

Virtual Nursing: School Program



Program Guidelines

A program for South Dakota school children with diabetes,
coordinated by the South Dakota Diabetes Coalition

South Dakota Diabetes Coalition

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Introduction

The South Dakota Diabetes Coalition and partners have formed the *Virtual Nursing: Schools Program* to provide access to the virtual nurse model for safe health care for insulin-dependent students when a nurse cannot be present. The best case scenario is that a school nurse is available during the school hours the insulin dependent child is in the school. For some schools in South Dakota, a school nurse cannot be available at all times.

Background

Due to the rural nature of our state and increasingly tight resources within the education system, there are very few schools in South Dakota that have a licensed school nurse on staff every day. According to the South Dakota Board of Nursing, numerous concerns regarding less than adequate care were cited by parents of children attending schools where a nurse was not present. Parents reported that children were transported to nursing homes for insulin administration during the school day if a nurse was not available. Parents also reported that some schools required a parent to come to the school to administer the insulin, which presented numerous challenges for parents.

The South Dakota Board of Nursing agreed to study this issue further. The *Virtual Nursing Care for Children with Diabetes in the School Setting* project is a model for enhancing the presence of a nurse in settings where a nurse may not be present to deliver care. The model was based on the nursing principles of delegation and supervision of trained unlicensed personnel by licensed nurses in South Dakota (SD). The “Virtual Nurse” project was inspired by three major concerns: 1) access to care for individuals living with diabetes in settings where a nurse is not always present to deliver care, 2) legal barriers to delegation and supervision of insulin administration, and 3) the cost of sustaining the current economic model of care. The study was conducted over three academic years. A total of 31 children in 22 schools participated. Registered Nurse Certified Diabetes Educators served as the virtual nurses at two hub sites at Avera McKennan Hospital and Sanford USD Medical Center. The virtual nurses managed the diabetes care and delegated tasks to trained unlicensed personnel. Grant funds from the National Council of State Boards of Nursing and the SD Department of Health were used to sustain the project. The unlicensed personnel participated in a 20 hour training program and competency assessment conducted by an RN CDE prior to working with the students. The virtual nurses followed a Diabetes Medical Management Plan (DMMP), written by the child’s parents and primary health provider, which detailed all aspects of the child’s diabetes care. The virtual nurses connected on a weekly scheduled basis with the unlicensed providers and children. Documentation collected by the unlicensed providers and the virtual nurses showed 5,568 doses of insulin were administered safely. Data supported that the unlicensed providers appropriately followed the DMMP for the majority of hypoglycemic and hyperglycemic episodes recorded.

Grant Awards

Grant awards will range from \$500 - \$2,000. A grant application is attached to these guidelines.

Eligibility Criteria

Schools and students that will be eligible for support must meet the following criteria:

- The student must attend a school located in South Dakota and be diagnosed with Type 1 or insulin-requiring 2 diabetes.
- The student requires insulin administration by injection or pump on a regularly scheduled or sliding scale basis during the school day.
- The school has ***no full-time licensed nurse*** physically present in the school to assist the child with insulin administration on a daily basis.
- The school has appropriate technology available to connect to the virtual nurse and staff to support technology needs and possible upgrades required for the program.
- The school has identified unlicensed assistive personnel (UAP), willing to partner with the virtual nurse, who is available to the student during the school day.
- A RN currently practicing and employed as a diabetes educator (such as a CDE) or RN currently-employed as a school nurse has been identified to be the delegating nurse.
- The parents/guardian have a diabetes medical management plan (DMMP) from their child's physician.
- The parents and school are required to complete a survey annually.

Funding Requirements

The following components must be in place for funding to begin:

School

- ✓ The school will provide an UAP that will assist the student with carb counting, insulin administration, and hypoglycemic/hyperglycemic management. As described below, the UAP must be willing to accept the delegated task of insulin administration and not as a condition for employment.
- ✓ The school will provide a stipend to the UAP for the 10 hours of required training and competency testing. These funds may come from the grant funds.
- ✓ The school must provide a private area where the UAP and student can video conference with the virtual nurse.
- ✓ The school must demonstrate through school district policy where the UAP and volunteer school staff shall not be liable for civil damages as a result of the administration of medication, provided they act with reasonable care.
- ✓ The school must provide a secure area where the student's medical information can be stored.
- ✓ The school's food service personnel must provide carbohydrate count for each item offered in the daily school lunch menu and ala carte items.
- ✓ The school must demonstrate responsibility and a level of cooperation that extends into the classroom so the child receives appropriate care. This may include recognition of hypoglycemic or hyperglycemic symptoms by the classroom and playground staff, among other items outlined in the student's DMMP.

