



Care of Young Children With Diabetes in the Child Care Setting: A Position Statement of the American Diabetes Association

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Diabetes is a relatively common chronic disease of childhood (1); however, capturing prevalence data in children with type 1 and type 2 diabetes has been challenging. The comprehensive SEARCH for Diabetes in Youth (SEARCH) study has made significant strides in better understanding disease prevalence in the pediatric population. A recent SEARCH study found that 1.93 per 1,000 youth (aged <20 years) were diagnosed with type 1 diabetes (2), an increase of 21.1% from 2001 to 2009, with increases seen in all ethnic groups but with non-Hispanic whites disproportionately affected (3). For type 2 diabetes, the SEARCH study reported a prevalence of 0.46 per 1,000 youth (aged 10–20 years), an increase of 30.5% from 2001 to 2009 in all ethnicities (3). As youth rarely die of diabetes, the increase in prevalence is most likely attributed to increased incidence.

An annual increase of 2.3% in type 1 diabetes incidence has been reported in children, with children aged <5 years experiencing the greatest increase relative to all children (4). As type 2 diabetes is rarely seen in children younger than 10 years of age (3), this Position Statement will primarily focus on type 1 diabetes. The primary objective of this Position Statement is to explain that young children (aged ≤5 years) are a vulnerable population and have unique diabetes management needs. Our goal is to describe the diabetes management recommendations in the child care setting. The child care setting includes day care, camp, and other programs where young children with diabetes are enrolled. This Position Statement is meant to guide child care providers in caring for young children with diabetes and is not intended to provide specific advice on the medical management for this population. While Position Statements contain evidence-based recommendations, all of the information that pertains to young children is expert opinion only. For more detailed information on the medical management of type 1 diabetes in children, please refer to the American Diabetes Association's (ADA's) "Standards of Medical Care in Diabetes—2014" (5) and "Type 1 Diabetes Through the Life Span: A Position Statement of the American Diabetes Association" (6).

UNIQUE CHALLENGES FOR THE YOUNG CHILD

Infants, toddlers, and preschool-age children (≤5 years of age) are enrolled in the more than 330,000 child care programs across the country (7). These children wholly depend on adults for most, if not all, aspects of their care. Pediatric health care providers, parents/guardians, and child care staff must work together to ensure that young children with diabetes are provided with the safest possible child care environment. This collaboration is essential to achieve a seamless transition in care from home to the child care setting.

Managing type 1 diabetes in young children in child care programs presents unique challenges due to the young child's developmental level. The limited communication and motor skills, cognitive abilities, and emotional maturity of young children can challenge even the most experienced child care provider. For example, young children with hypo- or hyperglycemia may or may not exhibit abnormal behavior or irritability. As erratic behavior is typical in this age-group, the child care provider may not recognize hypo- or hyperglycemic symptoms and may miss

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the fact that the behavior is caused by low or high blood glucose levels that may require treatment.

The diabetes regimen must be adapted quickly to the child's dynamic growth and development. As the child develops and desires greater autonomy, child care providers and parents/guardians may face challenges with the toddler's refusal to cooperate with his or her diabetes care regimen (8). Once the child enters the prekindergarten years, he or she may begin to be able to participate in his or her own care by indicating food preferences, checking blood glucose, and choosing a finger-prick or injection site. With further cognitive and physical development, he or she may verbalize symptoms and become more cooperative, but the child still needs constant supervision and blood glucose monitoring to detect hypo- or hyperglycemia. The age at which children are able to perform self-care tasks is variable and depends on the individual child's capabilities, but self-care is not expected from the young child and the parent/guardian or other caregiver *must* provide diabetes management and perform associated diabetes care tasks such as blood glucose monitoring and insulin administration (5,8) (Table 1).

Language barriers, ethnic and cultural practices, limited resources and support, geography (rural vs. urban setting), and health literacy and capabilities must also be considered in developing the care plan.

Another challenge in the child care setting may be staff turnover and ensuring that trained staff members remain available. Regardless, the child care program must be prepared to provide needed care to the child, and parents and health care providers play a pivotal role in partnering with the child care staff.

Key Points

- The safety, health, and well-being of the child as he or she transitions from home to the child care setting are achieved through effective collaboration between the diabetes health care provider, parents/guardians, and child care staff.
- Adults must provide most, if not all, of the diabetes care to young children because of their limited motor, cognitive, and communication skills as well as

other abilities that are necessary to participate in self-management.

