

Continuous Glucose Monitoring

ICD-10 Coordination and Maintenance Committee Update
March 2025

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dexcom
MEDICAL AFFAIRS

Challenges of Inpatient Glycemic Management

Hyperglycemia affects 32% of hospitalized patients;
hypoglycemia ~6%¹

Inpatient hyper and hypoglycemia are associated with increased mortality, infections, hospital complications, and length of stay²⁻⁴

Insulin errors are linked to serious hyper
and hypoglycemia adverse events⁵

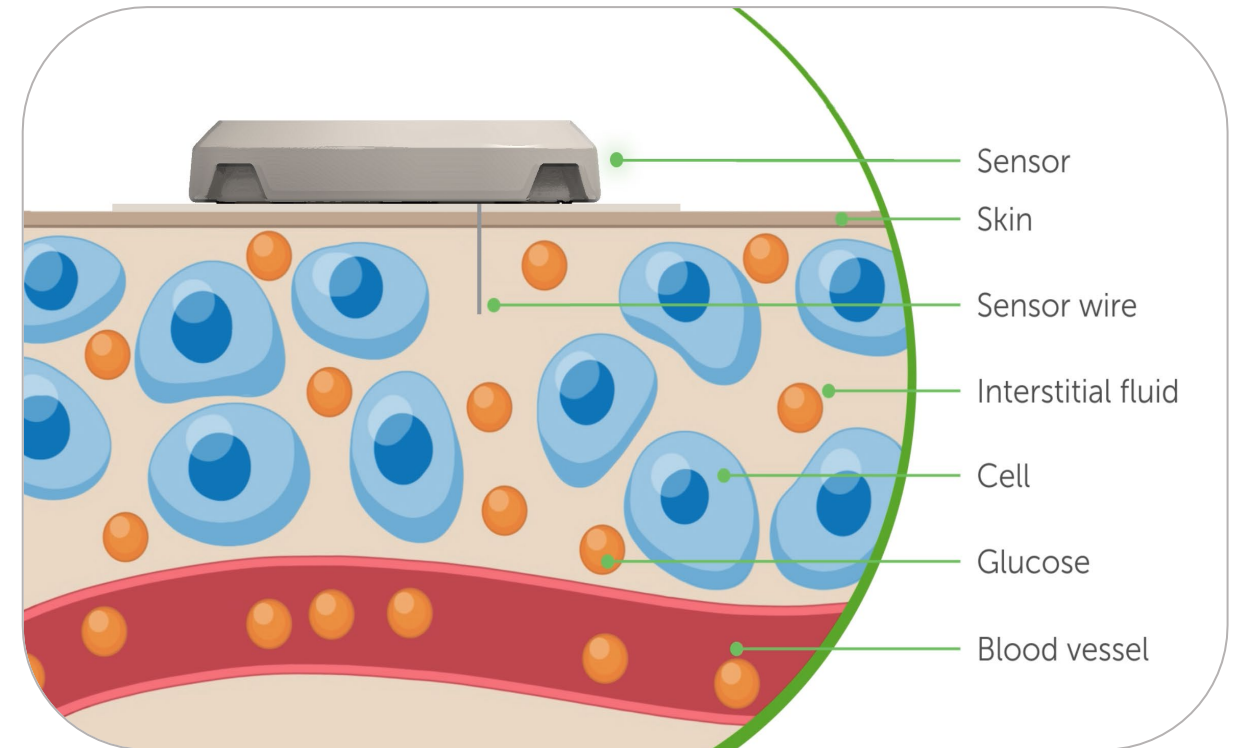
Timing and coordination of insulin doses with point-of-care testing (POCT) and meals is a source of insulin administration error⁶

POCT has been shown to miss ~33% of hyperglycemic
and up to 90% of hypoglycemic events⁷⁻⁸

