Educational Resources on Hybrid Closed Loop for HCP's and PWD

Prepared by: Laura Stokes-Beresford, Senior Commissioning Manager for Diabetes
Reviewed by: Dr Rahul Mohan, GP - West Bridgford Medical Centre, GPwSI Diabetes
Date updated: April 2026

This document has been designed to support HCPs and PWD to access freely available Continuous Glucose Monitoring and Hybrid Closed Loop educational resources.

All information is correct at time of being published and will be reviewed and updated regularly.

Contents

Introduction to Hybrid Closed Loop Technology 3
Hybrid Closed Loop Systems Comparison Chart 4
Reviewing Hybrid Closed Loop Systems 6
Diabetes Technology Educational Framework 9
Level 1 – for unregistered staff such as Healthcare Assistants, Social Care Assistants and Care Navigators 10
Level 2 – for registered staff including Practice Nurses, GPs, Community and District Nurses and Pharmacists in PCNs 12
Level 3 – for experienced or proficient staff such as Specialist Diabetes Teams in Primary / Community Care and often in Secondary Care 15
Level 4 – for senior or expert staff such as Diabetes Specialist Nurses, Consultant Medics, GPs with a special interest in diabetes, Diabetes Specialist Dietitian and Consultant Pharmacists 17
DTN-UK Resources 20
DAFNE Closed Loop Essentials for PWD 22
Decision Support Tool – Making a Decision About Managing Type 1 Diabetes 23
Hybrid Closed Loop Module via Cambridge Diabetes Education Programme (CDEP) – Now Available 24

Definitions

HCL	Hybrid Closed Loop
HCP's	Healthcare Professionals
CGM	Continuous Glucose Monitoring
PCNs	Primary Care Networks
PWD	Person living with diabetes

Introduction to Hybrid Closed Loop Technology

Hybrid closed loop (HCL) systems link continuous glucose monitoring (CGM) with insulin pump technology to monitor blood glucose and automatically adjust the amount of insulin given through a pump to people living with Type 1 diabetes.

HCL can reduce finger-prick tests and life-threatening hypoglycaemic and hyperglycaemia episodes, which can lead to seizures, coma or even death for people living with Type 1 diabetes.

National Institute for Health and Care Excellence (NICE) recommended that HCL technology should be rolled-out in a phased implementation, over the next 5 years, with its first phase starting in April 2024, to thousands of patients including:

adults living with type 1 diabetes who have an HbA1c of 58 mmol/mol (7.5%) or higher, or have disabling hypoglycaemia despite best possible management with at least one of the following:

- continuous subcutaneous insulin infusion (CSII)
- real-time CGM
- intermittently scanned CGM

children and young people (under 18 years old) living with Type 1 diabetes.

women, trans men and non-binary people living with Type 1 diabetes who are pregnant or planning to become pregnant.

There may be individual scenarios which may have not been covered by this resource. One should contact their local diabetes specialist in case they come across such.

All patients who are eligible should continue to attend appointments as normal and discuss options with their diabetes team.

For further information, NHS England » Hybrid closed loop technologies: 5-year implementation strategy

A reminder - any young person under the age of 25 with any form of diabetes must be under the care of a specialist diabetes service and should be referred immediately if this is found not to be the case.

