Here and Now

And Coming Soon...

Diabetes Technology Network UK
Collaborate • Evolve • Support

#DTNUK2025

Disclosures

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Amy Jolley – NHS diabetes specialist dietitian
Provided consultancy for Medtronic and Ypsomed; received honoraria for speaking from Medtronic, SBK, and Diabetes MyWay. Delivered industry supported continuing medical education activities for Dexcom.
DTN committee
Faculty for Lead Academy for Nurses; Diabetes Educator Leader network

None of these activities are considered to be a conflict for this presentation.

Real-time Continuous Glucose Monitoring Systems Comparison Chart

	FreeStyle Libre 2	FreeStyle Libre 2 Plus	FreeStyle Libre 3	Dexcom ONE	Dexcom ONE+	GlucoRx AiDEX
Real-time CGM	Yes*	Yes*	Yes	Yes	Yes	Yes
MARD (%)	9.2	8.2	7.8	9.0	8.2	9.1
Published accuracy data	Yes (T1 n=133)	No (T1=128)	Yes (T1 n=83)	Yes (T1 n=260)	Yes (T1 n=257)	Yes (T1 n=14)
RCT data	Yes	Yes (FSL/FSL2)	Yes (FSL/FSL2)	Yes (G4/5/6)	No	No
Stand-alone use	Yes	Yes	Yes	Yes	Yes	Yes
Hybrid closed loop (HCL) compatibility	No	Omnipod 5	YpsoPump	No	No	No
Sensor life	14 days	15 days	14 days	10 days	10 days +12 hr grace period	14 days
Sensor warm up time	60 mins	60 mins	60 mins	120 mins	Up to 30 mins	60 mins
Separate transmitter	No	No	No	Yes	No	Yes
Transmitter Life	N/A	N/A	N/A	3 months	N/A	4 years
Smartphone app	LibreLink	LibreLink	Libre 3	Dexcom ONE	Dexcom ONE +	GlucoRx AiDEX
Reader available	Yes	Yes	Yes	Yes	Yes	No
Capillary glucose calibration	No	No	No	No	No	No
High & low alarms	Yes	Yes	Yes	Yes	Yes	Yes
Predictive alarms	No	No – stand-alone use	No - stand-alone use Yes - HCL use	No	No	No
Smart pen data connection	NovoPen 6 & Echo Plus	NovoPen 6 & Echo Plus	No	NovoPen 6 & Echo Plus ▲ SoloSmart pen cap ▲	NovoPen 6 & Echo Plus ▲ SoloSmart pen cap ▲	No
Data share HCP	LibreView	LibreView	LibreView	Clarity	Clarity	CGM Viewer
Data share friends/family app	LibreLinkUp	LibreLinkUp	LibreLinkUp	N/A	Dexcom Follow	GlucoRx AiDEX
UK approved wearable site	Back upper arm	Back upper arm	Back upper arm	Abdomen Back upper arm Buttocks [+]	Abdomen Back upper arm Buttocks [++]	Abdomen Back upper arm

☐ = available on prescription (FP10)

☐ = available via NHS supply chain

* When using LibreLink app on smartphone. 'Scanning' still required with reader device
** Different version of Guardian 4 sensor required
▲ via Glooko

[+] 2-17 years old as per manufacturers' guidelines.
[++] 2-6 years old as per manufacturers' guidelines
[+++] 7-17 years old as per manufacturers' guidelines.

