

INTRODUCTION

Gestational diabetes mellitus (GDM) is one of the most common complications of pregnancy, and its prevalence has been steadily increasing. In the United States, GDM affects more than 8% of pregnancies.¹ Globally, estimated prevalence rates range from 4.4% to 14%, depending on the screening approach and diagnostic criteria used.^{2,3} GDM increases the risk of adverse outcomes for both the patient and their child during the prenatal and perinatal periods.

The American Diabetes Association (ADA) cites the highest level of evidence to support its recommendation that preconception counseling should be incorporated into routine diabetes care for people with diabetes and childbearing potential.⁴ This counseling should emphasize the importance of achieving glucose levels as close to normal as safely possible to reduce the risk of congenital anomalies and other complications. Similarly, for patients with a history of GDM, the ADA recommends preconception screening for diabetes and preconception care to identify and treat hyperglycemia, with the goal of preventing complications.

TREATMENT OF GDM

The primary goal of GDM treatment is to reduce risks to the pregnant patient and their child. Effective glycemic management during pregnancy is essential to avoid complications such as congenital anomalies, preeclampsia, macrosomia and preterm birth.⁴ Behavioral management—including nutrition therapy and physical activity—is recommended as the initial approach to achieve glycemic targets, and it may be sufficient for many patients with GDM.⁴ However, if health behavior changes alone do not achieve glycemic targets in GDM, pharmacologic therapy is recommended, and insulin is generally the first-line pharmacologic therapy.^{4,5} Treating GDM with behavioral management and medication has been shown to improve outcomes, including decreased rates of preeclampsia, shoulder dystocia and macrosomia.⁶

THE ROLE OF GLUCOSE MONITORING IN GDM

Multiple professional societies, including the ADA and the American Association of Clinical Endocrinology, recommend fasting and postprandial glucose monitoring and endorse specific glycemic targets during pregnancy.^{4,5} Glucose monitoring can be helpful to support health behavior changes and guide medication adjustments. For example, a study of patients with GDM found that adjusting medication based on postprandial glucose values was associated with improved glycemic outcomes and lower risk of cesarean delivery, neonatal hypoglycemia and macrosomia.⁷



Self-monitoring of blood glucose (SMBG) via capillary blood sampling and continuous glucose monitoring (CGM) are two options for patients with GDM. Emerging evidence supports the ADA's recommendation that CGM—which is recommended as standard therapy for people with diabetes who are treated with insulin—may be beneficial for patients with GDM.^{4,8}

Advantages of CGM over SMBG in GDM

Findings from multiple sources, including randomized controlled trials, systematic reviews and meta-analyses, highlight the following advantages of CGM compared with SMBG for patients with GDM.

- Better glycemic outcomes (greater A1C reduction, lower mean glucose, less glycemic variability, greater time in range [TIR])⁹⁻¹³
- Improved treatment adherence and health behavior change^{9,10}
- Lower risk of adverse birth outcomes (large-for-gestational-age [LGA] birth, high birth weight, cesarean delivery)^{11,12}
- More timely medication adjustment¹⁰
- Fewer barriers to monitoring adherence¹⁴

Similar benefits of CGM use are seen in patients with GDM and in pregnant patients with type 1 diabetes, for whom CGM use is recommended on the basis of a longer-standing body of evidence.^{4,11}

FAST FACT

A study of pregnant people with type 2 diabetes or GDM who utilized CGM found that patients with less than 70% TIR had significantly higher odds of adverse outcomes—including LGA birth, neonatal intensive care unit admission, neonatal need for intravenous glucose or respiratory support, hypertensive disorders, preterm birth and cesarean delivery—compared with those who had TIR greater than 70%.¹⁵

POST-GDM SCREENING CONSIDERATIONS

After a pregnancy with GDM, screening for persistent diabetes is recommended four to 12 weeks postpartum.⁴ Such screening should not use A1C due to potential persistent changes to the patient's red blood cells and hemoglobin. Thereafter, screening for diabetes every one to three years is recommended. Patients with a history of GDM have a tenfold increased risk of developing type 2 diabetes compared with patients without GDM, and their increased lifetime risk of developing diabetes is estimated at 50% to 60%.^{16,17} For patients with a history of GDM who screen positive for prediabetes, interventions can be highly effective in preventing progression to type 2 diabetes.¹⁸

Emerging evidence for CGM in prediabetes

There is limited but emerging evidence for CGM use to support behavior modification and dietary changes in patients with prediabetes.¹⁹⁻²¹ Research in this area is ongoing, and further studies are needed to clarify the role of CGM in prevention of type 2 diabetes.

CONCLUSION

GDM management focuses on achieving recommended glycemic targets. Whether this is achieved through behavioral management alone or in combination with medication, glucose monitoring is recommended. Among patients with GDM, CGM use is associated with improved glycemic outcomes and patient satisfaction compared with SMBG. As research continues to emerge, both for GDM management and for post-GDM prevention of type 2 diabetes, the decision to use CGM should be approached individually, based on the patient's treatment plan, personal circumstances, preferences and needs.⁴

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