

GUIDELINES FOR CARE OF STUDENTS WITH DIABETES

Washington State Task Force for Students with Diabetes

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In 1998, the Office of Superintendent of Public Instruction (OSPI) and the American Diabetes Association (ADA) joined together to create the Washington State Task Force for Students with Diabetes (WSTFSD). They recruited a number of persons from a variety of areas including physicians, diabetes educators, nurses at schools, hospitals and medical offices, dietitians, representatives from the Washington State Attorney General's Office and the Office for Civil Rights, a parent, psychologist, and school administrator. This document represents the outcomes of many meetings in which the suggested guidelines have been negotiated and does not represent the specific opinion of any individual or any institution in which they have been either previously employed or are employed at the present time.

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This guide provides an overview of diabetes and its management as well as information for providing optimal care in the school setting. While it is recognized that each child has specific needs, the use of consistent guidelines promotes compliance, efficient use of resources, and a comprehensive school care plan. The Washington State Task Force for Students with Diabetes developed this guide between 1997 and 2001 during a series of collaborative meetings. This task force involved professionals from a variety of facilities and agencies, both local and state. The guide was updated in 2004 to reflect the passage of Engrossed Substitute Senate Bill 6641(now RCW 28A.210.330 through 350) as well as changes in the medical management of persons with diabetes. Editing for this guide was provided by Teresa Gauthier, R.N., M.S.N., C.D.E. The task force gratefully acknowledges her very significant contribution to this guide as well as to students with diabetes and their families in Washington State.

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INTRODUCTION

The purpose of this educational guide is to provide families of students with diabetes, school personnel, parent-designated adults (PDA) who may provide care, as needed, and healthcare providers (physicians and advanced registered nurse practitioners (A.R.N.P.s)) with the information and procedures necessary to provide such students with a safe learning environment and access to all other nonacademic school-sponsored activities. These guidance and training materials are based on the belief that for children with diabetes to be successful in school, a comprehensive health plan must be cooperatively developed by families, school personnel, and healthcare providers (HCP). As mandated in RCW 28A.210.330 through 350 (Appendix A) effective July 1, 2002, an individualized health plan should be in place in the student's school and should include provisions for:

- Parental signed release of health information.
- Parental signed consent for treatment at school form.
- Medical equipment and storage capacity.
- Exceptions from school policies.
- School schedule.
- Meals and eating.
- Disaster preparedness.
- Inservice training for staff.
- Legal documents for PDAs if needed.
- Personnel guidelines describing who may assume responsibility for activities contained in this plan.

This educational guide:

1. Gives general information for school personnel about the management of diabetes.
2. Provides consistent care guidelines in the school setting for students with diabetes.
3. Provides guidelines for a learning environment that is safe and therapeutic for the student.
4. Provides forms to document individualized information about students.
5. Includes content to assist school districts, families, and HCPs to comply with RCW 28A .210.330 through 350.

DEVELOPING AN INDIVIDUAL HEALTH PLAN (IHP)/SECTION 504 PLAN: THE TEAM APPROACH

Parents and the student should plan to meet with school officials and the school nurse to develop the individual health plan (IHP)/Section 504 plan (Appendices B and C) prior to the student attending school. Additional meetings should occur at least annually or upon returning to school after an absence related to the diagnosis, and any time there are changes in the student's treatment plan. These planned team meetings will ensure a safe, therapeutic, learning environment for the student with diabetes. The IHP/Section 504 team will consist of at least the school nurse and parents. Other members could be added as needed (e.g., teachers). The school nurse must be involved in the initial and ongoing discussions since it will be the nurse who establishes the school treatment and disaster and emergency plans, coordinates the nursing care, and trains and supervises school staff in the monitoring and treatment of symptoms (Appendix D). The school nurse is ultimately accountable for the quality of the healthcare provided during the school day to students with diabetes. She or he has the responsibility of consulting and coordinating with the student's parents and healthcare provider (HCP) to establish a safe, therapeutic learning environment.

Most students with diabetes currently attending school have an IHP in place. **The new statute adds the requirement that schools are responsible for ensuring there is an IHP for every student with diabetes.** The statute instructs the school district board of directors to adopt policies as a prerequisite condition to providing IHPs for students with diabetes. Refer to Appendix E for a detailed explanation of the required policies and a sample policy.

The school district board of directors is directed to designate a professional person licensed under RCW 18.71 (medical doctors), RCW 18.57 (doctors of osteopathy), or RCW 18.79 as it applies to R.N.s and A.R.N.P.s to:

- Consult and coordinate with the student's parents and healthcare provider.
- Train and supervise the appropriate school district personnel in proper procedures for care of students with diabetes.

A diabetes educator, who is nationally certified, may also provide the training. However, only the licensed health professional may be designated to consult and coordinate with the student's parents and healthcare provider, and to supervise the appropriate school district personnel.

In planning for the student with diabetes the following activities should occur:

1. Establish required district policies as stated in RCW 28A.210.300 through 350 (Appendix A).
2. Obtain parent signed release to access information from the student's HCP and permission to evaluate the student, and secure HCP Orders (Appendix F) for monitoring and treatment at school.
3. Provide parents with a copy of the district's explanation of parent/student rights. A sample is contained in Appendix G.
4. Secure medical equipment and medication.
 - Parents must provide all supplies.
 - Districts must provide appropriate, secure storage as needed.
5. Plan to accommodate the student's potential needs to:
 - Eat whenever and wherever necessary, including having food at his or her desk.
 - Have easy, unrestricted access to water and bathroom use.

- Have provisions made for parties at school when food is served.
 - Eat meals and snacks on time and, if requested, be monitored by staff as to whether the student finishes food.
 - Address other necessary exceptions to district policy as described in the IHP/Section 504 plan.
6. Ensure that school meals are **never** withheld because of nonpayment of fees or disciplinary action.
 7. Discuss student's school day schedule for timing of meals, snacks, blood sugar testing, etc.
 8. Develop disaster preparedness plans.
 9. Review need, establish plan, and implement inservice training for staff on symptoms, treatment, and monitoring of students with diabetes and the additional observations that may be needed in certain situations (e.g., at recess or when student is ill). This training should include the student and parents, as appropriate, and should be provided by an individual with training in current diabetes management. See Appendix H for the Uniform Staff Training Policy developed by OSPI and the Washington State Department of Health (DOH).
 10. Secure legal documents for PDAs to provide care, if needed. See Appendix I for an explanation of PDAs and sample forms.
 11. Initiate discussion of the "Personnel Guidelines for Care of Students with Diabetes in the School Setting" (pages 22–26). Decisions will be made by parents, district administrators, school nurse, and perhaps the HCP based on the student's ability to assume varying degrees of responsibility in his or her care. Such decisions may relate to:
 - Should the student carry his or her own blood glucose monitoring equipment and syringes/insulin pen?
 - Where/when should the student perform blood glucose testing?
 - Where/when should the student administer insulin?
 - When is school staff verification and notification of parents necessary and for what activities (e.g., do parents want to be notified when the student receives treatment for low blood sugar)?
 12. Obtain parent and HCP written approval to implement the student's plan of care after the student's IHP/Section 504 plan has been developed. IHP/Section 504 plans and/or individual education programs (IEPs) require parental notice prior to implementation.

OVERVIEW OF DIABETES

Diabetes is a chronic illness that results from failure of the pancreas to make a hormone called insulin. Insulin helps the body utilize food by converting sugar or glucose into energy. Without insulin, sugar accumulates in the blood stream and will cause symptoms.

Diabetes is one of the most common chronic diseases in school-aged children, affecting about 151,000 young people in the United States, or about one in every 400 to 500 young people under 20 years of age. Each year, more than 13,000 youths are diagnosed with Type 1 Diabetes. In addition, healthcare providers are finding more and more children and teens with Type 2 Diabetes, a disease usually diagnosed in adults over age 40.

Most children with diabetes have Type 1 Diabetes. Diabetes is not contagious and cannot, at this time, be cured. However it can be managed and treated. Treatment consists of administering multiple doses of insulin, monitoring blood sugar several times during the day, eating nutritious meals and snacks, as well as following a regular exercise program. A balance between insulin, food, and exercise must be maintained to prevent blood sugar levels from being either too low (hypoglycemia) or too high (hyperglycemia).

Children with Type 2 Diabetes often do not take insulin, but may be on a diabetes pill, such as Metformin (Glucophage). Blood sugar monitoring, careful attention to a healthy diet, and daily exercise are important to controlling Type 2 Diabetes (Appendix J).