- As the child grows older and becomes closer to school age, he or she may participate in care tasks as appropriate for the individual child, but adult supervision must always be present.
- Challenges in the child care setting include staff turnover, language barriers, ethnic and cultural practices, limited resources and support, geography (rural vs. urban setting), and health literacy and capabilities.

DIABETES CARE

The Diabetes Control and Complications Trial (DCCT) showed a significant link between blood glucose control and a slower onset and progression of diabetes complications in adults and adolescents, with improved glycemic control decreasing the risk of micro- and macrovascular complications (5,9,10). Although the DCCT did not include young children (the lower age limit at enrollment was 13 years), the general message—optimize blood glucose control while avoiding hypoglycemia—has been clinically applied to young children. Furthermore, recent data from cross-sectional neuroimaging studies in young children appear to reinforce the importance of aiming for blood glucose levels in range and avoiding hypo- and hyperglycemia (11).

Nutrition and Physical Activities

The parent/guardian remains primarily responsible for determining and providing healthy food choices for the child. The parent/guardian should educate the staff on general information on the carbohydrate content of the food, regardless of whether it is provided by the parent/guardian or child care program. If a child care program provides the meals and snacks, the parent/guardian and the child care provider should work together to determine appropriate food choices and portion sizes for the child. The child care program should ensure that the child eats the appropriate amount of food that is being covered by insulin in accordance with the diabetes medical management plan (DMMP). See the section on DMMP for further details.

For children who regularly attend child care programs for longer durations or where meals or snacks and physical activity are part of the daily schedule,

sufficient staff should receive comprehensive training in diabetes management and be prepared to provide diabetes care as needed. At least one staff member should be available at all times to help with food decisions, blood glucose monitoring, and insulin administration.

Increased sensitivity in caring for the child around special occasions (such as parties/celebrations), physical activities, or illnesses is particularly important. The child should be allowed to participate in celebrations, but special considerations may be required to accommodate the child's diabetes needs. Effective communication between the child care staff and the parent/guardian to anticipate the adjustments (e.g., administering additional insulin to account for the birthday cake) will enable the young child to feel included. Resources are available to parents/guardians, child care providers, and health care providers to assist with this education and training (12–15).

Children who participate in programs for only a few hours may consume snacks and not meals; therefore, insulin administration may not be required in the child's DMMP. However, at a minimum, in order to facilitate safe diabetes care in all child care programs, child care staff must have a basic understanding of diabetes; be able to check blood glucose levels; be able to prevent, recognize, and treat hypoglycemia; be able to handle diabetes emergencies; and know who to contact for help (12–14,16).

Hypoglycemia

For the very young child, the diabetes management priority is the prevention and management of hypoglycemia and the avoidance of wide fluctuations in blood glucose levels. Parents/guardians face the perpetual struggle of balancing the risk of long-term complications from hyperglycemia with the fear of acute hypoglycemia, all while trying to facilitate a "normal" childhood. More notably, parents worry about the possibility of cognitive deficits and/or death if a severe hypoglycemic event is undetected and untreated. Therefore, hypoglycemia prevention is critical. Child care staff should be educated on how to prevent and recognize hypoglycemia by monitoring the child's food consumption, activity, and behavior and confirming a suspected low with blood glucose monitoring (5,8,17). Parents/guardians should provide specific

Table 1—Major developmental issues and their effect on diabetes in children and adolescents