Technology

Prior to executing a technology action plan, the parents should decide what agency (e.g., Avera, Rapid City Regional, Sanford, or a school nurse) will provide the virtual nurse support. The school shall then work with that agency to define the network and video setup to allow video conference calls to the virtual nurse. The following items may be paid for through grant funding.

- ✓ The school will install a broadband circuit for secure Internet connection in order to dial into the virtual nurse and provide sufficient clarity so the nurse can *see* the glucose meter and insulin pump screen, insulin pen doses, and insulin syringe lines.
- ✓ The school will provide a **dedicated** tablet, laptop, or desktop with video capacity to support calls must be securely stored when not in use by the student and UAP.
- ✓ The computer will be installed with a standard based video conferencing application.
- ✓ The computer will be installed with a secure connection or encrypted connection.
- ✓ The school will subscribe to a reliable telecommunications carrier so the calls between the UAP, student, and virtual nurse will not be dropped and be clear.
- ✓ The school will provide information technology support for the dedicated computer and UAP, if needed.

Unlicensed Assistive Personnel (UAP)

- ✓ The UAP must be willing to accept the delegated task of insulin administration and not as a condition for employment.
- ✓ The UAP must meet the South Dakota Board of Nursing's Medication Administration training requirements prior to administering insulin.
- ✓ The UAP's skills must be validated by the virtual nurse ***upon completion of training*** and on an ***annual basis***.
- ✓ The UAP must work with the student(s) to update weekly diabetes care logs.

Virtual Nurse

- ✓ An RN, holding an active South Dakota or multi-state compact RN license, currently practicing and employed as a diabetes educator (such as a CDE) or RN currently-employed as a school nurse has been identified to be the delegating nurse.
- ✓ The virtual nurse must validate each of the UAP's skills in the following areas upon completion of training and on an annual basis:
 - Insulin administration
 - Carb counting
 - Blood glucose monitoring
- ✓ The virtual nurse must be available during school hours and must initiate a weekly interaction with UAP and student(s).
- ✓ The virtual nurse will maintain appropriate documentation related to interactions and weekly logs.

Diabetes Medical Management Plan (Included)

- ✓ A Diabetes Medical Management Plan (DMMP) must be provided to the virtual nurse and UAP by the child's parents and health care team at the beginning of each school year. A sample medical management plan is attached, should the child's physician need a template.
- ✓ If the plan should change, the parents and health care team should update the UAP and virtual nurse prior to implementation of the new plan.
- ✓ A plan from the child's healthcare team should include the following:
 - Blood glucose/ketone monitoring;
 - Insulin administration;
 - Activity monitoring/Exercise plan;
 - Hypoglycemic recognition and treatment;
 - Hyperglycemic recognition and treatment;
 - Emergency Glucagon administration; and
 - Supplies to be kept at the school needed for Diabetes Medical Management Plan.

Program Management

- ✓ Prior to implementation of the virtual nurse process, the virtual nurse and the UAP must have a logistical plan in place. Initially, the calls may occur daily until the virtual nurse, student and UAP have reached a level of comfort with the process.
- ✓ There shall be a minimum of one contact per week between the virtual nurse, UAP and student.
- ✓ The UAP and student shall maintain weekly logs and share them with the virtual nurse and parents/guardians. The virtual nurse will be responsible for maintaining the records in a secure location.

Appendices

The following appendices may be used by the school to plan and implement the virtual nurse program.

- A. DMMP – Insulin Injections and Oral Medications
- B. DMMP – Insulin Pump
- C. Weekly Log
- D. Sample Timeline

APPENDIX A: South Dakota Virtual Nursing Care for School Children with Diabetes
Diabetes Medical Management Plan for Insulin Injections/Oral Medication

Date of Plan _____ For school year _____

This plan should be completed by the student’s personal health care team and parents/guardian. It should be reviewed with relevant school staff and copies should be kept in a place that is easily accessed by the school nurse, trained diabetes personnel and other authorized personnel.