Research has shown that maintaining good control of blood sugar levels can prevent long-term complications of diabetes. The Diabetes Control and Complications Trial (DCCT) was a nationally-sponsored study involving more than 1,400 persons with Type 1 Diabetes at 29 medical centers in the U.S. and Canada. Patients were randomly assigned to an “intensive” or “standard” treatment group and both groups were regularly examined for the presence or progression of diabetes complications. There were patients in the intensive group who kept their blood sugar levels close to normal by frequent blood monitoring, several daily insulin injections, and lifestyle changes including exercising and healthy eating. These patients had a combined 60 percent reduction in the development and progression of complications of the eye (retinopathy), kidneys (nephropathy), and nervous system (neuropathy). These benefits were achieved despite the fact that average blood sugar levels were still above the normal range in this intensive group. Although children under the age of 13 were not included in the study, it is believed that promoting blood sugar levels close to normal for all age groups is important. It should be noted that there may be different “target ranges” for blood sugar in the various age groups and that the HCP and the family establish this target range.

Goals of Diabetes Management in Children:

1. To promote normal childhood/adolescent growth and development.
2. To promote healthy emotional well-being.
3. To maintain a balance between insulin, food, and exercise.

Children with diabetes can and should participate in all school activities. School staff should refer students to parents and HCP for recurrent illness, frequent or recurrent low blood sugar (hypoglycemia), frequent requests to be excused from class, and frequent absenteeism as these may indicate a need for a change in the established treatment plan.

INSULIN

Insulin is a hormone that can only, at this time, be taken by multiple injections or by insulin pump. Insulin lowers blood sugar. The various kinds of insulin work for differing lengths of time. Most children take a combination of insulin at different times of the day. The types and amount of insulin the student needs must be ordered by the HCP (Appendix K).

INSULIN ACTION CHART

NAME	ONSET OF ACTION (Hours) How long before it starts to work.	PEAK ACTION (Hours) When the insulin has the strongest effect.	DURATION OF ACTION (Hours) How long the insulin usually lasts.
RAPID-ACTING Humalog® (Lispro) Novolog® (Aspart)	0.2–0.5	0.5–1.5	3–4
SHORT-ACTING Regular	0.5–1.0	2–3	3–6
INTERMEDIATE-ACTING NPH	2–4	6–10	10–16
INTERMEDIATE-ACTING Lente	3–4	6–12	12–18
LONG-ACTING Ultralente	6–10	10–16	18–20
EXTENDED-ACTING or LONG-ACTING Lantus® (Glargine)	1–2	No pronounced peak	24

The following special points should be considered:

1. All insulins lower blood sugar but peak action and duration are different.
2. Rapid-acting insulins start to work very quickly and leave the body quickly. A meal must be eaten **immediately** after injecting a rapid-acting insulin.

3. Short-acting (Regular) takes relatively longer to work and is ideally injected approximately 30 minutes before eating.
4. Most students are on a “sliding scale” that allows the dosage of rapid-acting or short-acting insulin to be adjusted according to the blood sugar level and carbohydrate intake. See “HCP Orders for Students with Diabetes in Washington State Schools” (Appendix K).
5. Parents are instructed not to mix Lantus® with any other insulin. A new syringe is needed.
6. The onset and duration of insulin action may vary. Consult the manufacturer’s guidelines.

Insulin Delivery Methods

Insulin delivery methods include a syringe, an insulin pen, or an insulin pump. Students who are able to self-administer insulin may use a syringe or pen. The pen differs from the syringe in that it contains a prefilled cartridge containing insulin. Insulin pens, if used properly, can be easier to handle and present less potential for error. Nonlicensed school personnel, other than one who is a PDA (Appendix I), may not assist with the syringe, but may, with instruction and supervision from the school nurse, **verify** the number shown in the “window” on the insulin pen (Appendix L).

The insulin pump is a computerized device about the size of a beeper that can be programmed to send a continuous delivery of insulin into the bloodstream. It replaces insulin injections and delivers rapid-acting insulin via a plastic catheter to an infusion set inserted through the skin. The pump cannot measure blood sugars but must be programmed based on information from frequent blood sugar monitoring. Insulin is delivered in two ways:

1. **Basal:** a continuous 24-hour delivery of insulin that replaces the background long-acting insulin (i.e., NPH, Lente, or Lantus®) and is prescribed in units per hour.
2. **Bolus:** a spurt of insulin delivered to match the carbohydrates (carbs) in a meal or snack, or the spurt used as a sliding scale to lower a high sugar.

Most children who wear the insulin pump are well versed in its use and maintenance and as such are independent in monitoring blood sugar and administering a bolus. The school nurse needs to be informed that the student is wearing the pump and information on the pump should be included in the student’s IHP/Section 504 plan. The school nurse will be knowledgeable about the pump and how to disconnect or inactivate it in the unlikely event that a severe low blood sugar occurs. Severe low blood sugar is treated in the same manner whether a student is wearing an insulin pump or not. Each student will be treated according to the IHP/Section 504 plan. In situations where a school nurse or PDA is not available, the pump should be left intact and 911 should be alerted to its presence. This should be specified in the IHP/Section 504 plan.

Nonlicensed school personnel, other than one who is a PDA (Appendix I), may not assist with the pump, but may, with instruction and supervision from the school nurse, **verify** the number shown on the screen of the insulin pump (see Appendix L).

Nonlicensed school staff, who are volunteer PDAs, may assist with the syringe, pen, or pump only if this task is (1) assigned by the parent, (2) the PDA has provided documentation of additional training, and (3) the care is consistent with the student’s IHP/Section 504 plan.

Storage of Insulin

It is important to label the insulin bottle with the opening date. **Insulin can be stored at room temperature for one month.** After the first month the potency will be diminished. Insulin can also be stored and will last longer in the refrigerator. To avoid discomfort, insulin should be at room temperature before injection. Storage guidelines for insulin pens are the same as noted above. Usually pens are stored at room temperature. Lantus® pen **cannot** be stored in refrigerator. It is the parents’ responsibility to provide and assure current insulin supplies.

BLOOD SUGAR MONITORING

Blood sugar monitoring is recommended for individuals with diabetes. The procedure involves pricking a finger and placing a drop of blood on a test strip (Appendix M). Although some strips can be read visually, most are inserted into a glucose meter to obtain the test result or reading. The result is then evaluated and recorded. Nonlicensed school staff, trained and supervised by the school nurse, may in selected situations verify the reading (Appendix L). A PDA may be a school employee who may perform blood sugar monitoring only if the task is (1) assigned by the parent, (2) the PDA has provided documentation of additional training, and (3) the care is consistent with the student's IHP/Section 504 plan. Blood sugar monitoring is usually performed several times daily. The level of blood sugar guides treatment decisions and insulin dosage. Alternate site (site other than fingertip) blood glucose testing can be performed with many currently available blood glucose meters.

NOTE: Alternate site testing should not be performed if hypoglycemia (low blood sugar) is suspected; the finger tips should be used in this situation.

Benefits of blood sugar monitoring at school:

1. Provides the student with an immediate test result.
2. Allows for adjustments in the insulin dose prior to meals.
3. Provides the student as well as the healthcare team with important information regarding the effects of insulin, food, and exercise.
4. Confirms low (hypoglycemia) or high (hyperglycemia) blood sugar.

Common problems causing inaccurate blood sugar test results:

1. Finger not clean and dry.
2. Poor technique, including inadequate blood drop (not enough blood).
3. Code on test strip does not match code on meter.
4. Outdated or incorrectly stored test strip.
5. Machine dirty, often with dried blood.
6. Product malfunction.

DIABETES SUPPLIES

Parents are responsible for providing all diabetes supplies. The following is a list of typical supplies:

Insulin

- Insulin bottle(s).
- Insulin syringes.¹
- Alcohol wipes/antiseptic wipes (optional).
- Insulin pen(s) with cartridge loaded.
- Pen needles.¹
- Logbook to record amounts of insulin and blood sugar.
- Pump supplies, including equipment needed to change reservoir and infusion set, and manufacturer's operating instructions.

Blood Sugar Monitoring Supplies

- Blood glucose meter and manufacturer's instructions.²
- Test strips (with code information, if needed).
- Finger-poking device.¹
- Lancets.
- Cotton balls.
- Logbook to record blood sugar and amounts of insulin.
- Protective covering (e.g., plastic wrap) as needed.

Food

- Snack foods.
- Low blood sugar (hypoglycemia) supplies: glucose tablets, juice and carbohydrate/protein snack.