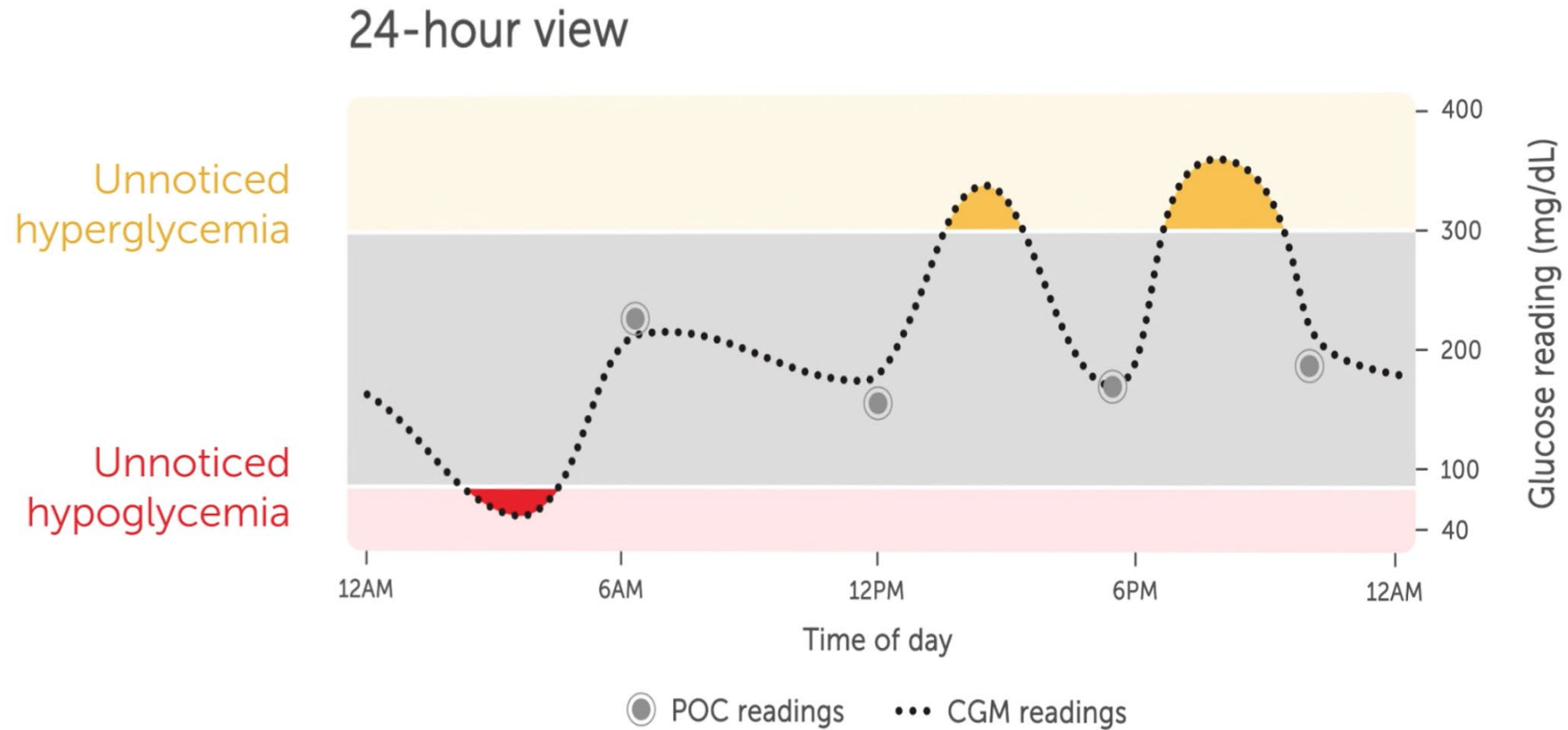
1. Swanson C, et al. *Endocr Practice*. 2011 Nov;17(6) 853–61. 2. Curkendall SM, et al. *Endocr Pract*. 2009 May-Jun;15(4):302-12. 3. Mendez CE, et al. *Diabetes Care*. 2013 Dec;36(12):4091-7. 4. Leite SA, et al. *Diabetol Metab Syndr*. 2010;2:49. 5. Institute for Safe Medication Practices. ISMP Medication *Safety Alert!*® Acute Care. 2021 Dec;26(24):1-4. 6. Dungan K. *Curr Diab Rep*. 2019 Nov 4;19(11):110. 7. Burt MG, et al. *Diabetes Technol Ther*. 2013;15:241-245. 8. Gomez AM, et al. *J Diabetes Sci Technol*. 2015;10:325-329.