Developmental stages (ages)	Normal developmental tasks	Type 1 diabetes management priorities	Family issues in type 1 diabetes management
Infancy (0–12 months)	Developing a trusting relationship or bond with primary caregiver(s)	Preventing and treating hypoglycemia Avoiding extreme fluctuations in blood glucose levels	Coping with stress Sharing the burden of care to avoid parent burnout
Toddler (13–26 months)	Developing a sense of mastery and autonomy	Preventing hypoglycemia Avoiding extreme fluctuations in blood glucose levels due to irregular food intake	Establishing a schedule Managing the picky eater Limit-setting and coping with toddler's lack of cooperation with regimen Sharing the burden of care
Preschooler and early elementary school (3–7 years)	Developing initiative in activities and confidence in self	Preventing hypoglycemia Coping with unpredictable appetite and activity Positively reinforcing cooperation with regimen Trusting other caregivers with diabetes management	Reassuring the child that diabetes is no one's fault Educating other caregivers about diabetes management
Older elementary school (8–11 years)	Developing skills in athletic, cognitive, artistic, and social areas Consolidating self-esteem with respect to the peer group	Making diabetes regimen flexible to allow for participation in school or peer activities Child learning short- and long-term benefits of optimal control	Maintaining parental involvement in insulin and blood glucose management tasks while allowing for independent self-care for special occasions Continuing to educate school and other caregivers
Early adolescence (12–15 years)	Managing body changes Developing a strong sense of self-identity	Increasing insulin requirements during puberty Diabetes management and blood glucose control becoming more difficult Weight and body image concerns	Renegotiating parent and teenager's roles in diabetes management to be acceptable to both Learning coping skills to enhance ability to self-manage Preventing and intervening in diabetes-related family conflict Monitoring for signs of depression, eating disorders, and risky behaviors
Later adolescence (16–19 years)	Establishing a sense of identity after high school (decisions about location, social issues, work, and education)	Starting an ongoing discussion of transition to a new diabetes team (discussion may begin in earlier adolescent years) Integrating diabetes into new lifestyle	Supporting the transition to independence Learning coping skills to enhance ability to self-manage Preventing and intervening with diabetes-related family conflict Monitoring for signs of depression, eating disorders, and risky behaviors

strategies, if needed, to help the child care staff address the individual child's specific needs. Routine blood glucose monitoring at prespecified times may help to detect hypoglycemia before it manifests with acute symptoms in the child.

Hyperglycemia

Although hypoglycemia is a significant concern, hyperglycemia should be managed as well. The child may experience frequent urination (polyuria), which may be confused with "heavy diapers" or "wetting accidents," a common occurrence in this age-group anyway. A child care provider unfamiliar with diabetes and polyuria may not realize that the child is hyperglycemic, requiring

insulin, and instead may feed the child or give him or her juice, inadvertently aggravating hyperglycemia. Untreated hyperglycemia may lead to ketone production, which may be measured by checking urine ketones.

The ADA has previously recommended higher blood glucose targets for young children in an effort to prevent hypoglycemia. However, the **ADA has recently adjusted its target recommendations to an A1C of <7.5% in all pediatric age-groups (<19 years of age) but with the goal of achieving the best A1C possible without hypoglycemia.** The new recommendation is a product of reduced hypoglycemia seen with newer rapid-acting insulin

analogs and improved glucose monitoring devices and the awareness of the potential impact of chronic hyperglycemia on the development of future long-term complications (6).

Blood Glucose Monitoring

Blood glucose monitoring allows child care providers to assess if a child is hypo- or hyperglycemic and perform appropriate interventions. Blood glucose levels need to be checked before meals/snacks, before physical activity, and when the child exhibits symptoms of hypo- or hyperglycemia. These symptoms may be subtle, especially in young children. For this reason, blood glucose needs to be checked more frequently in young children.

Continuous Glucose Monitors

Some children use a continuous glucose monitor (CGM) to record blood glucose levels. CGM results must be confirmed with blood glucose tests. Parents/guardians should discuss CGM management with child care providers. A basic understanding of CGM use is warranted, but detailed management should not be expected of child care providers. Safe monitoring must include the following recommendations:

1. Avoid community exposure to sharps and other medical waste.
2. Minimize trauma to the finger or relevant lancing site.

Blood lancing devices must not be reused, point-of-care devices should only be used for the designated child, and child care providers should use gloves when testing (8). The ADA's Safe at School program is a helpful resource to assist schools (18).

Insulin Administration

Children with diabetes who attend child care programs must have access to insulin, glucagon, and other medications to safely participate in the programs. Training child care staff on insulin administration is a critical component of diabetes management, especially for those caring for children who participate in daylong (4- to 8-h) programs and who will likely need insulin administered during the programs. For resources, please see [RESOURCES](#) for ADA's Safe at School program.

Glucagon

Glucagon may be indicated if a child has severe hypoglycemia and is unable to consume glucose or is having a hypoglycemic seizure. Although a glucagon kit requires a prescription, any individual may administer glucagon. Child care staff should be trained in the administration of glucagon or, if indicated, mini-dose glucagon (19). It is also important to ensure that the glucagon kits are not expired (5).

Key Points

- The DCCT showed that improved glycemic control decreases long-term diabetes complications in adolescents (≥ 13 years of age) and adults and helped establish intensive therapy as the standard of care. Although young children were not included in the study, the same principles apply to this age-group.

