American Diabetes Association®

Safe at School®

Guidance for the Use of Continuous Glucose Monitoring in the School Setting

The information provided in this guidance does not constitute medical or legal advice. For medical advice, contact the child's diabetes health care provider. For legal advice, contact an attorney. Find additional Safe at School® training resources and tools at ***diabetes.org/safeatschool****.*

The purpose of this guidance document is to provide general information to parents/guardians (referred to in this guide collectively as "parents"), school nurses and administrators, school staff, diabetes health care professionals, and others about the use of continuous glucose monitors (CGMs) in the school setting to monitor a student's blood glucose (blood sugar). The student's individualized Diabetes Medical Management Plan (DMMP) or a health care professional's orders, developed and approved by the student's diabetes care provider, contains directives for managing the student's CGM at school and should be followed and implemented by the school.

The student's individualized Section 504 Plan, Individualized Education Program (IEP), or other written accommodations plan, should be consistent with the DMMP/provider's orders. Specific questions unique to individual students should be directed to the student's diabetes care provider. This document will be updated as new evidence-based research emerges and devices are approved by the U.S. Food and Drug Administration FDA so we encourage you to check back periodically. (last updated May 2025).

Why is this guidance needed?

The use of CGMs has increased dramatically over the past decade. The first system was approved for pediatric use in 2011. By 2016, about 30% of people with type 1 diabetes used a CGM for their management, with that number rising to approximately 70–80% in 2022.[1,2] Youth with type 2 diabetes may also use a CGM depending on their management needs, though access to CGMs remains somewhat limited in this group. CGM users attain better glycemic outcomes and have lower rates of both diabetic ketoacidosis and severe hypoglycemia events.[3] As there is overwhelming evidence to support their use, the *Standards of Care in Diabetes* from the American Diabetes Association® (ADA) recommends that children with type 1 and type 2 diabetes on insulin be offered a CGM soon after diagnosis and affirms that students should be supported in the use of their diabetes technology at school.[4] Trained school staff need to be familiar with the basic concepts of a CGM to use it properly at school, including the added features compared with traditional blood glucose monitoring.

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How does a CGM work?

A CGM consists of a thin, flexible sensor that sits on the skin, a transmitter that works with a sensor, and a receiver or smart device which displays the glucose reading. The sensor measures glucose concentrations in the interstitial fluid (the fluid found just below the skin between cells) and converts that information to an estimated blood glucose.

Why use a CGM?

CGMs collect and communicate valuable information about current glucose levels and trends. CGMs update glucose data every one to five minutes depending on the system, which adds significantly more information than a static blood glucose meter (BGM) reading. CGMs have trend arrows that, in combination with the current glucose level, allow the user to know how glucose levels are changing. Studies have demonstrated the safety of direct dosing from CGM data without confirmatory fingersticks.[5] CGMs can provide summary reports documenting the time spent with glucose levels in specified ranges, as well as patterns in glucose trends throughout the day. This data enables health care providers and parents to make changes to insulin doses. CGM alarms allow parents, school nurses, or trained staff to institute preventative measures to ensure the safety of a student with diabetes.

CGM or blood glucose meter (BGM)?

A BGM should be available for use if the CGM sensor becomes detached, fails, or may not be working properly. This may include if the child has symptoms which do not match the CGM reading, the sensor data shows inconsistent or intermittent gaps in readings, or the sensor readings are unavailable. Otherwise, children using a CGM will rarely need fingersticks using a BGM with most currently approved systems, unless instructed to do so in their DMMP/ provider's orders.

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A Summary of Benefits[6]

1. Immediate access to glucose levels. CGMs continuously provide updated glucose data or sensor readings.
2. Personalized alarms are displayed on the device (e.g., receiver, pump, smart phone, or other device) to identify the need for an immediate response to high or low sensor readings and minimize the frequency of unnecessary educational disruptions.
3. Trend arrows that demonstrate the direction and speed of the change in a student's glucose, and in some cases, the ability to predict hypoglycemia so actions can be taken to avert it.
4. Event tracking, whereby users can log insulin doses, carb entries, and activities with their sensor readings to understand the impact on glucose levels.
5. Ability to retrospectively review glucose trends, which can inform changes to the student's insulin regimen or behaviors.
6. Remote monitoring, allowing parents and/or other caregivers to view the sensor tracing in real time and receive customizable alarms.
7. Pairing between certain CGMs and insulin pumps in an automated insulin delivery (AID) system which adjusts insulin based on sensor readings to keep blood glucose in range.

