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Diabetes Symposium 2025

KENTUCKY

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Diabetes Technology:

Where We Started, Where We've Been, & Where We're Headed

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Diabetes Symposium 25

Ann Schutte MSN, RN, CDCES

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Disclosure to Participants

- **Notice of Requirements For Successful Completion**

- **Learning Goal:**

To enhance the knowledge and confidence of Diabetes Educators in supporting patients who use insulin pumps and continuous glucose monitors (CGMs) across the continuum of care.

Learning Objectives:

- Recognize the evolution of diabetes technology from early insulin delivery methods to present-day tools.
- Identify current diabetes technologies (CGMs, insulin pumps, AID or Automated Insulin Delivery Systems, and hybrid closed-loop systems.
- Discuss the impact of these technologies on patient care and quality of life.
- Recognize the role of healthcare professionals. Implementing and educating on new technologies.

- Learners must attend the full activity and complete the evaluation to claim continuing education credit/hours
- Conflict of Interest (COI) and Financial Relationship Disclosures:
  - Presenter: Ann Schutte: none
- Non-Endorsement of Products: No products in this presentation are endorsed by the presenter; they are strictly included for educational purposes.
  - Not endorsed by AADE, ANCC, ACPE, or CDR of any commercial products displayed in conjunction with this educational activity
- Off-Label Use:
  - Speakers will notify participants of any product used for a purpose other than for which the Food and Drug Administration approved it.

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Learning Objectives
After completing this activity, the participant should be able to:

Objectives:

- Recognize the evolution of diabetes technology from early insulin delivery methods to present-day tools.
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The Burden of Diabetes in Kentucky

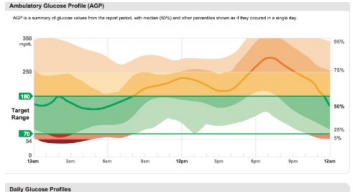
Diabetes is an epidemic in the United States. According to the Centers for Disease Control and Prevention (CDC), over 38 million Americans have diabetes and face its devastating consequences. What's true nationwide is also true in Kentucky.

Kentucky's diabetes epidemic:

- Approximately 519,100 adults in Kentucky, or 12.90% of the adult population, have diagnosed diabetes.
- Every year, an estimated 40,000 adults in Kentucky are diagnosed with diabetes.

The serious complications of diabetes include heart disease, stroke, amputation, end-stage kidney disease, blindness—and death.

- **136 million Americans have diabetes or prediabetes**
- **1.2 million Americans are diagnosed with diabetes every year**
- **About 1 in 3 seniors in the United States has diabetes**
- **Diabetes contributes to the death of nearly 400,000 Americans annually**



Diabetes Is Expensive

Americans with diabetes have medical expenses approximately 2.6 times higher than those without. The total estimated cost of diagnosed diabetes in the U.S. was $412.9 billion in 2022, including $306.6 billion in direct medical costs and $106.3 billion in reduced productivity attributable to diabetes.

In Kentucky, diagnosed diabetes costs an estimated $6.4 billion each year. In 2022:

- Total direct medical expenses for diagnosed diabetes in Kentucky were estimated to be $4.6 billion
- In addition, there were $1.8 billion in estimated indirect costs from lost productivity due to diabetes

https://diabetes.org/sites/default/files/2025-05/the-burden-of-diabetes-kentucky-05-08-25.pdf

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How has the Treatment & Care of Individuals living with Diabetes changed?

5 years?

10 years?

15 years?

20 years?

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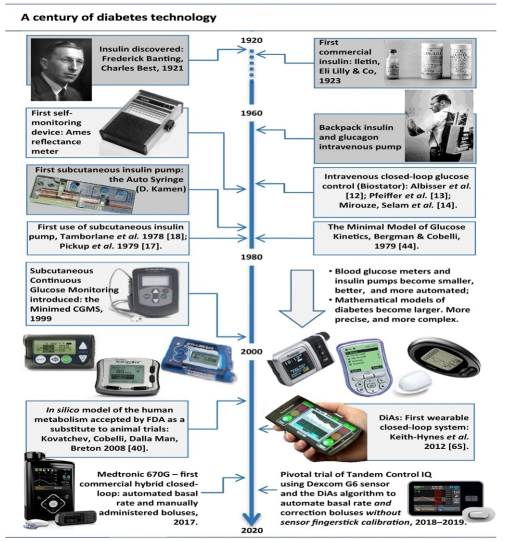

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Evolution in Diabetes Management & Diabetes Technology between 1921 – 2025

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“Diabetes devices should be offered to people with diabetes”



https://diabetesjournals.org/care/article/48/Supplement_1/S149/157557/7-Diabetes-Technology-Standards-of-Care-in

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Diabetic Technology Terminology

AID	Automated Insulin Delivery	A system that uses an algorithm to adjust insulin delivery based on continuous glucose monitor (CGM) data. Often referred to as a hybrid closed-loop system.
CGM	Continuous Glucose Monitor	A wearable device that provides real-time interstitial glucose readings, trends, and alerts by measuring glucose levels in the fluid under the skin.
CSII	Continuous Subcutaneous Insulin Infusion	The delivery of insulin through an insulin pump, allowing for adjustable basal rates and bolus dosing without multiple injections.
HCL	Hybrid Closed Loop	A type of AID system that automatically adjusts basal insulin but still requires users to manually input carbohydrate intake and deliver bolus doses.
ISF	Insulin Sensitivity Factor	The expected drop in blood glucose from one unit of insulin; used in correction dose calculations.
ICF	Insulin Carb Factor	How many units of insulin cover the amount of carbohydrate, for example, 1 unit for every 10 grams of carb
MARD	Mean Absolute Relative Difference	The measure used to assess the accuracy of Continuous Glucose Monitoring devices
AGP	Average Glucose Profile	A metric used in Continuous Glucose Monitoring (CGM) data to summarize a patient's glucose levels over 14 day
GMI	Glucose Management Indicator	An equation used to estimate HbA 1c based on CGM mean glucose.
TIR	Time In Range	The percent of time a person's glucose stays within a set range (usually 70–180 mg/dL).
TDD	Total Daily Dose	The total amount of insulin used in 24 hours, including both basal and bolus.