- Regardless of the amount of time the child spends in the child care setting, staff should monitor carbohydrate intake and understand the impact of carbohydrates and physical activity as set out in the child's DMMP.
- Trained child care staff should be available to meet the child's basic diabetes needs, including the recognition and treatment of hypo- and hyperglycemia, blood glucose monitoring, and insulin and glucagon administration.
- Diabetes management requirements may vary depending on the length, frequency, and activities of the child care program.
- The key diabetes management priority for younger children is the prevention, recognition, and treatment of hypo- and hyperglycemia to keep the child safe and healthy.

DMMP

The child's written care plan, such as the DMMP, facilitates appropriate diabetes management and is essential to achieving optimal glycemic control. The DMMP contains the medical orders that are the basis for the provision of care in the child care setting and is the child's individual care plan. It is developed by the child's own diabetes health care provider with input from the parent/guardian. A sample DMMP for the child care setting may be found at the end of this document or at www.diabetes.org/childcare. The DMMP should address the specific needs of the child and provide instructions for each of the following:

1. Blood glucose monitoring, including the frequency and circumstances requiring blood glucose checks and the use of CGM systems;
2. Insulin administration including doses and administration times prescribed for specific blood glucose levels and for carbohydrate intake, the storage of insulin, and the use of the prescribed insulin delivery device, including syringe, pen, or pump;
3. Symptoms and treatment of hypoglycemia, including the administration of glucagon;
4. Symptoms and treatment of hyperglycemia, including insulin administration;
5. Urine or blood ketone checks and appropriate actions based on a child's ketone level.

The child care program needs to coordinate and arrange diabetes education provided by a diabetes health care professional and/or the parent/guardian at an appropriate level and with proper considerations for the child care staff. All staff members responsible for the child should have a basic knowledge of the child's diabetes, understand basic diabetes management, and know who to contact for help. Designated staff members who will be performing diabetes care tasks need advanced diabetes education that includes blood glucose monitoring, insulin and glucagon administration, monitoring of carbohydrate intake and physical activity, and recognizing and treating hyperglycemia (monitoring for excessive urination or thirst, allowing bathroom privileges, and administering insulin) and hypoglycemia (monitoring for sleepiness, lethargy, shakiness, or other symptoms and providing appropriate carbohydrate sources even if outside the allotted snack or meal time frames). Emergency treatment, including glucagon administration, should also be taught with clear instructions for the next steps if the interventions are unsuccessful (Table 2).

LAWS PROTECTING CHILDREN WITH DIABETES

Federal antidiscrimination laws, including the Americans with Disabilities Act (20) and Section 504 of the Rehabilitation Act of 1973 (Section 504) (21), prohibit discrimination on the basis of disability. The Individuals with Disabilities Education Act (IDEA) requires pre-kindergarten programs to identify children with disabilities and to provide them with a free and appropriate education (22).

The Americans with Disabilities Act prohibits discrimination against people with disabilities by places of public accommodation, including camps and child care programs. This includes even a home-based setting, if the program is open to the public. Programs operated by religious organizations, such as a child care program run by a church, are not subject to the nondiscrimination obligations under federal law unless the program receives federal funds. Child care providers with obligations under the Americans with Disabilities Act must make reasonable

Table 2—Diabetes care tasks prescribed by DMMP to be provided by child care staff

Task	Frequency	Equipment/supplies (provided by parent/guardian)
Blood glucose monitoring	Before food intake and physical activity and when low or high blood glucose is suspected	Blood glucose meter, lancet, lancing device, test strips, CGM*
Insulin administration	Before or after food intake and to treat high blood glucose	Insulin, delivery device (pump, pen, syringe)
Food intake scheduling and monitoring	Snacks and meals provided and/or monitored to ensure food consumption is in accordance with insulin dosing	Food, carbohydrate information
Hypoglycemia treatment	Awareness that unusual behaviors after physical activity or insulin administration may signify hypoglycemia	Quick-acting carbohydrate and glucagon
Hyperglycemia treatment	Awareness that increased urination or drinking may signify hyperglycemia	Noncarbohydrate-containing liquid, insulin
Ketone monitoring	Check ketones if repeated blood glucose tests show elevation above target range or if the child is ill	Urine or blood ketone strips, ketone monitor

*This device may or may not be used by the child.

modifications to their policies and practices to enable a child with a disability, such as diabetes, to fully participate in the program unless the modifications impose an “undue hardship” or cause a “fundamental alteration” to the nature of the program (20,21,23). The child care program must conduct an individual assessment to determine whether or not it can meet the child’s needs without imposing undue hardship or fundamentally altering the program.

