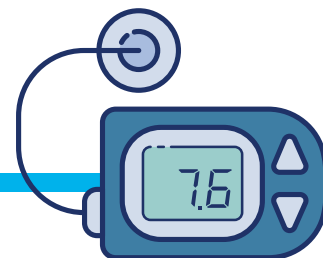


Safety Tips for Automated Insulin Delivery (AID) Use



Automated Insulin Delivery (AID) is the safest and most effective way to manage your type 1 diabetes but there may be times when you need to come off your pump either because of pump failure, a procedure or you desire a pump break. it is important to know how to switch back to subcutaneous (subQ) injections for safety.

As of this date _____ **your:**

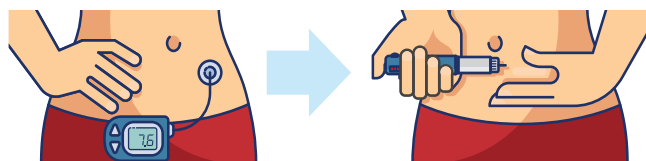
Total Daily
Dose (TDD) is:

Insulin-to-Carbohydrate
Ratio (ICR) is:

Insulin Sensitivity Factor (ISF)
or Correction Factor (CF) is:

HOW TO switch back to subQ injections

If you wish to take a pump holiday or need to switch back to injections due to pump failure, follow these steps. To replace:



BASAL INSULIN

Your total daily basal insulin is _____ units (often estimated as $TDD \div 2$)

If pump is off for > 1 hour, give rapid-acting insulin hourly (dose = total daily BASAL $\div$ 24) until pump is replaced or long-acting insulin has started.

Example: If TDD is 50, then BASAL insulin dose = $50 \div 2 = 25$, and replacement rapid-acting insulin dose = $25 \div 24 =$ approximately 1 unit rapid-acting insulin/hour

If pump is not expected to be replaced within the next few hours: Start basal insulin once daily using your total daily basal dose until pump is resumed.

MEAL BOLUS INSULIN

Using the insulin-to-carb (ICR) as written above, your meal bolus insulin dose = Meal carbohydrate content (grams) $\div$ ICR

Example: If Insulin-to-carbohydrate ratio is 1 unit per 12 grams (1:12), and if eating 60 grams of carbohydrate, then meal bolus insulin dose = $60 \div 12 = 5$ units of rapid insulin.

CORRECTION INSULIN

For high blood sugars, use your ISF or CF as written above. Wait a minimum of 4 hours before giving another correction insulin dose.

Correction insulin dose = ([Actual blood sugar] - [target blood sugar]) $\div$ ISF*

*also known as CF

Example: ISF = 2, target blood sugar = 6 mmol/L. If blood sugar is 12 mmol/L, then the correction would be $(12 - 6) \div 2 = 3$ units of rapid insulin.

Check ketones if blood sugars are above 14 mmol/L and give extra ketone correction insulin as needed following steps on next page.



Remember to have long-acting insulin at home and check its expiration!

HOW TO trouble shoot for stubborn high glucose (i.e., pump site failure) and sick day

If you have consistent high blood sugars > 17 mmol/L (or >14 mmol/L when sick) for more than 4 hours despite giving a correction insulin dose, you are at risk for Diabetic Ketoacidosis (DKA), check for ketones and take fresh rapid-acting insulin by syringe/pen following these steps:

- Check for ketones and inject this ketone correction insulin dose *in addition to* your correction dose every 4 hours until ketones have resolved
- Change both your insulin reservoir and infusion site



Urine ketones	Small (+)	Moderate (++)	Large (+++/++++)
Blood ketones (mmol/L)	0.6 - 1.5	1.5 - 3.0	above 3.0
Ketone Correction dose with rapid insulin	10% of TDD	15% of TDD	20% of TDD

Example: If TTD = 40 units, CF = 2, actual blood glucose = 18 mmol/L, target blood glucose = 6 mmol/L, blood ketones = 1.8 mmol/L, then

BOLUS insulin dose = CORRECTION INSULIN dose + EXTRA insulin dose for presence of ketones

= ([actual blood glucose - target blood glucose] ÷ CF) + (TTD x ketone correction)

= ([18 - 6] ÷ 2) + (40 x 0.15)

= (12 ÷ 2) + 6

= 12 units of bolus insulin

Seek emergency care if ketones are not going below large or 3.0 mmol/L.



Request prescription for ketone strips and check expiration before using!

Blood ketone test strips are recommended over urine ketone test strips when accessible.

HOW TO manage low blood sugars with AID

3.0 – 3.9

Mild hypoglycemia

- Treat with 5 - 10g of fast acting carbohydrate.
- Wait 15 - 20 minutes and finger poke before retreating.

< 3.0

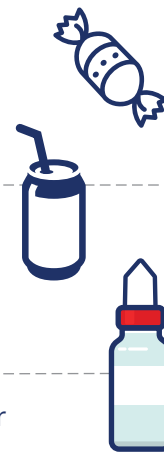
Moderate hypoglycemia or need to drive

- Treat with 15 - 20g of fast acting carbohydrate.
- Wait 15 - 20 minutes and check your blood glucose.
- Remember after experiencing a low blood sugar, blood sugars must be above 5 mmol/L to drive!

LO

Severe hypoglycemia

- If unconscious or unable to swallow, someone must administer intranasal glucagon (Baqsimi).
- Educate family & friends on Baqsimi use and regularly check its expiration!



Remember, when sugars are low, your insulin pump has suspended insulin delivery. Glucose sensors may lag — check blood sugar with a finger poke before giving a second treatment.