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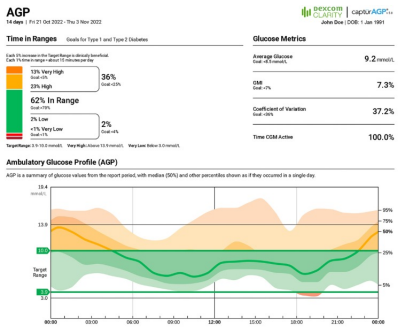
CGM: Continuous Glucose Monitor

Prescription Required:

- Libre 2, Libre 2 Plus, Libre 3, Libre 3 Plus
- Dexcom G6 and G7
- Guardian 4, Instinct, & Simplera
- EverSense



Over-the-Counter (*No Prescription Required*)

- Stelo www.stelo.com (cost varies with quantity ordered)
- Lingo www.hellolingo.com (cost varies with quantity ordered)

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What does Diabetes Technology Offer the Care Teams?

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Access to Real-Time Data: e.g., Dexcom Clarity and LibreView

Trend Analysis: Helps tailor insulin/medication adjustments

Remote Monitoring: Allows proactive care/Improved engagement with the patient and their care team

Enhanced Patient Education: Opportunities with visual data and in-person education on how to use/apply, and a better understanding of how their actions impact their blood glucose

Time-Saving: Less need for manual logs

Collaborative Care: Teams can easily communicate and review shared data

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Visual Size Comparison

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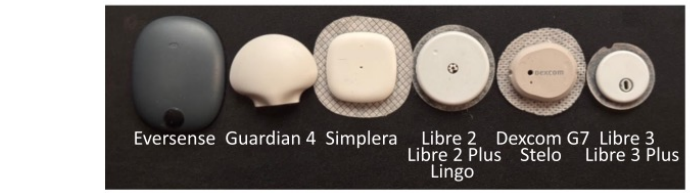

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Integrates with Other Devices	T:Slimx2, Mobi, Omnipod 5, Tempo Pen, and InPen
Display Device	Smartphone of Device
Maximum Wear Time	10 days
Warm-Up time	2 hours
Finger stick calibrations required	None
FDA-approved sites	Abdomen (ages 2+) Upper buttocks (children 2-17 years)
FDA-approved for dosing	Yes
FDA-approved ages (years)	>2
Drug Interactions	Hydroxyurea
MARD	9
Alarms	High, Low, and Predictive low

Dexcom G6

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https://www.adces.org/education/diabetestech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgm

Additional Details:

- Not susceptible to acetaminophen
- One-touch insertion applicator and auto-start transmitter
- Offers dosing decisions based on CGM information (number and arrow)
- Device compatible with multiple Apple iOS and Android devices
- Integration with InPen
- Integration with Lilly Tempo
- Partnerships

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Integrates with Other Devices	T:Slimx2, Mobi, Omnipod 5, Tempo Pen, and InPen
Display Device	Smartphone of Device
Maximum Wear Time	10.5 days
Warm-Up time	30 minutes
Finger stick calibrations required	None
FDA-approved sites	Arm (adults) Abdomen (ages 2+), Upper Buttocks (2-17 years)
FDA-approved for dosing	Yes
FDA-approved ages (years)	>2
Drug Interactions	Hydroxyurea
MARD	9
Alarms	High, Low, and Predictive low

Dexcom G7

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https://www.adces.org/education/diabetestech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgm

Additional Details:

Dexcom G7 is for patients two years and older with any type of diabetes including type 1, type 2, or gestational diabetes.

Dexcom G7 can be worn during pregnancy for all types of diabetes (type 1, type 2, or gestational).

Clarity Summary reports (3,7,14, 30, and 90-day) of time in range and average glucose are recorded in the display device.

Once inserted, the sensor is waterproof up to 8 feet. Swim, shower and take a bath with the sensor

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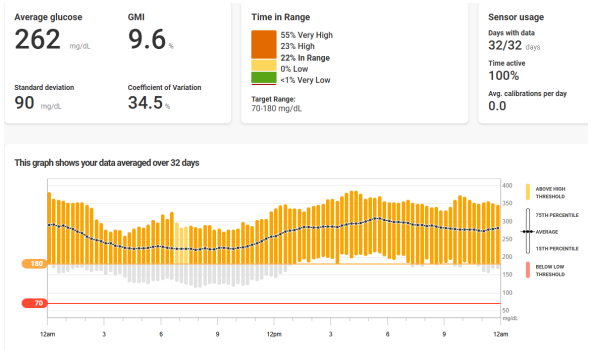
What are benefits of reviewing reports?



A: Patterns

B: Education

C: Engagement

D: Identification of issues (hypo/hyperglycemia)

E: All the above

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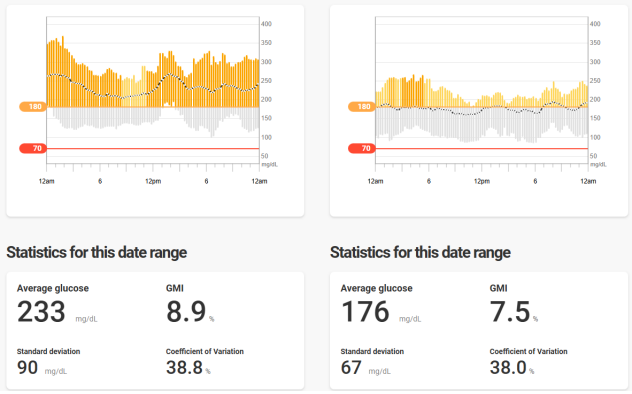
Answer: E, All the above



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Integrates with Other Devices	Bigfoot Unity
Display Device	Smartphone or Reader
Maximum Wear Time	14 days
Warm-Up time	1 hours
Finger stick calibrations required	None
FDA-approved sites	Upper Arm
FDA-approved for dosing	Yes
FDA-approved ages (years)	>4
Drug Interactions	Vitamin C
MARD	9.2
Alarms	High, Low

Abbott: FreeStyle Libre 2

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https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgm

Additional Details:

- Measures glucose accurately every minute. 40-400mg/dL range2

Freestyle Libre 2 has been cleared by the FDA to be worn during radiologic studies including X-ray imaging, computed tomography (CT), and magnetic resonance imaging (MRI).

