

School Health Plan for Children on an Insulin Pump

Student: _____ **DOB:** _____ **Grade:** _____
School: _____
Physician/Phone: _____
Medications: Humalog insulin/Novolog insulin _____
Pump Type: _____ **Infusion set type:** _____
Parent/Guardian name(s): _____
Home Number: _____ **Work Number:** _____
Pager/Cell Phone: _____ **Other Contact:** _____
Health Concern: Insulin Dependent Diabetes _____ **Date of Diagnosis:** _____

Calculating a Meal or Snack Insulin Dose:

- Check the current blood glucose level before the meal or snack, **target range is 70-150**
- Enter the blood glucose value into the pump
- Count the number of carbohydrates in the food about to be eaten
- Enter the amount of carbohydrates into the pump
- The pump will calculate the prescribed amount of insulin
- Deliver the bolus dose by pressing the designated buttons on the pump
- Do not administer more than 10 minutes before a meal
- If blood sugar is less than 70 mg/dl, wait to give meal bolus until after meal
- Basal rates are determined by healthcare providers and will not need to be adjusted

Time	Basal Rate

Start time	Carb to insulin ratios

Start time	Blood Glucose Correction

Low Blood Sugar (Hypoglycemia) - Below 70mg/dl

Causes:

- Bolused too much insulin
- Too few carbohydrates consumed for the amount of insulin given
- Over-exercise or unusually high activity
- High excitement

If you see this	Do this
Signs of Low Blood Sugar <ul style="list-style-type: none"> ➤ Headache ➤ Sweating, pale ➤ Shakiness, dizziness ➤ Tired, falling asleep in class ➤ Inability to concentrate ➤ Poor coordination ➤ Other _____ 	<ol style="list-style-type: none"> 1. Have someone accompany student to nurse's office or check in the classroom 2. Check blood glucose. 3. If less than 70mg/dl, give one of the following sources of sugar <ul style="list-style-type: none"> • 2-4 glucose tablets • 6-9 Sweetarts® candies • 4-6 Lifesavers® candies • 4-6 oz orange or other juice • 4-6 oz regular soda (not sugar-free) • Other _____ 4. After 15 minutes, check blood glucose again 5. Retreat if necessary, until blood glucose is above 70
Signs of a low blood glucose – Moderate <ul style="list-style-type: none"> ➤ Severe confusion 	<ol style="list-style-type: none"> 1. Have someone accompany student to nurse's office or treat in classroom 2. Check blood glucose 3. Keeping head elevated, give one of the following forms of sugar <ul style="list-style-type: none"> • 1 tube Cake Mate® gel applied between cheek and gum • ½-1 tube instant glucose applied between cheek and gum 4. May place pump in suspend or stop OR Disconnect insulin pump at insertion site. Store pump in a safe place 5. After 15 minutes, check blood glucose again 6. Retreat if necessary, until blood glucose is above 70 7. If blood glucose is stable(70-150), turn pump back on 8. Notify parent/legal guardian
Signs of low blood glucose – SEVERE <ul style="list-style-type: none"> ➤ Unconsciousness ➤ Seizure 	<ol style="list-style-type: none"> 1. Place student on side 2. Call 911, then parent and physician 3. Place pump in suspend or stop OR disconnect insulin pump at insertion site 4. Remain with student until help arrives 5. Pump needs to remain with the student if transported to hospital, ED, etc. 6. If personnel are authorized to use Glucagon give prescribed dose: _____ cc

High Blood Sugar (Hyperglycemia)

Causes:

- Illness
- Underestimated carbohydrates and bolus
- Pump cartridge is empty
- Cannula is kinked under the skin
- Infusion set and site has exceed 72 hours
- Insulin pump malfunction regarding delivery
- Leak in the infusion set tubing
- Increased stress
- Excessive exercise without proper insulin
- Ineffective insulin pump
- Dead battery – no insulin delivery

If you see this	Do This
<p>Signs of High Blood Sugar</p> <ul style="list-style-type: none"> ➤ Excessive thirst ➤ Frequent urination ➤ Hunger ➤ Nausea, vomiting ➤ Hyperactivity ➤ Headache ➤ Other 	<p>Immediate Action</p> <ol style="list-style-type: none"> 1. Accompany student to nurse’s office 2. Check the student’s blood glucose
<p>High Blood glucose levels</p>	<p>Treatment for High Blood Sugar Levels</p> <p>If the Blood sugar is 150 – 250:</p> <ol style="list-style-type: none"> 1. Give the correction bolus 2. Recheck the blood glucose in 2 hours, re-bolus if necessary <p>If the Blood sugar is >250:</p> <ol style="list-style-type: none"> 1. Check urine or blood ketones (see following page) 2. If ketones are negative, have the student give a correction bolus via the pump. 3. If ketones are positive, give the correction bolus via injection. 4. Recheck blood glucose and urine/blood ketones every 2 hours 5. Call the parents <p>If there are two consecutive unexplained blood sugar levels >250 with or without ketones:</p> <ol style="list-style-type: none"> 1. Give the correction bolus via injection 2. May change the infusion set 3. Call the parents

