

Glucose Monitors

DME.GC.100.A

v1.0.2026

Introduction

Glucose monitors are addressed by this guideline.

Health Equity Consideration

Health equity is the highest level of health for all individuals; health inequity is the avoidable difference in health status or distribution of health resources due to the social conditions in which individuals are born, grow, live, work, and age. Social determinants of health are the conditions in the environment that affect a wide range of health, functioning, and quality of life outcomes and risks. Examples include the following: safe housing, transportation, and neighborhoods; racism, discrimination, and violence; education, job opportunities, and income; access to nutritious foods and physical activity opportunities; access to clean air and water; and language and literacy skills.

Criteria

Home Blood Glucose Monitors (BGMs)

A home BGM and related supplies are considered medically necessary when the individual meets **both** of the following coverage criteria:

- The individual has type 1 or type 2 diabetes mellitus.
- The individual or caregiver has received training to use a BGM.

Additional Criteria for BGMs

- A BGM with special features (HCPCS E2100, E2101) is considered medically necessary when the basic coverage criteria are met and the individual has a severe visual impairment (i.e., best corrected visual acuity of 20/200 or worse in both eyes) requiring use of this additional monitoring system.
- A BGM with integrated lancing/blood sample is considered medically necessary when the basic coverage criteria are met and the individual has a severe impairment of manual dexterity that requires the use of this additional monitoring system.

Initial Coverage of Continuous Glucose Monitors (CGMs) for Adults Greater Than 18 Years of Age

A CGM and related supplies are considered medically necessary for an individual (greater than 18 years of age) when the individual meets **both** of the following initial coverage criteria:

- The individual has type 1 or type 2 diabetes mellitus.
- The individual meets **any** of the following criteria:
 - The individual uses insulin to manage their diabetes.
 - The individual has a history of problems with low blood sugar levels.
 - The individual's glycated hemoglobin (HbA1c) is greater than 7%.
 - The individual has ongoing participation in a diabetes management program.

Initial Coverage of Continuous Glucose Monitors (CGMs) for Individuals with Gestational Diabetes Mellitus

A CGM and related supplies are considered medically necessary for an individual with gestational diabetes when the individual meets **both** of the following initial coverage criteria:

- The individual has difficulty controlling blood sugar during pregnancy (gestational diabetes).
- The individual uses insulin to manage their diabetes.

Initial Coverage of Continuous Glucose Monitors (CGMs) for Pediatric Individuals (18 Years of Age or Younger)

A CGM and related supplies are considered medically necessary for a pediatric individual (18 years of age or younger) when the individual is capable of using the device safely (either independently or with a caregiver) and meets **either** of the following initial coverage criteria:

- The individual has type 1 diabetes mellitus.
- The individual uses insulin to manage their diabetes.

Continued Use

The continued use of a CGM is considered medically necessary when there is documentation of **both** of the following:

- The individual has been re-evaluated by a treating practitioner within the last six months.
- There is documentation of continued clinical benefit.

Supplies

- The supply allowance is billed as one (1) unit of service per 30 days.
- The supply allowance for supplies used with a CGM system encompasses all items necessary for the use of the device and includes, but is not limited to, CGM sensors and transmitters.
 - Adjunctive CGMs do not replace a standard home BGM. The associated supply allowance does not include a home BGM and related BGM testing supplies. These items may be billed separately, in addition to HCPCS A4238.
 - Non-adjunctive CGMs replace standard home BGMs. Requests for a BGM and related supplies, billed in addition to a non-adjunctive CGM device and associated supply allowance are not covered.
- Lancets, blood glucose test reagent strips, glucose control solutions, and spring powered devices for lancets are considered medically necessary for individuals for whom the glucose monitor is covered.
- More than one spring powered lancet per six months is considered not medically necessary.
- The quantity of test strips and lancets that are covered depends on the usual medical needs of the individual and whether or not the individual is being treated with insulin, regardless of their diagnostic classification as having type 1 or type 2 diabetes mellitus.

