

Medical Coverage Policy | Glucose Monitoring-Continuous



EFFECTIVE DATE: 04|01|2022

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OVERVIEW

This policy addresses policy and coverage guidelines for Implantable and Non-Implantable Continuous Glucose Monitors (CGM)

Home blood glucose monitors are not addressed in this policy. Please see the Related Policies Section.

MEDICAL CRITERIA

Implantable Continuous Glucose Monitors

Medicare Advantage Plans

Implantable continuous glucose monitors (I-CGM) may be considered medically necessary when the following criteria is met:

1. The device has received United States Food and Drug Administration (FDA) approval and device indications include use as a therapeutic CGM; and
2. The member has diabetes mellitus; and
3. The member is insulin-treated with multiple (three or more) daily administrations of insulin or the member uses a Medicare covered continuous subcutaneous insulin infusion (CSII) pump; and
4. The member's insulin treatment regimen requires frequent adjustment by the member on the basis of BGM or CGM testing results; and
5. Within six months prior to ordering the I-CGM, the treating physician had an in-person visit with the member to evaluate their diabetes control and determined that criteria 2 – 4 above are met.

Commercial Products

Not applicable

Non-Implantable Continuous Glucose Monitors

Medicare Advantage Plans and Commercial Products

Not applicable

PRIOR AUTHORIZATION

Implantable Continuous Glucose Monitors

Medicare Advantage Plans

Prior authorization is required for Medicare Advantage Plans for use of implantable continuous glucose monitoring and is obtained via the online tool for participating providers. See the Related Policies section.

Commercial Products

Not applicable

Non-Implantable Continuous Glucose Monitors

Medicare Advantage Plans

Prior authorization is not required for continuous glucose monitors for Medicare Advantage Plans.

Commercial Products

Dexcom and Abbott FreeStyle Libre branded continuous glucose monitoring devices obtained from a retail pharmacy require authorization through Blue Cross & Blue Shield of Rhode Island's (BCBSRI) Pharmacy Benefit Management Program vendor. Clinical guidelines for review and approval of continuous glucose monitoring systems are found in the BCBSRI Pharmacy Benefit Management vendor's website at covermymeds.com. Members should contact customer service and providers can contact the provider call center for more information.

Dexcom and Abbott FreeStyle Libre devices obtained from a Durable Medical Equipment Provider do not require authorization.

POLICY STATEMENT

Implantable Continuous Glucose Monitors

Medicare Advantage Plans

Implantable continuous glucose monitors (I-CGM) may be considered medically necessary when the medical criteria above are met.

Commercial Products

The use of implantable CGM devices is not medically necessary as the evidence is insufficient to determine the effects of the technology on health outcomes.

Non-Implantable Continuous Glucose Monitors

Medicare Advantage Plans

Continuous glucose monitoring (CGM) devices defined as “therapeutic” or “adjunctive” CGMs are covered.

***NOTE:** Therapeutic CGMs provide information that can be used to make diabetes treatment decisions, such as changing one's diet or insulin dosage, based solely on the readings of the CGM. They are intended to replace information obtained from blood glucose monitors.*

Medicare approved continuous glucose monitoring devices:

- Do not require authorization, and
- Can be obtained through either the Durable Medical Equipment (DME) or Pharmacy benefit (if the member has pharmacy benefits through BCBSRI).

Commercial Products

The use of continuous glucose monitoring is a covered service.

Dexcom and Abbott FreeStyle Libre branded continuous glucose monitoring devices can be obtained through retail pharmacies with authorization through BCBSRI's Pharmacy Benefit Management Program vendor. Coverage will be through the member's pharmacy benefit. These glucose monitoring devices may also be obtained through a DME provider, authorization not required and are covered under the member's Durable Medical Equipment benefit.

Medicare Advantage Plans and Commercial Products

The following are not covered:

- Alcohol or peroxide (A4244, A4245), betadine or phisoHex (A4246, A4247) are not covered since these items are not required for the proper functioning of the device.