Student’s Name _____ DOB _____ Date of diabetes diagnosis _____

Grade _____ School _____ Diabetes type ___ Type 1 ___ Type 2

Contact Information

Parent/Guardian #1 _____ Address _____

Phone: Home _____ Work _____ Cell _____

Parent/Guardian #2 _____ Address _____

Phone: Home _____ Work _____ Cell _____

Student’s Doctor/Health Care Provider

Name _____ Address _____

Office Phone _____ Emergency number _____

Other Emergency Contact

Name _____ Relationship to student _____

Phone: Home _____ Work _____ Cell _____

Notify parents/guardian or emergency contact in the following situations: _____ Significant high blood sugar, low blood sugar, illness, ketones or any diabetes-related concerns

Other: _____

Assistance with Diabetes Care

The student needs assistance with the following aspects of diabetes care at school:

- | | |
|---|---|
| <input type="checkbox"/> Blood glucose monitoring | <input type="checkbox"/> Insulin dose calculation |
| <input type="checkbox"/> Carbohydrate counting | <input type="checkbox"/> Insulin injections |
| <input type="checkbox"/> Treating low blood glucose | <input type="checkbox"/> Urine ketone testing |

Blood Glucose Monitoring

Meter type _____ Blood glucose target range _____

Times for usual blood glucose checks _____

Times to do extra blood glucose checks:

- Before exercise After exercise Student exhibits signs of hypoglycemia or hyperglycemia
 Other (explain) _____

Meals/Snacks

The student uses carbohydrate counting to determine meal insulin based on food intake.

Snacks:

- The student does not have scheduled snacks at school.
 The student needs snacks at school at the following time(s): _____

When food is provided to the class for special events (birthdays, food sampling, etc) please contact the parent/guardian in advance to discuss how they would like to handle the situation. Do not let the student eat extra snacks without parent/guardian consent.

Other food needs/allergies: _____

Insulin Injections

Note: Insulin doses may change frequently. The doses documented here are those in effect as of the plan date. Parent/guardian is responsible for communicating ongoing dose changes to appropriate school personnel.

The student takes insulin using: Vial & syringe Insulin pen – type: _____

Insulin type(s) to be given at school: _____

The student is to receive his/her insulin: before meals after meals

Insulin administration times:

- Breakfast - Insulin to carbohydrate ratio of 1 unit for every _____ grams carbohydrate
PLUS correction factor of blood glucose minus _____ divided by _____
- Noon meal - Insulin to carbohydrate ratio of 1 unit for every _____ grams carbohydrate
PLUS correction factor of blood glucose minus _____ divided by _____
- Other _____

Oral Diabetes Medication

Type _____ Dose _____ Time _____

Not applicable

Exercise

The student should not exercise if blood glucose is below _____ mg/dl or above _____ mg/dl or if urine ketones are present.

If the pre-exercise blood glucose is below _____ mg/dl, treat with 15 grams of carbohydrate, wait 15 minutes and retest. The student may exercise once the blood glucose is above _____ mg/dl.

Other exercise guidelines: _____

Hypoglycemia (Low Blood Sugar) – Refer to Quick Reference Emergency Plan Hypoglycemia

If the student is unconscious or unable to take oral carbohydrate safely, appropriately trained school personnel should give Glucagon _____ mg IM (intramuscular) in the upper arm, thigh or buttocks. Then position student on his/her side, call 911 or other emergency assistance, and notify the parent/guardian.

Hyperglycemia (High Blood Sugar) – Refer to Quick Reference Emergency Plan Hyperglycemia

Supplies to Be Kept at School:

- Blood glucose meter, test strips, lancets and extra batteries
- Insulin vial and syringes
- Insulin pen and pen needles
- Fast-acting carbohydrates
- Extra food for snacks
- Urine ketone strips
- Glucagon emergency kit

Signatures

This Diabetes Medical Management Plan has been approved by:

Student’s Physician/Healthcare Provider

Date

Parent/Guardian Permission

I give permission to the school nurse, trained diabetes personnel and other designated staff members of _____ School to perform and carry out the diabetes care tasks as outlined by this Diabetes Medical Management Plan. I also consent to the release of the information contained in this Diabetes Medical Management Plan to all staff members and other adults who have custodial care of my child and who may need to know this information to maintain my child’s health and safety.

Acknowledged and received by:

Parent/Guardian

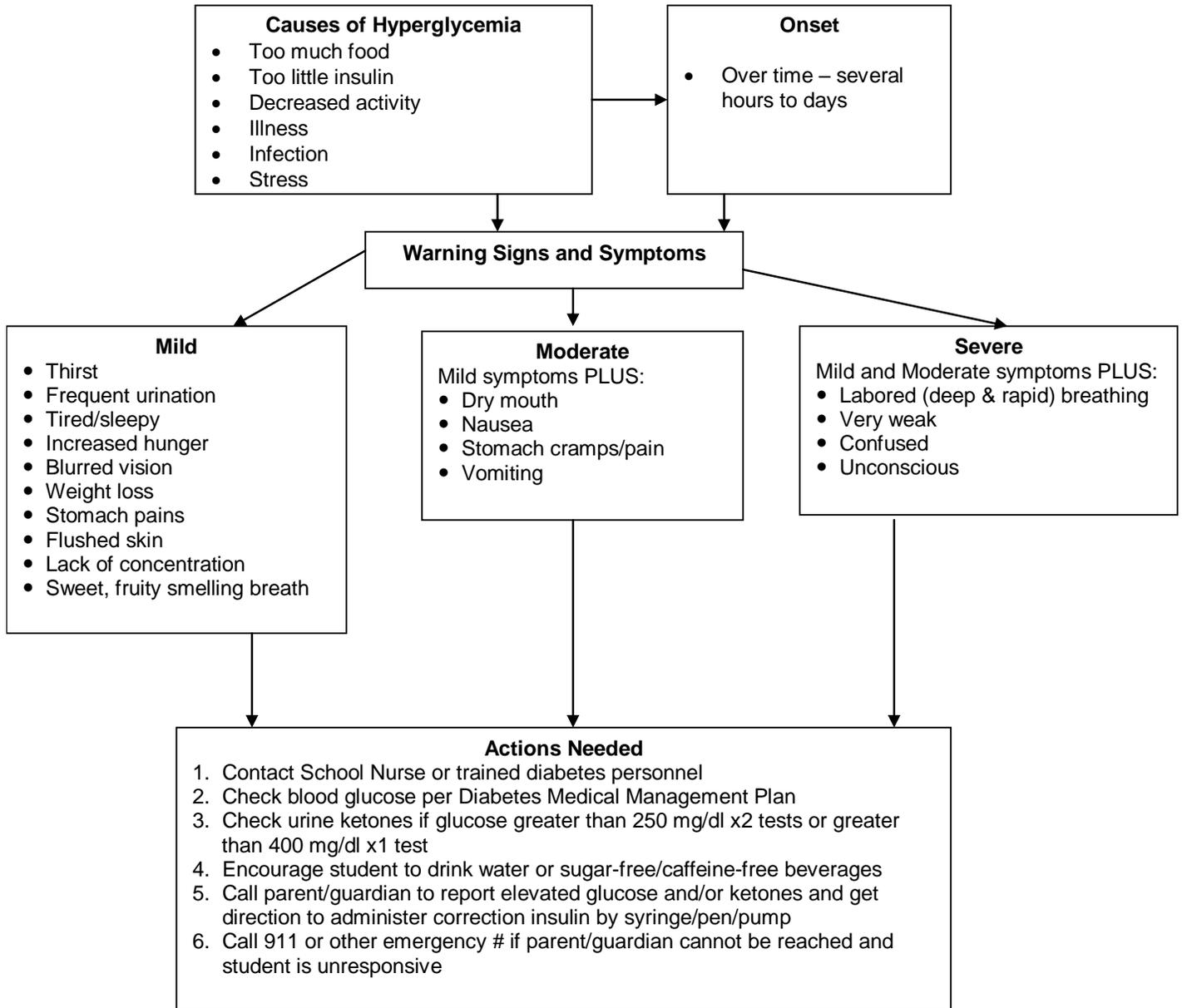
Date

Parent/Guardian

Date

Quick Reference Diabetes Emergency Plan HYPERGLYCEMIA (High Blood Sugar)