Not Covered

The following devices are considered not medically necessary, not medical in nature, and/or convenience items:

- disposable wearable on-demand insulin delivery devices with no wireless communication capability, such as the V-Go®
- home blood glucose disposable monitors, including test strips
- devices such as watches, smartphones, tablets, laptop computers, etc. used in conjunction with a durable CGM receiver
- glucose monitors that are not designed for use in the home
- urine test reagent strips or tablets
- alcohol or peroxide, betadine, or hexachlorophene (pHisohex)

Note:

The FDA cautions that non-adjunctive, real time continuous glucose monitoring devices should not be used by individuals who are on dialysis or who critically ill.

Experimental, Investigational, or Unproven

- A laser skin piercing device and related lens shield cartridge that uses a laser instead of a lancet to perforate the skin to obtain a blood sample for glucose measurement are considered experimental, investigational, or unproven.

Evidence Discussion

A 2024 umbrella review by Tan et al. evaluated 31 systematic reviews and found that individuals with type 2 diabetes who used CGMs experienced significantly better glycemic outcomes than those who used self-monitoring of blood glucose or more conventional care. Across 34 primary studies involving 11,494 individuals, continuous glucose monitoring use was associated with a greater reduction in HbA1c with a mean difference of -0.40% . Individuals also demonstrated higher time in range with a mean increase of 6% and a greater reduction in time above range with a mean decrease of 4.33% . The authors concluded that CGMs could improve clinical outcomes more than self-monitoring and that these improvements appeared consistent across device modalities, funding sources and insulin treatment status. Study limitations included substantial heterogeneity across primary studies, frequent methodological weaknesses such as high or moderate risk of bias, variations in device modality, inconsistent measurement of patient reported outcomes and reliance on imputed variance values for some analyses.

Diciembrini et al., (2021) conducted a meta-analysis to evaluate the effectiveness of CGM compared with self-monitoring of blood glucose (BGM) on glucose control in individuals with type 1 diabetes mellitus (T1DM). Twenty-one articles were included in the review. The primary endpoint was glycated hemoglobin (HbA1c) at the end of the trial, and a key secondary endpoint was the incidence of severe hypoglycemia. Additional secondary outcomes included time in range, health-related quality of life, and treatment satisfaction. The authors noted that treatment satisfaction and quality of life were not measured or reported in the majority of studies. However, the authors concluded that for individuals with T1DM, CGM was associated with a reduction in HbA1c and a lower risk of severe hypoglycemia compared with BGM.

Pratley et al., (2020) reported on a randomized controlled trial which evaluated whether CGM is effective in reducing hypoglycemia compared with standard BGM in 203 older adults with T1DM. The primary outcome was CGM-measured percentage of time that glucose values were less than 70 mg/dL during six months of follow-up. There were 31 prespecified secondary outcomes, including metrics of hypoglycemia, hyperglycemia, and glucose control; glycated hemoglobin (HbA1c); and cognition and patient-reported outcomes. At six-month follow-up, the results of the study demonstrated that 83% of participants used a CGM at least six days per week. In addition, median time with glucose levels less than 70 mg/dL was 5.1% (73 minutes per day) at baseline and 2.7% (39 minutes per day) during follow-up in the CGM group vs 4.7% (68 minutes per day)

and 4.9% (70 minutes per day), respectively, in the standard BGM group. Thus, the authors observed a small but significant reduction in time spent in hypoglycemia in the CGM group, most notably in individuals with worse baseline levels of hypoglycemia. Regarding the secondary endpoints, there were statistically significant differences for all nine CGM metrics, six of seven of the HbA1c outcomes, and none of the 15 cognitive and patient-reported outcomes. HbA1c decreased in the CGM group compared with the standard BGM group. Moreover, ten participants in the BGM group experienced severe hypoglycemia requiring assistance as compared with one individual in the CGM group. In summary, the investigators concluded that among older adults with T1DM, CGM resulted in a small but statistically significant improvement in hypoglycemia over six months compared to BGM.

Laffel et al., (2020) performed a randomized controlled trial that compared CGM to standard BGM in adolescents and young adults (ages 14 to 24 years old) with T1DM. The study included 142 individuals who were randomized to a CGM group (n = 74) or usual care using a BGM (n = 79). The primary outcome was change in glycated hemoglobin (HbA1c) from baseline to 26 weeks. There were 20 secondary outcomes, including CGM and HbA1c metrics, and patient-reported outcomes. At six-month follow-up, 68% of participants in the CGM group used CGM at least 5 days per week. Mean HbA1c was 8.9% at baseline and 8.5% at 26 weeks in the CGM group and 8.9% at both baseline and 26 weeks in the BGM group. Regarding the secondary outcomes, there were statistically significant differences in three of seven binary HbA1c metrics, eight of nine CGM metrics, and one of four patient-reported outcomes. The authors concluded that continuous glucose monitoring resulted in a small but statistically significant reduction in mean HbA1c over 26 weeks among adolescents and young adults with T1DM compared with standard blood glucose monitoring.