- Urine test reagent strips or tablets (A4250), when used in conjunction with a CGM, are not covered.
- Reflectance colorimeter devices used for measuring blood glucose levels in clinical settings are not covered as durable medical equipment for use in the home because their need for frequent professional re-calibration makes them unsuitable for home use.
- Glucose monitors that are not designed for use in the home must be coded A9270 and will be denied as statutorily not covered (no benefit category).
- Home blood glucose disposable monitor, including test strips (A9275) is not covered because this type of monitor does not meet the definition of DME.

Modifiers

Per Centers for Medicare and Medicaid Services (CMS) guidelines, for blood glucose monitoring equipment and related supplies, the following modifiers must be added to the HCPCS supply code(s) on every claim submitted to ensure claim reimbursement:

- Use modifier KX if the beneficiary is insulin treated; or,
- Use modifier KS if the beneficiary is non-insulin treated.

The KX modifier must not be used for a beneficiary who is not treated with insulin injections.

Diabetic equipment and supplies are provided in accordance with Rhode Island General Law §27-20-30. The details of the law can be found in the *Diabetes Self-Management Education Mandate* policy. Please see the Related Policies Section.

BCBSRI maintains the right to audit the services provided to our members, regardless of the participation status of the provider. All documentation must be available to BCBSRI upon request. Failure to produce the requested information may result in denial or retraction of payment.

COVERAGE

Benefits may vary by groups/contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage, or Subscriber Agreement for applicable office visit benefits/coverage, Diagnostic Imaging, Lab, and Machine Tests benefits/coverage, Medical Equipment, Medical Supplies and Prosthetic Devices benefits/coverage, Diabetic equipment/supplies benefits/coverage, and Pharmacy benefits/coverage

BACKGROUND

Tight glucose control in patients with diabetes has been associated with improved health outcomes. Several devices are available to measure glucose levels automatically and frequently (e.g., every 5-10 minutes). The devices measure glucose in the interstitial fluid and are approved as adjuncts to or replacements for traditional self-monitoring of blood glucose levels. Devices can be used on a long-term (continuous) or short-term (often referred to as intermittent) basis.

The advent of blood glucose monitors for use by patients in the home revolutionized the management of diabetes. Using fingersticks, patients can monitor their blood glucose levels both to determine the adequacy of hyperglycemia control and to evaluate hypoglycemic episodes. Tight glucose control, defined as a strategy involving frequent glucose checks and a target hemoglobin A1c (HbA1c) level in the range of 7%, is now considered standard of care for diabetic patients.

Tight glucose control requires multiple daily measurements of blood glucose (ie, before meals and at bedtime), a commitment that some patients may find difficult to meet. The goal of tight glucose control has to be balanced with an associated risk of hypoglycemia. Hypoglycemia is known to be a risk in patients with type 1 diabetes. While patients with insulin-treated type 2 diabetes may also experience severe hypoglycemic episodes, there is a lower relative likelihood of severe hypoglycemia compared with patients who had type 1 diabetes. An additional limitation of periodic self-measurements of blood glucose is that glucose levels are seen in isolation, and trends in glucose levels are undetected. For example, while a diabetic patient's fasting

blood glucose level might be within normal values, hyperglycemia might be undetected postprandially, leading to elevated HbA1c values.

Management

Measurements of glucose in the interstitial fluid have been developed as a technique to measure glucose values automatically throughout the day, producing data that show the trends in glucose levels. Although devices measure glucose in the interstitial fluid on a periodic rather than a continuous basis, this type of monitoring is referred to as continuous glucose monitoring.

Currently, CGM devices are of two designs: real-time CGM (rtCGM) provides real-time data on glucose level, glucose trends, direction, and rate of change and, intermittently viewed (iCGM) devices that show continuous glucose measurements retrospectively. These devices are also known as flash-glucose monitors (FGM).