Parents of students on an IEP and/or a free and reduced-priced meals program may supply food or work with the food service manager at the school to plan and supply meals that meet the child's needs. A diet or meal plan from a licensed medical authority is required. It must identify specific foods and portion sizes. The provision of snacks is addressed in Appendix N.

Ketone Testing

- Blood ketone strips and meter, if ordered.
- Urine ketone test strips.

Disaster Preparedness/72-Hour Emergency Readiness

See APPENDIX O.

¹ Assure contaminated waste and sharps are properly disposed (Appendix M).

² Parents are responsible for periodic quality control testing of meter and strips as well as providing meter manufacturer's operating instructions.

LOW BLOOD SUGAR (HYPOGLYCEMIA)

Low blood sugar (hypoglycemia) is defined as a blood sugar level tested less than 60 mg/dl. The student may feel “low” and show any of the symptoms listed below. A low blood sugar episode does not feel good and may be frightening for the student. **Low blood sugar can develop within minutes and requires immediate attention! Never send a child with suspected “low blood sugar” anywhere alone.** Appendix P contains a form to be completed based on the student’s IHP/Section 504 plan.

Causes	
	Late food or too little food Too much exercise Too much insulin A planned or unplanned activity without additional food

Symptoms/Signs	<i>Mild</i>	<i>Moderate</i>	<i>Severe</i>
	Hungry	Headache	Loss of consciousness
	Shaky	Behavior changes	Seizure
	Dizzy	Poor coordination	
	Sweaty	Confusion	
	Pale	Blurry vision	
	Increased heart rate	Weakness	
	Anxiousness	Slurred speech	
	Irritability		
	Weakness, tiredness		
	Inability to concentrate		
	Personality change		

Symptoms can vary per student as well as per hypoglycemic event, particularly at different ages. Often children will not have an awareness of low blood sugar symptoms until they are 7 or 8 years of age.

Management	<i>Mild</i>	<i>Moderate</i>	<i>Severe</i>
IHP/Section 504 plan	Student treats self. Ingests quick sugar source such as: 2–3 glucose tabs or 4–8 oz. juice or Glucose gel or 4–8 oz. regular (not diet) soda.	Someone assists. Insist on child swallowing quick sugar source as listed under mild management.	Call 911. Position on side, if possible. Don’t attempt to give anything by mouth.

Follow-up management for mild or moderate low blood sugar:

Wait 10–15 minutes. If possible, recheck blood sugar. Repeat food if symptoms persist or blood sugar remains less than 60, **if known**. Follow with snack of complex carbohydrate and protein (e.g., crackers and cheese) if it is more than one-half hour until the next meal.

If You Have A Way To Check Blood Sugar, Do So BUT ALWAYS, WHEN IN DOUBT, TREAT.

- Send for help if unsure of what to do.
- If student is unconscious or unable to swallow, **DO NOT** try to feed. Place on side and call 911. After 911 has been called, the office should contact parents.

HIGH BLOOD SUGAR (HYPERGLYCEMIA)

High blood sugar (hyperglycemia) is defined as a blood sugar level greater than 240 mg/dl. It occurs over time, hours and days, and indicates the need for evaluation of management. Students who will be checking their blood sugars at various times during the day are generally able to self-treat. However the student may require occasional assistance. Note that **undiagnosed** children may exhibit some or all of the following signs, including weight loss. Appendix Q contains a form to be completed based on the student's IHP/Section 504 plan.

Causes	Too much food Too little insulin Decreased activity Illness Infection Stress		
Symptoms/Signs	<i>Mild</i>	<i>Moderate</i>	<i>Severe</i>
	Thirst Frequent urination Fatigue/sleepiness Increased hunger Loss of concentration Blurred vision Sweet breath Ketones (varies from 0 to small) ¹	Dry mouth Nausea Stomach cramps Vomiting Ketones (elevated) ¹	Labored breathing Very weak Confused Unconscious Ketones (elevated) ¹
Management	<i>Mild</i>	<i>Moderate</i>	<i>Severe</i>
IHP/Section 504 plan	Drink zero-calorie fluids (i.e., water). Check ketones, if test strips available. ¹ Decrease activity, if ketones present.	Drink zero-calorie fluids, as tolerated. Check ketones, if test strips available. ¹ Decrease activity. Call doctor. Antinausea suppository, if prescribed.	Call 911.

A student may need to use the bathroom frequently AND should be allowed to do so. High blood sugar is characterized by excessive thirst. It is important to drink plenty of water and it may be helpful for the student to use a water bottle in the classroom. School district or classroom policy may need to be amended for these accommodations.

¹ Ketones may be checked at school based on the student's IHP/Section 504 plan.

DIABETES NUTRITION AND MEAL PLANNING: THE BASICS

Structured meals and snacks help promote optimal blood glucose control and help prevent the incidence of low blood sugar (hypoglycemia) levels during the school day. The student's IHP/Section 504 plan will dictate the role of the student, family, and school personnel in managing the meal plan.

Meal Plan Guides

A meal plan is not a diet, but a guide to assist children/families with diabetes in choosing age-appropriate meals and snacks. The nutritional needs of a student with diabetes do not differ from the needs of a student without diabetes. Both should eat a variety of foods to maintain normal growth and development. The major difference is that the timing, amount, and content of the food that the student with diabetes eats are carefully matched to the action of the insulin. Children using a more structured insulin regimen (a mixed dose insulin regimen that is injected twice a day) will require a more consistent intake of carbohydrate foods at meal and snack time. Children on an insulin pump or taking multiple insulin injections each day will typically have much more flexibility with their daily food choices. A registered dietitian usually develops an individualized meal plan designed to meet each child's unique nutritional needs. School staff must be familiar with the student's meal plan requirements during the school day. The meal plan is based on:

- Age.
- Weight.
- Height.
- Activity level for a 24-hour period.
- Usual eating habits.

Remember, children with diabetes are children first and their nutritional needs and favorite foods will be similar to brothers, sisters, friends, and classmates who do not have diabetes. All children like the taste of sweet foods! There are no forbidden foods for students with diabetes.

Blood Glucose Response To Major Nutrients

Carbohydrate

- Most important aspect of the meal plan.
- Carbohydrate foods include breads and starches, fruits and juice, and milk and yogurt.
- Main source of blood glucose. Approximately 90 to 100 percent of dietary carbohydrate enters the blood stream as glucose within 15 minutes to 1–2 hours.
- Greatest determinant of amount of insulin needed to control the blood glucose after meals.
- Consistency in amounts eaten at each meal and snack makes it easier to fine-tune insulin doses and timing.
- Children on intensive insulin management (pumps, multiple injections) may be counting carbs ("Carbohydrate Counting") at meals and snacks and administering insulin according to the amount of carbohydrate consumed. (See pages 18–19.)

Protein

- Protein can be converted into glucose, but the amount is minimal. Protein foods typically take 2–5 hours to be digested.
- Protein foods include meat, fish, poultry, eggs, peanut butter, cheese, and meat alternatives.
- Adds "staying power" to the meal.
- A protein food at breakfast may reduce the incidence of low blood sugar before lunch.
- A protein food is recommended at lunch.

Fat

- Small amounts of fat do not seem to affect blood glucose levels.
- High fat meals/snacks can delay/slow the emptying of the stomach.
- Children with diabetes **do not** have to be placed on strict low-fat diets. However, heart-healthy foods are recommended as children with diabetes have a greater incidence of heart disease than adults.
- Consumption may need to be monitored more closely in situations of coexisting childhood obesity.

Sugar is Okay, Sugar is Not a Poison! Sugar is a carbohydrate!

- Small or calculated amounts are acceptable in a diabetes meal plan.
- Research does not support the long-held theory that ingestion of sugar dramatically elevates blood sugar levels.
- Foods containing sugar can be substituted for part of the carbohydrate foods allowed in the child's meal plan.
- If the child is Carbohydrate Counting, carbohydrate from sugar can be added in with other carbs consumed and additional insulin given as directed in the child's school health plan. It is recommended that these "empty calorie" foods do not replace healthy foods on a regular basis.