General Guidelines

A school **cannot** prohibit the use of a CGM if it is the student's chosen form of glucose monitoring and is ordered by the DMMP/provider's orders. The DMMP/provider's orders should specify whether a student uses a CGM for glucose monitoring. As nearly all CGMs are Food and Drug Administration (FDA)-approved for insulin dosing in children, the DMMP/provider's orders should indicate if there are special circumstances when a sensor would not be used for dosing. Current CGMs on the market are highly accurate and readings do not need to be confirmed by or directly compared to a BGM reading.[7,8] BGM and sensor readings may differ slightly as they measure glucose in different ways, and CGM readings may lag behind BGM readings by 5–10 minutes depending upon the device. More notable discrepancies with a BGM may occur when the students' glucose level is changing rapidly.

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Types of CGMs

Common features of CGMs currently approved for pediatric use are included in the table. These include:

- Dexcom G6 or G7 CGM
- Abbott FreeStyle Libre 2 and Libre 3 CGM
- Medtronic Guardian 3 or 4 CGM System

	Dexcom G6	Dexcom G7	Abbott Freestyle Libre 2+	Abbott Freestyle Libre 3+	Medtronic Guardian 3	Medtronic Guardian 4
Reading frequency	5 minutes		1 minute		5 minutes	
Integrated sensor and transmitter	No	Yes	Yes		No	
Warm-up	2 hours	30 minutes	1 hour		2 hours	
Wear time	10 days		15 days		7 days	
Approved for dosing	Yes		Yes		No	Yes
Calibrations required	No		No		Yes	No
Interfering medications	Tylenol>4000 mg/day Hydroxyurea		Vitamin C>500 mg/day Salicylic acid		Tylenol	
Receiver options	Receiver, Smart phone, Smart pen, Tandem T:Slim X2, Tandem Mobi, Beta Bionics iLet, Omnipod 5	Receiver, Smart phone, Smart pen, Tandem T:Slim, Control Q, Tandem Mobi, Beta Bionics iLet, Omnipod 5	Receiver, Smart phone, Tandem T:Slim X2, Omnipod 5	Receiver, Smart phone, Beta Bionics iLet	Smart phone, Medtronic 670G pump	Smart phone, Medtronic 780G
Remote monitoring app	Dexcom follow	Dexcom follow	LibreLinkUp	LibreLinkUp	CarLink Connect	CarLink Connect

Please note that device compatibility with each CGM system is continuing to change. This list is up to date as of May 2025.

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School expectations and responsibilities:

- **Use the CGM for glucose monitoring.** Glucose monitoring is a core component of diabetes management. If a student with diabetes uses a CGM for their glucose monitoring, the school nurse and/or trained school staff are expected to use the CGM in accordance with the student's DMMP provider's orders. CGM readings and trend arrows should be reviewed at times when blood glucose levels would ordinarily be checked with a BGM (e.g., before meals, with physical activity, before getting on the bus, with symptoms of low or high blood glucose) as outlined in the DMMP/provider's orders. If a sensor fails or falls off, ideally the sensor should be changed by the student (if independent), parent/guardian, or if permitted by state laws and policies, school staff if they are trained and there are supplies available. Once replaced, the sensor may need to be reconnected to the child's AID system. If no replacement sensor is available, glucose monitoring should revert to a BGM until the sensor can be replaced at home.
- **Use trend arrows as appropriate.** The use of trend arrows may be enumerated in the DMMP/provider's orders and/or written accommodations plan. Trend arrows should be considered when providing interventions with insulin and carbohydrates. For example, the management plan for some children with diabetes may include small dose adjustments based on trend arrows at routine dosing times. Additionally, trend arrows and predicted low alarms should allow preventative measures to avoid hypoglycemia or hyperglycemia while the student is still in range, regardless of how they administer insulin. AID systems will do this automatically by decreasing or suspending insulin delivery. Students on multiple daily injections or traditional pumps and some students on AID systems may need interventions, such as a specified amount of carbohydrate intake. How to evaluate and respond to trend arrows should be discussed with the student's diabetes care provider and enumerated in their DMMP/provider's orders.
- **Promptly respond to alarms.** A second feature is customizable alarms. Alarms are set by the parent and child, usually with recommendations from the child's diabetes care provider. Alarms may be set for hypoglycemia, hyperglycemia, a fast rate of change in the sensor readings, signal loss, or other reasons. Trained school staff are expected to promptly respond to CGM alarms in the school setting wherever the child is during the school day. For example, in the classroom, at lunch, or during recess. All school staff assuming supervision or responsibility for children using a CGM should be provided basic training on CGMs, glucose levels out of range, alarms, and interventions for hypoglycemia or hyperglycemia— including emergency measures.
- **Establish reasonable accommodations.** There are several appropriate accommodations related to CGMs in school, which should be enumerated in the student's 504 Plan, IEP, or other written accommodations plan. A few examples specific to CGMs include access to Wi-Fi and smart phones. Students must be provided with access to the school's wireless network if using a smart device for their CGM and/or engaging in remote monitoring (see below). Students should have access to their smart device during standardized exams to manage their diabetes. For additional guidance, see **diabetes.org/safeatschool**.

