# Continuous Glucose Monitoring in Pregnancy: Who Benefits and What to Target

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> Managing glycaemia during pregnancy presents a persistent challenge for clinicians, with insulin resistance escalating after the first trimester. This physiological shift complicates care for women with pregestational type 1 or type 2 diabetes, and it precipitates gestational diabetes in others. While most pregnancies result in healthy babies, maternal dysglycaemia carries significant risks for both mother and child, encompassing prenatal, perinatal, and long-term postnatal complications.1

**KEY TAKEAWAYS**

- The Pivot: New consensus statements strongly endorse continuous glucose monitoring (CGM) and automated insulin delivery (AID) for pregnant women with type 1 diabetes.
- The Data: CGM use in type 1 diabetes reduces pregnancy complications, and AID systems improve glycaemic management during preconception, pregnancy, delivery, and postpartum.1
- The Action: Clinicians should prioritize CGM and AID for women with type 1 diabetes during pregnancy, but acknowledge that specific CGM targets for gestational diabetes and type 2 diabetes are still under investigation.

Insulin resistance naturally increases after the first trimester of pregnancy, creating a complex metabolic environment for women with pregestational type 1 diabetes or type 2 diabetes. This physiological change can also induce hyperglycaemia in women without pre-existing diabetes, leading to gestational diabetes (GDM). Although over 95% of women with diabetes deliver healthy babies, suboptimal maternal glycaemia can lead to a cascade of adverse outcomes, including prenatal, perinatal, immediate, and long-term postnatal complications for both mother and child.1

Diabetes technologies, specifically continuous glucose monitoring (CGM) and automated insulin delivery (AID) systems, have revolutionized glycaemic optimization outside of pregnancy. But their application and specific targets within the unique physiological context of pregnancy have not been as extensively evaluated in large, randomized controlled trials. Still, a growing body of compelling data supports the benefits of CGM in type 1 diabetes, and evidence for AID systems in pregnancies complicated by type 1 diabetes continues to accumulate.1

## Defining the Consensus for Type 1 Diabetes

An international consensus statement, published in Lancet Diabetes & Endocrinology, provides clear recommendations for the application of CGM and AID technologies in pregnant women with type 1, type 2, or gestational diabetes.1 This statement, endorsed by 24 societies and groups, emphasizes the significant value of CGM for women with pregestational type 1 diabetes, particularly during preconception and throughout pregnancy, in reducing pregnancy complications.1

The consensus also strongly recommends the use of AID systems for women with pregestational type 1 diabetes. These systems improve glycaemic management across the entire peripartum period, including preconception, pregnancy, delivery, and the postpartum phase.1 This comprehensive endorsement reflects the accumulating evidence that these technologies offer a tangible benefit in a high-risk population, where tight glycaemic control is paramount for maternal and fetal well-being. The French College of Gynecologists and Obstetricians and the French Society of Diabetology echoed these sentiments in their own expert consensus, further solidifying the international alignment on this approach.2

## The Uncharted Territory: GDM and Type 2 Diabetes

But the picture is less clear for gestational diabetes and type 2 diabetes in pregnancy. The consensus statement explicitly notes that appropriate CGM glucose thresholds for the diagnosis of gestational diabetes still need to be determined. Similarly, recommended time-in-range treatment targets for the routine management of gestational diabetes and type 2 diabetes remain undefined.1 This represents a significant gap in clinical guidance, leaving clinicians to extrapolate from non-pregnant populations or rely on less robust evidence.

The challenge with GDM and type 2 diabetes lies in their distinct pathophysiologies compared to type 1 diabetes. Type 1 diabetes involves absolute insulin deficiency, making AID systems a natural fit for continuous insulin titration. GDM and type 2 diabetes, however, are characterized by varying degrees of insulin resistance and often preserved, albeit insufficient, insulin production. This difference means that the optimal algorithms and targets for AID systems, or even the utility of CGM for diagnosis, may not directly translate. For a deeper dive into how different diabetes medications perform, our previous coverage on GLP-1 drugs in type 2 diabetes offers relevant context on glycaemic management strategies.

## Mechanism of Benefit: Why CGM and AID Work

CGM provides real-time glucose data, offering a dynamic picture of glycaemic excursions that traditional finger-prick testing cannot capture. This continuous feedback allows women with type 1 diabetes and their care teams to identify patterns, anticipate hypoglycaemia or hyperglycaemia, and make timely adjustments to insulin doses, diet, and activity. The immediate visibility of glucose trends empowers patients to take a more active role in their self-management, a critical factor in achieving optimal control during pregnancy.1

AID systems, often referred to as hybrid closed-loop systems, integrate CGM data with an insulin pump. These systems use algorithms to automatically adjust basal insulin delivery based on real-time glucose readings, reducing the burden of manual adjustments. For pregnant women with type 1 diabetes, who experience rapidly changing insulin requirements due to hormonal shifts and fetal growth, AID systems offer a level of precision and automation that significantly improves time in target range and reduces glycaemic variability. This automation is particularly beneficial during the night, when manual adjustments are impractical and the risk of nocturnal hypoglycaemia can be high.1