Section 504 prohibits discrimination on the basis of disability by any entity receiving federal funds—including religious organizations. Types of programs covered by Section 504 might include after-school child care programs offered by a public school system and child care programs run by universities. The obligations of a child care program subject to Section 504 are very similar to those obligations under the Americans with Disabilities Act, including a requirement to conduct an individualized assessment of a child’s needs. Both the Americans with Disabilities Act and Section 504 require programs to provide disability-related accommodations if they are necessary and reasonable. Many of the needed accommodations can be provided by the child care program without significant costs. Some accommodations that may be needed include having a trained employee who can perform blood glucose checks, administer insulin and glucagon, recognize and promptly treat hypo- and hyperglycemia, and make sure the child consumes needed carbohydrates.

In addition, many states have laws that impact the provision of diabetes care in the child care setting. Even though federal laws provide protection for children with disabilities, such as diabetes, state laws, regulations, or policies and guidelines often affect whether nonnursing staff in the child care setting can administer medication, including insulin and glucagon, to a child with diabetes. Some states have specific child care rules that place requirements on child care programs to provide care to children with chronic illness, specify how staff must be trained, or specify whether and how medication may be administered to children. State laws cannot, however, lessen a child care program’s obligations under federal law.

Children with diabetes in child care programs still face discrimination despite the protections and requirements of federal and state laws. For example, some child care programs refuse to enroll a child with diabetes, and some programs refuse to allow a newly diagnosed child back into the program. Some centers will enroll a child only if the parent/guardian agrees to come to the center to provide needed care. Many other programs have “no injection” or “no medication” policies that do not consider the individual child’s needs. This type of treatment jeopardizes the health and safety of the child, and such blanket policies are unlawful. For more information and resources to help with diabetes management in the child care setting or if a child is experiencing discrimination in the child care setting, call

1-800-DIABETES (342-2382) or go to www.diabetes.org/childcare.

Key Points

- Federal and some state laws provide protections for children with diabetes in the child care setting.
- Despite federal and state laws, children in child care programs still face discrimination, jeopardizing their health and safety or making it difficult for them to enroll in child care.

KEY PRINCIPLES

Here, we reiterate the discussed concepts; however, the section is structured so that it outlines the legal principles and the roles and responsibilities of the individuals involved.

- 1. Acceptance for enrollment.** Child care programs should not deny admission to a child based on diabetes or the need for diabetes care. The parent/guardian should share strategies for overcoming challenges specific to their child, such as poor communication or resistance to diabetes care tasks. If a child care center refuses to enroll or provide diabetes care to a child, it is important to determine the center’s concerns and see if the concerns can be addressed through education and training.
- 2. Written care plans.** As stated previously, a written care plan, such as an individualized DMMP, should be developed by the child’s personal diabetes health care team in collaboration with the parent/guardian.
- 3. Provision of care by child care staff.** After consulting with the parent/guardian and reviewing the child’s

current DMMP, the child care program should perform an assessment of the child's needs to determine how it will provide diabetes care. An identified group of child care staff who are willing to provide direct care for the child with diabetes should receive advanced training from a diabetes health care professional or the parent/guardian on routine and emergency diabetes care so that at least one staff member is always available to provide diabetes care.

4. Basic training for all staff in a child care setting. The child care provider should work with the parents/guardians to arrange for training by a diabetes health care professional or the parent/guardian in basic diabetes education and identify additional training resources as needed. All child care staff members who are responsible for the child with diabetes should receive basic training that provides:

- 1) An overview of diabetes that includes information on how to recognize and respond to hypo- and hyperglycemia and
- 2) Instruction on identifying medical emergencies and contacting the right personnel with questions or in case of an emergency.

5. Advanced training for a small group of child care staff. Advanced training provided by a diabetes health care professional or parent/guardian should include:

- 1) All components of basic diabetes training as listed above;
- 2) Instruction on how to perform blood glucose monitoring, insulin and glucagon administration, and urine and/or blood ketone checks;
- 3) Training on the recognition and treatment of hypo- and hyperglycemia; and
- 4) Basic carbohydrate counting/monitoring carbohydrates.

6. Instruction should include demonstration of the care tasks and a plan for ongoing training. The number of staff members trained should be sufficient to ensure that at least one staff member who can provide routine and emergency diabetes care, such as insulin and glucagon administration, will be available at all times.

