

**Insulin Pump Therapy
Student Requiring Supervision**

| 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> | | |

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| General Information (Continued) | <p>K. The school nurse needs to ensure that the actions listed below will occur as delineated:</p> <p>Parent Responsibilities</p> <ol style="list-style-type: none"> 1. Check site, ensuring tubing patency and checking insulin reservoir prior to student attending school each day. 2. Programming pump functions that include basal rate, alternate basal rates, square wave boluses, and/or temporary basal rates. 3. Reinserting a new infusion set if any skin site problems (bleeding, tenderness, itching, oozing, etc.) occur and abide by universal precautions when discarding infusion sets, and needles at school (needles will be placed in a Sharps container; infusion sets can be placed in a zip-loc baggie and discarded in a lined wastebasket). 4. Provide emergency numbers for cell phone or pager for potential pump alarms, cannula reinsertion or clogging, and/or accidental severing of the tubing. 5. Calculate the number of carbohydrates the child will be receiving for snack and/or school lunch (school food services director can provide menu breakdowns) or pre-packed lunch. This will be written down on the School-Home Diabetes Monitoring Log for Insulin Pump (refer to Records & Logs) and sent daily to the school nurse. <p>Student Responsibilities</p> <ol style="list-style-type: none"> 6. Report to appropriate school personnel any pump incidents such as low battery alarm, no delivery alarm, accidental severing or dislodgment of tubing, etc. | | |
| 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>Operating the pump boluses will be done either by the licensed nurse or by the student with a level of observation to be determined in accordance with state regulations. The nurse will follow manufacturer's instructions for pump operation.</p> | | |

Procedure 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, call parents to change the infusion set immediately. | Redness and/or tenderness at the site may indicate obstruction. The blood glucose can rise quickly since the delivery of short acting insulin has been interrupted and there is no long acting insulin in the body. |
| 2. Parents may program a bolus to correct the hyperglycemia. | If parents are unavailable then a back up plan for insulin administration must be provided. The school nurse can contact the physician for insulin administration instructions. |
| 3. Follow Procedure for High Blood Glucose Hyperglycemia. | Blood glucose should be checked 30 minutes - 2 hours after a correction dose to ensure that the blood glucose is responding to insulin. It may be necessary to continue checking blood glucose levels periodically to prevent potential hypoglycemia. |

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Procedure for Hypoglycemia with Pump Therapy

| Essential Steps | Key Points & Precautions |
|---|--|
| 1. Follow Procedure for Low Blood Glucose. | Hypoglycemia cannot always be avoided although the parent/careprovider should be knowledgeable regarding actions to prevent hypoglycemia during planned exercise. If vigorous exercise is anticipated the parent may pre-program a lower basal rate profile to avoid hypoglycemia. Another alternative is for the child to consume extra carbohydrates before, during and/or after exercise. Accommodations must be addressed in the ISHP. |
| 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. Troubleshoot Alarm. | Follow manufacturer's instructions for alarm indication. A reference card can assist with troubleshooting steps or call the manufacturers 800 number (listed on the back of the pump). |
| A. LOW BATTERY | Insert new batteries according to instructions. |
| B. NO DELIVERY | Check insulin reservoir; if it is empty call parents to refill. Cannula may be obstructed or kinked; call parents for insertion of new infusion set. |
| 2. If unable to troubleshoot pump call school nurse so student can be monitored closely and receive appropriate medical care. | School nurse will notify parents and contact physician for further orders. An injection of short acting insulin may be ordered. |
| 3. Follow Procedure for High Blood Glucose, Hyperglycemia. | Student may need assistance. |
| 4. Document any incidents on Procedure Log. | Keep parents informed of any issues at school. |