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Parent expectations and responsibilities:

- **Meet with the school in advance of the school year to discuss all aspects of diabetes management.**
  This includes providing necessary supplies.
- **Ensure their child is equipped with a device that shows sensor readings and communicates alarms to school staff.**
  This can be a manufacturer-issued receiver but is more often a smart device or the child's insulin pump.
- **Develop a plan to communicate with school staff about sensor readings and how to appropriately respond to alarms.**
  Frequent alarms or interventions related to the CGM sensor readings can be disruptive to class time for students.[9]
  The goal should be to manage diabetes needs while also promoting student wellbeing and minimizing unnecessary interruptions in the school day. If alarms are causing the student distress, parents may wish to discuss which alarms are most helpful to their child with the diabetes medical team.
- **Work with school staff to promote the student's safety and facilitate their learning.**

Remote Monitoring

CGMs can use Bluetooth to connect to a smart phone, allowing users to view their sensor readings on a smart phone app. This enables an additional feature whereby children may be remotely monitored, or "followed," by specified caregivers if the student's smart phone has Wi-Fi or cellular service. These caregivers can view the sensor reading in real time on their phone or other device (e.g., tablet), even if they are not near the child, and receive customizable alarms. Remote monitoring is only possible if the child uses a smart phone application. Students who use a traditional receiver or who exclusively use their insulin pump as their receiver by and large cannot be remotely monitored in real time.

Remote monitoring by parents means they will always have access to their child's sensor readings, even when their child is at school or sleeping. Remote monitoring by parents has been associated with improved glycemia[10] and parent psychosocial outcomes,[11] particularly sleep and fear of hyperglycemia. Other people may be invited to remotely monitor as well, which may include additional family members, friends, the school nurse, coaches, and trained staff at the school. In some studies, school or daycare caregivers have reported increased feelings of safety when they are remotely monitoring CGM readings.[12,13] As a result, school nurses increasingly understand the benefits of this practice.

Remote monitoring by school staff while the student is at school adds an extra layer of supervision for diabetes management. The utility and need for school nurses and trained school staff to remotely monitor should be individualized for each student based on their age and unique circumstances. The DMMP/provider's orders should indicate if remote monitoring by school staff is recommended or medically necessary for the safety of the student. Contributing factors may be the frequency and severity of hypoglycemia, age and developmental stage of the student, and student's ability to respond to, understand, or notify staff of alarms. School districts should remove barriers

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to remote monitoring by school nurses or trained school staff if this is medically necessary for the student. The school nurse and parent, which may include the 504/IEP team, should discuss each student's circumstances and plan for remote monitoring if needed. Different factors may influence the school's capacity to provide remote monitoring.

In all cases, schools should follow the DMMP/provider's orders to use the CGM for routine/periodic and emergent glucose monitoring and ensure a timely response to all CGM alarms. Additionally, parents should work with the school to set up a communication system with the school nurse to provide actionable updates on trends throughout the school day, if needed, and to establish expectations regarding the frequency of such communication.[5] Examples of actionable updates may include hyperglycemia requiring a correction bolus and/or impending hypoglycemia with downward trend arrows on the sensor reading requiring immediate treatment.