7. Participation in diabetes care should be allowed for capable children. Child care programs should support the child in his or her development by allowing participation in diabetes tasks in accordance with the child's competencies, as outlined in the DMMP. A preschooler may be able to participate in his or her diabetes care by checking blood glucose or choosing a finger-prick or injection site, all under the supervision of an adult.

Key Points

- Child care centers should not deny admission on the basis of a child having diabetes.
- A written care plan with medical orders, such as a DMMP, should be provided by the diabetes care provider and parent/guardian to the child care setting.
- All child care staff responsible for the child with diabetes should receive basic training.
- Advanced, child-specific training should be provided to a small number of child care staff, and there should be at least one trained staff member available to provide care at all times.

RESPONSIBILITIES OF STAKEHOLDERS

1. The parent/guardian should provide the child care program with:

- Information about diabetes management and training resources if needed
- A completed written care plan, such as a DMMP, signed by a child's diabetes health care provider
- Current and accurate emergency contact information including phone numbers for the parent/guardian and the child's diabetes health care provider
- All materials, equipment, supplies, insulin/medication, and food needed for diabetes management and ongoing monitoring of supplies for replenishment or replacement if expired
- An appropriate container for the disposal of sharps
- A method of communication between the parent/guardian and the child care program, such as a logbook or electronic diabetes management application

- Basic diabetes training (if needed) for all child care staff members who have responsibility for the child and advanced child-specific training for the designated child care staff members who are responsible for providing regular daily care to the child

- Information about factors that may impact blood glucose levels, such as the child's daily activity level, food intake prior to arrival at the center, and whether the child is experiencing an illness

- Consent to release confidential health information so that the child care program can communicate directly with the child's diabetes health care provider and direction on when such communication is appropriate

2. The child care program should:

- Understand federal and state laws and regulations as they apply to children with diabetes

- Assess how the child care program will provide routine and emergency care after consulting with parent/guardian and reviewing the DMMP

- Recruit and designate staff who will be responsible for the provision of diabetes care to the child

- Work with parents/guardians to arrange for training for all staff members who have responsibility for the child and advanced child-specific training for designated child care staff members who are responsible for providing daily care to the child

- Provide secure and immediate accessibility of diabetes materials, equipment, supplies, insulin/medication, and food to trained staff members

- Provide support to all families of children in its care who are faced with language barriers and limited resources and be aware of and share community resources for families of children with diabetes

- Maintain accurate documentation of all diabetes care provided to a child in its care

- Collaborate with parents/guardians and/or diabetes health care providers to obtain current information about the care of children with diabetes

- Regularly communicate blood glucose results, insulin administration, treatment of hypo- and hyperglycemia, food intake, and physical activity using a logbook, electronic application, or other method provided by the parent/guardian
- Treat children with diabetes the same as other children, except to meet their diabetes needs
- Respect the child's and family's confidentiality and right to privacy

3. The child's diabetes health care provider should provide:

- A completed and signed written care plan containing medical orders, such as a DMMP, with updates as needed
- In conjunction with the parent/guardian, basic and advanced training to child care staff
- Availability to respond to questions about the child's care with parental consent
- Ongoing diabetes expertise and guidance as needed
- Advocacy, as needed, to ensure a child's needs are met while in the child care setting

Key Points

- Parents/guardians, child care staff, and the child's health care provider all play important roles in ensuring appropriate care of the child with diabetes in a child care program. Each has specific roles and responsibilities to ensure that the child is maintained in a healthy and safe child care environment.

CONCLUSION

It is well understood that young children with diabetes have unique needs. Young children require a carefully thought-out, proactive diabetes care plan and not a reactive one (i.e., crisis management) that must be developed with the health care provider, parents/guardians, and child care staff. Unfortunately, despite all the best efforts of the parents/guardians, care may be suboptimal in the child care setting. For those instances, there are federal laws that protect the rights of the young child. Violation of these rights may be subject to legal action. Recommended resources for parents are listed below. We encourage parents/guardians of young children

with diabetes to share this Position Statement with their child care providers. Ensuring the long-term health of and providing the best care to these young children should be of paramount importance.

RESOURCES

- American Diabetes Association. Child Care Setting tools (including Child Care DMMP): www.diabetes.org/childcare and www.diabetes.org/forparentsandkids.
- American Diabetes Association. Safe at School resources and information: www.diabetes.org/safeatschool.
- American Diabetes Association. Diabetes Care Tasks at School: What Key Personnel Need to Know: www.diabetes.org/schooltraining.
- National Diabetes Education Program. Helping the Student with Diabetes Succeed: A Guide for School Personnel (2010): http://ndep.nih.gov/media/Youth_NDEPSchoolGuide.pdf.