Version 8.0 2024

Real-time Continuous Glucose Monitoring Systems Comparison Chart

Diabetes Specialist Nurse Forum UK	Dexcom G6	Dexcom G7	Medtronic Guardian 4	Medtronic Simplera	Medtrum Touch Care Nano
Real-time CGM	Yes	Yes	Yes	Yes	Yes
MARD	9.0	8.2	10.6	10.2	9.1
Published accuracy data	Yes (T1 n=260)	Yes (T1 n=257)	Yes	Yes	Yes (T1 n=10)
RCT data	Yes	No	No	No	No
Stand-alone use	Yes	Yes	Yes	Yes	Yes
Hybrid closed loop compatibility	Tandem t:slim x2 DANA-i YpsoPump Omnipod 5	Tandem t:slim x2	MiniMed 780G **	MiniMed 780G	Touch Care Nano pump (Automode)
Sensor life	10 days	10 days +12 hr grace period	7 days	7 days	10-14 days
Sensor warm up time	120 mins	Up to 30 mins	120 mins	120 mins	30 mins
Separate transmitter	Yes	No	Yes	No	Yes
Transmitter Life	3 months	N/A	12 months	N/A	12 months
Smartphone app	Dexcom G6	Dexcom G7	MiniMed mobile	Simplera	EasySense
Reader available	Yes	Yes	No	No	Yes
Capillary glucose calibration	No	No	No	No	No
High & low alarms	Yes	Yes	Yes	Yes	Yes
Predictive alarms	Yes	Yes	Yes	Yes	Yes
Smart pen data connection	NovoPen 6 & Echo Plus ▲ SoloSmart pen cap ▲	NovoPen 6 & Echo Plus ▲ SoloSmart pen cap ▲	No	Medtronic InPen	No
Data share HCP	Clarity	Clarity	CareLink	CareLink	EasyView
Data share friends/family app	Dexcom Follow	Dexcom Follow	CareLink Connect	CareLink Connect	EasyFollow
UK approved wearable site	Abdomen Back upper arm Buttocks +	Abdomen Back upper arm Buttocks +	Abdomen Back upper arm Buttocks +++	Back upper arm Buttocks+	Abdomen Back upper arm

■ = available on prescription (FP10)
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* Using LibreLink app on smartphone. 'Scanning' still required with reader device
** Different version of Guardian 4 sensor required
▲ via Glooko
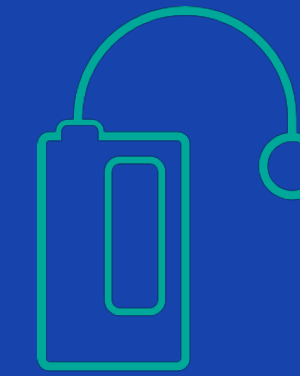
+ 2-17 years old as per manufacturers' guidelines.
++ 2-6 years old as per manufacturers' guidelines
+++ 7-17 years old as per manufacturers' guidelines.

Version 8.0 2024

CGMS – new since the last update

New Product

Abbott FreeStyle Libre 3 Plus sensor - available in the UK from February 2025 on both Drug Tariff & NHS Supply Chain.
- Age 2+
- 15 day wear
- Compatible with Libre 3 app, L3 reader & mylife Loop with mylife CamAPS Fx

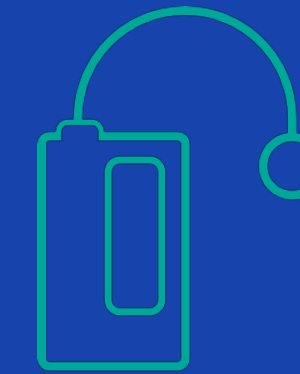Abbott FreeStyle Libre 2 Plus sensor - available on Drug Tariff (July 2024)
- Age 2+
- 15 day wear
- Compatible with Libre 2 app, L2 reader & OP5 controller

Medtonic Simplera sensor for CGMS / SMDI – available via procurement
- Age 2+
- 7 day wear
- Compatible with Simplera app; Carelink Connect and InPen app
- Smart watch compatible

Medtronic Simplera Sync sensor for MM780G – available via NHS Supply Chain
- Age 7+
- 7 day wear
- Compatible with MiniMed mobile app and Carelink Connect app
- Smart watch compatible

CGMS accuracy

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CGM accuracy: Contrasting CE marking with the governmental controls of the USA (FDA) and Australia (TGA): A narrative review

John S Pemberton BSc[1] | Emma G Wilmot PhD[2,3] | Katharine Barnard-Kelly PhD[4] | Lalantha Leelarathna PhD[5,6] | Nick Oliver FRCP[7] | Tabitha Randell MD[8] | Craig E Taplin FRACP[9,10,11] | Pratik Choudhary FRCP[12] | Peter Adolfsson PhD[13]

- ▶ Dexcom Sensors (ONE, G6, G7) and FreeStyle Libre 2 & 3 have published outcome data and accuracy data

- ▶ Other sensors **do not or do not have publicly available data.**

IFCC
International Federation of Clinical Chemistry and Laboratory Medicine

Working Group on Continuous Glucose Monitoring (WG-CGM)

https://ifcc.org/ifcc-scientific-division/sd-working-groups/wg-cgm/

Terms of Reference
- Establish traceability of glucose values obtained by continuous glucose monitoring (CGM) to materials and methods of higher metrological order,
- Establish metrics for the evaluation of the analytical performance of CGM,
- Work with ISO on a new CGM guideline (analogous to ISO 15197) to establish standardized procedures and acceptance criteria for CGM.