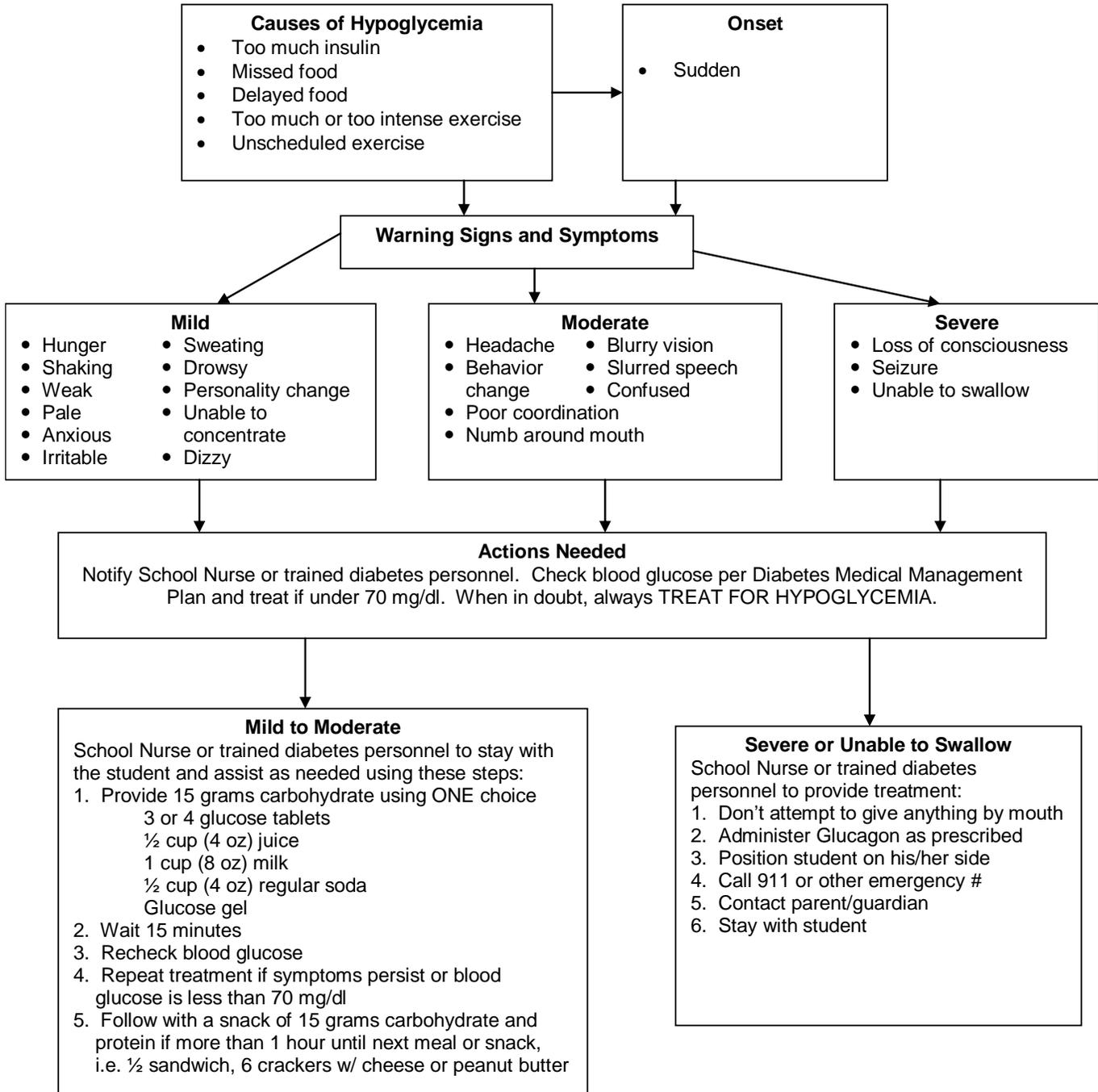
Student's Name: _____



Quick Reference Diabetes Emergency Plan HYPOGLYCEMIA (Low Blood Sugar)

Student's Name: _____

Never send a child with suspected low blood sugar anywhere alone.



APPENDIX B: South Dakota Virtual Nursing Care for School Children with Diabetes
Diabetes Medical Management Plan for Insulin Pump

Date of Plan _____ For school year _____

This plan should be completed by the student's personal health care team and parents/guardian. It should be reviewed with relevant school staff and copies should be kept in a place that is easily accessed by the school nurse, trained diabetes personnel and other authorized personnel.

Student's Name _____ DOB _____ Date of diabetes diagnosis _____

Grade _____ School _____ Diabetes type ___ Type 1 ___ Type 2

Contact Information

Parent/Guardian #1 _____ Address _____

Phone: Home _____ Work _____ Cell _____

Parent/Guardian #2 _____ Address _____

Phone: Home _____ Work _____ Cell _____

Student's Doctor/Health Care Provider

Name _____ Address _____

Office Phone _____ Emergency number _____

Other Emergency Contact

Name _____ Relationship to student _____

Phone: Home _____ Work _____ Cell _____

Notify parents/guardian or emergency contact in the following situations: _____ Significant high blood sugar, low blood sugar, illness, ketones or any diabetes-related concerns

Other: _____

Assistance with Diabetes Care

The student needs assistance with the following aspects of diabetes care at school:

- | | |
|---|--|
| <input type="checkbox"/> Blood glucose monitoring | <input type="checkbox"/> Insulin dose calculation |
| <input type="checkbox"/> Carbohydrate counting | <input type="checkbox"/> Insulin injections |
| <input type="checkbox"/> Treating low blood glucose | <input type="checkbox"/> Giving insulin bolus via pump |
| <input type="checkbox"/> Urine ketone testing | <input type="checkbox"/> Disconnecting insulin pump |

Blood Glucose Monitoring

Meter type _____

Blood glucose target range _____ mg/dl

Times for usual blood glucose checks _____

Times to do extra blood glucose checks:

- Before exercise After exercise Student exhibits signs of hypoglycemia or hyperglycemia
 Other (explain) _____

Meals/Snacks

The student uses carbohydrate counting to determine meal insulin based on food intake.