For school nurses who remotely monitor a student's CGM, we recommend:

- The school/school district or parent should provide a device (e.g., tablet) to link to the CGM sharing app for the student's system in accordance with the student's DMMP/provider's orders. School nurses and trained school staff should not be required to use their personal device to follow students.
- School nurses and trained school staff can follow multiple students on one device using respective applications associated with each device.
- The school district and parent should discuss expectations for remote CGM monitoring during the school day. Specifically, what alarms will be set on the school device, who will be remotely monitoring the student in accordance with the DMMP, the response to alarms, timing of remote monitoring, and delineating actions/communication to be taken in response to alerts and/or blood glucose trends. This may be included in the 504 Plan/IEP.
- Even if a school nurse and trained school staff member is remotely monitoring the CGM, this should not be the only strategy to identify and manage hypoglycemia in school. Students should still have a device on their person that will alert them to dangerous glucose levels, and they should be encouraged to ask for help in response to alarms or symptoms. School staff should be trained in the recognition of hypoglycemia and know how to get help.

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References

1. Ebekozien O, Mungmode A, Sanchez J et al. Longitudinal trends in glycemic outcomes and technology use for over 48,000 people with type 1 diabetes (2016-2022) from the Type 1 Diabetes Exchange Quality Improvement Collaborative. Diabetes Technol Ther. 2023;25(11):765-773.

2. Alonso GT, Triolo TM, Akturk HK et al. Increased technology use associated with lower A1c in a large pediatric clinical population. Diabetes Care. 2023;46(6):1218-1222.

3. DeSalvo DJ, Noor N, Xie C et al. Patient demographics and clinical outcomes among type 1 diabetes patients using continuous glucose monitors: data from T1D Exchange real world observational study. J Diabetes Sci Technol. 2023;17(2):322-328.

4. American Diabetes Association Professional Practice Committee. 14. Children and adolescents: Standards of Care in Diabetes-2025. Diabetes Care. 2024; 47(Suppl 1):S258-S281

5. Aleppo G, Ruedy, KJ, Riddlesworth, TD et. Al. REPLACE- BG: A Randomized Trial Comparing Continuous Glucose Monitoring With and Without Routine Blood Glucose Monitoring in Adults with Well-Controlled Type 1 Diabetes. Diabetes Care. 2017; 40(4): 538-45.

6. Berget C and Wykoff L. Use of Technology in Managing Diabetes in Youth, Part 1: Continuous Glucose Monitoring: Information and Tips for the School Nurse. NASN Sch Nurse. 2020;35(2):63- 69.

7. Shah VN, Laffel LM, Wadwa RP, Garg SK. Performance of a Factory-Calibrated Real-Time Continuous Glucose Monitoring System Utilizing an Automated Sensor Applicator. Diabetes Tech- nol Ther. 2018;20(6):428-33.

8. Wadwa RP, Laffel LM, Shah VN, Garg SK. Accuracy of a Factory-Calibrated, Real-Time Continuous Glucose Monitoring System During10 Days of Use in Youth and Adults with Diabetes. Diabetes Technol Ther. 2018;20(6):395- 402.

9. Puckett C, Wong JC, Talbot S, et al. Institutional role conflict in the digital age: The case of diabetes management at school. SSM Qual Res Health. 2023;3:100215.

10. Welsh JB, Derdzinski M, Parker AS et al. Real Time Sharing and Following of Continuous Glucose Monitoring Data in Youth. Diabetes Ther. 2019;10(2): 751-5.

11. Burckhardt MA, Roberts A, Smith GJ et al. The Use of Continuous Glucose Monitoring with Remote Monitoring Improves Psychosocial Measures in Parents of children with type 1 diabetes A randomized crossover trial. Diabetes Care. 2018; 41(12):2641-3.

12. Erie C, Van Name MA, Weyman K et al. Schooling diabetes: Use of continuous glucose monitoring and remote monitors in the home and school settings. Pediatr Diabetes. 2018; 19(1):92-7.

13. March CA, Nanni M, Kazmerski TM et al. Modern diabetes devices in the school setting: Perspectives from school nurses. Pediatr Diabetes. 2020;21(5):832-40.

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