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Keywords: Wearable tracking; Continuous glucose monitoring; Diabetes; Mobile applications for

Clinical benefits and applications: The clinical benefits of wearable

Challenges and limitations: Despite their promising potential, wearable devices and CGM systems face several challenges. Issues such

One of the primary advantages of wearable devices and CGM systems is their ability to provide continuous, accurate glucose monitoring without the need for frequent nger stick tests. is not only enhances convenience but also improves adherence to monitoring protocols, which is crucial for maintaining stable blood glucose levels and preventing acute complications like hypoglycemia and hyperglycemia. Moreover, the data generated by CGM systems o er insights into glycemic patterns, variability, and trends over time, which can inform more e ective treatment decisions and adjustments.

However, the integration of wearable devices and CGM systems into clinical practice is not without challenges. Sensor accuracy, calibration requirements, and the potential for signal loss or interference are signi cant concerns that can a ect the reliability of glucose readings. Moreover, the cost of these technologies may pose barriers to access for some individuals, limiting their widespread adoption.

Another critical aspect discussed is the impact of wearable devices and CGM systems on patient empowerment and engagement in self-care. By providing individuals with real-time feedback on their glucose levels, these technologies empower them to take proactive steps in managing their diabetes. is includes adjusting diet, exercise, and medication regimens based on immediate data, rather than relying solely on periodic clinic visits or retrospective self-reports.

Looking forward, the future of wearable devices and CGM systems holds promise for further innovation and improvement. Advances in sensor technology, data analytics, and arti cial intelligence are expected

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