

# Continuous glucose monitoring

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## 1 Continuous glucose monitoring (CGM) in diabetes improves outcomes and enhances patient self-management

Compared with traditional fingerstick testing, CGM improves glycemic control and quality of life, and is now recommended for people with type 1 and type 2 diabetes using basal-bolus insulin.<sup>1</sup> Use of CGM improves glycemic outcomes among people with type 2 diabetes treated with basal insulin alone in the primary care setting.<sup>2</sup> It alerts users to hypo- or hyperglycemia, and promotes healthy behaviours by providing immediate data on lifestyle choices like diet and exercise.<sup>3</sup>

## 2 Continuous glucose monitoring overcomes the limitations of glycated hemoglobin (HbA<sub>1c</sub>)

Unlike HbA<sub>1c</sub>, CGM can guide immediate decisions on blood glucose management and provides important metrics, including time in range (Appendix 1, available at [www.cmaj.ca/lookup/doi/10.1503/cmaj.230572/tab-related-content](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.230572/tab-related-content)).<sup>1</sup> A low proportion of time spent in the patient's target range for blood glucose is associated with an increased risk of microvascular and macrovascular diabetic complications.<sup>4</sup>

## 3 There are 2 types of CGM systems — real-time and intermittently scanned

Real-time CGM automatically collects and displays glucose data, while intermittently scanned CGM requires manual scanning at least every 8 hours. Real-time CGM has a predictive alert that warns of impending hypoglycemia, an important feature for patients with frequent hypoglycemia or hypoglycemia unawareness.<sup>1</sup> Choosing between systems should be based on patient needs and preferences.

## 4 Interpretation of CGM results is straightforward

Reports can be easily accessed by smartphone, receiver or CGM-specific software (Appendix 1). These provide easy-to-read glycemic data to identify patterns that can enable effective therapeutic adjustments and reduce clinical inertia.<sup>5</sup> Continuous glucose monitoring can be successfully implemented in primary care, and numerous resources are available to support this.<sup>2</sup>

## 5 Potential challenges should be considered

Challenges may include body image concerns, sensor adhesion issues, skin irritation and alert fatigue. Cost may be a barrier (\$200–\$300/mo), but public and private CGM coverage is expanding, and many patients with type 1 and type 2 diabetes using basal-bolus insulin are now covered.

## References

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