Matching Food/Insulin Action

- Children generally need three meals and some children require two or three snacks each day.
- Eating four to five hours apart with snacks two to three hours after the previous meal almost always matches the peak times of insulin action.
- Usually one meal/snack is covered by each of the insulins acting during the day.
- Some children with diabetes receive a combination of rapid- or short-acting insulin and an intermediate-acting insulin (NPH or Lente) or long-acting insulin (Ultralente) before breakfast.
- Many children with diabetes receive an extended-acting insulin (Glargine) in the morning/daily, or occasionally twice daily, along with a rapid-acting insulin for meals and snacks.
- Various combinations of insulin are received at the evening meal and/or at bedtime.
- Most children receive an injection of rapid- or short-acting insulin before lunch to achieve a more optimal level of blood glucose control.
- Insulin action:
 - **Morning rapid-acting** insulin covers the carbohydrate foods consumed at breakfast.
 - **Morning short-acting** insulin lasts from breakfast to lunch.
 - **Morning intermediate-acting** insulin lasts from breakfast to just before dinner.
 - **Morning long-acting** insulin lasts from lunch into the evening.
 - **Lunchtime rapid-acting** insulin covers the carbohydrate foods consumed at lunch.
 - **Lunchtime short-acting** insulin lasts from lunch to dinner.
 - **Bedtime or morning extended-acting** insulin lasts for 24-hours; **or** bedtime basal insulin provides 24-hour basal insulin coverage (may also be taken in morning).
 - **Insulin Pumps** provide basal insulin. Students will take a bolus for carbs eaten at meals or snacks.
 - **Glargine (Lantus):** students on this 24-hour basal insulin will take insulin for carbs eaten at all meals and snacks.
- If a student with diabetes eats school meals, the parents, HCP, or school nurse may need to contact the school's food service dietitian/supervisor to ensure appropriate school participation in the student's meal plan.¹ In no instance should a meal be withheld because of lack of payment. If there is a party at school, work with the parents to make accommodations (as determined by the IHP/Section 504 plan) so that the student can participate (Appendix R).

¹ In order for appropriate modifications to be made in the school's menus, the parent must supply a meal plan signed by a licensed medical authority.

Meal Planning Approaches

Many children with diabetes use either the Exchange Lists for Meal Planning System or the Carbohydrate Counting System for their meal planning approach.

Exchange Lists for Meal Planning

This traditional method of meal planning groups commonly eaten foods into three main categories called “Exchange Groups.” The exchange groups include the following:

- Carbohydrate Group:
 - Bread/Starch Exchange List.
 - Fruit Exchange List.
 - Milk Exchange List.
 - Other Carbs Exchange List.
 - Vegetables Exchange List.
- Meat and Meat Substitute Group.
- Fats Group.

Each exchange (food choice) within a group equals a specified amount of food with a set nutritional value. Therefore, foods in each specific exchange list can be substituted or “exchanged” with other foods from the same list. The exchange list approach allows for a meal plan guide to be consistent while offering a wide variety of food choices. A child using this approach has a prescribed number of exchanges to be consumed at meal and snack times.

Substitutions between exchange groups can be made to increase flexibility. For example: one bread exchange can be substituted for one fruit exchange or one milk exchange.

- One Carbohydrate Exchange/Choice:
 - 1 starch exchange/choice.
 - 1 fruit exchange/choice.
 - 1 milk exchange/choice.
 - 1 other carbohydrate exchange/choice.
 - 15 grams of carbohydrate.
- One Meat/Meat Substitute Exchange/Choice:
 - 0 grams carbohydrate, 7 grams protein, 0–9 grams fat.
- One Fat Exchange/Choice:
 - 0 carbohydrate, 0 protein, 5 grams fat.

(See Appendix S for a copy of the “Exchange Lists for Meal Planning.”)

Carbohydrate Counting

The carbohydrate counting approach is a newer, simpler method of meal planning used frequently with children. This approach emphasizes the carbohydrate content of the child’s food intake. Parents and children are taught how to determine the carbohydrate choices and/or the grams of carbohydrate in foods. This information is obtained from the Exchange Lists for Meal Planning, from the nutrition information on food labels, or from other resource books. Depending on the goals of the individual

child, carbohydrate counting can be used to promote consistency in carbohydrate intake from day to day or provide increased flexibility in food types and amounts. Although foods in the meat and fat group contain little carbohydrate and therefore are not counted in this approach, a well-balanced, and heart-healthy (reduced fat, high fiber, moderate sugar) diet should be encouraged. All foods fit into a diabetes food plan. More and more children with Type 1 Diabetes count carbs and adjust their insulin dose based on the amount of carbs they eat. Depending on the type of long-acting insulin taken, the child may be doing carb counting at lunch and adjusting insulin. This is more often the case for children with insulin pumps and those taking 24-hour basal insulin. Children on intermediate-acting insulin in the morning may not need to take insulin for food at lunch.

To count carbs and adjust insulin successfully, children and/or caregivers must be able to:

1. Know which foods contain carbs (the starch, fruit, milk, and other carbohydrate groups).
2. Add up grams of carbs or carb choices (1 carb choice = 15 grams of carbs).
3. Calculate the correct dose of rapid-acting insulin by dividing the total grams of carbohydrate eaten by the number of carb grams per unit of rapid-acting insulin prescribed by their healthcare provider (e.g., the carb per unit may be 1 unit: 15 grams carb or 1 unit per carb choice).
4. Check blood sugar regularly to ascertain the adequacy of the carb to insulin ratio.

Example:

1 tuna sandwich with:	
2 slices bread	30 grams carbohydrate
¼ cup tuna	0 grams carbohydrate
1 Tbsp. mayonnaise	0 grams carbohydrate
lettuce, tomato	0 grams carbohydrate
1 small apple	15 grams carbohydrate
1 ounce potato chips	15 grams carbohydrate
8 ounce carton milk	15 grams carbohydrate
2 regular Oreo cookies	15 grams carbohydrate

TOTAL CARBOHYDRATE 90 grams (6 carb choices)

If the child is taking 1 unit rapid-acting insulin for every 15 grams carbohydrate (ratio = 1:15), then,

RAPID-ACTING INSULIN DOSE = 90 grams carb ÷ 15 = 6 units

(See Appendix S for a copy of “Exchange Lists for Meal Planning.”)

Tips for Healthy Eating To Achieve Optimal Blood Sugar Management

- Eat meals and snacks at regular times every day.
- Be consistent: Eat about the same amount of food at meals and snacks each day.
- Sugar can fit into a diabetes meal plan when substituted for other carbohydrate foods (Appendix R).
- Low blood sugar (hypoglycemia) can occur in the absence of regular meals and snacks.
- Many children require a snack prior to physical education class, extra activity, extra recess, or a field trip (Appendix N). Carbohydrate counting with insulin adjustment based on carbohydrate intake makes timing, types, and amounts of food more flexible, but a heart-healthy (reduced fat, high fiber, moderate sugar) approach to eating is the best way to promote overall health and fitness for everyone.

EXERCISE/SPORTS

Organized sports and other forms of active play are a great way for a child to stay physically fit, spend time with friends, build self-confidence, have fun, and help blood sugars stay within an acceptable range. Children and young adults with diabetes should be encouraged to participate in exercise. Specific requirements are in the student's IHP/Section 504 plan. The following are a few guidelines at school:

- **High blood sugar (hyperglycemia):** If blood sugar level is above 240mg/dl, the ketones may be checked as determined in the student's IHP/Section 504 plan. If the ketone check is negative, it should be okay to play.
- **If ketones elevated:** The student may need to clear the ketones with extra insulin and zero calorie fluids before being physically active. Contact parent or the PDA per the IHP/Section 504 plan when ketones are present and/or the blood sugar is above 240mg/dl.
- **Low blood sugar (hypoglycemia):** Every coach/P.E. teacher and teacher should be aware of the signs, symptoms, and management of low blood sugar (page 14 and Appendix P).

Suggestions for Exercising

- Child should be allowed to monitor blood sugar before, during, or after exercising (see student's IHP/Section 504 plan). RCW 28A.210.330 states "the policies shall include the option for students to carry on their persons the necessary supplies and equipment and the option to perform monitoring and treatment functions anywhere on school grounds including the students' classroom, and at school-sponsored events."
- Eat before intensive exercising.
- Have extra snacks available during exercise to prevent low blood sugar (hypoglycemia). Gatorade, 4 to 8 oz., for every 30 minutes of vigorous exercising can be used. Foods such as cheese and crackers provide a longer-acting carbohydrate.
- Always have quick-acting sugared food/beverages available for managing low blood sugar (hypoglycemia). Suggestions include:
 - Juice (4–8 oz.).
 - Glucose tablets.
 - Glucose gel.
 - Regular (not diet) soda.
- Treat low blood sugar (hypoglycemia).
- Recheck blood sugar to ensure it is in the normal range before additional exercising.
- If ketones are present, intensity and duration of exercise may need to be modified. Refer to student's IHP/Section 504 plan.
- Drink plenty of water, especially in hot weather.

