Children's MINNESOTA

The Kid Experts™

Pump Assessment Worksheets

Please complete these worksheets and **submit to the Diabetes Endo Educators** via MyChildren's or by fax (651-220-6064). Do not hesitate to contact the Diabetes Educators with questions. Once the worksheets have been received, the Diabetes Educators will contact you to review and discuss ordering the pump and/or sensor**.**

Use of the Diabetes Care Manual and Pump 101 class is recommended. View the Pump 101 video series and obtain more information online at: https://www.childrensmn.org/services/care-specialties-departments/diabetes-endocrinology/resources/

Patient's Name: _____

Patient's Birth Date: _____

I am interested in the following pump (circle):

Medtronic 780G

Tandem X2

Tandem Mobi

Omnipod 5

I am interested in the following sensor (if applicable):

Medtronic Guardian Connect

Dexcom G6 / Dexcom G7

Libre 2 / Libre 2 Plus / Libre 3

*** 6/3/24 Update: Tandem Mobi now compatible with Dexcom G7 CGM

*** 6/17/24 Update: Omnipod 5 now compatible with Dexcom G7 CGM

Checklist for Starting an Insulin Pump

1. Watch **Pump 101 video series**

2. Complete **Pump Assessment Worksheets** and submit to Diabetes Educators via MyChildren's or fax to 651-220-6064.

3. Diabetes educators will request **clinician approval** (must have been seen within the past three months) to order pump. *Can take 2-3 months to receive pump, pending insurance approval.*

4. Once your pump is received, contact the diabetes educators (651-220-6624) to set up a **Pump Safety and Dosing Appointment**. *Note: this appointment cannot be scheduled by centralized scheduling.* You will also need to call your pump company's Pump Trainer to schedule **Pump Start Training** to occur *after* Pump Safety and Dosing.

5. Approximately two to four weeks after your Pump Start you will return for a **Pump Start Follow-Up Appointment.**

Pump Selection & Ordering Process

1. How long does it typically take to get a pump?

2. What is the typical warranty for a pump?

3. Which pump are you interested in ordering? Why is this the pump you have chosen?

4. What independent research have you done to guide your selection?

5. Do you have access to internet and a computer to upload your pump at home?

MDI vs. Insulin Pump Therapy

1. What is the body's primary source of fuel?

2. Please complete the following statements:

   Insulin acts as a _____ to _____ receptor doors. Basal insulin

   acts as a _____ to allow glucose released from the

   _____ and _____ to enter cells

   between meals.

3. What type of insulin is used in pumps?

4. How is basal insulin delivered while utilizing insulin pump therapy?

5. How often do you take basal insulin injections when using an insulin pump?

Parts of a Pump

1. What are the three parts of a tubed pump?

2. How often are infusion sets changed?

3. Which type of infusion set are you interested in using? Why?

4. Where can infusion sets be placed?

5. Please complete the following statement:

   The key to infusion site placement is:

   _____, _____, _____

Pump Settings

1. **Basal Rate:** Take your current basal (Lantus/Basaglar/Semglee/etc.) dose and divide by 24 to get your hourly "basal rate".

   Example: Basal dose (9 units) / 24 = Basal Rate 0.375 units/hour

   Current basal dose (_____ units) / 24 = Basal Rate _____ units/hour

2. **Maximum Basal Rate:** This is a safety feature to protect you against increasing the basal rate too much. Take your basal rate from above and multiply x2.

   Example: Basal Rate 0.375 units/hour x 2 = 0.750 units/hour

   Basal rate (_____ units/hour) x 2 = Max Basal Rate _____ units/hour

3. What are the six settings the Dose Calculator uses to calculate your recommended bolus doses?

4. **Insulin to Carb Ratio "ICR"**: This is how much insulin is needed for carbohydrates. This number is similar to your carb ratio used for injections, but is always calculated using whole unit ratios. Insulin to carb ratios are programmed by time of day.

   Example: If your carb ratio is 0.5 unit per 15g carb, you will enter it into your pump as 1 unit per 30g carb. Meals: breakfast between 6am-10am, lunch between 10am-3pm, dinner between 3pm-8pm.

   Try to brainstorm the timeframe that you eat each meal throughout the day (does not have to be perfect!) and the associated ICR for that time frame:

   Breakfast: _____AM to _____AM ICR: _____

   Lunch: _____AM to _____PM ICR: _____

   Dinner: _____PM to _____PM ICR: _____

   Snack: _____PM to _____PM ICR: _____

5. **Insulin Sensitivity Factor "ISF":** The pump will use the BG Target and ISF to calculate a correction bolus. When using injections, this is the "Correction Scale" that you've been using to correct high BGs. You can set different sensitivities throughout the day (ie—daytime and overnight). This is programmed in the pump in whole units.

   Example: If your current correction scale is 1 unit per 50mg/dL above 150, your SENSITIVITY is 50. If your current correction scale is 0.5 unit per 50mg/dL above 150, your SENSITIVITY is 100.

   What is your sensitivity? *Note: you may or may not have the same sensitivity for both daytime and overnight*

   Daytime Sensitivity: _____

   Overnight Sensitivity : _____

6. **<u>BG Target & Correction Threshold</u>**: The pump uses these values to calculate the correction dose for elevated blood sugars. You can set different BG Targets and Correction Thresholds throughout the day (ie—daytime and overnight).

   Example: If your current correction scale is 1 unit per 50mg/dL over 150mg/dL, your Correction Threshold is 150 (what BG you start correcting at) and your BG Target is 100 (goal BG after correction).

   a. What is your current correction scale?

   _____ *unit(s) per* _____ *mg/dL over* _____ *mg/dL*

   b. Using this scale, what is your correction threshold?

   c. Using this scale, what is your target BG?

7. Please complete the following statement:

   The dose calculator only works as good as your _____ *are.*

Diabetic Ketoacidosis (DKA) Prevention

1. What is the body's secondary source of energy?

2. What are ketones?

3. What are the two reasons the body uses fat for energy?

4. Why are you at higher risk of developing ketones while using an insulin pump?

5. When should ketones be checked while using an insulin pump?

6. What would be possible causes of ketones when using an insulin pump? Please list at least 3 possibilities.

7. Please complete the following statements:

   Unexpected BG >300 → _____ _____

   Positive ketones → _____ _____ _____ _____ _____

   Treat _____ *first,* _____ _____ *second*

8. What steps are needed for management of ketones while using an insulin pump? Please list at least 2 steps.

9. BG is 421, ketones are negative, nothing is visibly wrong with the pump. What are your next steps?

10. BG is 372, ketones are moderate. What are your next steps?

11. BG has been >300 since 7am. At 8am, ketones were moderate and you gave a 1.5x correction via syringe and changed your pump site. It is now 11am, your BG is 352 and your ketones are large. What are your next steps?

12. If the insulin pump malfunctions or breaks, what is your back up plan for managing glucose levels?

13. What do you do if your CGM fails or falls off early? Does the pump deliver insulin?