

Insulin Pump Therapy Student Independent Performance

Pupil:	DOB:	School:	Grade:
General Information	<p>A. Insulin Pump Therapy is also referred to as Continuous Subcutaneous Insulin Infusion (CSII). The pump is worn outside the body and is about the size and weight of a pager. It holds a reservoir of insulin inside the pump and is programmed to deliver the insulin through a thin plastic tube called an infusion set. The infusion set is inserted via a needle that is covered by a cannula just below the skin. Once inserted, the needle is removed and the cannula stays in place for two to three days. When it is time to change the infusion set, a new infusion set is inserted into a different site.</p> <p>B. The goal of Insulin Pump Therapy is to achieve near normal blood glucose levels over 24 hours per day. The use of CSII has been shown to improve growth in children, decrease the incidence of hypoglycemia, and decrease the incidence of long-term diabetes complications.</p> <p>C. The advantages of CSII are that it affords more flexibility of life-style with less variability of insulin absorption, more precise insulin administration matched with food intake and activity levels, and overall close attention to diabetes management.</p> <p>D. The pump uses short acting insulin as opposed to conventional injections, which combine short and long-acting insulins.</p> <p>E. Insulin Pump Therapy combines a continuous basal of insulin for 24 hours and a bolus dose for meal or snack times and times of high blood glucose. Basal rate: amount of insulin required when no food is eaten; a pre-programmed feature measured in units per hour (U/H); can be altered based on the pumper's daily needs; can be temporarily changed for alteration in schedule, activity, illness or food. Bolus: when the pump is programmed to give a dose of insulin for meals, snacks and/or for correction of elevated blood glucose.</p> <p>F. The specific pump manufacturer instructions must be followed. Manuals, booklets, and videos are usually available free of charge by calling the number listed on the back of the pump.</p> <p>G. If the supply of insulin is interrupted due to mechanical pump failure, dislodgment of the cannula, accidental severing of the tubing, or clogged or obstructed tubing, the blood glucose level can rise rapidly. In case one of these incidents should occur, it is necessary for extra supplies to be kept at school to prevent or limit the subsequent hyperglycemia and possible ketoacidosis (can occur in as little as 3 hours).</p> <p>H. The pump can be disconnected using a quick release set. This is usually done during water activities or contact sports.</p> <p>I. A 3x5 card with the student's name, pump model and serial number, and the pump manufacturer's help line phone number should be readily available in the health office for any problems that might occur.</p> <p>J. A wallet sized programming card and an alarm card or manufacturer's instructions should be available in the health office for reference.</p>		

Insulin Pump Therapy
Student Independent Performance (Continued)

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General Information (Cont.)	<p>K. The school nurse needs to ensure that the actions listed below will occur. These actions are listed on the Insulin Pump Contract (refer to "Contracts" section). This contract can be signed by the student and parent/guardian to assist in ensuring these responsibilities.</p> <ol style="list-style-type: none"> 1. The student, parent/careprovider will be responsible for proper needle/catheter site preparation and insertion. 2. The student will be responsible for programming the pump functions. 3. The student agrees to immediately report to appropriate school personnel any pump malfunctions (dead batteries, high-pressure alarm/no delivery, etc.). 4. The student will be responsible for delivering the appropriate insulin amount based on blood glucose testing values, anticipated exercise and planned food consumption. 5. The student/parent will take responsibility for taking care of any skin site problems (bleeding, tenderness, itching, oozing, etc.). If the tubing becomes dislodged at school the student will report immediately to the school office and insert a new set. 6. The student will use universal precautions when discarding infusion sets, and needles. Needles will be placed in a sharps container. Infusion sets can be placed in a zip-loc baggie and discarded in a lined wastebasket. 7. Student will be responsible for notifying parent(s)/careprovider of any pump incidents. 8. The student will be responsible for ensuring pump/tubing safety during physical activities. If the student chooses to use a quick-release set during activities, he/she will ensure that normal blood glucose (euglycemia) is maintained as much as possible (checking blood glucose before, during and after activities and taking extra carbohydrates as needed). 		
Equipment & Supplies	<ol style="list-style-type: none"> 1. Infusion set and reservoir 2. Tape to secure infusion set 3. Items needed to prep skin site (alcohol swabs, betadine, etc.) 4. Pump programming instructions and alarm card 5. Insulin, and syringe (in case of pump malfunction) 		<ol style="list-style-type: none"> 6. Extra batteries 7. Sof-serter
Procedure	<p>The procedure for inserting an infusion set and operating a pump will be independently performed by the student in accordance with the actions delineated under "General Information". The school nurse can assist with trouble shooting the following situations:</p>		

Procedures for Hyperglycemia with Pump Therapy

Essential Steps	Key Points & Precautions
1. Check site for leakage, cannula dislodgement, redness and/or tenderness. If any of these are present, have student change the site immediately.	<p>Student must assemble equipment, prime tubing, prep the insertion site, and insert the infusion set using an insertion tool. The cannula can be inserted using an insertion tool. This minimizes the chances of improper insertion. Some pump wearers use an infusion set (Silhouette or Tender Twos) that is inserted at an angle with a longer cannula. This is used for those who have less body fat. The Sof-serter cannot be used with these sets. Student to dispose of the insertion needle in a Sharps container.</p> <p>Student may need assistance.</p>
2. Follow Procedure for High Blood Glucose, Hyperglycemia.	
3. Student should check blood glucose 30 minutes - 2 hours after inserting a new infusion set and/or any correction bolus to ensure that blood glucose is responding to insulin.	<p>It may be necessary to continue checking blood glucose levels periodically to prevent potential hypoglycemia.</p>

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Procedure for Hypoglycemia with Pump Therapy

Essential Steps	Key Points & Precautions
1. Follow Procedure for Low Blood Glucose. The student should be knowledgeable regarding what actions to take during exercise.	Student may need assistance. General staff training is necessary for recognition of signs and symptoms and obtaining assistance for student. The student should be knowledgeable regarding what actions to take during exercise. The pump can be programmed to “suspend” function during exercise so hypoglycemia can be avoided or extra carbohydrates can be consumed for every 30 minutes of exercise.
2. If problems continue notify the school nurse.	School nurse will notify parents and confer with physician.

Procedure for Pump Alarms

Essential Steps	Key Points & Precautions
1. Trouble shoot alarms	Follow manufacturer’s instructions for alarm indication. Student must be knowledgeable regarding pump alarms. A reference card can assist with troubleshooting steps or the manufacturer’s 800 number can be called (listed on the back of the pump).
a. LOW BATTERY:	Student to insert new batteries according to instructions.
b. NO DELIVERY	Check reservoir; student to refill if it is empty. Cannula may be obstructed or kinked; student must insert new infusion set.
2. If student is unable to restart pump function, parent and school nurse must be notified immediately.	An injection of short acting insulin may be ordered.
3. Parent/careprovider may choose to take student home for further monitoring. If student remains in school, the school nurse will contact the healthcare provider for further instructions.	
4. Follow Procedure for High Blood Glucose, Hyperglycemia.	
5. Document any incidents on procedure log.	