Hybrid Closed Loop Systems Comparison Chart

	Medtronic	Ypsomed	Insulet
HCL algorithm	SmartGuard	mylife Loop (mylife CamAPS FX)	SmartAdjust
Location of algorithm	Pump-integrated	App based (Android & IOS)	Pod-integrated
Pump	Medtronic 780g	mylife YpsoPump	Omnipod 5
Pump type	Tethered (tubed)	Tethered (tubed)	Patch (tubeless)
Continuous glucose monitor (CGM)	Guardian 4, Simplera Sync	Dexcom G6, FreeStyle Libre 3 Plus	Dexcom G6 & G7, FreeStyle Libre 2 Plus
Control & bolus delivery operation	Pump	Android smartphone	Omnipod 5 Controller (PDM)
Pump charging mechanism	AA battery	AAA battery	Battery within each pod Controller is rechargeable
Target glucose	5.5, 6.1 or 6.7 mmol/L (default 5.5)	Customisable from 4.4 to 11.1 (default 5.8)	6.1, 6.7, 7.2, 7.8, or 8.3 mmol/L
Exercise mode target glucose	8.3 mmols/L	No specific target. Ease off mode can be used for exercise	8.3 mmol/L & less insulin delivery
Sleep mode target glucose	No	Customisable glucose target can be adjusted overnight	Customisable glucose target or exercise feature (see above)
Bolus calculator based on	CGM value, glucose trend data and bolus calculator settings	CGM value only with bolus calculator settings	CGM value, glucose trend data and bolus calculator settings
Automated correction bolus settings	If predictive glucose > 6.7 mmols/L and if max basal rate is reached	Incorporated into continuous insulin delivery. Adjusts insulin delivery every 8-12 minutes	Automated micro-boluses every 5 mins. Plus user initiated correction bolus
Active insulin time	Adjustable	Adjustable	Adjustable
Set up requirements	Basal rates, ICR, ISF & AIT	TDD & body weight	Basal rates, ICR, ISF & AIT
Algorithm mechanisms	Uses TDD over past 2-6 days. Requires 48 hours of manual mode to learn user profile	Overall insulin needs, diurnal, post meal	Adapts with each pod using previous TDDs. Predicts glucose 60 mins ahead
Remote monitoring for parents/carers	Glucose and insulin data via CareLink Connect app	Glucose and insulin data via 'companion' in mylife CamAPS FX app	Glucose via Dexcom follow app if using G6
Data share with HCPs	CareLink (via app in real-time)	Glooko (real-time)	Glooko (real-time)
Minimum and maximum daily dose	8-250 units per day	5-350 units	Min 5 units per day Min 85 units to activate pod
Pump capacity	300 units	160 units	200 units
Insulin compatibility	NovoRapid, Fiasp, Lyumjev & Humalog	NovoRapid, Humalog, Fiasp, Apidra & Lyumjev	NovoRapid, Humalog, Trurapi & Admelog
Licensed in pregnancy	No	Yes	No
Age Range	7-80 years	1 years & over	2 years & over
Demo pump app/simulator	Yes	Yes	Yes

ICR – insulin carbohydrate ratio
ISF – insulin sensitivity factor

TDD – total daily dose of insulin
AIT – active insulin time

For availability of systems approved by NHS England: www.supplychain.nhs.uk/product-information/contract-launch-brief/insulin-pumps-and-associated-products

Version 8.0 12th December 20255: Adapted for health care professionals from Tim Street's Hybrid closed loop systems