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Child Care Diabetes Medical Management Plan



Name of Child: _____ DOB: _____ Dates Plan in Effect: _____
 Parent or Guardian Name(s)/Number(s): _____
 Diabetes Care Provider Name/Number: _____
 Diabetes Care Provider Signature: _____ Date: _____
 Location of diabetes supplies at child care facility: _____

Blood Glucose Monitoring

Target range for blood glucose is: 80-180 Other _____
 When to check blood glucose: before breakfast before lunch before dinner before snacks
 When to do extra blood glucose checks: before exercise after exercise when showing signs of low blood glucose
 when showing signs of high blood glucose other _____

Insulin Plan: Please indicate which type of insulin regimen this child uses (check one):

Insulin Pump Multiple Daily Injections Fixed Insulin Doses

Specific information related to each insulin regimen/plan is included below for this child.

Type of insulin used at child care (check all that apply): Regular Apidra Humalog Novolog NPH
 Lantus Levemir Mix Other _____

Plan A: Insulin Pump*

- Always use the insulin pump bolus wizard: Yes No
 If no, use Insulin:Carbohydrate Ratio and Correction Factor dosage on Plan B.
- Blood glucose must be checked before the child eats and will (check one):
 Be sent to the pump by the meter
 Need to be entered into the pump
- The insulin pump will calculate the correction dose to be delivered **before** the meal/snack.
- After the meal/snack**, enter the total number of carbohydrates eaten at that meal/snack. The insulin pump will calculate the insulin dose for the meal.
- Contact parent/guardian with any concerns.

For a list of definitions of terms used in this document, please see the *Diabetes Dictionary*.

***Providers should complete Insulin:Carbohydrate ratio and Correction dosage under Plan B section for ALL pump users.**

Plan B: Multiple Daily Injections

- Child will receive a fixed dose of _____ long-acting insulin at _____ Yes No
- Follow blood glucose monitoring plan above.
- Use _____ insulin for meals and snacks. Insulin dose for food is _____ unit(s) for meals **OR** _____ unit(s) for every _____ grams carbohydrate.
 Give injection after the child eats.
- If blood glucose is above target, add correction dose to:
 Breakfast Snack
 Lunch Snack
 Other: _____

Use the following correction factor _____ or this scale:
 _____ units if BG is _____ to _____
 _____ units if BG is _____ to _____
 _____ units if BG is _____ to _____
 _____ units if BG is _____ to _____

Only add correction dose if it has been 3 hours since the last insulin administration.

C: Fixed Insulin Doses

- Child will receive a fixed dose of long-acting insulin? Yes No
 If yes, give child _____ units of _____ insulin at _____.
- Insulin correction dose at child care (_____ insulin)?
 Yes No
- If blood glucose is above target, add correction dose to:
 Breakfast Snack
 Lunch Snack
 Other: _____

Use the following correction factor _____ or the following scale:
 _____ units if BG is _____ to _____
 _____ units if BG is _____ to _____
 _____ units if BG is _____ to _____
 _____ units if BG is _____ to _____

Only add correction dose if it has been 3 hours since the last insulin administration.

Managing Very Low Blood Glucose

Hypoglycemia Plan for Blood Glucose less than _____ mg/dL

1. Give 15 grams of fast-acting carbohydrate.
2. Recheck blood glucose in 15 minutes.
3. If still below 70 mg/dL, offer 15 grams of fast-acting carbohydrate, check again in 15 minutes.
4. When the child's blood glucose is over 70, provide 15 grams of carbohydrate as snack. Do not give insulin with this snack.
5. **Contact the parent/guardian** any time blood glucose is less than _____ mg/dL at child care.

Usual symptoms of hypoglycemia for this child include:

- Shaky Fast heartbeat Sweating
 Anxious Hungry Weakness/Fatigue
 Headache Blurry vision Irritable/Grouchy
 Dizzy Other _____

1. If you suspect low blood glucose, check blood glucose!
2. If blood glucose is below _____, follow the plan above.
3. If the child is unconscious, having a seizure (convulsion) or unable to swallow:
 - Give glucagon. Mix liquid and powder and draw up to the first hash mark on the syringe. Then inject into the thigh. Turn child on side as vomiting may occur.
 - If glucagon is required, administer it promptly. Then, call 911 (or other emergency assistance). After calling 911, contact the parents/guardians. If unable to reach parent, contact diabetes care provider.