Approved devices now include devices indicated for pediatric use and those with more advanced software, more frequent measurements of glucose levels, or more sophisticated alarm systems. Devices initially measured interstitial glucose every 5 to 10 minutes and stored data for download and retrospective evaluation by a clinician. With currently available devices, the intervals at which interstitial glucose is measured ranges from every 1 to 2 minutes to 5 minutes, and most provide measurements in real-time directly to patients. While CGM potentially eliminates or decreases the number of required daily fingersticks, it should be noted that, according to the Food and Drug Administration (FDA) labeling, some marketed monitors are not intended as an alternative to traditional self-monitoring of blood glucose levels but rather as adjuncts to monitoring, supplying additional information on glucose trends not available from self-monitoring. The devices must be calibrated twice daily with blood glucose measurements from fingersticks and are less reliable when used after exercise or post-prandial. Devices may be used intermittently (ie, for periods of 72 hours) or continuously (ie, on a long-term basis).

Multiple CGM systems have been approved by FDA through the premarket approval process. The following is not an all-inclusive list:

- Continuous Glucose Monitoring System (CGMS®) (MiniMed) in 1999 (approved for 3-day use in a physician's office).
- GlucoWatch G2® Biographer in 2001. Of note, the GlucoWatch has not been available since 2008
- Guardian®-RT (Real-Time) CGMS (MiniMed, now Medtronic) in 2005.
- Dexcom® STS CGMS system (DexCom) in 2006.
- Paradigm® REAL-Time System (MiniMed, now Medtronic) in 2006. This system integrates a CGM with a Paradigm insulin pump. The second-generation system is called Paradigm Revel System.
- FreeStyle Navigator® CGM System (Abbott) in 2008.
- Dexcom G4 Platinum (Dexcom) CGM in 2012 for use in adults 18 years and older. The device can be worn for up to 7 days. In 2014, FDA expanded use to include patients with diabetes, age 2 to 17 years old.
- Dexcom G5 Mobile CGM (Dexcom) in 2016 as a replacement for fingerstick blood glucose testing in patients 2 years and older. System requires at least 2 daily fingerstick tests for calibration purposes, but additional fingersticks are not necessary because treatment decisions can be made based on device readings.
- Dexcom G6 Continuous Glucose Monitoring System (Dexcom) in 2018 and is indicated for the management of diabetes in persons 2 years and older. It is intended to replace fingerstick blood glucose testing for diabetes treatment decisions. It is also intended to autonomously communicate with digitally connected devices, including automated insulin dosing (AID) systems, with 10-day wear.
- Freestyle Libre® Flash Glucose Monitoring System (Abbott) in 2017 for use in adults 18 years and older. It is indicated for the management of diabetes and can be worn up to 10 days. It is designed to

replace blood glucose testing for diabetes treatment decisions. In 2018, the duration of use was extended to 14 days.

- Guardian Connect (Medtronic MiniMed) in 2018 for adolescents and adults age 14 – 75 years. It is used for continuous or periodic monitoring of interstitial glucose levels. It provides real-time glucose values, trends, and alerts through a Guardian Connect app installed on a compatible consumer electronic mobile device.
- Eversense Continuous Glucose Monitoring System (Senseonics) in 2018 for use in adults age 18 years and older. It continually measures glucose levels up to 90 days. The device was initially approved as an adjunctive device to complement, not replace, information obtained from standard home blood glucose monitoring devices. In 2019, FDA expanded use to replace fingerstick blood glucose measurements for diabetes treatment decisions. Historical data from the system can be interpreted to aid in providing therapy adjustments.

Medicare Advantage Plans

Effective for claims with dates of service on or after January 12, 2017, Medicare covers therapeutic CGM devices under the DME benefit. CGM devices covered by Medicare are defined in CMS Ruling 1682R as therapeutic CGM. CGM devices that do not meet the definition of a therapeutic CGM as defined in CMS Ruling 1682R will be denied as non-covered (no benefit).

CMS Ruling 1682R

Medicare does not cover CGMs approved by the FDA for use as adjunctive devices to complement, not replace, information obtained from blood glucose monitors. Such devices are not used for making diabetes treatment decisions, such as changing one's diet or insulin dosage based solely on the readings of the CGM, and therefore, have not been covered under Medicare because they are not considered to serve the medical purpose of making diabetes treatment decisions.

All CGMs that are for use as adjunctive devices to complement, not replace, information obtained from blood glucose monitors in making diabetes treatment decisions are referred to as "non-therapeutic" CGMs.