urse Forum UK

	Tandem	Advanced Therapeutics	Medtrum
HCL algorithm	Control IQ Technology	CamAPS FX	APGo
Location of algorithm	Pump-integrated	App based (Android)	Controller pump/CGM integrated
Pump	T:slim X2	DANA-i	Nano pump
Pump type	Tethered (tubed)	Tethered (tubed)	Patch (tubeless)
Continuous glucose monitor (CGM)	Dexcom G6, Dexcom G7	Dexcom G6	Medtrum Nano CGM
Control & bolus delivery operation	Pump	Android smartphone	Either PDM, iPhone, or Android smartphone
Pump charging mechanism	Rechargeable	AAA battery	Battery within each Patch PDM is rechargeable
Target glucose	6.1 mmol/L(treatment values 6.25-8.9)	Customisable from 4.4 to 11.1 (default 5.8)	Customisable 5.6, 6.1 and 6.7 (default 5.6)
Exercise mode target glucose	6.1 mmol/L (treatment values 7.8-8.9)	No specific target. Ease off mode can be used for exercise	Less insulin delivery for exercise mode, no specific target
Sleep mode target glucose	6.1 mmol/L (treatment values 6.25-6.7)	Customisable glucose target can be adjusted overnight	Customisable glucose target or exercise feature (see above)
Bolus calculator based on	CGM value only with bolus calculator settings	CGM value only with bolus calculator settings	CGM value, glucose trend data and bolus calculator settings
Automated correction bolus settings	If predicted glucose in 30 mins >10 mmols/L	Incorporated into continuous insulin delivery. Adjusts insulin delivery every 8-12 minutes	Automated micro-boluses every 2 mins
Active insulin time	Not adjustable (set at 5 hrs)	Adjustable	Adjustable
Set up requirements	TDD, body weight, basal rates, ICR & ISF	TDD & body weight	TDD and/or body weight
Algorithm mechanisms	Updates every 5 mins based on rolling 6-day average of TDD Predicts glucose 30 mins ahead	Overall insulin needs, diurnal, post meal	Updates every 2 mins based on previous insulin needs, post meal and/or glucose prediction
Remote monitoring for parents/carers	Glucose via Dexcom follow app	Glucose via Dexcom follow app	Glucose and insulin data via Medtrum EasyFollow app
Data share with HCPs	Glooko (download needed)	Glooko (real-time)	Medtrum EasyView (real-time)
Minimum and maximum daily dose	10-100 units per day	5-350 units	5-180 units
Pump capacity	300 units	300 units	200 or 300 units
Insulin compatibility	NovoRapid, Humalog, Lyumjev & Admelog	Any rapid and ultra-rapid acting	Humalog, NovoRapid, Apidra, Fiasp, Lyumjev and Insulin lispro Sanofi
Licensed in pregnancy	No	Yes	No
Age Range	6 years & over	1 years & over	2-75 years
Demo pump app/simulator	Yes	?	Yes

ICR – insulin carbohydrate ratio
ISF – insulin sensitivity factor
TDD – total daily dose of insulin
AIT – active insulin time

For availability of systems approved by NHS England: www.supplychain.nhs.uk/product-information/contract-launch-brief/insulin-pumps-and-associated-product

Version 8.0 12th January 2025: Adapted for health care professionals from Tim Street's Hybrid closed loop systems

Reviewing Hybrid Closed Loop Systems

General Considerations

- Review time in automode, time in range, time below range and AGP.
- Dive into daily reports to look for patterns.
- Is automode > 80%? If not, assess why.
- If TIR is less than expected:
- Behaviour vs structure- are the settings correct? Have the automode settings been optimised?
- Review timing of bolus, advise importance of pre-bolus timing.
- Assess for missed bolus or snacks, If given late could cause initial hyperglycaemia then post prandial hypos. Educate if late bolus < 1 hr from meal only enter half of carbs eaten as system would have already started correcting, >1hr correct through bolus calculator.
- Review is user is accurately carbohydrate counting
- Check if user is over-riding the bolus calculator or entering fake carbs
- Review if pump is correcting or stopping basal after meals, if so the ICR may need adjusting.
- Check if hyperglycaemia is secondary to hypo treatments and revisit education. Overtreatment of hypos could cause the pump to correct
- Does the user know what to do with unexplained highs, If above 15.0mmol/l for >2hrs change cannula.
- Check set changes are appropriate e.g. steel cannulas usually need changing every 2 days & silicone every 3 days or 7 days depending on cannula.
- Assess the user knows when/how to use the special features 'exercise mode' to avoid hypoglycaemia
- Update user weight every 6 months if using Ypsomed or Tandem T-slim x2 pumps

Illness Management

- Check user has a ketone meter and blood ketone strips on prescription
- Check user had a management plan for illness/sick days
- Check user has back up insulin pens