Martens et al., (2021) reported on a randomized, multicenter, clinical trial which evaluated the effectiveness of continuous glucose monitoring (CGM) (n=116) versus self-monitoring of blood glucose (SMBG) (n=59) in individuals with type 2 diabetes mellitus (T2DM) treated with basal insulin. The primary outcome was glycated hemoglobin (HbA1c) at eight months. An additional secondary outcome was CGM-measured time in target glucose range of 70 to 180 mg/dL (TIR). At eight-month follow-up, the mean HbA1c levels decreased in the CGM group (9.1% to 8.0%) and the SMBG group (9.0% to 8.4%). The mean percentage of TIR was 59% in the CGM group versus 43% in the SMBG group. A six-month extension study conducted by Aleppo et al. (2021) aimed to determine the long-term benefits of continued CGM use or the detriments of discontinuing CGM. At 14 weeks, mean TIR decreased from 62% to 50% in the group that discontinued the CGM. In the group that continued CGM use, little change was found in TIR from eight to 14 months. Thus, the authors concluded that in adults with T2DM treated with basal insulin who had been using real-time CGM for eight months, discontinuing CGM resulted in a loss of about one-half of the initial gain in TIR that had been achieved during CGM use.

Ida et al., (2019) performed a systematic review to examine the effectiveness of continuous glucose monitoring (CGM) use compared to self-monitoring of blood glucose (SMBG) in individuals with type 2 diabetes mellitus (T2DM). Seven randomized controlled trials (669 participants) were included in the meta-analysis. Three trials used rtCGM (which confirms the blood glucose profile in real-time), and four trials used retrospective CGM (which is used for retrospective examination of the blood glucose profile over several days). The mean age of the participants was 58.0 years. The authors reported that CGM was associated with a significant reduction in HbA1c levels. Moreover, the CGM group exhibited shorter time spent with hypoglycemia than the SMBG group.

Raj et al., (2022) conducted a systematic review to examine the association between time in range (TIR) derived from continuous glucose monitoring (CGM) and microvascular complications in individuals with type 2 diabetes mellitus (T2DM). The authors noted that glycated hemoglobin (HbA1c) is the primary tool for monitoring long-term glycemic control and assessing the risk of diabetes-related complications; however, HbA1c is affected by multiple factors such as anemia, recent blood transfusion, or chronic kidney disease, which results in discrepancies between measured HbA1c and true glycemic control. CGM-derived metrics, such as TIR have been examined as surrogate markers of glycemic control and may be predictors of diabetes-related microvascular complications. This systematic review included 11 studies with a total of 13,987 participants. Four studies evaluated the relationship between CGM-derived TIR and diabetic retinopathy and nephropathy. Seven studies evaluated the relationship between CGM-derived TIR and diabetic peripheral neuropathy. The authors found that a 10% increase in TIR was associated with a reduction in albuminuria, severity of diabetic retinopathy, and prevalence of diabetic peripheral neuropathy and cardiac autonomic neuropathy. In addition, an association was observed between the urinary albumin to creatinine ratio, but not with estimated glomerular filtration rate.

A 2020 randomized trial conducted by Wada and colleagues evaluated the effects of flash glucose monitoring (isCGM) and self-monitoring of blood glucose (SMBG) on glycated hemoglobin (HbA1c) in individuals with non-insulin-treated type 2 diabetes mellitus (T2DM). The study randomly assigned participants to the isCGM (n=49) or SMBG (n=51) groups. The primary outcome was change in HbA1c level. The mean HbA1c levels were 7.83% in the isCGM group and 7.84% in the SMBG group at baseline, and the values were reduced in both isCGM and SMBG groups at 12 weeks. Moreover, at 24 weeks, HbA1c was significantly decreased from baseline values in the isCGM group, but not in the SMBG group. The authors concluded that while both isCGM and SMBG had a comparable effect in improving glycemic control in individuals with non-insulin-treated T2DM during 12-week glucose monitoring, glycemic control was better with isCGM than with SMBG at 24 weeks after the cessation of glucose monitoring. The authors opined that isCGM use in individuals with non-insulin-treated

T2DM had the potential to provide a sustained improvement in glycemic control after discontinuation of use.

