

Continuous glucose monitoring: Expanding beyond diabetes care

Hasan MM¹ ¹Md. Mahmud Hasan, Consultant Endocrinologist, Department of Endocrinology, Dhaka Medical College Hospital, Dhaka, Bangladesh

Abstract

Continuous Glucose Monitoring (CGM) changed diabetes care by replacing isolated fingerstick readings with continuous interstitial glucose tracking. Today, improvements in sensor accuracy, enzyme technology, and predictive analytics are taking CGM well past traditional glycemic management. This review highlights how continuous sensing is finding practical roles in non-diabetic metabolic health, critical care, precision nutrition, and sports physiology. Brief glucose spikes, nocturnal dips, and postprandial surges occur even in individuals without diabetes, where they can contribute to early endothelial strain, cardiovascular risk, and insulin resistance. Continuous tracking offers valuable diagnostic clarity in conditions that are otherwise difficult to characterize, including reactive hypoglycemia, post-bariatric dumping syndrome, insulinoma, glycogen storage disorders, and high-risk pregnancies. In intensive care units, integrating CGM helps stabilize blood sugar and lower the risk of low glucose episodes while reducing the monitoring load on nursing staff. Similarly, for patients with metabolic dysfunction-associated steatotic liver disease (MASLD) or polyendocrine metabolic ovarian syndrome (PMOS), core metrics like Time in Range (TIR) and Glycemic Variability Index (GVI) serve as practical, real-time feedback to judge lifestyle and drug treatments. As multi-analyte sensors advance to track glucose alongside lactate, ketones, and cortisol, clinicians will gain a clearer picture of broader metabolic function. Bringing these continuous insights into daily practice allows endocrinologists to move from treating established metabolic dysfunction toward early, targeted prevention. [*J Assoc Clin Endocrinol Diabetol Bangladesh*, 2026;5(Suppl 1): S24]

Keywords: Continuous glucose monitoring, Glycemic variability, Non-diabetic metabolic health, Precision nutrition, Multi-analyte biosensors

Presenting and corresponding author: Dr. Md. Mahmud Hasan, Consultant Endocrinologist, Department of Endocrinology, Dhaka Medical College Hospital, Dhaka, Bangladesh. Email: mahmudhasan.m42@gmail.com, ORCID iD: <https://orcid.org/0009-0006-6133-6933>