Current projects
- Propose means suitable for establishing the traceability of glucose values obtained by CGM to materials and methods of higher metrological order according to ISO 17511, including definition of adequate compartment(s) for reference samples (capillary, venous),
- Find procedures suitable for assessment of analytical performance of CGM systems,
- Define metrics and corresponding minimum acceptance criteria for the analytical performance of CGM systems.

Publications
Clinical Performance Evaluation of Continuous Glucose Monitoring Systems: A Scoping Review and Recommendations for Reporting. Freckmann G, Eichenlaub M, Waldenmaier D,

MDI therapy

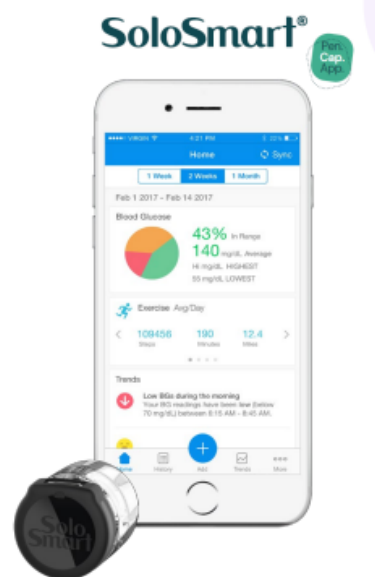**Diabetes Technology Network UK**
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SMART PENS

DEXCOM

dexcom one

novo nordisk glooko
BETTER TOGETHER

tempo

Currently connected to *glooko*

- Available in- app help to set up and activate device for **patients** with step by step set-up guide
- Personalised remote monitoring app *glooko*

SoloSmart®

Smart connections

mylife Bolus calculator app – free to use.
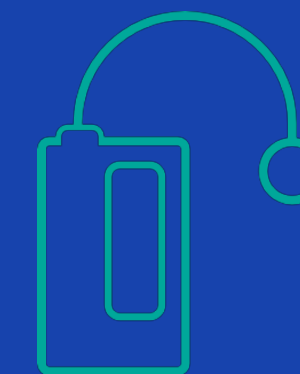Dexcom G6 connection feeds glucose result into calculator automatically.

- Insulin Dosing Algorithm Company Integration and Interoperability with devices linking with Glooko (not libre).

- Glooko App

- Subscription (£8-10 per pt/month)

- Food database

SMDI therapy
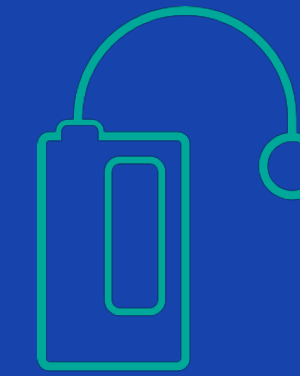

- Grey pen Lilly insulin; Blue for Novo (no other insulins compatible)
- Records CGM data; insulin doses delivered; and missed doses
- Calculate mealtime and correction bolus doses via carb counting, meal estimation or fixed dose options
- Alerts to missed meals and high glucose levels requiring insulin dose
- CGM is 7 day wear
- No separate transmitter
- No calibrations
- Connects to smart watch

Pumps and HCL

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- ALL Systems have had an update in the last 12 months or are due one very very soon...developments continuously being rolled out – how are you keeping up to date, your team up to date, and most importantly – the people using the systems up to date?

- Sensor compatibility • Software updates

- Licensed insulin • Infusion sets • Phone apps

- Are you utilising industry, online access to training/webinars/update material, in-person update groups, and clinic contacts?

Commercial Closed Loop Systems

	Medtronic 780G	Tandem Control IQ	Cam APS	Omnipod 5
Pump				
CGM				
Target	5.5 (default), 6.1 or 6.7 mmol/L	Range 6.3-8.9 mmol/L daytime; 6.3-6.7 mmol/L overnight; 7.8-8.9 mmol/L activity	Personalised target: 4.4-11.0 mmol/L – default 5.8 mmol/L	Personalised target: 6.1-8.3 mmol/L
Variables	Active insulin time I:C ratio	I:C ratio Insulin sensitivity factor Basal rates	I:C ratio	Active insulin time I:C ratio Can give manual correction
Insulin delivery	Basal insulin adjusted every 5 minutes	Basal insulin adjusted only if SG predicted to exit range	Basal insulin set to zero: extended bolus given every 10-12 minutes	Basal insulin adjusted every 5 minutes
Connectivity	Minimed Mobile and Carelink Connect App Carelink	Glooko-Diasend	CAMAPS FX App – Android only Glooko-Diasend	Glooko-Diasend
CE license (age)	>7 years	>6 years	>1 years Pregnancy	>2 years

Developments and on the horizon

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New Product

Libre 3 Plus compatibility later in 2025?