Managing Very High Blood Glucose

Hyperglycemia Plan for Blood Glucose higher than _____ mg/dL

Usual symptoms of hyperglycemia for this child include:

- Extreme thirst Very wet diapers, accidents
 Hungry Warm, dry, flushed skin Tired or drowsy
 Headache Blurry vision Vomiting**
 Fruity breath Rapid, shallow breathing
 Abdominal pain Unsteady walk (more than typical)

**If child is vomiting, contact parents immediately

Treatment of hyperglycemia/very high blood glucose:

1. Check for ketones in the:
 - urine blood (parent will provide training)
2. **If ketones are moderate or large**, contact parent. If unable to reach parent, contact diabetes care provider for additional instructions.
Contact parent if ketones are trace or small: Yes No
3. Children with high blood glucose will require additional insulin **if the last dose of insulin was given 3 or more hours earlier**. Consult the insulin plan above for instructions. If still uncertain how to manage high blood glucose, contact the parent.
4. Provide sugar-free fluids as tolerated.
5. You may also:
 - Provide carbohydrate-free snacks if hungry
 - Delay exercise
 - Change diapers frequently/give frequent access to the bathroom
 - Stay with the child

Diabetes Dictionary

Blood glucose - The main sugar found in the blood and the body's main source of energy. Also called blood sugar. The **blood glucose level** is the amount of glucose in a given amount of blood. It is noted in milligrams in a deciliter, or mg/dL.

Bolus - An extra amount of insulin taken to lower the blood glucose or cover a meal or snack.

Bolus calculator - A feature of the insulin pump that uses input from a pump user to calculate the insulin dose. The user inputs the blood glucose and amount of carbohydrate to be consumed, and the pump calculates the dose that can be approved by the user.

Correction factor - The drop in blood glucose level, measured in milligrams per deciliter (mg/dL), caused by each unit of insulin taken. Also called **insulin sensitivity factor**.

Diabetic ketoacidosis (DKA) - An emergency condition caused by a severe lack of insulin, that results in the breakdown of body fat for energy and an accumulation of ketones in the blood and urine. Signs of DKA are nausea and vomiting, stomach pain, fruity breath odor and rapid breathing. Untreated DKA can lead to coma and death.

Fixed-dose regimen - Children with diabetes who use a fixed-dose regimen take the same "fixed" doses of insulin at specific times each day. They may also take additional insulin to correct hyperglycemia.

Glucagon - A hormone produced in the pancreas that raises blood glucose. An injectable form of glucagon, available by prescription, is used to treat severe hypoglycemia or severely low blood glucose.

Hyperglycemia - Excessive blood glucose, greater than 240 mg/dL for children using an insulin pump and greater than 300 mg/dL for children on insulin injections. If untreated, the patient is at risk for **diabetic ketoacidosis (DKA)**.

Hypoglycemia - A condition that occurs when the blood glucose is lower than normal, usually less than 70 mg/dL. Signs include hunger, nervousness, shakiness, perspiration, dizziness or light-headedness, sleepiness, and confusion. If left untreated, hypoglycemia may lead to unconsciousness.

Insulin - A hormone that helps the body use glucose for energy. The beta cells of the pancreas make insulin. When the body cannot make enough insulin, it is taken by injection or through use of an insulin pump.

Insulin pump - An insulin-delivering device about the size of a deck of cards that can be worn on a belt or kept in a pocket. An insulin pump connects to narrow, flexible plastic tubing that ends with a needle inserted just under the skin. Pump users program the pump to give a steady trickle or constant (basal) amount of insulin continuously throughout the day. Then, users set the pump to release bolus doses of insulin at meals and at times when blood glucose is expected to be higher. This is based on programming done by the user.

Ketones - A chemical produced when there is a shortage of insulin in the blood and the body breaks down body fat for energy. High levels of ketones can lead to **diabetic ketoacidosis** and coma.

Multiple daily injection regimen - Multiple daily insulin regimens typically include a basal, or long-acting, insulin given once per day. A short-acting insulin is given by injection with meals and to correct hyperglycemia, or elevated blood glucose, multiple times each day.

Type 1 diabetes - Occurs when the body's immune system attacks the insulin-producing beta cells in the pancreas and destroys them. The pancreas then produces little or no insulin. Type 1 diabetes develops most often in young people but can appear in adults. It is one of the most common chronic diseases diagnosed in childhood.

Physician Signature _____