Therapeutic CGMs provide information that can be used to make diabetes treatment decisions, such as changing one's diet or insulin dosage, based solely on the readings of the CGM. They are intended to replace information obtained from blood glucose monitors. Therefore, claims for BGM and related supplies, billed *in addition to an approved therapeutic CGM device*, and associated supply allowance will be denied as not covered.

On December 28, 2021, the Centers for Medicare & Medicaid Services (CMS) published a final rule in the Federal Register that, in part, addressed the classification and payment of continuous glucose monitors (CGMs) under the Medicare Part B benefit for durable medical equipment (DME). This rule expanded the classification of DME to a larger group of CGM's, regardless of whether the CGM s are non-adjunctive (can replace standard blood glucose monitors for treatment decisions) or adjunctive (do not replace standard blood glucose monitors for treatment decisions). As such, claims for adjunctive CGM s and related supplies and accessories with dates of service on or after the effective date of the final rule, February 28, 2022, can now be covered under the Part B DME benefit category when the system meets the DME definition.

Implantable Devices

As of March 1, 2020, there is only one Food and Drug Administration (FDA) approved implantable therapeutic continuous glucose monitoring system (I-CGM). The Eversense Continuous Glucose Monitoring System was approved by the FDA in June 2018, with expanded indications in June, 2019.⁽²⁾ This implantable CGM is a prescription device that provides real-time glucose monitoring every five minutes for up to 90 days at a time for people with diabetes.

The system consists of an implantable fluorescence-based sensor, a smart transmitter, and a mobile application for displaying glucose values, trends and alerts on the patient's compatible mobile device. It is designed to

replace fingerstick blood glucose testing for diabetes treatment decisions as indicated in the FDA 2019 approval. The system is intended to provide real-time glucose readings, provide glucose trend information, and provide alerts for the detection and prediction of episodes of low blood glucose (hypoglycemia) and high blood glucose (hyperglycemia). The FDA requires the specific training or experience practitioners need in order to use the device and insofar as the sale and distribution of the device are restricted to practitioners who are enrolled in, undergoing, or have completed the specific training identified in the labeling.

Medicare Advantage Plans and Commercial Products

Insulin-treated means that the member is receiving insulin injections to treat their diabetes. Insulin does not exist in an oral form and therefore members taking oral medication to treat their diabetes are not insulin treated.

CODING

Modifiers

Per Centers for Medicare and Medicaid Services (CMS) guidelines, for blood glucose monitoring equipment and related supplies, the following modifiers **MUST BE** added to the HCPCS supply code(s) on every claim submitted to ensure claim reimbursement:

- Use modifier KX if the member is insulin treated; or,
 - The KX modifier must not be used for a member who is not treated with insulin injections.
- Use modifier KS if the member is non-insulin treated.

Diabetic Testing Supply Limits – Test Strips (A4253) and Lancets (A4259)

<u>Insulin Dependency</u>	<u>Unit Limit</u>	<u>Timeframe</u>
Insulin Dependent	500	3 months
Non-Insulin Dependent	200	3 months

Non-Implantable Continuous Glucose Monitoring

The following HCPCS codes represent therapeutic devices and supplies and are covered for Medicare Advantage Plans and Commercial Products:

K0553 Supply allowance for therapeutic continuous glucose monitor (CGM), includes all supplies and accessories, 1 month supply = 1 unit of service

- **NOTE:** Up to a 90-day supply of HCPCS code K0553 may be billed and is reimbursable by BCBSRI.

K0554 Receiver (monitor), dedicated, for use with therapeutic continuous glucose monitor system

NOTE: The following are classified as therapeutic CGM devices. Therefore, claims for the devices and associated supplies must be filed with HCPCS codes K0554 and K0553.

- Dexcom G5 Mobile CGM
- Dexcom G6 CGM System
- Abbott Freestyle Libre Flash Glucose Monitoring System

NOTE FOR COMMERCIAL PRODUCTS: Abbott Freestyle Libre and Dexcom branded glucose monitoring devices are covered and require authorization through BCBSRI's Pharmacy Benefit Management Program vendor, when obtained under a Pharmacy benefit.

