



Preparing for a Medical Procedure: Guidelines for Adults on Hybrid Closed Loop Insulin Pumps

If you have Type 1 diabetes, you must continue to take your basal insulin or you will go into diabetic ketoacidosis.

General guidelines

- If you are having surgery, make sure your infusion and sensor sites are away from the location where you're having surgery.
- Your insulin pump must be removed for all CT scans, MRIs, and X-rays.
- If you wear a continuous glucose monitor (CGM), the sensor must be removed for all CT scans, MRIs, X-rays, and radiation treatments. Please remind your team that your transmitter is not disposable and must be saved.
- If your pump needs to be removed during a procedure (all procedures longer than 2 hours):
 - Remove your pump infusion set or pod right before the procedure and put it in a safe place that is close to or within the procedure room. Reconnect your pump or pod as soon as your procedure is complete.
 - If your pump is removed, make sure that the anesthesia team starts an IV insulin infusion.
- If your pump can stay on during a procedure (most procedures less than 2 hours):
 - The anesthesiologist will use the pump as needed during the procedure.
- Remind your care team that you are wearing a pump and/or continuous glucose monitor. Discuss pump use during the procedure with the team

and review what will happen and where your pump will be stored if your pump needs to be removed.

What do I need to do the day before the procedure?

- Change your infusion set or pod, tubing, and insulin in your pump the day before your procedure. Do this at least 4 hours before you go to bed on the night before your procedure.
- Make sure your sensor is not set to expire immediately before or during your procedure.
- Test your blood sugar at dinner and bedtime the night before your procedure, and test first thing in the morning on the day of your procedure. Continue to check your blood sugars every 1-2 hours before your procedure. Also check your blood sugars whenever you feel that you might be experiencing low blood sugar or very high blood sugar.
- If you have Type 1 diabetes, check your urine for ketones when your blood sugars are greater than 250mg/dL. If you have moderate or large ketones, contact your health care provider to manage this condition.

How will I set my pump the night before the procedure?

If you **are allowed** to eat or drink the night before your procedure:

| Device type | Device mode | Instructions |
|----------------------------|-------------------------|---|
| Tandem™ X2 | Continue in Control-IQ. | Give insulin for high blood sugar and food as you normally would. |
| Medtronic™ 670/770G | Continue in Auto Mode. | Give insulin for high blood sugar and food as you normally would. |

| Device type | Device mode | Instructions |
|-------------------|-----------------------------|---|
| Omnipod® 5 | Continue in Automated Mode. | Give insulin for high blood sugar and food as you normally would. |

If you **are not allowed** to eat or drink the night before your procedure:

| Device type | Device mode | Instructions |
|----------------------------|-------------------------------------|---|
| Tandem™ X2 | Start Exercise Activity at bedtime. | Give half of the suggested correction bolus for high blood sugar. |
| Medtronic™ 670/770G | Continue in Auto Mode. | Give half of the suggested correction bolus for high blood sugar. |
| Omnipod® 5 | Continue in Automated Mode. | Give half of the suggested correction bolus for high blood sugar. |

How will I set my pump the morning of the procedure?

| Device type | Device mode | Instructions |
|-------------------|--------------------------|---|
| Tandem™ X2 | Start Exercise Activity. | Give insulin for high blood sugar and food as you normally would. |

| Device type | Device mode | Instructions |
|--------------------------------|---|--|
| Medtronic™ 670/770G | <p>Continue in Auto Mode unless fasting blood glucose (BG) is less than 120mg/dL.</p> <ul style="list-style-type: none"> • If fasting BG is less than 120, set temp target for 4 hours. Continue to reset temp target every 4 hours until your procedure is complete. • If fasting BG is more than 120, set temp target for 4 hours when you arrive before your procedure. | <p>Give insulin for high blood sugar and food as you normally would.</p> |
| Omnipod® 5 | <p>Continue in Automated Mode unless fasting blood glucose (BG) is less than 120mg/dL.</p> <ul style="list-style-type: none"> • If fasting BG is less than 120, turn on Activity mode for 4 hours. Continue to reset Activity mode every 4 hours until your procedure is complete. • If fasting BG is more than 120, set Activity mode for 4 hours when you arrive before your procedure. | <p>Give insulin for high blood sugar and food as you normally would.</p> |

What do I do after the procedure?

| Device type | Device mode | Instructions |
|----------------------------|---|---|
| Tandem™ X2 | Exit Exercise Activity when you are able to start eating again. | Give insulin for high blood sugar and food as you normally would. |
| Medtronic™ 670/770G | Turn off temp target when you are able to start eating again. | Give insulin for high blood sugar and food as you normally would. |
| Omnipod® 5 | Turn off Activity mode when you are able to start eating again. | Give insulin for high blood sugar and food as you normally would. |

What are the instructions if I have low blood sugar?

You must treat all low blood sugars.

- If you are checked in at the hospital and are having a low BG, tell the staff at the check-in desk that you have a low BG and need to drink clear sugary liquids.
- If you are not checked in at the hospital and your blood sugar is less than 70mg/dL, drink ½ cup of a clear sugar-sweetened beverage such as apple juice, Sprite®, 7UP®, or glucose gel (not frosting). All liquids and gels must be clear. Then check your blood sugar again in 15 minutes.
 - If your blood sugar is still less than 70mg/dL, drink another ½ cup of clear sugar-sweetened beverage.
 - If your blood sugar is extremely low (less than 40mg/dL), your family or friends should help you by using glucagon and calling 911 if needed. Make sure that you also call your procedure team and let them know.

If you need to treat a low blood sugar within 2 hours before your procedure, call your procedure team and let them know. Your procedure may need to be rescheduled.

What are the instructions if I need to do a bowel prep and follow a liquid diet?

| Device type | Device mode | Instructions |
|----------------------------|---|---|
| Tandem™ X2 | Turn on Exercise Activity when you start your bowel prep. | Give half of the suggested insulin for food and high blood sugar. |
| Medtronic™ 670/770G | Continue in Auto Mode. | Give half of the suggested insulin for food and high blood sugar. |
| Omnipod® 5 | Continue in Automated Mode. | Give half of the suggested insulin for food and high blood sugar. |

- See the section above for instructions on what to do the night before your procedure.
- When drinking sugared beverages and/or the bowel prep, you may need less bolus insulin to cover the carbs you are drinking. This is because sugary liquids will leave your system more quickly than solid foods, and you will be drinking these liquids slowly throughout the day. Start by giving half of your usual bolus dose for the liquids you are drinking that have carbs.

What supplies do I need to bring to the hospital or clinic?

The hospital does not stock any pump or CGM supplies.

- ☐ Testing supplies (glucometer, test strips, lancing device)
- ☐ 2 extra infusion sets or pods, tubing, cartridges/reservoirs, and tape
- ☐ 2 extra sensors and insertion device for your continuous glucose monitor
- ☐ 1 extra battery or charging cord for your pump
- ☐ Fast-acting carbohydrate to treat any low blood sugar when traveling to and from your procedure

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Author: Glycemic Management P&T Committee

Reviewers: Glycemic Management P&T Committee, Christine Hagar, Olivia Curl, Natalie Plata

Edited by: Brittany Batell, MPH MSW

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