After-School Activities

Parents or guardian will need to inform the school whether the student will require an insulin injection and/or a substantial snack before participating in a preplanned after-school activity. The student's IHP/Section 504 plan should include this information, along with the name of the PDA who may be involved with any after school activities.

PERSONNEL GUIDELINES FOR CARE OF STUDENTS WITH DIABETES IN THE SCHOOL SETTING

This section describes who may assume responsibility for activities in the IHP/Section 504 plan as determined by statute, regulation, Nursing Care Quality Assurance Commission (NCQAC) guidelines (Appendix L), or best practice. While these are guidelines only, it is strongly recommended that they be followed in order to maintain safety and quality of care. Determinations that relate to these guidelines become part of the student's IHP/Section 504 plan. A table (pages 24 and 25) summarizes these guidelines.

Blood Sugar Monitoring

- Blood sugar monitoring, if ordered, will be provided before meals (not including snacks).
- The student, parent, family member, PDA (Appendix I), or licensed staff R.N. or licensed practical nurse (L.P.N.) may perform this procedure as defined in the IHP/Section 504 Plan. A HCP's order is needed if blood sugar monitoring is being done by a licensed school health professional. Assessment of the student's ability to independently perform this procedure will be determined by the parent, school nurse, and HCP. Additionally, RCW 28A.210.330 requires school districts to develop district policy addressing the acquisition of orders from a HCP for monitoring and treatment at schools. Supervision of the student may be needed due to the student's developmental ability, level of independence, proximity to initial diagnosis, and/or age. Such supervision can only be provided by a parent, family member, PDA, or licensed personnel. Based on an advisory opinion from the Nursing Care Quality Assurance Commission, this procedure and necessary student supervision cannot be delegated to nonlicensed personnel (Appendix L).
- Verification of the number on the meter by nonlicensed school personnel for a student independent in the management of his/her self-monitoring can be performed after training, supervision, and delegation by the school nurse (Appendix L).
- The test can be done at most locations with planning for blood containment, clean up, and lancet disposal in the physical setting where the testing will occur (Appendix M). It will be necessary to establish a plan with the student, parent, and school nurse in advance. Provisions for storage of supplies must be made.
- Blood sugar monitoring for symptoms of low (hypoglycemia) or high (hyperglycemia) blood sugar will be done by the student (if able), the parent, family member, or PDA. The school nurse, if available and with a HCP order, can also perform the procedure. The same provisions, as stated above, for containment of blood and sharps must be applied.
- In special circumstances such as extended day, field trips, and after-school sports or activities, blood sugar monitoring can be performed by the student, licensed staff member, parent, family member, or PDA. Provisions for containment and clean up of blood and sharps disposal must be available (Appendix M). Also, provisions must be made for safe storage of supplies and equipment.

Insulin Injection

- An insulin injection prior to meals may be needed based on the individual's insulin prescription. A HCP's written order stating the sliding scale ranges for the amount and type of insulin to be injected is required (Appendix K). Adjustments in the daily dosage amount of insulin can be made by consultation with the parent as long as the parent's recommendations are within a range ordered on the HCP's written sliding scale. The HCP must also clearly state that parents may be consulted for daily dosage adjustments. Parents may not order treatments or changes to the treatment plan independently as they are not authorized prescribers (Appendix L).

- Assessment of the student's ability to independently perform this procedure will be determined by the parent, school nurse, and HCP. If licensed staff perform the procedure, the HCP order is necessary. Again, RCW 28A.210.330 requires school districts to develop district policy addressing the acquisition of orders from a HCP for monitoring and treatment at schools. Supervision that may be needed due to the student's developmental ability, level of independence, proximity to initial diagnosis, or age can only be provided by a parent, family member, PDA, or licensed staff member.
- After training, supervision, and delegation by the school nurse, nonlicensed school personnel can verify the amount dialed, by the student, on the insulin pen for a student who is independent in the management of her or his self-injecting (Appendix L).
- Drawing up of insulin, verification of dose, and injection can be done only by the student (if able), a parent, a family member, a PDA, or licensed staff (R.N. or L.P.N.).
- The injections can be done at any location where privacy is provided, with planning for blood containment, clean up, and lancet disposal, in the physical setting where the injections will occur (Appendix M). It will be necessary to establish a plan with the student, parent, and school nurse in advance. Provisions must be made for storage of medication and syringes.
- If extra insulin injections are needed, the student, parent, family member, PDA, or school nurse can perform the procedure. Extra injections are those needed as determined by testing done other than before meals. These injections can occur anywhere as long as provisions are made for blood containment, clean up, sharps disposal, and storage of medication.

Low Blood Sugar (Hypoglycemia) Treatment

- The school nurse, parent, and HCP should determine a plan that includes the individual student's symptoms and treatment of low blood sugar. Blood glucose determination can be done by the student, nurse, parent, or PDA, if available. **Treatment, however, should not be withheld if testing is not available and the student is symptomatic.** If there is ever a doubt that the student is experiencing low blood sugar (hypoglycemia) symptoms, treatment should be given **immediately**.

Treatment should be a food snack that the parent has provided. A quick acting carbohydrate (fruit juice, glucose tablets, glucose gel, etc.) is appropriate. A more substantial follow-up snack may be needed. All snacks should be readily available. Low blood sugar (hypoglycemic) episodes and snack usage should be reported to the parent. Note that glucose tablets and food are not considered to be medication.

Anyone can treat the student who is experiencing symptoms of low blood sugar. If the student is excused from class to seek treatment at another location, **she or he needs to be escorted to that location**. It is important to treat symptoms **immediately**. Document and inform parents as noted in the student's IHP/Section 504 plan.

Treatment for low blood sugar can occur anywhere. For this reason, it is important for the student and the adult in charge to know where the student's emergency food supplies are stored.

- **Severe low blood sugar** (hypoglycemia) occurs when the student is unconscious and cannot safely swallow food or liquid. School staff should be trained in emergency response for this situation.

If the student is unconscious or unable to take food or drink safely by mouth, **call 911**. Place the student on his or her side to prevent aspiration. School personnel must remain with the student until medical help arrives. It is extremely helpful to have the student's medical information available for the paramedics treating the student. Parents should be contacted after **911** has been called.

Glucagon (1 mg.) injected intramuscularly or subcutaneously may be administered by licensed staff, parents, family members, or PDAs **only**. Note that the dosage should be 0.5 mg for children weighing less than 44 lb. (20 kg). The dosage for any particular student must be ordered by the student's HCP.

Licensed staff may not be available to administer the Glucagon injection. In this case the protocol for **severe low blood sugar** should be followed. A written HCP order and parental agreement is needed in order to give Glucagon by licensed staff. As previously stated, RCW 28A.210.330 requires school districts to develop district policy addressing the acquisition of orders from a HCP for monitoring and treatment at schools. Even when Glucagon is administered, **911 must always be called**.

High Blood Sugar (Hyperglycemia) Treatment

- A plan for high blood sugar (hyperglycemia) should be developed with parents and HCP that sets parameters for treatment as necessary. Depending on the ability and independence of the student, parents may need to be contacted when blood sugars reach a predetermined level. Parents, students, and PDAs, if available, are responsible for treatment of high blood sugars if an insulin shot is needed outside of the pre-meal testing and injection. Accommodations for the student may include availability of bathroom, fluids, and exercise restrictions.
- The parent should supply ketone test strips for testing if needed and ordered by the student's HCP. Testing should take place in the health room or designated private bathroom. Licensed staff may not be available to help with this testing but the school nurse may delegate to, train, and supervise designated nonlicensed staff.

Meals and Snacks

- A copy of the school menu should be available to children/parents, if requested.
- Parents should supply a ready supply of snacks with some method of communication that notifies them when the supply is low or out.
- In no instance should a meal/snack be withheld because of discipline or lack of payment.
- Snacks may be supplied by the school food service if designated in the student's IEP.

Illness

- If a student has a temperature (>100°F) and/or vomiting, parents should be contacted to come and get the student. Observe for symptoms of low blood sugar (hypoglycemia).

PERSONNEL GUIDELINES FOR CARE OF STUDENTS WITH DIABETES IN THE SCHOOL SETTING

RCW 28A.210.330 requires school districts to develop district policy addressing the acquisition of orders from a HCP for **all** students with diabetes needing monitoring and treatment.