Diabetes Specialist Nurse Forum UK

Quick reference guide - adjustments that can be made in automated HCL mode

Diabetes Specialist Nurse Forum UK

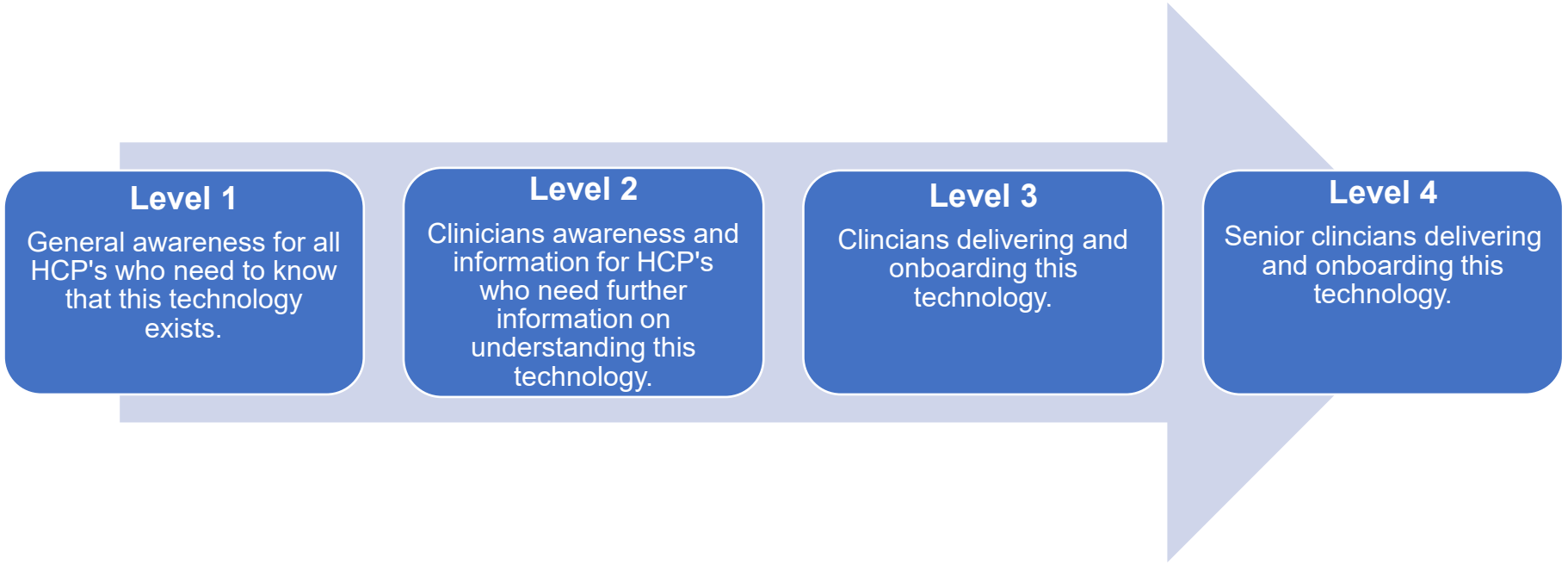
Pump	Basal rates	ICR	ISF	Active insulin time	Target level	Exercise/activity mode
Medtronic 780G	❌	✅	❌	✅	✅	✅
Omnipod 5	❌	✅	✅	✅	✅	✅
Tandem t:slim x2	✅	✅	✅	❌	❌	✅
CamAPS Ypsopump & Dana I	❌	✅	❌	❌	✅	✅
Medtrum	❌	✅	✅	❌	✅	✅

ICR = Insulin to carbohydrate ratio, ISF = Insulin sensitivity factor/correction factor, AIT = active insulin time, HCL = hybrid closed loop, CGM = continuous glucose monitor, AGP= Ambulatory Glucose Profile