Snacks:

- The student does not have scheduled snacks at school.
 The student needs snacks at school at the following time(s): _____

When food is provided to the class for special events (birthdays, food sampling, etc) please contact the parent/guardian in advance to discuss how they would like to handle the situation. Do not let the student eat extra snacks without parent/guardian consent.

Other food needs/allergies: _____

Insulin Pump

Note: Insulin pump settings may change frequently. The settings documented here are those in effect as of the plan date. Parent/guardian is responsible for communicating ongoing bolus setting changes to appropriate school personnel.

Pump brand and model: _____ Infusion set: _____

Insulin type: _____

Basal rates will change frequently and are not to be adjusted by school personnel.

Boluses are to be given: before meals after meals

Bolus times and insulin to carbohydrate ratios:

- Breakfast – 1 unit for every _____ grams carbohydrate
 Noon meal – 1 unit for every _____ grams carbohydrate
 Other: _____

The bolus settings will be entered into the pump, which will automatically calculate the meal bolus. If trained school personnel are concerned about the bolus amount suggested by the pump, contact the parent/guardian.

Contact parent/guardian for any pump alarms, infusion site problems (redness, infusion set pulled out) or other questions related to pump functioning. School personnel are not to do infusion set changes.

Exercise

The student should not exercise if blood glucose is below _____ mg/dl or above _____ mg/dl or if urine ketones are present.

If the pre-exercise blood glucose is below _____ mg/dl, treat with 15 grams of carbohydrate, wait 15 minutes and retest. The student may exercise once the blood glucose is above _____ mg/dl.

Other exercise guidelines: _____

Hypoglycemia (Low Blood Sugar) – Refer to Quick Reference Emergency Plan Hypoglycemia

If the student is unconscious or unable to take oral carbohydrate safely, appropriately trained school personnel should give Glucagon _____ mg IM (intramuscular) in the upper arm, thigh or buttocks. Then position the student on his/her side, call 911 or other emergency assistance, and notify the parent/guardian.

Hyperglycemia (High Blood Sugar) – Refer to Quick Reference Emergency Plan Hyperglycemia

Supplies to Be Kept at School:

- Blood glucose meter, test strips, lancets and extra batteries
- Insulin vial and syringes
- Insulin pen and pen needles
- Extra insulin pump supplies
- Fast-acting carbohydrates
- Extra food for snacks
- Urine ketone strips
- Glucagon emergency kit

Signatures

This Diabetes Medical Management Plan has been approved by:

Student's Physician/Healthcare Provider

Date

Parent/Guardian Permission

I give permission to the school nurse, trained diabetes personnel and other designated staff members of _____ School to perform and carry out the diabetes care tasks as outlined by this Diabetes Medical Management Plan. I also consent to the release of the information contained in this Diabetes Medical Management Plan to all staff members and other adults who have custodial care of my child and who may need to know this information to maintain my child's health and safety.

Acknowledged and received by:

Parent/Guardian

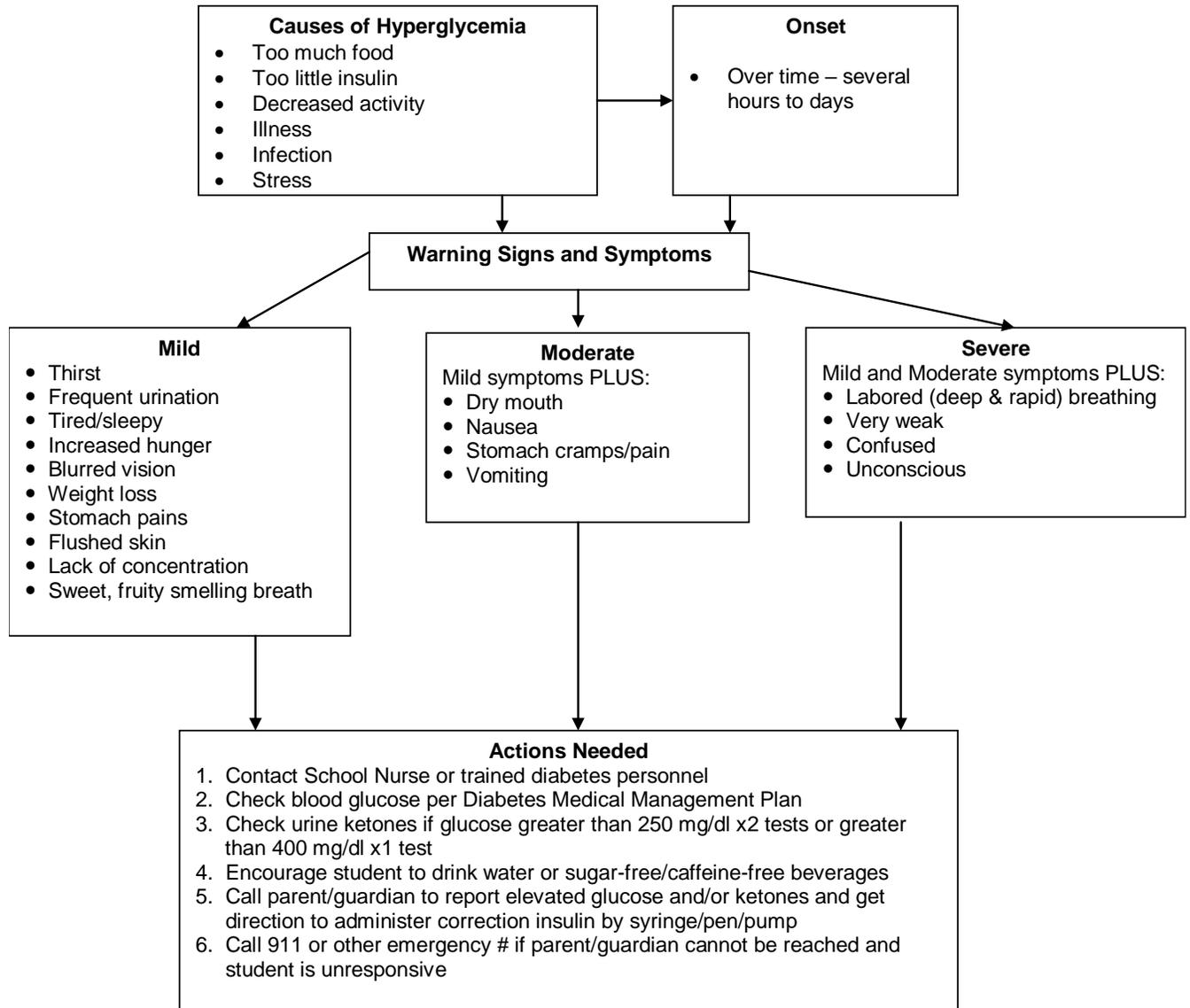
Date

Parent/Guardian

Date

Quick Reference Diabetes Emergency Plan HYPERGLYCEMIA (High Blood Sugar)