It is considered incorrect to file claims for the above therapeutic devices and associated supplies with HCPCS codes A9276 – A9278. BCBSRI requires that these devices and their associated supplies be billed under HCPCS codes K0554 and K0553.

Please note that BCBSRI also requires Pricing, Data Analysis and Coding contractor (PDAC) approval for devices and supplies to be considered covered. Continuous Glucose Monitor systems that have not been reviewed and listed on the Product Classification List for HCPCS code K0554 will not be covered.

The following HCPCS codes represent adjunctive devices and supplies and are covered for Medicare Advantage Plans and Commercial Products:

A4238 Supply allowance for non-implantable adjunctive continuous glucose monitor (CGM), includes all supplies and accessories, 1 month supply = 1 unit of service (New Code Effective 4/1/2022)

- **NOTE:** Up to a 90-day supply of HCPCS code A4238 may be billed and is reimbursable by BCBSRI.

E2102 Adjunctive continuous glucose monitor or receiver (New Code Effective 4/1/2022)

It is considered incorrect to file claims for the above adjunctive devices and associated supplies with HCPCS codes A9276 – A9278. BCBSRI requires that these devices and their associated supplies be billed under HCPCS codes E2102 and A4238.

Effective for claims with dates of service from February 28, 2022 through March 31, 2022, suppliers should use the following HCPCS codes to submit claims for adjunctive CGM receivers and associated monthly supplies:

E1399 Durable medical equipment, miscellaneous

A9999 Miscellaneous DME supply or accessory, not otherwise specified

The following HCPCS codes are not covered for Medicare Advantage Plans according to CMS, and they are covered for Commercial Products. Additionally, codes A9276 and A9277 are not used to bill for supplies used with codes E2102 and K0554.

A9276 Sensor; invasive (e.g. subcutaneous) disposable, for use with interstitial continuous glucose monitoring system, 1 unit = 1 day supply

A9277 Transmitter; external, for use with interstitial continuous glucose monitoring system

A9278 Receiver (monitor); external, for use with interstitial continuous glucose monitoring system

S1030 Continuous non-invasive glucose monitoring device, purchase (for physician interpretation of data, use CPT code)

S1031 Continuous non-invasive glucose monitoring device, rental, including sensor, sensor replacement, and download to monitor (for physician interpretation of data, use CPT code)

Implantable Continuous Glucose Monitors

The following code is considered medically necessary when the medical criteria above are met for Medicare Advantage Plans and is not medically necessary for Commercial Products:

0446T Creation of subcutaneous pocket with insertion of implantable interstitial glucose sensor, including system activation and patient training

G0308 Creation of subcutaneous pocket with insertion of 180 day implantable interstitial glucose sensor, including system activation and patient training (New code effective 7/01/2022)

The following code is considered medically necessary for Medicare Advantage Plans and Commercial Products when the criteria in the Removal of Implantable Devices policy is met. Please see Related Policies section.

0447T Removal of implantable interstitial glucose sensor from subcutaneous pocket via incision

The following code is considered medically necessary for Medicare Advantage Plans when the medical criteria above and the medical criteria in the Removal of Implantable Devices policy are met. For Commercial Products, the following code may be considered medically necessary according to medical criteria in the Removal of Implantable Devices policy. Please see Related Policies section.

0448T Removal of implantable interstitial glucose sensor with creation of subcutaneous pocket at different anatomic site and insertion of new implantable sensor, including system activation

- G0309** Removal of implantable interstitial glucose sensor with creation of subcutaneous pocket at different anatomic site and insertion of new 180-day implantable sensor, including system activation (New code effective 7/01/2022)

Medicare Advantage Plans and Commercial Products

The following codes are covered:

- 95249** Ambulatory continuous glucose monitoring of interstitial tissue fluid via a subcutaneous sensor for a minimum of 72 hours; patient-provided equipment, sensor placement, hook-up, calibration of monitor, patient training, and printout of recording
- 95250** Ambulatory continuous glucose monitoring of interstitial tissue fluid via a subcutaneous sensor for a minimum of 72 hours; sensor placement, hook-up, calibration of monitor, patient training, removal of sensor, and printout of recording
- 95251** Ambulatory continuous glucose monitoring of interstitial tissue fluid via a subcutaneous sensor for a minimum of 72 hours; interpretation and report