Hybrid Closed Loop Systems - adjustments that can be made in automated HCL mode

Pump	CGM	Editable functions in HCL	What to edit if hyperglycaemia	What to edit if hypoglycaemia
Medtronic 780G	Guardian 4 Simplera Sync	• Active insulin time • SmartGuard target • ICR • Temp target	• Optimise SmartGuard settings (SmartGuard target 5.5mmol/l, & active insulin time 2hrs) • Strengthen ICR if hyperglycaemia after meals • Check if hyperglycaemia is secondary to over treatment of hypos and revisit education • Reduce active insulin time	• Increase glucose target if applicable or use a temporary target • Weaken insulin ICR if hypos after meals (check meal reports) • Assess if hypos are caused by 'fake carb' boluses • Use temp target feature 1-2 hours before exercise • Reduce meal bolus(-30%) if within 90 mins of exercise & increase active insulin time
Omnipod 5	Dexcom G6 Dexcom G7 Libre 2 Plus	• Active insulin time • Target glucose • ICR • ISF • Activity Feature	• Reduce glucose target if applicable. • Review if over-riding bolus calculation • ISF related to manual corrections • Consider strengthening ISF	• Increase glucose target if applicable • Consider using the activity feature • ISF related to manual corrections • Assess if the user over-riding the bolus calculator /fake carbs • Use the activity feature 1-2 hours before exercise
Tandem t:slim x2	Dexcom G6 Dexcom G7	• Basal rates • ICR • ISF • Exercise activity • Sleep activity	• Turn sleep activity on overnight if hyperglycaemia overnight/fasting • Recalculation of all settings: • Consider strengthening ISF • Increase basal rate 1-2 hours prior to the hyperglycaemia	• Reduce basal rates by 10-20% 1-2 hours prior to hypoglycaemia pattern • Check if overriding bolus calculator/'fake carbs' • Consider weakening ISF • Use exercise activity 1-2 hours before exercise
CamAPS FX: YpsoPump & Dana I	Dexcom G6 Libre 3 plus	• Target Glucose • ICR • Boost • Ease off	• Review target level, reduce if applicable • Strengthen the ICR if hyperglycaemia after meals • Allow the algorithm to to learn and adjust the insulin before using 'boost' function • Boost should only be used for known reasons for hyperglycaemia e.g. reduced activity, illness, stress, menstrual cycle • Boost – increases basal by 35% to be used if BG rise too high	• Review target level, increase if applicable • Review ICR if hypos after meals • Allow the algorithm to learn and adjust the insulin before using 'ease off' function • Ease off should be used for events known to cause hypoglycaemia e.g. unexpected exercise, alcohol, menstrual cycle • Use ease off prior to hypo patterns (this won't work if pump has already suspended insulin) • Encourage user to add hypo treatments into the add meal section to avoid overcorrection after hypo. • Ease off increases BG target by 2.5mmol/l
TouchCare® Nano System	TouchCare® Nano Pump & Nano CGM	• ICR • ISF • Target SG • Exercise activity • Ability to Announce meals using automeal announcements (breakfast, lunch, dinner, snack	• Review target SG, reduce if applicable • Strengthen the ICR if hyperglycemia after meals • If average glucose is too high and the low glucose is acceptable, consider strengthening ISF	• Review target SG, increase if applicable • Use exercise activity 1-2 hours before exercise • If hypos after meals, check whether IOB is reasonable and consider weakening ICR • If the average glucose is too low, consider weakening ISF.

Diabetes Technology Educational Framework



Level 1 – for unregistered staff such as Healthcare Assistants, Social Care Assistants and Care Navigators