- There is no waiting period after a CT-scan or X-ray to be able to safely use the FreeStyle Libre system sensor.
- MRI conditions: Depending on the type of MRI procedure and scan required, there is potential for the accuracy and functionality to be compromised, so it is best to wait 1 hour following MRI exposure to ensure the FreeStyle Libre systems sensor is operating normally. After 1 hour, the accuracy and functionality of the device is not compromised.
- Fluoroscopy will have no impact on the sensor performance.
- There are no contraindications, warnings and limitations regarding use with ultrasound procedures.
- *The contraindication related to diathermy therapy remains unchanged.*
- *FreeStyle Libre Systems have not been studied with PET scan procedures; therefore, Abbott is unable to attest to the accuracy or performance of the Systems under such use case conditions.*

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms/product-detail/freestyle-libre-2

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Integrates with Other Devices	Omnipod 5 and BigFoot Unity
Display Device	Smartphone of Device
Maximum Wear Time	15 days
Warm-Up time	2 hours
Finger stick calibrations required	None
FDA-approved sites	Arms Abdomen (ages 2+)
FDA-approved for dosing	Yes
FDA-approved ages (years)	>2
Drug Interactions	Vitamin C
MARD	8.2
Alarms	High, Low, and Predictive low

Abbott: FreeStyle Libre 2 Plus

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https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgm

Additional Details:

- Measures glucose accurately every minute. 40-400mg/dL range2

- FreeStyle Libre 2 Plus sensor connects via Bluetooth to the Tandem t:slim X2 insulin pump. Glucose data is visualized on the t:connect mobile app and t:slim X2 insulin pump every minute
- FreeStyle Libre 2 Plus sensor connects with the Omnipod 5 System

Freestyle Libre 2 Plus has been cleared by the FDA to be worn during radiologic studies including X-ray imaging, computed tomography (CT), and magnetic resonance imaging (MRI).

- There is no waiting period after a CT-scan or X-ray to be able to safely use the FreeStyle Libre system sensor.
- MRI conditions: Depending on the type of MRI procedure and scan required, there is potential for the accuracy and functionality to be compromised, so it is best to wait 1 hour following MRI exposure to ensure the FreeStyle Libre systems sensor is operating normally. After 1 hour, the accuracy and functionality of the device is not compromised.
- Fluoroscopy will have no impact on the sensor performance.
- There are no contraindications, warnings and limitations regarding use with ultrasound procedures.
- *The contraindication related to diathermy therapy remains unchanged.*

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms/product-detail/freestyle-libre-2-plus-sensor

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Integrates with Other Device	No
Display Device	Smartphone or Reader
Maximum Wear Time	14 days
Warm-Up time	1 hours
Finger stick calibrations required	None
FDA-approved sites	Arms
FDA-approved for dosing	Yes
FDA-approved ages (years)	>4
Drug Interactions	Vitamin C
MARD	7.9
Alarms	High, Low

Abbott: FreeStyle Libre 3

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https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgm

Additional Details:

Phone App (Iphone or Android) or FreeStyle Libre 3 Reader shows your current glucose reading. The sensor automatically sends a new glucose reading to your app or Reader every minute.

Sensor can withstand immersion into 3 feet of water for up to 30 minutes

Home Screen shows the past 12-hours of historical glucose readings

Freestyle Libre 3 has been cleared by the FDA to be worn during radiologic studies including X-ray imaging, computed tomography (CT), and magnetic resonance imaging (MRI).

- There is no waiting period after a CT-scan or X-ray to be able to safely use the FreeStyle Libre system sensor.
- MRI conditions: Depending on the type of MRI procedure and scan required, there is potential for the accuracy and functionality to be compromised, so it is best to wait 1 hour following MRI exposure to ensure the FreeStyle Libre systems sensor is operating normally. After 1 hour, the accuracy and functionality of the device is not compromised.
- Fluoroscopy will have no impact on the sensor performance.
- There are no contraindications, warnings and limitations regarding use with ultrasound procedures.
- *The contraindication related to diathermy therapy remains*

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms/product-detail/freestyle-libre-3

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Integrates with Other Device	BetaBionic, TWIIST, and soon to be Tandem tslim (later 2025)
Display Device	Smartphone or Reader
Maximum Wear Time	15 days
Warm-Up time	1 hours
Finger stick calibrations required	None
FDA-approved sites	Arms
FDA-approved for dosing	Yes
FDA-approved ages (years)	>2
Drug Interactions	Vitamin C
MARD	8.2
Alarms	High, Low

Abbott: FreeStyle Libre 3 Plus

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https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgm

Additional Details:

Phone App (Iphone or Android) or FreeStyle Libre 3 Reader shows your current glucose reading. The sensor automatically sends a new glucose reading to your app or Reader every minute.

Sensor can withstand immersion into 3 feet of water for up to 30 minutes

Home Screen shows the past 12-hours of historical glucose readings

Freestyle Libre 3 has been cleared by the FDA to be worn during radiologic studies including X-ray imaging, computed tomography (CT), and magnetic resonance imaging (MRI).