	SKILL/TOPIC	WHO CAN DO IT						WHERE (LOCATION)
I.	BLOOD GLUCOSE MONITORING	Student ★	Parent/Family ◆	Licensed Staff □	Parent-designated adult ☞	Designated Staff ⬆	Any School Staff	
	1. Test to be performed prior to meals (not snacks).	X	X	X	X			Can occur at any preapproved location (e.g., classroom, health room) as long as plan in place for blood containment/clean up and sharps disposal. This must comply with infectious disease control plan and with bloodborne pathogen standards (Appendix M). The procedure should not be disruptive of class routine or other students.
	2. The following can be performed by those marked with an X: a. Piercing skin/performing blood sugar monitoring. b. Verifying number on meter. c. Interpreting results. (Appendix L).							Provision must be made for easy access storage of supplies.
	3. Test if symptomatic (high or low blood sugar), if possible.	X	X	X	X			Same as above.
	4. Test during special events (extended day, field trips, sports, band, etc.).	X	X	X	X			Same as above.
II.	INSULIN INJECTION							
	1. Prior to meal(s). Requires HCP order. Sliding scale can be adjusted by nurse/PDA consultation within ordered HCP parameters per NCQAC opinion (Appendix M).	X	X	X	X			Can occur at any preapproved location (e.g., classroom, health room) as long as plan in place for blood containment/clean up and sharps disposal. This must comply with infectious disease control plan and with bloodborne pathogen standards (Appendix M). The procedure should not be disruptive of class routine or other students.
	2. The following can be performed by those marked with an X: a. Drawing up syringe and administering insulin. b. Verifying dose on syringe (not an insulin pen). c. Verifying number on insulin pen syringe (Appendix M).							Provision must be made for storage of medication and supplies.
	3. Extra injections: Those needed as determined by testing done other than before meals.	X	X	X	X			Same as above.

PERSONNEL GUIDELINES FOR CARE OF STUDENTS WITH DIABETES IN THE SCHOOL SETTING								
	SKILL/TOPIC	WHO CAN DO IT						WHERE (LOCATION)
III.	LOW BLOOD SUGAR (HYPOGLYCEMIA)	Student ♦	Parent/Family ♦	Licensed Staff □	Parent-designated adult Ⓜ	Designated Staff ⬆	Any School Staff	
	1. Mild and Moderate: Follow treatment plan.	X	X	X	X	X	X	Can and must be treated anywhere.
	2. Severe: If unconscious or unable to swallow: CALL 911.	X	X	X	X	X	X	Can and must be treated anywhere and follow IHP/Section 504 plan.
	3. Glucagon Injection Physician's order required.		X	X	X			Licensed staff may not be available.
IV.	HIGH BLOOD SUGAR (HYPERGLYCEMIA)							
	1. Extra insulin to be determined by HCP's order for sliding scale.	X	X	X	X			Same as for insulin injections (No. II). For extra injections see II, No. 3.
	2. Ketone urine test if supplied by parent and ordered by HCP and part of student's IHP/504 plan.	X	X	X	X	X		
	3. Blood Ketone Test. Physician's order required.	X	X	X	X			
V.	SNACKS							
	1. Parent provides.	X	X	X	X	X	X	As needed where needed.
	2. School provides if student has an IEP.							
VI.	ILLNESS							
	1. Per <i>Infectious Disease Control Guide</i> for school staff. If vomiting, monitor for low blood sugar (hypoglycemia).	X	X	X	X	X	X	
	2. Call parents.							

♦ **Student's Developmental Ability:** The student possesses the cognitive, emotional, behavioral, motor skills, and physical maturity necessary to perform the required activity and can demonstrate it consistently and across multiple settings. The student's self care ability level should be included in the IHP that is signed by the parent, HCP, and school nurse (Appendix K).

♦ **Parent/Family:** Includes parent, guardian, or designated family member. If the family member is less than 18 years of age, the parents, HCP, school administrators, and school nurse should determine if it is appropriate and safe for the family member to provide the care.

□ **Licensed Staff:** Must be a R.N. or L.P.N. **A HCP's order is required for licensed person to test or inject.**

Ⓜ **Parent-designated adult:** A volunteer, who may be a school employee, who receives additional training from a healthcare professional or expert in diabetic care selected by the parents (not the school nurse), and who provides care for the child consistent with the individual health plan. (Appendix I.)

⬆ **Designated Staff:** School employee **trained and supervised** by R.N. who has delegated the tasks such as verifying numbers on glucose meter and/or insulin pen. A release should be included that is signed by the parent and school nurse.

SUGGESTED ACCOMMODATIONS FOR THE STUDENT WITH DIABETES

THE LAW AND DIABETES

Diabetes is considered a disability under federal law. Under Section 504 of the Rehabilitation Act of 1973, it is illegal to discriminate against a person with a disability. Children with diabetes must have full access to all activities, services, or benefits provided by public schools.

Any school receiving federal funds must accommodate the special healthcare needs of its students with disabilities in order to provide them with a “free appropriate public education.” Such accommodations should be documented in an appropriately developed Section 504 plan or, if the child also needs special education services, in an individualized education program (IEP). These accommodations must be developed with parental input and cannot be implemented without parental consent. The school district has a legal obligation to ensure that these accommodations are provided as described in the plan. The Individual Health Plan and the 504 plan may be the same document. For procedural safeguards and parent/student rights under Section 504, see Appendix G. For procedures specific to a student with diabetes and IEP, see Appendix U.

The following is a list of suggested accommodations for students with diabetes:

1. School nurse, parents, and student should mutually determine the most appropriate location for blood sugar (glucose) monitoring and insulin administration. Determining factors may include:
 - Student age, developmental level, and possibility of negative effects in classroom.
 - Student desire for privacy.
 - Length of time since diagnosis.
 - Student knowledge of diabetes and degree of independence.
 - Student ability to demonstrate blood sugar (glucose) monitoring procedure and insulin administration, correctly, over time.
 - Awareness of safety issues surrounding needles, lancets, and blood, including proper disposal of waste and storage of diabetes equipment.
 - **Plus**, any other special circumstances.
2. Student may have permission¹ to do blood sugar monitoring in the classroom. This procedure should take only a few minutes and be nondisruptive to the class. Student may also need to check sugar on field trips or during special events. Blood sugar monitoring is usually done before meals, per HCP's order.
3. Parents are responsible to supply snacks for school; students should have at least one additional snack readily available everyday for emergency consumption. Parents should be notified when the emergency snack is consumed if this is part of the student's IHP. If student has an IEP and a meal plan from a licensed medical authority, snacks will be provided after consultation with food service manager, parents, and HCP (Appendix R).
4. Student needs to be allowed to snack when and where necessary (low blood sugar/hypoglycemia) to maintain adequate blood sugar levels. This includes school transportation as well as the classroom, gymnasium, etc.
5. A student who does not respond to a snack and/or exhibits signs of low blood sugar (hypoglycemia), needs to be accompanied to the health room, or a call for assistance should be made from the classroom. **DO NOT SEND ALONE** if dizzy, sweating, pale, trembling, crying, drowsy, nauseated, or if complaining of abdominal pain, blurred vision, headache, and/or displaying out of character behavior.
6. A student with a high blood sugar (hyperglycemia) is to receive insulin per HCP order. This may include going to the health room to self-inject insulin or notifying school nurse, parent, family

member, or PDA to administer. The student may be allowed to self-inject in the classroom or health room, if this is consistent with the student's IHP/Section 504 plan.¹

7. A student must be allowed to drink water or other sugar free fluids in the classroom, as needed, to dilute high blood sugar.
8. A student needs to be allowed extra bathroom privileges as high blood sugars (hyperglycemia) results in increased urine output.
9. Parents should be given at least a one-day notice of extra events such as parties or "field days."

¹ The parent and school nurse should consider student's ability to demonstrate appropriate procedure and disposal of waste when planning for a student to test or self-inject in the classroom. Amount of classroom disruption is also a consideration. Students wishing privacy, confidentiality, or supervision should have permission to come to the health room for blood sugar testing or insulin injection.

QUESTIONS AND CONCERNS RAISED BY PARENTS

1. *Who will monitor the health of my child during the school day?*

Your school nurse is the best person to contact. She or he will assist you, your HCP, the building staff, and your child with developing an accommodation plan. This IHP/Section 504 plan will establish the guidelines of what needs to be done for your child during the day. This plan also serves as a teaching tool that your child's teacher(s) will need. It is helpful to make these contacts; it raises awareness to your child's special needs and identifies who will be performing certain tasks. Refer to the "Suggested Accommodations for the Student with Diabetes" (pages 26–27) as well as "Personnel Guidelines for Care of Students with Diabetes in the School Setting" (pages 21–25).