Aims of level 1 training	Level 1 training resources
Understand what continuous glucose monitoring (CGM) is	Cambridge Diabetes Education Programme (CDEP) has this Introduction to CGM. Please note that a CDEP licence is required to access CDEP training modules. See registration details on the CDEP page of this document to get your free CDEP licence. The Primary Care Diabetes Society (PDCS) is developing some free learning modules aimed at those wishing to increase their knowledge of, and confidence in CGM. Each module will be a video interspersed with multiple-choice questions, followed by a multiple-choice assessment to check your understanding. Modules will take around 30 minutes to complete. Additional downloadable resources will also be available to support the learning points. We will link to these learning modules here as soon as they become available.
Understand what hybrid closed loop (HCL) insulin delivery is	Cambridge Diabetes Education Programme (CDEP) is developing a training module that is expected to be available from April 2025.Please note that a CDEP licence is required to access CDEP training modules. See registration details on the CDEP page of this document to get your free CDEP licence.
To be familiar with patient information for the glucose monitoring systems, Libre 2 and Dexcom 1	See the Libre and Dexcom resources on the Level 2 training page.
To be able to scan someone's continuous glucose monitoring (CGM) sensor using that person's smart phone or reader, and know what a normal range for readings should be for that person	TREND Diabetes guideline Monitoring in adult diabetes: Glucose and ketones
To know the routes to gaining support from a registered healthcare	Understand and follow local policy and procedures for clinical review and escalation.

professional if results are significantly out of target range	
To know the routes for two-way communication with the manufacturers to raise and communicate quality concerns	Understand and follow local policy and procedures for quality assurance and escalation.
Follow the policy for safe disposal of the sensors	TREND Diabetes guideline Monitoring in adult diabetes: Glucose and ketones
Recognise the signs and symptoms of hypoglycaemia and treat appropriately	TREND Diabetes leaflet Why do I sometimes feel shaky, dizzy and sweaty: Hypoglycaemia explained
Understand the alarms associated with CGM devices and respond appropriately	See the Libre and Dexcom resources on the Level 2 training page.
Understand that some people with type 1 diabetes use insulin pumps instead of insulin injections	TREND Diabetes guideline Monitoring in adult diabetes: Glucose and ketones
Understand that some people with type 1 diabetes use hybrid closed loop (HCL) systems instead of insulin injections	Cambridge Diabetes Education Programme (CDEP) is developing a training module that is expected to be available from April 2025. Please note that a CDEP licence is required to access CDEP training modules. See registration details on the CDEP page of this document to get your free CDEP licence.
Understand and offer personalised care approaches which can support individuals with diabetes to live well and self-care	The Personalised Care Institute free e-learning courses cover personalised care core skills and NHS England has this information about shared decision-making

Level 2 – for registered staff including Practice Nurses, GPs, Community and District Nurses and Pharmacists in PCNs

Aims of level 2 training

Before starting level 2 training, learners must be able to evidence they have undertaken learning to meet level 1 aims. The additional aims of level 2 learning are as follows:

- Able to interpret blood glucose results and HbA1c results to identify unrecognised hypoglycaemia and to be able to refer for review for CGM for those who would benefit.
- Teach a person how to apply and use prescribed CGM.
- Identify and demonstrate an understanding of when CGM testing alone is not appropriate and where traditional finger prick testing is required in parallel. An example would be for measuring ketones, if there is concern that the CGM device is not working, for heavy goods vehicle drivers and so on.
- Can advise on appropriate individualised targets for CGM.
- Able to advise on the frequency of scanning that would be recommended in the case of CGM.
- Can do basic interpretation of CGM data and action a plan in response to readings that are outside of the individuals target ranges.
- Are able to identify those who would benefit from escalation from CGM to a HCL system and know how to refer individuals to access HCL.

Level 2 aims for specialist diabetes services only:

- Demonstrate an awareness of insulin pumps and hybrid closed loop (HCL) system when in contact with the individuals using this therapy.
- Know how to treat hypoglycaemia in someone using an insulin pump or HCL system.

- Know what to do in the case of insulin pump or HCL system failure. All individuals should be provided with pump failure guidance and have an insulin pen at home in case of such event.
- Demonstrate an understanding of the impact of intercurrent illness and the urgent need for escalation to ED for review and treatment if individual is unwell.
- Follow local or national guidance if admitted to acute sector for care.
- Enable the person with diabetes to self-care when in a hospital setting (Community and Secondary).