- There is no waiting period after a CT-scan or X-ray to be able to safely use the FreeStyle Libre system sensor.
- MRI conditions: Depending on the type of MRI procedure and scan required, there is potential for the accuracy and functionality to be compromised, so it is best to wait 1 hour following MRI exposure to ensure the FreeStyle Libre systems sensor is operating normally. After 1 hour, the accuracy and functionality of the device is not compromised.
- Fluoroscopy will have no impact on the sensor performance.
- There are no contraindications, warnings and limitations regarding use with ultrasound procedures.
- *The contraindication related to diathermy therapy remains*

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms/product-detail/freestyle-libre-3-plus

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Integrates with Other Device	Displayed on the pump and through the MiniMed Mobile app available on Android and Apple phones
Display Device	Smartphone or insulin penb
Maximum Wear Time	7 days
Warm-Up time	Up to 2 hours
Finger stick calibrations required	No calibrations in SmartGuard. 1 calibration required to enter SmartGuard
FDA-approved sites	Upper arm, abdomen, upper buttocks (ages 7-13)
FDA-approved for dosing	780G in SmartGuard, finger stick required for manual mode
FDA-approved ages (years)	>7
Drug Interactions	Acetaminophen may falsely raise values
MARD	8.7
Alarms	Can turn off alarms except for severe low (64 mg/dL)

Medtronic "MiniMed": Guardian 4

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https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms

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Medtronic "MiniMed": Simplerla Sync

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FEATURES

Sensor Duration:	7 days
Warmup Time:	2 hours
Approved For Children:	18 and older
Share Follow Capability:	Yes, Care partners can visit carelink.minimed.com to create an account
Fingerstick Calibration Required:	No fingersticks required (however, if glucose alerts and readings from this device do not match symptoms or expectations, users are advised to use a blood glucose meter to make diabetes treatment decisions).
Customizable Alerts Alarms:	**Yes except for the following:** • Low Sensor Glucose alert Sensor Glucose falls below 54 mg/dl • High Sensor Glucose alert Sensor Glucose at or above 250 mg/dl for 3 hours
Software:	Carelink
Accuracy:	MARD Arm 18+ y.o. 10.2%
Covered By Medicare:	Yes
Insulin Pump Compatibility:	780g
Recommended Placement:	Ages 18 and older: Back of Upper Arm

Additional Details:

While on the body, the sensor is protected against continuous immersion in water at a depth of 8 feet (2.4 meters) for up to 30 minutes. Shower and swim without removing the sensor.

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms

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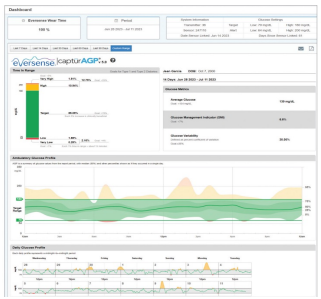
Integrates with Other Device	TWIIT (October/November 2025)
Display Device	On the wearable device or 365 App
Maximum Wear Time	365 Days
Warm-Up time	24 hours
Finger stick calibrations required	1 Calibration a day for 13 days, then weekly
FDA-approved sites	Upper arms
FDA-approved for dosing	Yes
FDA-approved ages (years)	≥18
Drug Interactions	Sorbitol Mannitol
MARD	8.8
Alarms	The transmitter will vibrate for predictive alerts and alarms on the phone

EverSense



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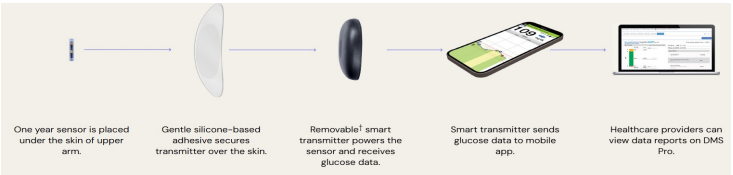

One year sensor is placed under the skin of upper arm.

Gentle silicone-based adhesive secures transmitter over the skin.

Removable† smart transmitter powers the sensor and receives glucose data.

Smart transmitter sends glucose data to mobile app.

Healthcare providers can view data reports on DMS Pro.

https://provider.eversensecgm.com/eversense-365/

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Dexcom: Stelo

FEATURES

Sensor Duration:	15 days + 12 hour grace period
Approved For Children:	Indicated in persons 18 years and older
Fingerstick Calibration Required:	No fingersticks required (however, if glucose alerts and readings from this device do not match symptoms or expectations, users are advised to use a blood glucose meter to make diabetes treatment decisions).
Software:	Stelo by Dexcom App
Accuracy:	Overall, MARD is 8.3% with 94% of the sensor readings falling withing the +/- 20/20% of YSI from the 20,330 data pairs studied.
Covered By Medicare:	No
Recommended Placement:	Back of upper arm
Additional Details:	• Glucose pattern detection with personalized and actionable insights, pattern detection and insights, as well as education and health nudges. • Track events such as meals and activity • Notetaking feature

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Cost: $89+, depending on quantity purchased
Order: www.stelo.com

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms

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Abbott: Lingo

FEATURES

Sensor Duration:	Up to 14 days
Warmup Time:	The Lingo biosensor can be used to check your glucose 60 minutes after a successful pairing. If notifications are enabled, you will see a notification when the Lingo biosensor is ready.
Approved For Children:	18 years and over
Share Follow Capability:	NA
Fingerstick Calibration Required:	No fingersticks required (however, if glucose alerts and readings from this device do not match symptoms or expectations, users are advised to use a blood glucose meter to make diabetes treatment decisions).
Customizable Alerts Alarms:	None
Software:	NA
Accuracy:	NA
Covered By Medicare:	No
Insulin Pump Compatibility:	No
Recommended Placement:	Back of upper arm
Additional Details:	Lingo is for use by people who are looking to identify foods and habits that work for their body, routine, and metabolism. It is not for people with diabetes.

Cost: $49+, depending on quantity purchased
Order: **https://www.hellolingo.com**

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms

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Pitfalls of CGM

- Foreign Body Response/Inflammation
- Pressure (or Compression) Lows
- Sensor to sensor variability
- Temperature sensitivity
- Adhesive issues
- Skin sensitivity
- Ambient Light Alert (Eversense only)
- Interfering Substances
  - Dexcom: Acetaminophen (>1gm q6h) or Hydroxyurea
  - Abbott: High dose vitamin C (>1000mg)

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Smart Pens

A device that allows you to track when the last injection was taken from the pen. This helps individuals living with diabetes know how much active insulin is still circulating, which is significant, as it can help prevent low blood sugars related to stacking insulin or overcorrecting.