García-Moreno et al., (2022) conducted a systematic review to evaluate the effect of continuous glucose monitoring (CGM) on maternal and neonatal outcomes in gestational diabetes mellitus (GDM). The study included six randomized controlled trials that compared the effects of CGM and blood glucose monitoring (BGM) in women with GDM. A total of 482 individuals were included in the meta-analysis. The use of CGM was associated with lower glycated hemoglobin (HbA1c) levels at the end of pregnancy compared to BGM. Women using CGM also had less gestational weight gain and their children had lower birth weight. No differences were observed in the other outcomes evaluated. In summary, the authors reported that CGM use was slightly more effective in improving glycemic control than BGM use, but the impact on maternal or fetal outcomes was inconclusive. The authors recommended that CGM could be recommended to improve glycemic control in women with GDM; however, additional larger clinical trials were needed to better understand the effects of CGM in GDM.

The American Diabetes Association (ADA)'s 2024 clinical practice recommendations for the treatment and management of diabetes mellitus recommended that real-time continuous glucose monitoring (rtCGM) or intermittently scanned continuous glucose monitoring (isCGM) should be offered for diabetes management in adults with diabetes on basal insulin, multiple daily injections (MDI), or continuous subcutaneous insulin infusion (CSII), or in youth with type 1 or type 2 diabetes mellitus on multiple daily injections or continuous subcutaneous insulin infusion who are capable of using the devices safely (either by themselves or with a caregiver). The choice of device should be made based on the individual's circumstances, preferences, and needs. Moreover, the ADA stated that, when used as an adjunct to pre- and postprandial blood glucose monitoring, CGM can help to achieve glycated hemoglobin (HbA1c) targets in diabetes and pregnancy.

The American Diabetes Association (ADA) Standards of Medical Care in Diabetes-2022 Abridged for Primary Care Providers recommended that real-time continuous glucose monitoring (rtCGM) (Level of Evidence: A (clear evidence from well-conducted, generalizable randomized controlled trials that are adequately powered)) or intermittently scanned continuous glucose monitoring (isCGM) (Level of Evidence: B (Supportive evidence from well-conducted cohort studies)) should be offered for diabetes management in adults with diabetes on basal insulin who are capable of using devices safely (either by themselves or with a caregiver). The guideline noted that the choice of device should be made based on individual circumstances, desires, and needs.

The 2021 American Association of Clinical Endocrinology (AACE) Clinical Practice Guideline: The Use of Advanced Technology in the Management of Persons with Diabetes Mellitus (Grunberger et al.) recommended continuous glucose monitoring

(CGM) for the following populations: individuals with diabetes treated with intensive insulin therapy, defined as three or more injections of insulin per day or the use of an insulin pump; individuals with problematic hypoglycemia (frequent/severe hypoglycemia, nocturnal hypoglycemia, hypoglycemia unawareness); children/adolescents with type 1 diabetes mellitus (T1DM); pregnant women with T1DM or type 2 diabetes mellitus (T2DM) treated with intensive insulin therapy; and women with gestational diabetes mellitus (GDM) on insulin therapy.

The 2022 American Association of Clinical Endocrinology Clinical Practice Guideline: Developing a Diabetes Mellitus Comprehensive Care Plan (Blonde et al.) recommended:

- All persons who use insulin should use continuous glucose monitoring (CGM) or perform blood glucose monitoring (BGM) a minimum of twice daily and ideally before any insulin injection. More frequent BGM may be needed by persons who are taking multiple daily injections (MDI) of insulin, persons not at HbA1c targets, or those with history of hypoglycemia. Persons who do not require insulin or insulin secretagogue therapy may often benefit from BGM, especially to provide feedback about the effects of their lifestyle choices (diet and physical activity), and to assess response to pharmacologic therapy. Real-time continuous glucose monitoring (rtCGM) or intermittently scanned continuous glucose monitoring (isCGM) is recommended for all persons with type 1 diabetes mellitus (T1DM), regardless of insulin delivery system, to improve glycated hemoglobin (HbA1c) levels and to reduce the risk for hypoglycemia and diabetic ketoacidosis (DKA). rtCGM or isCGM is recommended for persons with type 2 diabetes mellitus (T2DM) who are treated with insulin therapy, or who have high risk for hypoglycemia and/or hypoglycemia unawareness.