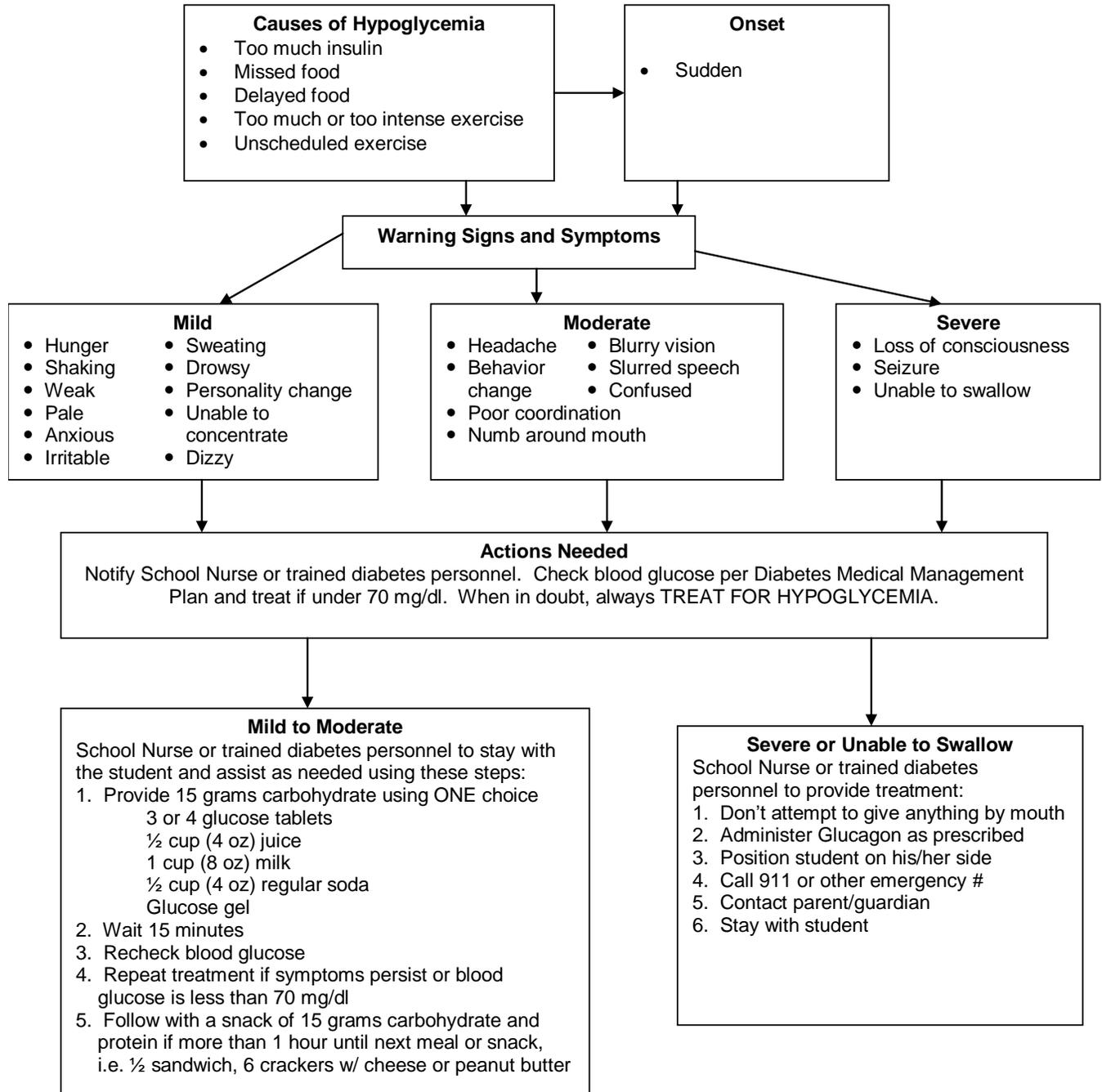
Student's Name: _____



Quick Reference Diabetes Emergency Plan HYPOGLYCEMIA (Low Blood Sugar)

Student's Name: _____

Never send a child with suspected low blood sugar anywhere alone.



Appendix C: Weekly Diabetes Care Log

Week of _____

Student _____

Directions: The person(s) caring for the child’s diabetes at school will document all daily care and communication on this log. The log will be faxed weekly to the Virtual Nurse at _____. Note: BG = blood glucose

Day/Date	Before Bkfst BG	Bkfst Carb Grams	Bkfst Insulin Units	Insulin Site (NA if pump)	After Bkfst BG	AM Snack Grams	Before Lunch BG	Lunch Carb Grams	Lunch Insulin Units	Insulin Site (NA if pump)	After Lunch BG	PM Snack Grams	Before PE BG	After PE BG	Initials
Mon															
Tues															
Wed															
Thur															
Fri															

Other Tests and Treatment

Date	Time	Symptoms	BG	Treatment	BG Recheck		Urine Ketones	Additional Notes	Initials
					Time	BG			

Notes (inc Glucagon administration & calls to parent/guardian): _____

Initial Identification

Initials	Signature	Initials	Signature

Appendix D: Sample Timeline

The following timeline may be used by school districts to plan their virtual nurse program.

	Months (April to March)											
	A	M	J	J	A	S	O	N	D	J	F	M
Student Identification												
• Identified by parent, school, and/or health care team.	X											
• Provide student diabetes medical management plan, including informed consent.		X										
School Consent												
• Identify UAP.		X										
• Identify a space where video conferences will be held.					X							
• Approve school district diabetes policy.		X	X									
Virtual Nurse Confirmation												
• Identify virtual nurse who will delegate insulin administration.	X											
Technology Infrastructure												
• Work with clinic on required technology infrastructure		X	X	X								
• Secure a dedicated tablet or laptop.				X								
• Install a standard video conferencing application.				X								
• Install a secure connection or encrypted connection.				X								
UAP Training and Skill Validation												
• Participate in 10 hours of training.				X	X							
• Validate skills and competencies to virtual nurse annually.					X							
Program Management												
• Meet via video conference 1 – 5 times per week.	X	X			X	X	X	X	X	X	X	X
• Consult as necessary when questions, issues arise.	X	X			X	X	X	X	X	X	X	X
• Maintain (UAP/student) and store (nurse) weekly logs.	X	X			X	X	X	X	X	X	X	X
• Provide school lunch and ala carte carb counts.	X	X			X	X	X	X	X	X	X	X
• Provide IT support, if needed.	X	X			X	X	X	X	X	X	X	X