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Smart Pens

Brand of Pen	Compatible Devices	Phone Requirements	Additional Features
Bigfoot Unity	Libre 2 sensor, connected meter, many insulin pens	iPhone	Can use both long-acting and rapid-acting insulins, different colored caps for long vs. rapid-acting
Lilly Tempo	Dexcom CGM, Lilly insulins	Android or iPhone compatible	Cap for pen that transmits the data, long and rapid-acting insulins, can log dietary data
Medtronic InPen	Medtronic Guardian Connect, Dexcom for iOS	iPhone or Android compatible	Alerts for temperature concerns for insulin pen, rapid-acting insulin only

https://childrenwithdiabetes.com/clinical-director/using-smart-insulin-pens/

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Bigfoot Unity

FreeStyle Libre 2 Sensor

Blood Glucose Meter

Bigfoot Unity Meter (BGM)

Black Cap for Long-Acting Insulin

- Eli Lilly KwikPen: Basaglar
- Sanofi SoloSTAR: Lantus
- Sanofi SoloSTAR: Toujeo (U-300)
- Sanofi SoloSTAR: Toujeo Max (U-300)
- Sanofi SoloSTAR: unbranded insulin glargine**
- Novo Nordisk FlexTouch: Tresiba (U-100)
- Novo Nordisk FlexTouch: Tresiba (U-200)
- Novo Nordisk FlexTouch: unbranded insulin degludec (U-100)
- Novo Nordisk FlexTouch: unbranded insulin degludec (U-200)

Mobile App

https://www.bigfootbiomedical.com/bigfoot-unity.html

White Cap for Rapid-Acting Insulin

- Eli Lilly KwikPen Humalog (U-100)
- Eli Lilly KwikPen Humalog (U-200)
- Eli Lilly KwikPen Lispro
- Eli Lilly KwikPen Lyumjev (U-100)
- Eli Lilly KwikPen Lyumjev (U-200)
- Sanofi SoloSTAR: Apidra
- Sanofi SoloSTAR: Admelog
- Novo Nordisk FlexTouch: Fiasp (U-100)
- Novo Nordisk FlexPen: NovoLog (U-100)
- Novo Nordisk FlexPen: ReliOn NovoLog (U-100)
- Novo Nordisk FlexPen: Aspart

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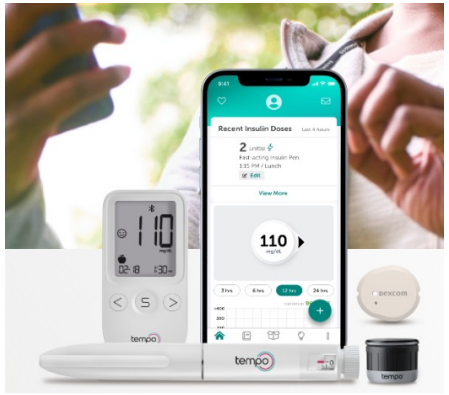
Lily Tempo



lillytempo.com

Can be used with Lilly products only:
Lyumjev
Basaglar
Humalog

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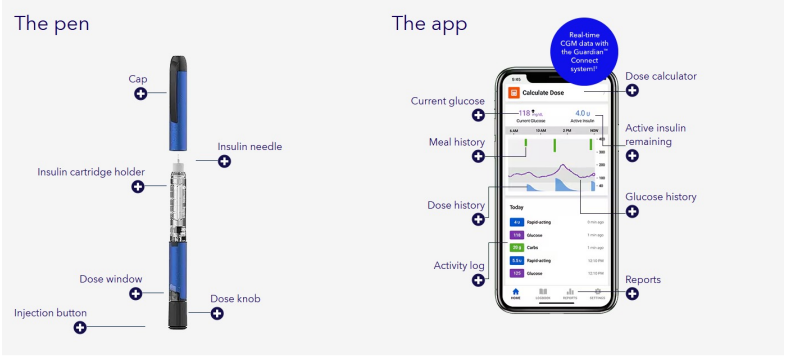
Medtronic InPen

Prior to ordering InPen, it is important to know what insulin is covered by insurance. Each pen is specific to Humalog or Novolog/Fiasp



https://www.medtronicdiabetes.com/products/inpen-smart-insulin-pen-system

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Insulin Pumps (AID or HCL Systems)

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"Insulin pump therapy, preferably with CGM, should be offered for diabetes management to youth and adults on MDI with type 2 diabetes who can use the device safely (either by themselves or with a caregiver). The choice of device should be made based on the individual's circumstances, preferences, and needs."

https://diabetesjournals.org/care/article/48/Supplement_1/S146/157557/7-Diabetes-Technology-Standards-of-Care-in

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Omnipod 5 System

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FEATURES

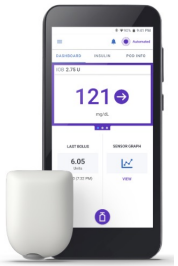
Activity Settings:	Yes. Changes target glucose to 150 mg/dL and reduces automated insulin delivery for duration specified, 1-24 hours.
Automatic Correction Boluses:	No
Closed Loop Functionality:	Yes
Automatic Insulin Adjustments:	Yes. Adjusts insulin delivery proactively using the customizable glucose target. Delivers insulin doses every 5 minutes. See the Omnipod HCP website for specifics.
Calibration Not Required:	Yes
Compatible CGM:	Dexcom G6 Dexcom G7 Libre 2 plus
Waterproof:	Yes. The Pod has an IP28 waterproof rating. This international standard means that the Pod has been tested to function normally as deep as 25 feet below the water surface for up to 60 minutes. The controller is NOT waterproof.
Medicare Covered:	Yes
Remote Software Update Capability:	Yes
Multiple Languages:	Yes. English and Spanish
Medicare Covered:	Yes
Remote Software Update Capability:	Yes
Multiple Languages:	Yes. English and Spanish
Bolus Management Smartphone:	Android and iPhone, with compatible devices. User can still use PDM for bolus management
Food Database:	Yes

Additional Features:

The Omnipod 5 algorithm is able to deliver a microbolus of up to 400% of the patient's adaptive basal rate, every 5 minutes in response to predicted hyperglycemia.