In a 2023 review and update to the diabetes-specific parts of the 2009 Evaluation and Management of Adult Hypoglycemic Disorders, the Endocrine Society recommended:

- Continuous glucose monitoring (CGM) rather than self-monitoring of blood glucose (SMBG) by fingerstick for patients with type 1 diabetes mellitus (T1DM) receiving multiple daily injections (MDIs).
- Real-time continuous glucose monitoring (rtCGM) and algorithm-driven insulin pumps (ADIPs) rather than multiple daily injections (MDIs) with self-monitoring of blood glucose (SMBG) three or more times daily for adults and children with type 1 diabetes mellitus (T1DM).
- Real-time continuous glucose monitoring (rtCGM) be used rather than no continuous glucose monitoring (CGM) for outpatients with type 2 diabetes mellitus (T2DM) who take insulin and/or sulfonylureas (SUs) and are at risk for hypoglycemia.

Codes

The inclusion of any code in this table does not imply that the code is under management or requires prior authorization. Refer to the applicable health plan for management details. Prior authorization of a code listed in this table is not a guarantee of payment. The Certificate of Coverage or Evidence of Coverage policy outlines the terms and conditions of the member's health insurance policy.

HCP Code	Description
A4233	Replacement battery, alkaline (other than j cell), for use with medically necessary home blood glucose monitor owned by patient, each
A4234	Replacement battery, alkaline, j cell, for use with medically necessary home blood glucose monitor owned by patient, each
A4235	Replacement battery, lithium, for use with medically necessary home blood glucose monitor owned by patient, each
A4236	Replacement battery, silver oxide, for use with medically necessary home blood glucose monitor owned by patient, each
A4238	Supply allowance for adjunctive, non-implanted continuous glucose monitor (cgm), includes all supplies and accessories, 1 month supply = 1 unit of service
A4239	Supply allowance for non-adjunctive, non-implanted continuous glucose monitor (cgm), includes all supplies and accessories, 1 month supply = 1 unit of service
A4244	Alcohol or peroxide, per pint
A4245	Alcohol wipes, per box
A4246	Betadine or phisohex solution, per pint
A4247	Betadine or iodine swabs/wipes, per box
A4250	Urine test or reagent strips or tablets (100 tablets or strips)
A4253	Blood glucose test or reagent strips for home blood glucose monitor, per 50 strips
A4255	Platforms for home blood glucose monitor, 50 per box
A4257	Replacement lens shield cartridge for use with laser skin piercing device, each
A4258	Spring-powered device for lancet, each

HCPSC Code	Description
A4259	Lancets, per box of 100
A4271	Integrated lancing and blood sample testing cartridges for home blood glucose monitor, per month
A9275	Home glucose disposable monitor, includes test strips
A9276	Sensor; invasive (e.g., subcutaneous), disposable, for use with non-durable medical equipment interstitial continuous glucose monitoring system, one unit = 1 day supply
A9277	Transmitter; external, for use with non-durable medical equipment interstitial continuous glucose monitoring system
A9278	Receiver (monitor); external, for use with non-durable medical equipment interstitial continuous glucose monitoring system
E0607	Home blood glucose monitor
E0620	Skin piercing device for collection of capillary blood, laser, each
E2100	Blood glucose monitor with integrated voice synthesizer
E2101	Blood glucose monitor with integrated lancing/blood sample
E2102	Adjunctive, non-implanted continuous glucose monitor or receiver
E2103	Non-adjunctive, non-implanted continuous glucose monitor or receiver
E2104	Home blood glucose monitor for use with integrated lancing/blood sample testing cartridge

References

Aleppo, G., Ruedy, K. J., Riddlesworth, T. D., Kruger, D. F., Peters, A. L., Hirsch, I., Bergenstal, R. M., Toschi, E., Ahmann, A. J., Shah, V. N., Rickels, M. R., Bode, B. W., Philis-Tsimikas, A., Pop-Busui, R., Rodriguez, H., Eyth, E., Bhargava, A., Kollman, C., & Beck, R. W. (2017). *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*, 40(4), 538–545. <https://doi.org/10.2337/dc16-2482>

Aleppo, G., Beck, R. W., Bailey, R., Ruedy, K. J., Calhoun, P., Peters, A. L., Pop-Busui, R., Philis-Tsimikas, A., Bao, S., Umpierrez, G., Davis, G., Kruger, D., Bhargava, A., Young, L., Buse, J. B., McGill, J. B., Martens, T., Nguyen, Q. T., Orozco, I., ...