Checking Ketones

If you see this	Do this
<p>Urine Ketones</p> <ol style="list-style-type: none"> 1. Completely cover the colored square on the end of the strip by dipping into fresh urine. 2. Immediately remove the strip from the urine. 3. Gently tap the edge of the strip to remove excess urine. 6. Wait 15 seconds using the second hand on a watch (if using Ketostix®) 7. Wait one minute if using the Chemstrip uGK® strip 8. Compare the test area with the corresponding color chart 8. Record the appropriate result 	<p>How to treat Urine Ketones</p> <p>Ketones = Trace</p> <ol style="list-style-type: none"> 1. Have the student drink 8 oz of sugar free fluid every hour until ketone free. 2. Call parents <p>Ketones = Trace – Small</p> <ol style="list-style-type: none"> 1. Have the student drink 8 oz of sugar free fluid every hour until ketone free. 2. Recheck blood glucose in 2 hours or 3. Recheck urine ketones in 2 hours 4. If ketones are still present, call parents. <p>Ketones = Moderate – Large</p> <ol style="list-style-type: none"> 1. Call parent or health care provider for dosing instructions 2. Administer correction bolus via injection 3. Have the student drink 8 oz of sugar free fluid every hour until ketone free 4. May change the infusion set
<p>Blood Ketones</p> <p>How to check Blood Ketone using the Precision ketone test strips</p> <ol style="list-style-type: none"> 1. Obtain a blood sample from the finger 2. Apply blood sample to the ketone electrode strip 3. Apply enough blood to the strip to start the count down process 4. A numeric value will appear at the end of the blood ketone testing process 	<p>Blood Ketone Chart</p> <p>Below 0.6 mmol/l = negative ketones</p> <ol style="list-style-type: none"> 1. No action needed <p>0.6 to 1.5 mmol/l = Trace to Small ketones</p> <ol style="list-style-type: none"> 1. Have the student drink 8 oz of sugar free fluid every hour until ketone free. 2. Recheck blood glucose in 2 hours or 3. Recheck urine ketones in 2 hours 4. If ketones are still present, call parents. <p>Above 1.5 mmol/l = Moderate to Large ketones</p> <ol style="list-style-type: none"> 1. Call parent or health care provider for dosing instructions 2. Administer correction bolus via injection 3. Have the student drink 8 oz of sugar free fluid every hour until ketone free 4. May change the infusion set <p>Above 3.0 mmol/l = Contact parents or Health care provider. May need more intensive medical care</p>

Pump Supplies

Supplies:	Needed	Not Needed
Blood glucose meter and blood glucose strips		
Lancets with lancet device		
Blood ketone strips (if using the Precision meter)		
Urine ketone strips		
Insulin syringes		
Antibacterial skin cleanser or Alcohol wipes		
Insulin pump cartridge/reservoir		
Insulin pump infusion set		
Transparent dressings		
Insulin pump batteries		
Quick-serter/Sof-serter/Sil-serter (if used)		
Bottle of refrigerated quick acting insulin - Humalog (Lispro)/Novolog (Aspart)		
Pump alarm card		
Glucose tabs, Cake Mate ® gel , juice, or other source of glucose		
Carbohydrate snack		
Glucagon Emergency Kit ® (if delegated by RN)		
Pump manual		
Sharps container		
Copy of current basal rates and bolus dosing		

Pump company name	24 Hour Help Phone number
MiniMed	1-800-826-2099
Deltec	1-800-426-2448
Disetronic	1-800-688-4578
Animas	1-877-767-7373

As parent/guardian of the above named student, I give my permission for use of this plan in my child's school and for the school to contact the above named physician if necessary to complete the Health Care Plan.

_____	date	_____	date
School Nurse		Parent	
_____	date	_____	date
Clinic Aide		Physician	
_____	date	_____	date
Principal		Reviewed	

References:

Easy as ABC, Disetronic Medical System Inc, 2000.

Pumper in the School, MiniMed Inc., 2000