

Standards of Care for Diabetes Management in the School Setting – Colorado

These are general standards of care for students with Type 1 Diabetes to be used in conjunction with the Colorado Provider Orders & Individualized Health Plans. The student's health care provider may indicate exceptions to these standards on the student's individual orders.

1. **Communication:** To facilitate appropriate execution of the Health Care Provider's orders and to ensure safety of the student, the School Nurse will have authorization to exchange health information with the provider to assist in developing, updating and carrying out the Individualized Health Plan.
2. **Monitoring Blood Glucose:** *The student's health care provider should indicate individualized blood glucose target ranges on the student's individual orders.*

Standard Target Ranges Before Meals: (unless otherwise indicated on Provider orders)

< 5 y.o.	80-200 mg/dl
5-11 y.o.	70-180 mg/dl
12-18 y.o.	70-150 mg/dl
>18 y.o.	70-130 mg/dl

Notification to Parents:

Low < target range and High > 300 mg/dl (if on pump then > 240mg/dl or individualized on orders)

Note: The frequency of routine blood glucose monitoring should take into consideration the student's schedule and participation in classroom learning/activities. Too frequent routine glucose monitoring may impact learning and school participation. On average, a student would have routine glucose monitoring one to three times/day at school.

3. Hypoglycemia

Treatment for Hypoglycemia

- Student should be treated in the classroom if symptomatic or if Blood Glucose (BG) is below *Target Range*. If the student needs to go to the Health Office – he/she should be accompanied.
- Check blood glucose - if blood glucose meters not available, treat symptoms.
- If Blood glucose is below *Target Range* and/or student is symptomatic treat with ~15 gram fast-acting carbohydrate. **Retest** in 10-15 minutes. Repeat 15gm fast acting carbohydrate until within *Target Range*. Follow with snack or lunch (see Note)
- **Mild symptoms:** Check blood glucose, treat with juice, glucose tabs, etc. until within *Target Range*. Follow with snack/lunch.
- **Moderate symptoms:** if unable to drink juice: administer glucose gel. Re-treat until within *Target Range*. Follow with snack or lunch (see Note)
- **Severe symptoms** which may include seizures, unconscious, unable or unwilling to take juice or gel: **Administer Glucagon:** if trained staff is available and **call 911**. Disconnect/suspend pump.
 - < 16 years old = 0.5 cc and > 16 years = 1.0 cc IM unless otherwise indicated by provider

Note: Do not give insulin for carbohydrates given to treat low blood glucose. For the student who is on a pump, the School Nurse should discuss with the parent whether the student is given an insulin bolus for snacks following hypoglycemia and note on Individualized Health Plan. At lunchtime, after blood glucose is within *target range*, send the student to lunch & give insulin after eating unless otherwise indicated on Health Care Provider orders.

4. Hyperglycemia

Treatment for Hyperglycemia

No pump:

- Check urine/blood ketones if BG is over 300 mg/dl twice in a row (greater than 2 hours apart) or with symptoms of illness/vomiting. If ketones are present, provide water and call parents. If > 2.5 hours since last dose of insulin, the student may need insulin via injection (School Nurse should call Health Care Provider for one-time orders if the student only has orders for correction at lunchtime).
- Students can stay in the school and participate in classroom activities with hyperglycemia if they are not symptomatic and/or do not have moderate/large ketones.

- Recommend the student be released from school when ketones are moderate/large or if there are symptoms of illness in order to be treated and monitored more closely by parent/guardian.

With Pump:

- Check urine/blood ketones for BG > 240mg/dl (this BG level may be individualized on Provider orders and should be used instead of the 240mg/dl as indicated).
- If BG > 240mg/dl with ketones or 2 consecutive unexplained BG > 240mg/dl (with or without ketones) that are over two hours apart then the student *may* require insulin via injection and a new infusion site/set (to be changed by parent/guardian or independent student). School Nurse should call parent and Health Care Provider if this occurs to determine insulin and/or set change required. The concern is a malfunctioning pump with the risk of quickly going into Diabetic Ketoacidosis (DKA).
- Contact school nurse and parent for further instructions regarding insulin by injection or new infusion set.
- If ketones are present, call parents, provide water, prohibit exercise (see Exercise below).
- Recommend the student be released from school when ketones are moderate/large or with symptoms of illness in order to be treated and monitored more closely by parent/guardian.
- Students can stay in school and participate in classroom activities with hyperglycemia if they are not symptomatic and/or do not have moderate/large ketones.

Exercise:

- If the student has BGs in range and has trace or small ketones, it is okay to exercise. If BG is high and ketones are trace, it is OK to exercise. But if the BGs are high (i.e. >300) prohibit exercise if ketones are \geq small. Be sure high glucose is not related to recent meal. Note: always check BG and ketones before exercise if the student is not feeling well.

5. Continuous Glucose Monitors (CGM)

- CGM systems use a tiny sensor inserted under the skin to check glucose levels in interstitial fluid. They may be used on an ongoing basis or for a short time to identify specific patient blood glucose levels and trends. The CGM is calibrated to the student using finger stick glucose.
- Since the FDA has not approved CGM for treatment in Pediatrics, glucose levels must be confirmed with a finger stick/meter before making a change in treatment. *Under NO circumstances should the CGM reading be used to give an insulin dose or treat a low/high BG. Always check finger stick blood glucose level regardless of CGM reading.*
- Sensors remain in place for ~3 days up to a week. Parents are responsible for changing sensor/site
- Parents will set the alarms and notify the school nurse of the parameters. Alarms should be used conservatively so as not to unnecessarily disrupt the student's school activities.
- Trend arrows showing lows/pending lows or highs/pending highs should be confirmed with a blood glucose meter and treated per Health Care Plan/Provider orders

6. Insulin Management

- Fast acting insulins are interchangeable (e.g. Humalog, Novolog, Apidra) unless student is allergic to a certain brand or otherwise indicated.
- The parent and/or health assistant should contact the school nurse for changes in insulin dosing.

7. Pump Management

- The computerized features/calculator of pump should be used for insulin boluses.
- All pump safety features should be operational in the school setting.

8. Self-Care Management

- Ability level to be determined by school nurse and parent unless Provider indicates otherwise on orders.
- All students, regardless of age or expertise, require a plan and may need assistance with hypoglycemia and illness.