form completed and signed by your healthcare professional with your initial pump settings (your certified product trainer may already have this)

☐ **Other**

- Glucose tablets or some form of fast-acting carbohydrate
- A snack

NOTES

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