Dexcom Real-Time Continuous Glucose Monitoring Overview

- Wearable device
- Measures glucose in the interstitial fluid
- Continuous readings displayed every 5 minutes
- Up to 288 glucose readings in 24 hours
- Automatically transmits data to a display device
 - Current sensor glucose
 - Glucose direction and rate of change
 - Glucose alerts
 - Trend graph



Glycemic Patterns Are Often Missed by POCT but Seen With RT-CGM



Hardware Components

➤ Applicator

- Single use disposable applicator
- Sensor with built-in transmitter is pre-loaded in the applicator and inserted into the subcutaneous tissue by the clinician

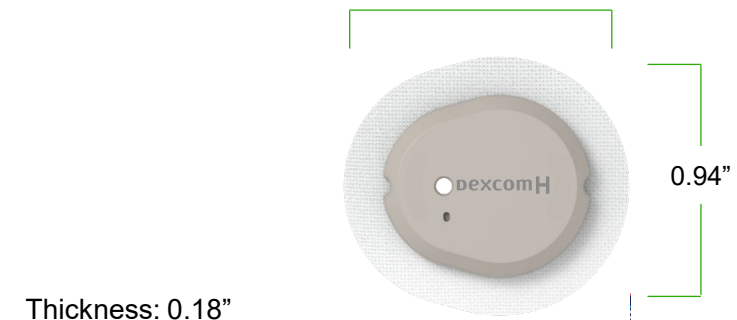
➤ Sensor With Built-In Transmitter

- Measures interstitial fluid glucose value every 5 minutes
- BLE wireless connectivity with 33-foot range

Applicator

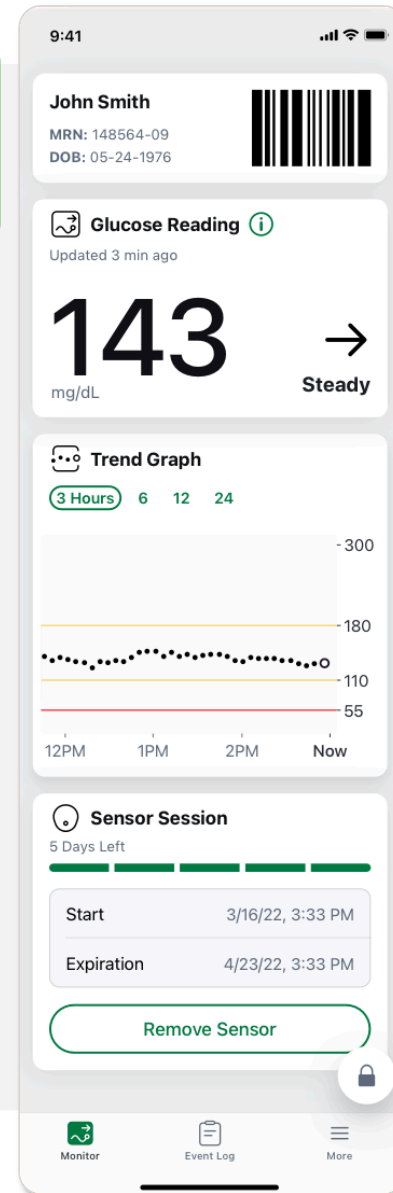


Sensor with Built-In Transmitter



Product is currently under review with the FDA. Design is subject to change.

