Glucose Monitoring

Schedule for Adjusting Pump Settings

When first starting pump therapy or any time pump settings need adjusting:

- Check your glucose (BG)
  - **When you wake up**
  - **Before each meal**
  - **2 hours after each meal**
  - **Bedtime**
  - **Mid-sleep or every 3–4 hours during sleep**
- Do not eat between meals.

Checking BGs at these times provides the information needed to adjust and fine-tune pump settings.

Schedule for Routine Monitoring

Once your pump settings are adjusted correctly and your glucose levels are stable, establish a routine that includes always checking your BG:

- **When you wake up**
- **Before each meal**
- **Bedtime**
- **Occasionally mid-sleep**
- **Test more frequently during travel, times of stress, and illness**

Treating Low Blood Glucose Levels

How to Treat Mild/Moderate Lows

15–15 Rule

If BG drops below 70 mg/dL:

1. Eat 15 grams of fast-acting carbohydrate
2. Re-check BG in 15 minutes
3. If BG is still below 70 mg/dL, repeat Steps 1 & 2 every 15 minutes until BG is within range.

Items that contain 15 grams:

- 3 to 4 glucose tablets
- 5 jelly beans
- 4 oz juice or soda (not diet)
- 8 oz milk (low or non-fat)
- 1 Tbsp sugar or honey

If BG is lower than 50 mg/dL, start treatment by eating 20 to 30 grams of carbohydrate.

How to Treat a Severe Low

Keep a Glucagon Emergency Kit on hand in case a severe low occurs. Glucagon can be given by injection to raise glucose levels if you are unable to eat or drink to treat a low, or if you are unconscious.

A family member, co-worker, or friend should be instructed on how to give glucagon.

Treating High Blood Glucose Levels

Most highs can be easily lowered simply by giving a correction bolus.

If High BG is lower than 250mg/dL

1. Enter the BG reading into your pump.
2. Allow the Bolus Wizard® feature to calculate the correction bolus amount.
3. Confirm the bolus amount and press the ACT button to deliver.
4. Recheck your BG in one hour to make sure your BG is back within target range.

Never ignore high BG readings. Always consult the Bolus Wizard to see if a correction bolus should be taken.

If BG is Higher than 250 mg/dL — CHECK FOR KETONES

If ketone test is negative:

1. Enter BG into pump/consult Bolus Wizard to see if correction dose is needed
   - Use pump to give correction dose
2. Recheck BG in 1 hour
   - If BG is starting to decrease, continue to monitor until normal.
   - If BG is same or higher:
     – Give correction dose using a syringe.
     – Change infusion site, infusion set, reservoir, and insulin.
     – Continue to check BG every hour until BG returns to normal.

If ketone test is positive:

1. Take correction dose using a syringe.
2. Change infusion site, infusion set, reservoir, and insulin.
3. Troubleshoot pump.
4. Check BG every 1 to 2 hours. Give correction boluses as needed.
5. Drink non-carbohydrate fluids.
6. If BG continues to rise or if you have moderate to high ketones, nausea, vomiting, or difficulty breathing, notify physician or go to the nearest emergency room.

DKA Prevention

Sick Day Guidelines

Illness and/or infection usually cause BGs to run higher than normal. Therefore, the risk of developing DKA is increased when you are ill.

Because DKA symptoms are similar to flu and stomach virus symptoms, check your BG and monitor for ketones often during illness.

- **Check BG every 2 hours**
- **Check urine for ketones each time you urinate**
- **Nausea or vomiting: <u>Immediately</u> check ketones**
- **Notify doctor if ketones are moderate or high**

Also, consider using a temporary basal rate to temporarily increase your basal insulin. Increasing basal insulin slightly can help to keep your BG in better control when you are ill.

How to Check for Ketones

Ketones are a waste product made when the body is forced to use fat instead of glucose as its main fuel (due to a lack of insulin).

To check for ketones:

1. Collect a urine sample
2. Dip ketone strip into your urine
3. Compare color indicator on strip to color guide on bottle.

Unexplained highs that do not decrease with a correction bolus may be caused by a dislodged or kinked infusion set or a weak vial of insulin. See the Appendix in "The Basics of Insulin Pump Therapy" to troubleshoot.

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