Real world evidence that was presented at the March 2024 ATTD conference showed that the Omnipod 5 algorithm can deliver up to 38% of Total Daily Insulin (TDI) in response to a missed meal bolus.

- Simple to set up and detail with patients
- Pharmacy orders simplify prescribing
- Insulet clinicians available for initial and ongoing support
- Quick access to patient data with Insulet Provided Clooko via automatic upload of data enabled by the pre-paid SIM card available in the Controller, or by personal cellular or Wi-Fi connection.
- Intuitive screen navigation and quick treatment modifications
- Omnipod® 5 is the only system to incorporate CGM value AND trend into the SmartBolus Calculator
- Remote software update for existing users



Approved for ages: Type 1 Diabetes 2 years and older, Type 2 Diabetes 18 years and older

Approved use: Type 1 and Type 2 Diabetes

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms

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Tandem T:slim X2 with Control IQ

KENTUCKY

FEATURES

Activity Settings:	Yes. Includes optional settings for Sleep Activity or Exercise Activity that adjust the range of treatment values
Automatic Correction Boluses:	Yes
Closed Loop Functionality:	Yes
Automatic Insulin Adjustments:	Yes.
Calibration Not Required:	Yes
Compatible CGM:	Dexcom G6 Dexcom G7 Libre 2 Plus & Libre 3 Plus (late 2025)
Waterproof:	No. Tandem pumps are watertight (IPX 7), tested to a depth of three feet for up to 30 minutes. Not recommended for use while showering, bathing or swimming.
Medicare Covered:	Yes
Remote Software Update Capability:	Yes
Multiple Languages:	Yes. English and Spanish
Bolus Management Smartphone:	Yes. FDA approved. If software update requested through t:connect portal and after completing tutorial and passing quiz
Food Database:	No

Approved for ages: Type 1 Diabetes 2 years and older, Type 2 Diabetes 18 years and older

Approved use: Type 1 and Type 2 Diabetes

Additional Features:

- Temporary basal rate: 15 minutes to 72 hours (range: 0%–250%). Temporary basal rates can only be used when Control IQ is turned off
- Download updates to the insulin pump rather than obtain a new model for new features
- Rechargeable battery
- Bluetooth® wireless technology
- Dexcom G6, G7, and Freestyle Libre 2 Plus CGM integration options
- Simple-to-learn touchscreen interface

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms

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Tandem Mobi

KENTUCKY

FEATURES

Activity Settings:	Yes. Includes optional settings for Sleep Activity or Exercise Activity that adjust the range of treatment values
Automatic Correction Boluses:	Yes
Closed Loop Functionality:	Yes
Automatic Insulin Adjustments:	Yes.
Calibration Not Required:	Yes
Compatible CGM:	**Dexcom G6 & G7** **(Libre 3 Plus – date unknown at this time)**
Waterproof:	No. Water Resistant - Tested at 8 feet for 2 hours (IP28 rating)
Medicare Covered:	Yes
Remote Software Update Capability:	Yes
Multiple Languages:	Yes. English and Spanish
Bolus Management Smartphone:	Yes and on-pump bolus available
Food Database:	No

Approved for ages: Type 1 Diabetes 2 years and older, Type 2 Diabetes 18 years and older

Approved use: Type 1 and Type 2 Diabetes

Additional Features:

- No screen on pump, full iOS mobile control through an iPhone app
- Temporary basal rate: 15 minutes to 72 hours (range: 0%–250%). Temporary basal rates can only be used when Control IQ is turned off
- Download updates to the insulin pump
- Rechargeable battery - wireless charging
- Bluetooth® wireless technology
- Dexcom G6 Integration
- On-pump button to provide an alternative to phone control for insulin boluses.
- Pump can fit in a small pocket (coin pocket), clipped to clothing, worn with an armband or attached via an adhesive sleeve that attaches to the body (it is recommended that the individual orient the adhesive sleeve so that the LED Status Indicators on the insulin pump can be seen by the user).
- 5 inch tubing XC Infusion Set

Or 23-inch tubing

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms

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Medtronic 780G

FEATURES

Activity Settings:	Yes
Automatic Correction Boluses:	Yes
Closed Loop Functionality:	Yes
Automatic Insulin Adjustments:	Yes
Calibration Not Required:	Yes
Compatible CGM:	Yes, compatible with both the Guardian 4 Sensor and Guardian 3 Sensor
Waterproof:	At the time of manufacture and when the reservoir and tubing are properly inserted, the pump is waterproof. It is protected against the effects of being underwater to a depth of up to 12 feet (3.6 meters) for up to 24 hours. This is classified as IPX8 rating. See **user guide** for more details. The sensor and transmitter are water-resistant at 8 feet (2.4 meters) for up to 30 minutes. CGM readings may not be transmitted from the CGM to the pump while in water. The pump is not intended for submersion in water and is expected to be removed prior to swimming or bathing
Medicare Covered:	Yes
Remote Software Update Capability:	Yes
Multiple Languages:	Yes. Spanish, simplified Chinese, English
Food Database:	No

Additional Features:

- MiniMed Mobile app allows patients to easily track sugar levels and get notified on their phone or Apple Watch if they are going high or low. It also allows automatic uploads into CareLink™ software.
- CareLink™ Connect app allows care partners to download an app to stay in the know
- CareLink™ software consists of CareLink™ Personal software which converts data from the pump and CGM into easy to understand insights about sugar level and CareLink™ system which healthcare providers access data and reports through.
- The system can be used with Medtronic Extended infusion set

KENTUCKY

Approved for ages: 7 years and older

Approved use: Type 1 Diabetes and Type 2 Diabetes

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms

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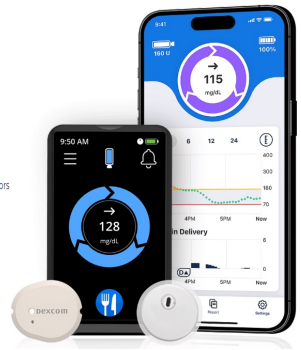
Beta Bionic