Patient Monitoring Overview

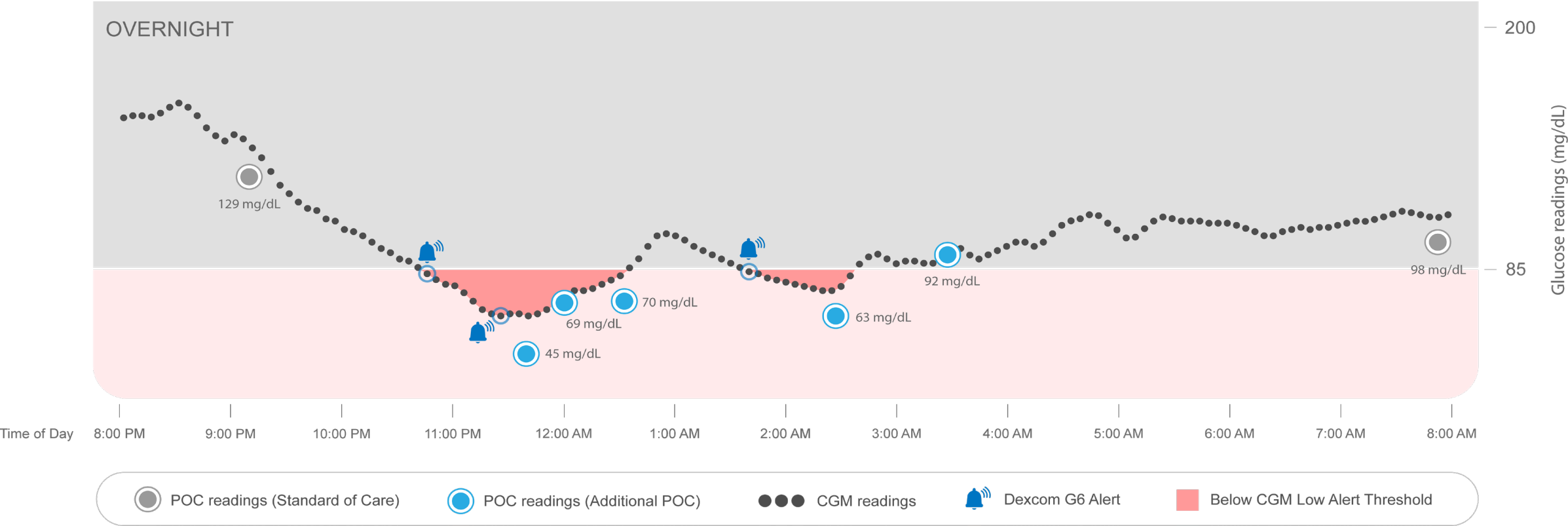


- Patient information
- Glucose reading and current trend
- Historical trend graph
- Sensor session life
- End sensor session and remove sensor

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Case Study: RT-CGM Identifies and Prompts Treatment for Nocturnal Hypoglycemia

- Male patient, mid-60s with history of type 2 diabetes
- Admitted to non-intensive care unit
- Diagnosed with COVID and treated with steroids
- Home insulin regimen continued: NPH twice daily and Humalog before meals
- New CGM placed on the abdomen; Low Alert set at 85 mg/dL



Baker M, Musselman ME, Rogers R, Hellman R. (2021). Practical Implementation of Remote Continuous Glucose Monitoring in Hospitalized Patients with Diabetes. *Am J Hosp Pharm*, online.

FDA Submission and Medical Record Documentation

- Dexcom received Breakthrough Device Designation for Hospital CGM on 2/25/22
- FDA submission is currently under review
- Adverse events
 - Redness (n=1) or swelling (n=1) at sensor insertion site*
 - Bleeding at sensor insertion site (n=1)*
 - Redness (n=1) at adhesive area*
- Terminology documentation in the medical record
 - Continuous glucose monitoring
 - Dexcom continuous glucose monitoring
 - Dexcom glucose monitoring
 - CGM
 - Dexcom CGM
 - Real-time (RT) could be used in conjunction with any of the above terms
- Placement of Documentation in Medical Record
 - Lines, Drains, and Airways
 - Glucose Flowsheet
 - Medication Administration Record

*Data on file at Dexcom