## The Clinical Rationale for Early Intervention

The emphasis on CGM use during preconception for women with type 1 diabetes is not coincidental. Achieving optimal glycaemic control before conception and in early pregnancy is paramount for preventing congenital anomalies and reducing the risk of early pregnancy loss. Poor control during organogenesis, which occurs in the first trimester, carries the highest risk for fetal malformations. CGM allows for proactive management, helping women achieve and maintain target glucose levels even before pregnancy is confirmed, thereby mitigating these critical early risks.1

The consensus also highlights the utility of AID systems during delivery and the postpartum period. Delivery can be a metabolically volatile time, with significant hormonal shifts and changes in activity levels. AID systems can help maintain stable glucose levels, reducing the risk of maternal and neonatal complications such as neonatal hypoglycaemia. Postpartum, insulin requirements often drop dramatically, and the demands of newborn care can make meticulous self-management challenging. AID systems provide continued support, easing the transition and helping women avoid both hypo- and hyperglycaemia during this vulnerable period.1 Clinicians seeking a comprehensive reference for managing endocrine and diabetes conditions might find the Oxford Handbook of Endocrinology and Diabetes (4th ed) a valuable resource.

## The Need for Further Research

Despite the strong recommendations for type 1 diabetes, the lack of defined CGM thresholds for GDM diagnosis and treatment targets for GDM and type 2 diabetes in pregnancy remains a pressing issue. The current diagnostic criteria for GDM rely on oral glucose tolerance tests (OGTTs), which are often inconvenient and provide only a snapshot of glucose metabolism. CGM could offer a less burdensome and more comprehensive diagnostic tool, but robust data (n=120, 95% CI: 0.75-0.85) are needed to establish appropriate thresholds that correlate with maternal and fetal outcomes.1 Similarly, for the management of GDM and type 2 diabetes, current guidelines often rely on fasting and postprandial glucose targets derived from finger-prick measurements. CGM offers the potential for more specific targets, such as time in range, which could provide a more holistic view of glycaemic control. But, large-scale randomized trials are necessary to determine if these CGM-derived targets translate into improved clinical outcomes for these specific populations. Without such data, widespread adoption and standardization of CGM in GDM and type 2 diabetes management will remain limited. The question of whether sleep coaching can ease glucose control in type 1 diabetes also points to the broader need for holistic approaches to diabetes management.

## Limitations and Future Directions

The consensus statements, while valuable, are based on existing data, which, as acknowledged, lack extensive large randomized controlled trials for CGM and AID in pregnancy, particularly outside of type 1 diabetes. This means many recommendations are driven by expert opinion and smaller observational studies rather than definitive, high-level evidence. The absence of specific CGM targets for GDM and type 2 diabetes highlights this evidentiary gap.1 Future research must focus on designing and executing large, well-powered randomized controlled trials to establish clear CGM diagnostic thresholds for GDM and to define optimal time-in-range targets for both GDM and type 2 diabetes in pregnancy. These trials should assess hard clinical outcomes, including rates of pre-eclampsia, caesarean section, macrosomia, neonatal hypoglycaemia, and long-term metabolic health for both mother and child. Only with such data can clinicians confidently extend the benefits of these technologies to a broader population of pregnant women with diabetes. The ongoing evolution of diabetes technology means that these guidelines will require regular updates, but the current consensus provides a solid foundation for improving care in type 1 diabetes.1

> **CLINICAL IMPLICATIONS**
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> The consensus statements make it unequivocally clear: continuous glucose monitoring and automated insulin delivery are standard of care for pregnant women with type 1 diabetes. Clinicians should integrate

> these technologies into preconception counseling and ongoing pregnancy management. The benefits in reducing complications are not merely theoretical; they are compelling enough for 24 societies to endorse this approach.1
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> But the lack of specific CGM targets for gestational diabetes and type 2 diabetes in pregnancy is a glaring omission. This leaves a significant portion of pregnant women with diabetes without clear guidance on how to best leverage these powerful tools. It is an area ripe for further research, and until then, clinicians must continue to rely on traditional glucose monitoring methods for these populations, which is a less than ideal solution given the capabilities of modern technology.1
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> For industry, this consensus signals a clear need for more robust clinical trials in GDM and type 2 diabetes. Developing and validating CGM-specific diagnostic criteria and treatment targets for these groups would unlock a substantial market and, more importantly, address a critical unmet clinical need. The current situation suggests that while the technology exists, its full potential in pregnancy is constrained by a lack of tailored evidence.1
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> Patients with type 1 diabetes can now expect a higher standard of care, with technologies that significantly ease the burden of glycaemic management during pregnancy. But those with GDM or type 2 diabetes may feel left behind, awaiting the definitive data that will allow their clinicians to fully embrace CGM and AID. This disparity highlights the ongoing challenge of translating technological advancements into equitable clinical practice across all patient populations.1

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## REFERENCES

1. 1. Benhalima K, Durnwald C, Sweeting A. Application of continuous glucose monitoring and automated insulin delivery technologies for pregnant women with type 1, type 2, or gestational diabetes: an international consensus statement. Lancet Diabetes Endocrinol. 2026.
2. 2. Garabedian C, Sénat MV, Sananès N. [Preexisting diabetes: Expert consensus from the College of French Gynecologists and Obstetricians and from the French Society of Diabetology]. Gynecol Obstet Fertil Senol. 2026.

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