Parents may choose to designate an unrelated adult, or PDA, to provide care such as blood sugar monitoring and/or insulin administration that would otherwise be performed by a health professional licensed under RCW 18.79. The PDA may be a school district employee. The PDA will need to secure the appropriate documentation. Additionally, the parent and the PDA must be willing to receive additional training from a healthcare professional or expert in diabetes care (selected by the parents) and provide care for the student consistent with the school's IHP/Section 504 (Appendix I).

2. *How can I reach my child's teacher?*

Most teachers prefer to be contacted during their work hours. When both parents work, it is sometimes difficult to reach the teacher and be available when she or he is able to talk. Often communication via a note in the student's backpack, an e-mail, or voicemail can be a solution. Address the issue of how to reach the teacher as soon as possible at the beginning of the year, or as soon as your child is diagnosed.

3. *Will my child be labeled as "that diabetes kid"?*

The individual self-worth of every student is important in a learning environment. Most teachers are well trained and sensitive enough to avoid this type of "stereotyping." The individual's own self-perception and how she or he manages his or her own illness will most likely be the "measuring stick" that classmates will use with each other when interacting. If your child appears to have difficulty accepting or living with diabetes, seek out resources such as a counselor or a diabetes educator to help address the issues. Decide with the school nurse whether or not classmates should be taught about diabetes. It may be useful for your child to have a friend or classmate monitor symptoms and/or behavioral indications of low blood sugar and assist your child in seeking adequate help.

4. *Will my child's new teacher know anything about diabetes?*

Maybe and maybe not. It would be advisable for you to request an IHP/Section 504 plan meeting prior to each school year. Most teachers are very receptive to parental involvement. Since teachers are very busy at the beginning of the year, they may need some lead in time to plan to meet with you. You need to be patient and available to educate, particularly in the area of low blood sugar (hypoglycemia) management. Your child's IHP/Section 504 plan should ensure that all staff that come in contact with your child is involved: substitute teachers, other teachers, playground monitors, cafeteria workers, and bus drivers. Transition to next year can be addressed in a child's IHP/Section 504 plan. Be sure to maintain a good working relationship with the staff and don't forget your sense of humor!

5. *What about snacks at school?*

Snacks need to be where your child is! Your child's IHP/Section 504 plan should include a snack plan. Extra snacks can be kept in your child's backpack, in the main classroom, the gymnasium, as well as the health room. Your child needs to know where the snacks are stored. If your child does not remember snack times, the teacher may be able to remind him or her. Alternatively, your child could wear a watch with an alarm that can alert him or her to snack time or testing time. Some schools will not allow juice boxes because of spills on carpet, etc. Be sure to work out acceptable snack foods in advance when developing your child's IHP/Section 504 plan to avoid problems. Ask the teacher and healthcare worker to notify you when the snack supply is low.

6. *What about the diabetes supplies?*

Don't forget to periodically restock insulin, blood monitoring supplies, and low blood sugar and emergency supplies. Your child's IHP/Section 504 plan should address who should notify you when the diabetes supplies are low. You are responsible for cleaning and quality control checking of your child's meter and insulin pen and ensuring that the insulin supply is fresh.

7. *I am concerned that if my son leaves his insulin pen at school, the insulin will become outdated and have to be wasted. This insulin is expensive. I feel that my 11-year-old son is responsible and should be allowed to carry his insulin pen instead of storing it at school.*

The school district's policy and your son's level of independence will be important factors in the solution to this question. Most school districts have policies that surround the safety of "sharps" and bloodborne pathogens. If your son has demonstrated that he is responsible in the usage of his insulin pen, it might be very possible to establish a plan for him to carry his insulin pen in a secured place. This matter should be addressed in your child's IHP/Section 504 plan.

8. *What will happen when there are special occasions such as school parties, field trips, etc.?*

There are a variety of ways these problems can be addressed. Discuss these issues at your child's IHP/Section 504 plan meeting. If the party is a surprise (often these occur at the end of the day), the parent could cover the elevated blood glucose reading with extra insulin at home. At preplanned parties with a known menu, the child could select one to two favorite treats to eat and take the rest home. Alternately, the parent could provide a special treat for the child. If an opportunity to act as a homeroom parent arises, do it. Finally, teachers that are informed can assist other parents in choosing food treats.

Field trips are less frequent events. They are almost always preplanned. If it is possible for you to make arrangements in your schedule to be one of the chaperones, this is the best solution. A number of variables need to be considered when planning for the trip: the level of independence your child may have with his or her diabetes, the availability of licensed personnel or PDA joining the trip, the length of time the trip will last, the necessity to test, the need to take insulin, and the potential for low blood sugar during the trip. The details should be addressed at your child's IHP/Section 504 plan meeting.

9. *Can the teacher or secretary just look at the syringe to be sure the right amount of insulin that the child drew up is correct?*

"Personnel Guidelines for Care of Students with Diabetes in the School Setting" (pages 21–25), is a guide to assist school districts in identifying the needs of these students and who can be responsible to help meet those needs. Appropriate staff assignments are based on Washington State laws, regulations, and guidance from the Nursing Care Quality Assurance Commission. There is a difference between an insulin syringe and an insulin pen. A dose of insulin delivered

via an insulin syringe requires verification by a licensed health professional, or a PDA. However, an assigned, trained school employee who may or may not be a PDA can legally verify the number of units of insulin shown on the insulin pen. Please note that this is a 1998 Nursing Care Quality Assurance Commission opinion (Appendix L).

10. *I have been told that the more normal my daughter's blood sugars are, the better her chances are for fewer health complications from diabetes. How can the necessary checks be done at school?*

The 1993 Diabetes Control and Complication Trial demonstrated that patients with Type 1 Diabetes who experienced intensive management regimens developed fewer diabetes complications. This decrease was achieved despite the fact that average blood sugar levels were still above the normal range. Schools recognize that students with diabetes have some special needs that may need to be accommodated in order to facilitate education and diabetes management.

Some students with diabetes may require accommodations such as preferential seating, a shortened day, a mid-morning or afternoon snack, an injection, or a blood sugar check. When a student is independent in monitoring and insulin-administration skills, there are few requirements of school employees. When the student is less independent, school staff will need to be more involved. It is important to establish a **realistic** plan regarding monitoring of student's symptoms, testing of blood sugar, and administration of insulin. Communication with the school nurse will facilitate this goal. The demands on specialized school personnel are high. If a parent feels that the amount of monitoring by school personnel is insufficient, she or he should request an IHP/Section 504 plan meeting to discuss her or his concerns.

11. *My high school-aged child won't tell anyone that she has diabetes. She ended up passing out on the volleyball court before someone realized that she had a problem. How do you get kids to share such important information?*

Once a student begins to realize that she or he has different requirements for her or his body, it is not uncommon to want to "hide" the fact as a means to be the same as others. It is important to remember that kids are kids first and they all share similar developmental needs. Family attitudes teach early lessons in the precautions that someone with diabetes needs to take. A young person can learn that her daily routine is just a part of her personal responsibilities and care.

Your child's IHP/Section 504 plan should ensure information is confidential and will be shared with staff only to the extent they need to know in order to monitor your child's health.

The age that the diagnosis was made may have an impact on how she accepts or denies the fact that she has diabetes. If the denial is such that important details are being ignored, a referral to a counselor may be necessary. Your HCP, endocrinologist, diabetes educator, and school nurse are all appropriate referral sources.

12. *A parent support group would really have helped to keep me from "rediscovering the wheel." What are the possibilities of that being developed?*

An excellent resource is the American Diabetes Association. Your hospital, your diabetes educator, and your HCP are other resources to connect your family with support groups. Within the school district it will be very individual. If there are parents of children with diabetes that are willing to share phone numbers, this can be a marvelous "help" line. The district's school nurse is the most appropriate contact for this kind of assistance. The nurse can inquire if other parents are willing to share their thoughts and phone numbers. Due to confidentiality issues, it cannot be assumed that individuals would be willing to share such information.