FEATURES

Activity Settings:	No
Automatic Correction Boluses:	Yes
Closed Loop Functionality:	Yes
Automatic Insulin Adjustments:	Yes
Calibration Not Required:	Yes
Compatible CGM:	Dexcom G6, Dexcom G7, and Libre Freestyle 3 plus sensors
Waterproof:	Yes. Up to 12 feet for up to 30 minutes.
Medicare Covered:	Yes
Remote Software Update Capability:	Yes
Multiple Languages:	Yes. English and Spanish
Food Database:	No



Additional Features:

The iLet Bionic Pancreas is an alternate controller enabled (ACE) pump intended to deliver insulin under the skin based on input from an integrated continuous glucose monitor (iCGM) and an interoperable automated glycemic controller (iACC), in people 6 years of age or older with diabetes mellitus.

- CGM Targets 130, 120, 110 mg/dl available
- iLet has a Sleep CGM Target

A self-monitoring of blood glucose (SMBG) meter may also be used for manual input of blood glucose values to continue insulin dosing for a limited period of time when input from the iCGM is temporarily not available.

KENTUCKY

Approved for ages: 6 years and older

Approved use: Type 1 Diabetes

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms

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Beta Bionic: Pre Pump review

How can you use this information during Diabetes Technology or DSMES training/education for someone choosing an insulin pump?

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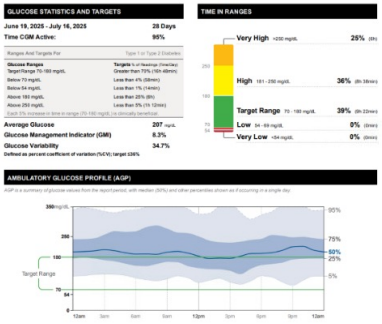
Current Regimen:
- Toujeo 50 units at bedtime daily
- Humalog 16 units TID before meal



C-Peptide 0.54 ↓

Retinopathy: Yes, received eye injections. Left eye blindness. last eye exam: May 2025. Recommend yearly exam

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Beta Bionic: Meal Announcements (Recommended)

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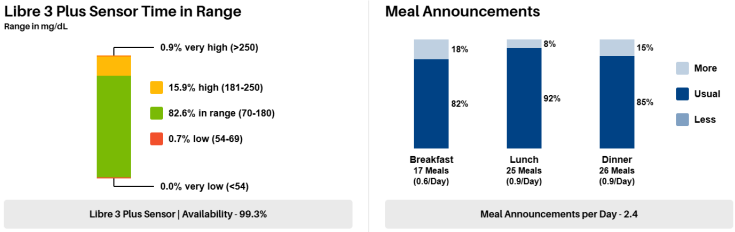

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TWIIST

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FEATURES

Activity Settings:	Yes, the Workout Preset allows user to temporarily adjust target prior to and/or during exercise
Automatic Correction Boluses:	No
Closed Loop Functionality:	Yes
Automatic Insulin Adjustments:	Yes
Calibration Not Required:	Yes
Waterproof:	No, IP24 splash proof rating.

Medicare/Medicaid Coverage: N/A- yet

Remote Software Update Capability:	Yes
Multiple Languages:	Yes. English and Spanish
Bolus Management Smartphone:	Yes, iPhone and Apple Watch
Food Database:	No

Approved for ages: 6 years and older

Approved use: Type 1 Diabetes

Additional Features:

- Carb absorption easily selected using food emojis, select the emoji to reflect food types and absorption times (fast, medium and slow carb effects)
- 3-ways to bolus: On-pump, via smartphone or Apple Watch
- Correction is delivered via automated basal adjustments over 30 minutes
- Retroactive meal adjustments
- Pre-meal and exercise presets
- iiSure™ technology directly measures the volume of insulin delivered and includes 4 checkpoints along the way to help ensure accurate delivery
- Glucose target range: 87 mg/dL - to 180mg/dL

https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-(cgm)/view-compare-cgms

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CGM/Insulin Pumps/AID Systems: Platforms/Software

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CGM	Platform/Software
Libre 2, Libre 2+, Libre 3, Libre 3+	LibreView
Dexcom G6 and Dexcom G7, Stelo	Clarity
Guardian 3, Guardian 4, and Simplera	Carelink
Insulin Pumps/AID System	**Platform/Software**
Omnipod 5	Glooko & Discover (platform of Omnipod)
Tandem Tslim x2 Control IQ and Mobi	TandemSource
Medtronic “MiniMed” 780G with SmartGuard, 630G, 670G, and 770G	Carelink
BetaBionic	BetaBionic Reports
TWIIST	Tidepool

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What's changing:

- Manufacturing Libre 2 and Libre 3 will cease in September 2025, with the introduction of the Libre 2 Plus and Libre 3 Plus for consumer use, which will feature a 15-day wear time

What's Coming:

- **MiniMed:** Simplera: 7-day and Instinct: 15-day CGM, availability later this year (2025)
- **Libre 3 Plus** with Ketone detection
- **Dexcom G7** 15-day wear, launch late 2026
- **Tandem Tslim x2** has released upcoming compatibility with Libre 3 Plus (both Abbott and Tandem have released this compatibility statement)
- **Tandem** (both Tslim and Mobi) Tubeless 7-day infusion set (SteadiSet) has received FDA clearance. Unknown release date
- **TWIIST** integration with **Eversense 365** implantable CGM is expected in the 4th quarter of 2025 (Date subject to change)
- **Omnipod** has a limited launch (Within Select Health System) of Omnipod Data Platform: Discovery, which will replace Glooko (Date unknown at this time).
- **More options for Diabetes Technology in the future**