- **t:slim X2 Pump:**
  - **t:connect Mobile App:** Includes phone bolus feature (only in US).
  - **European Launch of t:connect Mobile App and Tandem Source Readout Platform:** Beginning in 2025 (without phone-bolus option).
- **Mobi Pump: Age 2+**
  - **Availability:** expected 2025.
  - **Mobi Mobile App:** Currently iOS only.

THE FUTURE

- **Future Developments:**
  - **Mobi:tubeless and Sigi Pump:** Under development.
  - **SteadiSet Infusion Set:** 7-day wear; pivotal trial completion by end of year

New 780G pumps and coming soon to 780G existing pumps

- Simplera Sync sensor compatibility
- Licence for ultra-rapid insulin
- Set change reminders programme 2-7 days
- Option to add manual BG to bolus wizard (rather than separate blood glucose menu section)
- Three options for reservoir/set changes separating out reservoir and set change option
- Sensor updating – gives estimated time to completion
- Auto correction default 0.025u independent of what is programmed in the pump settings

Option for one month trial with no commitment.

Developments on the horizon

Medtronic's Future

1. **8-Series Pump:**
   - Smaller, tubed pump controllable via new Android and iOS apps.
   - Compatible with existing Extended reservoirs and infusion sets.
   - **CE Mark Submission:** Completed.
   - **Pivotal Study:** Planned for 2025.
2. **Modular Patch Pump:**
   - Medtronic is working on their own patch pump.
   - **Insulin Capacity:** 300 units.
   - **Wear Duration:** 7 days with Extended wear infusion set

•**Novel Medtronic Experimental Automated Insulin Delivery (NMX-AID):**
   - Features aggressive basal insulin adaptation through adaptive learning.
   - **Pump Start Feature:** Bypasses 48-hour warm-up for SmartGuard activation.
   - **Automatic Meal Boluses:** Without user input or acknowledgment.
   - **Expected Results Presentation:** @ATTD2025.
   - Users will be able to choose between carb announcements, meal announcements, or no meal announcements

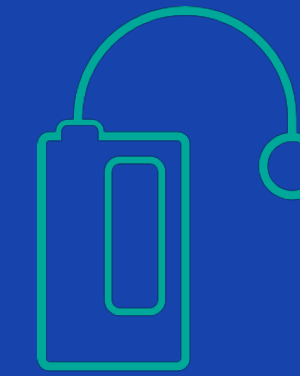8-Series Pump

Developments and on the horizon

Now available:

- The Transform 360 Academy -an online training portal for HCPs

- New in-app training for CamAPS FX has replaced the old online training (this is for new patients/carers going onto the system)

- App already compatible with FSL 3+

- The digital essentials pack can be ordered via NHS supply chain

- Option to request one-month trial of system

Coming soon:
- iPhone compatibility with CamAPS
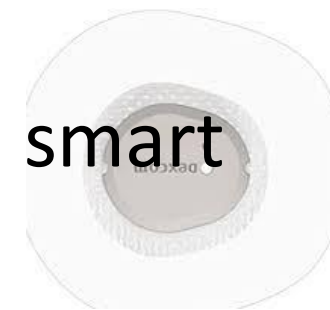
Developments and on the horizon

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Now available with most recent update:

- Dexcom G7 compatibility via smart phone
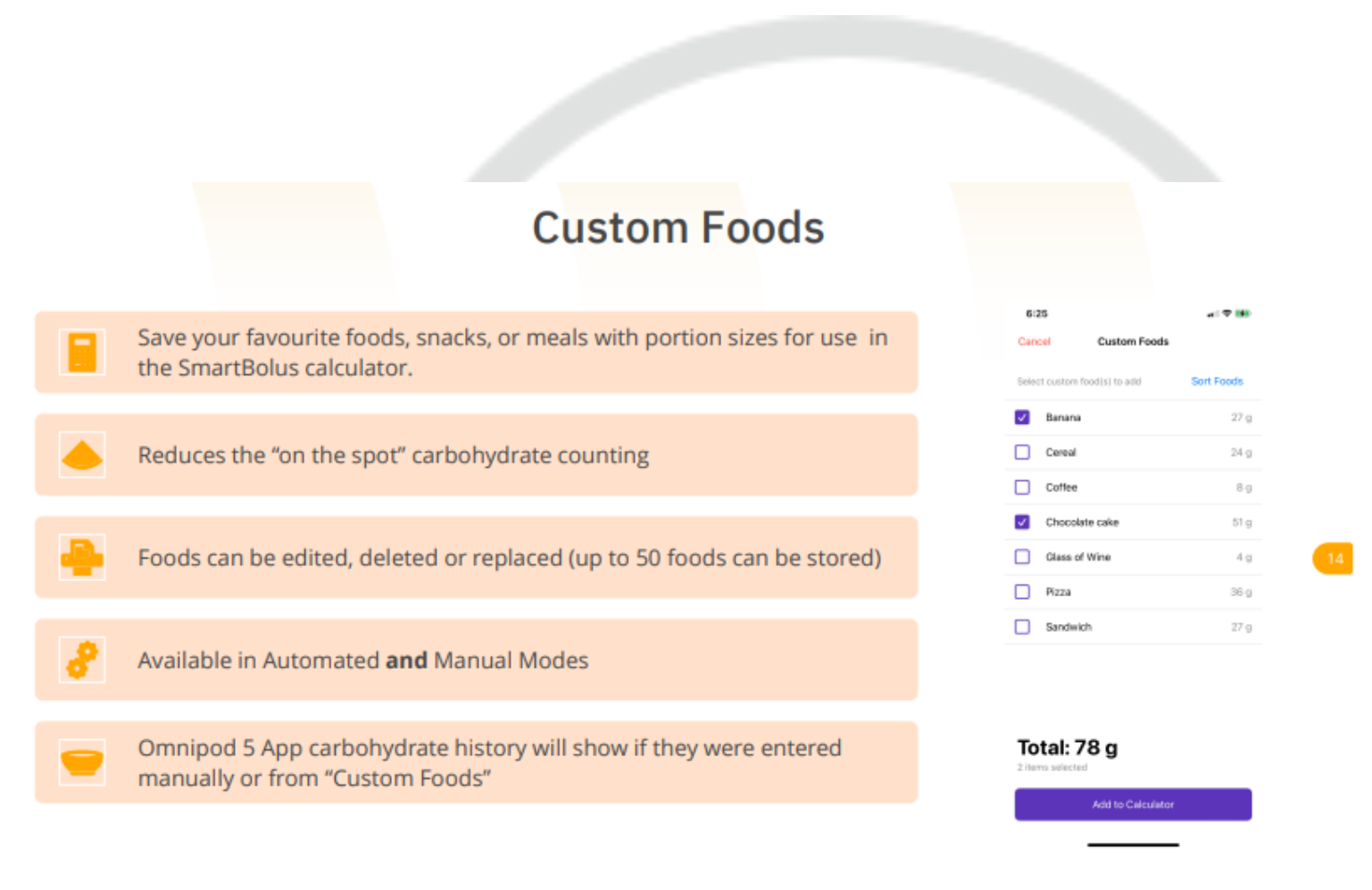
- Meal library
People can save regular meals in a library and search for the meal in the bolus calculator and option to programme meal estimation values as part of the library i.e. Small meal (30g)

Custom Foods

Save your favourite foods, snacks, or meals with portion sizes for use in the SmartBolus calculator.

Reduces the "on the spot" carbohydrate counting

Foods can be edited, deleted or replaced (up to 50 foods can be stored)

Available in Automated **and** Manual Modes

Omnipod 5 App carbohydrate history will show if they were entered manually or from "Custom Foods"

6:25
Cancel   Custom Foods
Select custom food(s) to add   Sort Foods

☑ Banana   27 g
☐ Cereal   24 g
☐ Coffee   8 g
☑ Chocolate cake   51 g
☐ Glass of Wine   4 g
☐ Pizza   36 g
☐ Sandwich   27 g

Total: 78 g
2 items selected
Add to Calculator

14

Remember:

PODs will now be available to order as Dexcom PODs or Libre PODs.
- Dexcom PODs compatible with G6 and G7
- Libre PODs compatible with Libre 2 plus and Dexcom G6

Summary

T1D and technology intertwined

Connected pens + sensors developing to support pre-pump users/those remaining on MDI therapy

Hybrid closed loops for those unable to reach target levels

Always remember the person using the technology and their goals and objectives

All people supporting people with type 1 diabetes need to be aware of the different technologies and how they can help