RELATED POLICIES

Artificial Pancreas Device System
Diabetes Self-Management Education Mandate
Durable Medical Equipment
Glucose Monitoring – Home
Removal of Implantable Devices

PUBLISHED

Provider Update, April 2022
Provider Update, December 2021
Provider Update, April 2021
Provider Update, June 2020
Provider Update, July 2019

REFERENCES

1. Centers for Medicare and Medicaid Services. Noridian DME Jurisdiction A. Continuous Glucose Monitors – Correct Coding and Billing. February 24, 2022.
2. Centers for Medicare and Medicaid Services. Local Coverage Determination (LCD): Implantable Continuous Glucose Monitors (I-CGM) (L38623)
3. Centers for Medicare and Medicaid Services. Local Coverage Article (LCA): Billing and Coding: Implantable Continuous Glucose Monitors (ICGM) (A58116)
4. Centers for Medicare and Medicaid Services. Local Coverage Determination (LCD) for Glucose Monitors (L33822)
5. Centers for Medicare and Medicaid Services. Local Coverage Article (LCA) for Glucose Monitor – Policy Article (A52464)
6. Effect of intensive therapy on the microvascular complications of type 1 diabetes mellitus. *Jama*. May 15 2002;287(19):2563-2569. PMID 12020338
7. 13. Management of Diabetes in Pregnancy: Standards of Medical Care in Diabetes-2018. *Diabetes Care*. Jan 2018;41(Suppl 1):S137-s143. PMID 29222384
8. Pazos-Couselo M, Garcia-Lopez JM, Gonzalez-Rodriguez M, et al. High incidence of hypoglycemia in stable insulin-treated type 2 diabetes mellitus: continuous glucose monitoring vs. self-monitored blood glucose. *Observational prospective study. Can J Diabetes*. Oct 2015;39(5):428-433. PMID 26254702
9. Gehlert RR, Dogbey GY, Schwartz FL, et al. Hypoglycemia in type 2 diabetes--more common than you think: a continuous glucose monitoring study. *J Diabetes Sci Technol*. Sep 2015;9(5):999-1005. PMID 25917335
10. Food and Drug Administration (FDA). Summary of Safety and Effectiveness (SSED): Dexcom G5 Mobile Continuous Glucose Monitoring System. 2016; https://www.accessdata.fda.gov/cdrh_docs/pdf12/P120005S041b.pdf. Accessed February 26, 2018.