Bergenstal, R. M. (2021). *The effect of discontinuing continuous glucose monitoring in adults with type 2 diabetes treated with basal insulin*. *Diabetes Care*, 44(12), 2729–2737. <https://doi.org/10.2337/dc21-1304>

American Diabetes Association. (2022). *Standards of medical care in diabetes—2022 abridged for primary care providers*. *Clinical Diabetes*, 40(1), 10–38. <https://doi.org/10.2337/cd22-as01>

American Diabetes Association Professional Practice Committee. (2024). 7. *Diabetes technology: Standards of care in diabetes—2024*. *Diabetes Care*, 47(Suppl.#1), S126–S144. <https://doi.org/10.2337/dc24-S007>

Blonde, L., Umpierrez, G., Reddy, S., Chandrasekaran, S., DeFronzo, R. A., Einhorn, D., Galindo, R. J., Gardner, T. W., Garg, R., Garvey, W. T., Hirsch, I. B., Hurley, D. L., Izuora, K. E., Kosiborod, M., Olson, D., Patel, S., Pop-Busui, R., Sadhu, A. R., Samson, S. L., ... Weber, S. L. (2022). *American Association of Clinical Endocrinology clinical practice guideline: Developing a diabetes mellitus comprehensive care plan—2022 update*. *Endocrine Practice*, 28(10), 923–1049. <https://doi.org/10.1016/j.eprac.2022.08.002>

Centers for Disease Control and Prevention. (2024). *National diabetes statistics report: 2024*. <https://www.cdc.gov/diabetes/php/data-research/>

Centers for Disease Control and Prevention. (n.d.). *Your diabetes care schedule*. <https://www.cdc.gov/diabetes/managing/care-schedule.html>

Centers for Medicare & Medicaid Services. (n.d.). *Local Coverage Determination (LCD): Glucose Monitors (L33822)*. <https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?LCDId=33822>

Coca, S. G., Ismail-Beigi, F., Haq, N., Krumholz, H. M., & Parikh, C. R. (2012). *Role of intensive glucose control in development of renal end points in type 2 diabetes mellitus: Systematic review and meta-analysis*. *Archives of Internal Medicine*, 172(10), 761–769. <https://doi.org/10.1001/archinternmed.2011.223>

Dicembrini, I., Cosentino, C., Monami, M., Mannucci, E., & Pala, L. (2021). *Effects of real-time continuous glucose monitoring in type 1 diabetes: A meta-analysis of randomized controlled trials*. *Acta Diabetologica*, 58(4), 401–410. <https://doi.org/10.1007/s00592-020-01589-3>

Ehrhardt, N. M., Chellappa, M., Walker, M. S., Fonda, S. J., & Vigersky, R. A. (2011). *The effect of real-time continuous glucose monitoring on glycemic control in patients with type 2 diabetes mellitus*. *Journal of Diabetes Science and Technology*, 5(3), 668–675. <https://doi.org/10.1177/193229681100500320>

ElSayed, N. A., Aleppo, G., Aroda, V. R., Bannuru, R. R., Brown, F. M., Bruemmer, D., Collins, B. S., Gaglia, J. L., Hilliard, M. E., Isaacs, D., Johnson, E. L., Kahan, S., Khunti,

K., Leon, J., Lyons, S. K., Perry, M. L., Prahalad, P., Pratley, R. E., Seley, J. J., Stanton, R. C., & Gabbay, R. A., on behalf of the American Diabetes Association. (2023). 2. *Classification and diagnosis of diabetes: Standards of care in diabetes—2023*. Diabetes Care, 46(Suppl.#1), S19–S40. <https://doi.org/10.2337/dc23-S002>