13. *How does the school address the difference between “special education” issues and a student with diabetes who experiences multiple high and low blood sugar readings that might impact his or her educational performance?*

Diabetes is always a disability under the Section 504 plan, and in most cases requires accommodations within the school setting. However, for a student with diabetes to be eligible for special education, he or she must be determined to have a health impairment that substantially limits learning **and requires special education.**

When a student is failing in the classroom and the school district suspects that this failure may be the result of a disability, the district has an obligation to determine if the student needs to be evaluated to determine if she or he has a disability and needs special education or accommodations under a Section 504 plan. If the district determines that an evaluation is necessary, it must get parent permission prior to conducting the evaluation and it must involve the parents in the eligibility determination meeting. It is during this evaluation process that the district and family must differentiate between the need for special education learning assistance and the diabetes medical management issues. A student experiencing multiple high and low blood sugar readings and having no specific learning problems would not qualify for special education but would be eligible for accommodations under a Section 504 plan.

14. *What will happen if a disaster (i.e., an earthquake) occurs while my child is at school?*

The Washington State Military Department/Emergency Management Division recommends that schools in Washington develop a disaster plan for each of their buildings. Additionally, RCW 28A.320.125 directs local school districts to develop individual comprehensive safe school plans. These plans are to include prevention, intervention, all hazards/crisis response, and post crisis recovery. Students that have special needs will require targeted planning. A “disaster preparedness/three day emergency readiness” plan has been developed for students with diabetes (Appendix O). It outlines the supply and food needs as well as providing information about how to draw up and administer insulin. As a parent, you will be responsible for providing the “emergency” food, insulin, and supplies for the disaster preparedness kit.

15. *What do I do if my child’s recess or P.E. class comes just before lunch?*

Depending on what kind of insulin your child is on, she or he may need a small additional snack before exercise to prevent low blood sugar. An additional blood sugar test may be helpful as sometimes a little activity will bring them into the target range and decrease the need for lunchtime insulin. These preparations should be part of the student’s IHP/Section 504 plan.

16. *Can my child go to her or his neighborhood school?*

Maybe and maybe not.... It may depend upon whether the child’s IHP/Section 504 plan, jointly developed by parents and the school nurse with responsibility for care of the student during the school day, states the child needs to be at a school with a school nurse.

17. *What if I am unhappy with some aspect of my child’s IHP/Section 504 plan?*

Request an IHP/Section 504 plan meeting to discuss the matter or consult Appendix G, Parent/Student Right in Identification, Evaluation, and Placement to determine how to challenge the IHP/Section 504 plan.

18. *For additional questions regarding PDAs, please see Appendix I.*

LIVING WITH DIABETES

Living with diabetes is a challenge met not only by the child newly diagnosed, but also by his or her family (parents and siblings), school system (teachers, nurses, counselors, coaches, physical education instructors), HCP, and other individuals caring for her or him. Meeting the challenge of living with this diagnosis is thus a “team effort” that hinges on the skills of communication, creativity, flexibility, adaptability, and consistency. While no one can predict the unique challenges faced by every child or family, specific challenges are always to be expected.

These include:

1. **Physical challenges** taking place in the child’s body as it deals with the manifestations of high and low blood glucose.
2. **Emotional challenges** as the child and his or her family confront the continual frustration and struggles imposed on them by this new illness and the reality of a lifelong chronic illness.
3. **Practical challenges** imposed by the need for (and inconvenience of) multiple daily insulin injections and blood sugar monitoring, nutrition and exercise management, and other routine schedule changes.
4. **Systemic challenges** as the child’s illness impacts his or her family, school system, day care, peer, and other environments.

Despite these multiple challenges, perhaps THE BIGGEST CHALLENGE met by the newly diagnosed child is her or his need and desire to be no more unique, different, or special than any other child in the classroom, day care, or family environment. Maintaining sensitivity to this fact, particularly at the time of diagnosis, is critical in creating an atmosphere of understanding, emotional privacy and safety, and acceptance. Several key principles are provided below and are intended as **general** guidelines that may be helpful in meeting the challenge of living with diabetes within multiple settings.

1. **DO NOT ASSUME THE CHILD WANTS (OR DOES NOT WANT) OTHERS TO KNOW OF HIS/HER DIAGNOSIS.** Despite visible equipment, insulin injections, snacks, trips to the office, etc., which are easily viewed by other children, children with diabetes generally prefer to keep their diagnosis private. Always communicate with the child to assess her and his need (or yours) to give others knowledge of the child’s diagnosis and if they want their classmates to be given instruction about diabetes or a classmate to become a “special buddy” for monitoring activities and symptoms. The parents of the “special buddy” would need to be involved.
2. **CHILDREN AT DIFFERENT AGES HAVE VARYING LEVELS OF UNDERSTANDING ABOUT THEIR DIAGNOSIS.** Use developmentally-appropriate language when speaking to children about their diabetes and other issues.
3. **NEEDS FOR INDEPENDENCE AND ASSISTANCE MAY VARY WITH AGE AND LIFE CIRCUMSTANCES.** Frequent “check-ins” with a child regarding her or his need for independence or assistance are very helpful in keeping feelings of anxiety and frustration to a minimum and help reduce the risk of complication due to oversight or lack of knowledge. If uncertain of what level of assistance a child requires for appropriate management, don’t assume: ASK.
4. **CHILDREN COME WITH FAMILIES, TEACHERS, FRIENDS, AND OTHERS.** Thus, treatment of the “system” is critical in creating consistency of treatment for the child. It is also

important to recognize that the child's illness is also affecting the system, not just the child. Take care to assess the emotional needs of parents, siblings, schoolteachers, and others who care for the child.

4. **WHEN WORKING TOWARD INDEPENDENCE, MAKE EXPECTATIONS CLEAR TO THE CHILD.** If you are uncertain if a child can reliably demonstrate a skill related to her or his diabetes management, have him or her demonstrate it for you.
6. **PREPARE FOR EMERGENCIES.** Having extra supplies on hand at several locations is critical and should not be overlooked. Create a checklist of needed supplies, snacks, emergency numbers, etc. Check and update it regularly.
7. **PLAN AHEAD.** Children require assistance with field trips, overnight stays, and other events. Looking ahead can easily prevent the likelihood that an emergency may occur and can decrease the number of events that a child must miss due to diabetes. Be creative. Be flexible.
8. **SEEK HELP WHEN HELP IS NEEDED.** Do this early and often. If you wait for a crisis before allowing others to help, you are modeling this behavior to the child.
9. **PUT IT IN WRITING.** Make an informal agreement. This can be helpful in preventing miscommunication between parents and children, school personnel, and others. Have all necessary parties sign, including the child. Keep the agreement visible and review and change as needed. The IHP/Section 504 plan is an ideal means of "putting it in writing."
10. **COOPERATE, COMMUNICATE, AND CREATE.** Use these concepts as your guiding force in maximizing the child's opportunities for success. This is a lifelong illness—don't forget to smile and laugh along the way.

BIBLIOGRAPHY

- The American Diabetes Association 2004 Resource Guide: Supplement to the Diabetes Forecast.*
- Care of Children with Diabetes in the School and Daycare Setting.* ADA: Clinical Practice Recommendations. *Diabetes Care*, Supplement 1, 1999, S94–S97.
- Chase, H. Peter. *Understanding Diabetes*, 10th Edition, Barbara Davis Center for Childhood Diabetes, University of Colorado Health Sciences Center, 2002.
- A Core Curriculum for Diabetes Education*, Fifth Edition, American Association of Diabetes Educators, Chicago, 2003.
- The Diabetes and Complications Trial Research Group.* The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. *New England Journal of Medicine* 1993; 329:977–986.
- Diabetes Health Magazine, Educational Resource Guide and Industry Outlook*, Fall 2004.
- Guidelines for Implementation of Hepatitis B and HIV School Employee Training:* State of Washington, OSPI, May 1992.
- Helping the Student with Diabetes Succeed: A Guide for School Personnel.* A joint program of the National Institutes of Health and Centers for Disease Control and Prevention. U.S. Department of Health and Human Services, June 2003. Available online at: www.ndep.nih.gov/resources/school.htm.
- A Parent and Educator Guide to Free Appropriate Public Education (under section 504 of the Rehabilitation Act of 1973):* Puget Sound Educational Service District, November 2002.
- Taking Diabetes to School: Training Nurses, Teachers, Administrators, and Support Staff How to Care for a Child With Diabetes at School*, Woodinville Pediatrics, 1999—Video. Available to check out through OSPI, Health Services, 360/725-6040. To order a copy you may call 425/483-5437.
- WISHA Bloodborne Pathogens Regulations. The complete WAC 296-823 Occupational Exposure to Bloodborne Pathogens is available by contacting the Washington State Department of Labor and Industries at 1/800-4BE-SAFE (1/800-423-7233) or online at <http://www.lni.wa.gov/wisha/rules/bbpathogens/PDFs/823-Complete.pdf>.