11. Blue Cross and Blue Shield Technology Evaluation Center (TEC). Use of intermittent or continuous interstitial fluid glucose monitoring in patients with diabetes mellitus. TEC Assessments. 2003;Volume 18:Tab 16.
12. Floyd B, Chandra P, Hall S, et al. Comparative analysis of the efficacy of continuous glucose monitoring and self-monitoring of blood glucose in type 1 diabetes mellitus. *J Diabetes Sci Technol*. Sep 2012;6(5):1094-1102. PMID 23063035
13. Gandhi GY, Kovalaske M, Kudva Y, et al. Efficacy of continuous glucose monitoring in improving glycemic control and reducing hypoglycemia: a systematic review and meta-analysis of randomized trials. *J Diabetes Sci Technol*. Jul 2011;5(4):952-965. PMID 21880239
14. Langendam M, Luijck YM, Hoofstede L, et al. Continuous glucose monitoring systems for type 1 diabetes mellitus. *Cochrane Database Syst Rev*. Jan 18 2012;1:CD008101. PMID 22258980
15. Poolsup N, Suksomboon N, Kyaw AM. Systematic review and meta-analysis of the effectiveness of continuous glucose monitoring (CGM) on glucose control in diabetes. *Diabetol Metab Syndr*. Jul 23 2013;5(1):39. PMID 23876067
16. Wojciechowski P, Rys P, Lipowska A, et al. Efficacy and safety comparison of continuous glucose monitoring and self-monitoring of blood glucose in type 1 diabetes: systematic review and meta-analysis. *Pol Arch Med Wewn*. Oct 2011;121(10):333-343. PMID 22045094
17. Yeoh E, Choudhary P, Nwokolo M, et al. Interventions that restore awareness of hypoglycemia in adults with type 1 diabetes: a systematic review and meta-analysis. *Diabetes Care*. Aug 2015;38(8):1592-1609. PMID 26207053
18. Benkhadra K, Alahdab F, Tamhane S, et al. Real-time continuous glucose monitoring in type 1 diabetes: a systematic review and individual patient data meta-analysis. *Clin Endocrinol (Oxf)*. Mar 2017;86(3):354-360. PMID 27978595
19. van Beers CA, DeVries JH, Kleijer SJ, et al. Continuous glucose monitoring for patients with type 1 diabetes and impaired awareness of hypoglycaemia (IN CONTROL): a randomised, open-label, crossover trial. *Lancet Diabetes Endocrinol*. Nov 2016;4(11):893-902. PMID 27641781
20. Gold AE, MacLeod KM, Frier BM. Frequency of severe hypoglycemia in patients with type I diabetes with impaired awareness of hypoglycemia. *Diabetes Care*. Jul 1994;17(7):697-703. PMID 7924780
21. Lind M, Polonsky W, Hirsch IB, et al. Continuous glucose monitoring vs conventional therapy for glycemic control in adults with type 1 diabetes treated with multiple daily insulin injections: The GOLD randomized clinical trial. *Jama*. Jan 24 2017;317(4):379-387. PMID 28118454
22. Beck RW, Riddlesworth T, Ruedy K, et al. Effect of continuous glucose monitoring on glycemic control in adults with type 1 diabetes using insulin injections: The DIAMOND randomized clinical trial. *Jama*. Jan 24 2017;317(4):371-378. PMID 28118453
23. Riddlesworth T, Price D, Cohen N, et al. Hypoglycemic event frequency and the effect of continuous glucose monitoring in adults with type 1 diabetes using multiple daily insulin injections. *Diabetes Ther*. Aug 2017;8(4):947-951. PMID 28616804
24. Polonsky WH, Hessler D, Ruedy KJ, et al. The impact of continuous glucose monitoring on markers of quality of life in adults with type 1 diabetes: further findings from the DIAMOND randomized clinical trial. *Diabetes Care*. Jun 2017;40(6):736-741. PMID 28389582
25. Feig DS, Donovan LE, Corcoy R, et al. Continuous glucose monitoring in pregnant women with type 1 diabetes (CONCEPTT): a multicentre international randomised controlled trial. *Lancet*. Nov 25 2017;390(10110):2347-2359. PMID 28923465
26. Newman SP, Cooke D, Casbard A, et al. A randomised controlled trial to compare minimally invasive glucose monitoring devices with conventional monitoring in the management of insulin-treated diabetes mellitus (MITRE). *Health Technol Assess*. May 2009;13(28):iii-iv, ix-xi, 1-194. PMID 19476724
27. Voormolen DN, Devries JH, Evers IM, et al. The efficacy and effectiveness of continuous glucose monitoring during pregnancy: a systematic review. *Obstet Gynecol Surv*. Nov 2013;68(11):753-763. PMID 24193194
28. Murphy HR, Rayman G, Lewis K, et al. Effectiveness of continuous glucose monitoring in pregnant women with diabetes: randomised clinical trial. *BMJ*. Sep 25 2008;337:a1680. PMID 18818254

29. Secher AL, Ringholm L, Andersen HU, et al. The effect of real-time continuous glucose monitoring in pregnant women with diabetes: a randomized controlled trial. *Diabetes Care*. Jul 2013;36(7):1877-1883. PMID 23349548
30. Allen NA, Fain JA, Braun B, et al. Continuous glucose monitoring counseling improves physical activity behaviors of individuals with type 2 diabetes: A randomized clinical trial. *Diabetes Res Clin Pract*. Jun 2008;80(3):371-379. PMID 18304674

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