Feig, D. S., Donovan, L. E., Corcoy, R., Murphy, K. E., Amiel, S. A., Hunt, K. F., Asztalos, E., Barrett, J. F. R., Sanchez, J. J., de#Leiva, A., Hod, M., Jovanovic, L., Keely, E., McManus, R., Hutton, E. K., Meek, C. L., Stewart, Z. A., Wysocki, T., O'Brien, R., ... Murphy, H. R. (2017). *Continuous glucose monitoring in pregnant women with type 1 diabetes (CONCEPTT): A multicentre international randomised controlled trial*. The Lancet, 390(10110), 2347–2359. [https://doi.org/10.1016/S0140-6736\(17\)32400-5](https://doi.org/10.1016/S0140-6736(17)32400-5)

García-Moreno, R. M., Benítez-Valderrama, P., Barquiel, B., González Pérez-de-Villar, N., Hillman, N., Lora Pablos, D., & Herranz, L. (2022). *Efficacy of continuous glucose monitoring on maternal and neonatal outcomes in gestational diabetes mellitus: A systematic review and meta-analysis of randomized clinical trials*. Diabetic Medicine, 39(1), e14703. <https://doi.org/10.1111/dme.14703>

Grunberger, G., Sherr, J., Allende, M., Blevins, T., Bode, B. W., Handelsman, Y., Hellman, R., Lajara, R., Roberts, V. L., Rodbard, D., Stec, C., & Unger, J. (2021). *American Association of Clinical Endocrinology clinical practice guideline: The use of advanced technology in the management of persons with diabetes mellitus*. Endocrine Practice, 27(6), 505–537. <https://doi.org/10.1016/j.eprac.2021.04.008>

Hirsch, I. B. (2018). *Introduction: History of glucose monitoring*. ADA Clinical Compendia, 2018(1), 1. <https://doi.org/10.2337/db20181-1>

Ida, S., Kaneko, R., & Murata, K. (2019). *Utility of real-time and retrospective continuous glucose monitoring in patients with type 2 diabetes mellitus: A meta-analysis of randomized controlled trials*. Journal of Diabetes Research, 2019, 4684815. <https://doi.org/10.1155/2019/4684815>

Kidney Disease: Improving Global Outcomes (KDIGO) Diabetes Work Group. (2020). *KDIGO 2020 clinical practice guideline for diabetes management in chronic kidney disease*. Kidney International, 98(4S), S1–S115. <https://doi.org/10.1016/j.kint.2020.06.019>

Laffel, L. M., Kanapka, L. G., Beck, R. W., Bergamo, K., Clements, M. A., Criego, A., DeSalvo, D. J., Goland, R., Hood, K., Liljenquist, D., Messer, L. H., Monzavi, R., Mouse, T. J., Prahalad, P., Sherr, J., Simmons, J. H., Wadwa, R. P., Weinstock, R. S., Willi, S. M., & Miller, K. M., for the CITY Study Group. (2020). *Effect of continuous glucose monitoring on glycemic control in adolescents and young adults with type 1 diabetes: A randomized clinical trial*. JAMA, 323(23), 2388–2396. <https://doi.org/10.1001/jama.2020.6940>

Liebl, A., Henrichs, H. R., Heinemann, L., Freckmann, G., Biermann, E., & Thomas, A., for the Continuous Glucose Monitoring Working Group of the Working Group Diabetes Technology of the German Diabetes Association. (2013). *Continuous glucose monitoring: Evidence and consensus statement for clinical use*. Journal of Diabetes Science and Technology, 7(2), 500–519. <https://doi.org/10.1177/193229681300700227>

Martens, T., Beck, R. W., Bailey, R., Ruedy, K. J., Calhoun, P., Peters, A. L., Pop-Busui, R., Philis-Tsimikas, A., Bao, S., Umpierrez, G., Davis, G., Kruger, D., Bhargava, A., Young, L., McGill, J. B., Aleppo, G., Nguyen, Q. T., Orozco, I., Biggs, W., ... Bergenstal, R. M. (2021). *Effect of continuous glucose monitoring on glycemic control in patients with type 2 diabetes treated with basal insulin: A randomized clinical trial*. JAMA, 325(22), 2262–2272. <https://doi.org/10.1001/jama.2021.7444>