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Diabetes Technology Tips

Abbott	Caregiver	https://youtu.be/u0wSeruA8A0
	Libre 3	https://freestyleserver.com/payloads/ifu/2023/q3/DOC48390_Rev_A/English/Assets/home.html
Dexcom	G6	https://s3-us-west-2.amazonaws.com/dexcomvideos/G6+tutorial/story_html5.html
	G7	https://www.dexcom.com/en-us/g7/how-it-works
	Clarity	Dexcom Clarity reporting software
	Share/Follow	Follow app for friends and family
Tandem	Pump demos	Tandem Website for Both Pump Simulators: https://www.tandemdiabetes.com/products/software-apps/virtual-pump-demos
	Tslim	T:slim x2: app that can be downloaded on a smartphone. Download on phone from App Store or Google Play. The app is called "t:simulator"
	Mobi	Tandem Mobi: The simulator can be accessed on a computer or phone at the link below. Once on this page, you can navigate the simulator by clicking on the iPhone on the right side of the page
	Software	https://www.tandemdiabetes.com/products/software-apps/virtual-pump-demos/tandem-mobi-simulator

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Diabetes Technology Tips

Sequel		https://www.twiist.com/
Omnipod		https://www.omnipod.com/current-podders/apps-software
		Omnipod 5 App
Medtronic "MiniMed"	780G, 770G, 630G	https://www.medtronic.com/us-en/healthcare-professionals/therapies-procedures/diabetes/education/resources-downloads.html
	InPen	https://www.medtronicdiabetes.com/customer-support/inpen-system-support
BetaBionics	iLet	https://www.betabionics.com/resources/patient-training-resources/
Cequr	Patch Pump	https://myceqursimplicity.com/resources-support/
Vgo	Patch Pump	www.go-vgo.com
Affrezza	Inhaled Insulin	www.afrezza.com

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Diabetes Technology Tips

- Danatech diabeteseducator.org/danatech provides webinars and technology resources

https://www.adces.org/education/danatech/home

- Danatech diabeteseducator.org/danatech provides webinars and technology resources

https://diabeteswise.org/

- Panther pantherprogram.org provides: information on technology devices, settings, management, and adhesives

pantherprogram.org

https://www.pantherprogram.org/

https://diabetesjournals.org/care/article/48/Supplement_1/S146/157557/7-Diabetes-Technology-Standards-of-Care-in

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Diabetes Technology Tips

2025 Diabetes Technology Practical Tips
Glooko and Tidepool – 3rd party applications offer uniform data views compatible with many devices
Terminology "Download data" from patient device, "Upload" reports
CGM Continuous Glucose Monitor – CSII Continuous Subcutaneous Insulin Infusion

	Dexcom CGM G6 and G7	**Freestyle Libre CGM Libre 2 and 2+ Libre 3 and 3+** Abbott	**Beta Bionics iLet CSII** Automode = iLet Bionic Pancreas	**Medtronic CSII 770G and 780 G** Automode= Smartguard	**Omnipod 5 CSII** PDM personal data manager Automode= automated Mode	**Tandem Tslim X2 and Mobi CSII** Automode= Control IQ
Site/Dept Login Passwords	This is a very important step and maybe a change in practice but will help to streamline and make processes more efficient Recommended to get one username and password "per company or device" for the clinic, site or division you work, and all staff share this login. Not recommended to have several individual logins per provider, update passwords as indicated					
Data management software	**https://clarity.dexcom.com/professional/**	www.libreview.com	iLet dosing software – iLet Mobile APP Report.betabionics.com	https://carelink.medtronic.com/index.html	**https://us.my.glooko.com/users/sign_in**	https://source.tandemdiabetes.com Tslim Source, Tidepool and Glooko
Pump Integration/ CGM Compatibility	Yes see CSII	Yes see CSII	Dexcom G6, G7 Libre 3+	770G – Guardian 3 780G Guardian 3, 4	Dexcom 6, G7, Libre 2+	TslimX2 Dexcom G6 ,G7, Libre 2+ Tandem Mobi Dexcom G6, G7
Auto data Upload	Yes clarity	Yes Libre view	Yes with iLet app	Yes with care link With Mini Med mobile app	Yes if link OP5 to Glooko acct	Yes with tandem mobile app open/running Mobi pump via Mobi app iPhone only 1!
Cords /Connections	Android cable			HCL 770 G-thumb drive blue adapter		Android USB Cable plug pump into computer

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Diabetes Technology Tips

Other Tips						
Troubleshoot/ Contact or local rep	Dexcom Support 844-607-8398 Dexcom Care 888-738-3646	Freestyle Abbott Support 1-855-632-8658	iLet Support 1-855-745-3800	1-800-646-4633 care link support	Dexcom Support 844-607-8398 Dexcom Care 888-738-3646	Tandem Support 1-877-801-6901
EMR	To upload data to EMR If part of an institution check with IT on how to upload to EMR					
Final Tips considerations	If using several devices and cords – labeling cords can be helpful Using Laptop allows more flexibility and mobility to upload and obtain data Simple yet challenging step: some software requires user to set up accounts with email address and create and know username and password					

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Diabetes Resources: Kentucky

KENTUCKY

Scope of Diabetes in Kentucky

13.7% of Adults
Nearly **482,202** **Kentuckians** had Diabetes in 2023

Another **14%** HAVE PREDIABETES and are at risk for developing Diabetes.

*The projection of the total cost of diabetes in Kentucky from $5.1 billion in 2017 to $6.09 billion in 2023 was calculated using a compound annual growth rate (CAGR) formula with an assumed inflation rate of 3% per year for medical and productivity costs. This rate was applied uniformly over the six-year period.

Medicaid adult* members had a diagnosis of diabetes in 2023

KEHP adult* members had a diagnosis of diabetes in 2023

*This difference in prevalence suggests a health disparity due to income.

3,042 Children under the age of 19 covered by Medicaid

313 Children 17 years and younger covered by Kentuckys Employees' Health Plan.

HAVE A DIABETES DIAGNOSIS

*Adults are defined as individuals over the age of 19 for Medicaid and individuals 18 years and older for Kentucky Employees' Health Plan (KEHP)

https://www.chfs.ky.gov/agencies/dph/dpqi/cdpb/Pages/diabetes.aspx

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Thank you for your time and attention

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Diabetes Symposium
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