McCall, A. L., Lieb, D. C., Gianchandani, R., MacMaster, H., Maynard, G. A., Murad, M. H., Seaquist, E., Wolfsdorf, J. I., Wright, R. F., & Wiercioch, W. (2023). *Management of individuals with diabetes at high risk for hypoglycemia: An Endocrine Society clinical practice guideline*. The Journal of Clinical Endocrinology & Metabolism, 108(3), 529–562. <https://doi.org/10.1210/clinem/dgac596>

Pratley, R. E., Kanapka, L. G., Rickels, M. R., Ahmann, A., Aleppo, G., Beck, R., Bhargava, A., Bode, B. W., Carlson, A., Chaytor, N. S., Fox, D. S., Goland, R., Hirsch, I. B., Kruger, D., Kudva, Y. C., Levy, C., McGill, J. B., Peters, A., Philipson, L., ... Miller, K. M., for the WISDM Study Group. (2020). *Effect of continuous glucose monitoring on hypoglycemia in older adults with type 1 diabetes: A randomized clinical trial*. JAMA, 323(23), 2397–2406. <https://doi.org/10.1001/jama.2020.6928>

Raj, R., Mishra, R., Jha, N., Joshi, V., Correa, R., & Kern, P. (2022). *Time in range, as measured by continuous glucose monitoring, as a predictor of microvascular complications in type 2 diabetes: A systematic review*. BMJ Open Diabetes Research & Care, 10(1), e002573. <https://doi.org/10.1136/bmjdr-2021-002573>

Tan, Y. Y., Suan, E., Koh, G. C. H., Suhairi, S. B., & Tyagi, S. (2024). *Effectiveness of continuous glucose monitoring in patient management of type 2 diabetes mellitus: An umbrella review of systematic reviews from 2011 to 2024*. Archives of Public Health, 82, 231. <https://doi.org/10.1186/s13690-024-01459-2> U.S. Food and Drug Administration. (2015). P120005/S033: Dexcom G5 Mobile Continuous Glucose Monitoring System [Premarket approval supplement]. <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpma/pma.cfm?id=P120005S033>

U.S. Food and Drug Administration. (2016, December 20). *FDA expands indication for continuous glucose monitoring system, first to replace fingerstick testing for diabetes treatment decisions* [Press release]. <https://www.fda.gov/news-events/press-announcements/fda-expands-indication-continuous-glucose-monitoring-system-first-replace-fingerstick-testing>

U.S. Food and Drug Administration. (2017). *P120005/S059: Dexcom G4 Platinum Continuous Glucose Monitoring System* [Premarket approval supplement]. https://www.accessdata.fda.gov/cdrh_docs/pdf12/P120005S031A.pdf

U.S. Food and Drug Administration. (2018, June 21). *FDA approves first continuous glucose monitoring system with a fully implantable glucose sensor and compatible mobile app for adults with diabetes* [Press release]. <https://www.fda.gov/news-events/press-announcements/fda-approves-first-continuous-glucose-monitoring-system-fully-implantable-glucose-sensor-and>

U.S. Food and Drug Administration. (2018). *Integrated continuous glucose monitoring system—De novo classification request* (DEN170088) [Decision summary]. https://www.accessdata.fda.gov/cdrh_docs/pdf17/DEN170088.pdf

Vigersky, R. A., Fonda, S. J., Chellappa, M., Walker, M. S., & Ehrhardt, N. M. (2012). Short- and long-term effects of real-time continuous glucose monitoring in patients with type 2 diabetes. *Diabetes Care*, 35(1), 32–38. <https://doi.org/10.2337/dc11-1438>

Wada, E., Onoue, T., Kobayashi, T., Handa, T., Hayase, A., Ito, M., Furukawa, M., Okuji, T., Okada, N., Iwama, S., Sugiyama, M., Tsunekawa, T., Takagi, H., Hagiwara, D., Ito, Y., Suga, H., Banno, R., Kuwatsuka, Y., Ando, M., ... Arima, H. (2020). *Flash glucose monitoring helps achieve better glycemic control than conventional self-monitoring of blood glucose in non-insulin-treated type 2 diabetes: A randomized controlled trial*. *BMJ Open Diabetes Research & Care*, 8(1), e001115. <https://doi.org/10.1136/bmjdr-2019-001115>