Level 2 Resources

EDEN (Leicester Diabetes Centre)	EDEN has developed an education package Implementing glucose sensing in primary care. Endorsed by the Primary Care Diabetes Society and Diabetes Technology Network, the training has been developed in response to the latest NICE guidelines (NG17 and NG28) recommending wider access on the NHS to glucose monitoring for people living with diabetes.
Freestyle Libre 2	Abbott customer service contact details: General enquiries: 0800 170 1177 (Mon-Fri 8:00am – 8:00pm, Sat 9:00am – 5:00pm) Digital Health Solutions (FreeStyle LibreLink, LibreLinkUp and LibreView): 0800 612 3006 (Mon-Fri 8:00am – 5:30pm) Abbott primary care onboarding web page has the following resources: • FreeStyle Academy: Certified bite-sized learning modules (each taking 10-15 minutes to complete). • FreeStyle Libre 2 tutorial videos • On demand webinars covering topics such as: Understanding time in range and Spotlight on hypoglycaemia. • LibreView set up - short tutorials on how to complete your individual practice setup and start to connect with your patients. • FreeStyle UK and Ireland YouTube channel with over 30 tutorial and educational videos, playlists and webinars.

	• Sample sensors for use by HCPs for training purposes. • Patient starter kits for use by HCPs to order free of charge sensors and readers to their practice if they wish to initiate patients Compatible smartphone guide.
Dexcom	Dexcom website for healthcare professionals has a dedicated Dexcom Pharmacy FAQ page that is particularly helpful for Dexcom ONE. The Dexcom Education Hub is a comprehensive resource for staying informed about diabetes care and technology, designed to help healthcare professionals offer the best diabetes care and technology. It holds a wealth of constantly updated CPD accredited online courses, relevant clinical studies and reviews. Dexcom's patient care specialist team can be contacted by email to: ukie.pcs@dexcom.com Resources needed to get patients started on Dexcom ONE, including starter guides and patient handouts are available on the Dexcom clinic resources page.
GlucoRx	A range of training resources are available on the GlucoRx healthcare professional hub, including an 'AiDEX Academy' made up of six bite-sized modules, video tutorials and FAQs.
Cambridge Diabetes Education Programme (CDEP)	The CDEP has a range of CGM training modules suitable for different levels and different staffing groups, as well as a HCL module due April 2025. Please note that a CDEP licence is required to access CDEP training modules. See the CDEP page of this document to get your free CDEP licence.
Primary Care Diabetes Society (PDCS)	The Primary Care Diabetes Society (PDCS) free learning modules are aimed at those wishing to increase their knowledge of CGM, insulin safety and non-insulin therapy (as well as other diabetes learning). Each module video has breaks for multiple-choice questions, followed by a multiple-choice assessment to check your understanding. Modules take around 60 minutes to complete and cover: • What CGM is and who is eligible • Initiating CGM in primary care • Introduction to Time in Range • Interpreting glucose profiles • Advanced interpretation of ambulatory glucose profiles

Level 3 – for experienced or proficient staff such as Specialist Diabetes Teams in Primary / Community Care and often in Secondary Care

Aims of level 3 training

Level 3 training covers all the aims listed at level 1 and level 2, plus the following:

- Identify which people with diabetes may be suitable and eligible for CGM.
- Initiate or refer to an appropriate service for initiation of procured CGM where appropriate after detailed discussion and agreement with the person living with diabetes.
- Be proficient at more complex interpretation of CGM and plan care in accordance with results, taking into consideration the wishes of the person living with diabetes.
- Be proficient at teaching the person with diabetes and their carers how to interpret their own CGM data and empower people to act in response to results when needed.
- Provide support and mentorship to more junior staff to improve competence and confidence.

Level 3 aims for specialist diabetes services only

- List the criteria for use of insulin pump and hybrid closed loop therapy.
- Demonstrate an understanding of the difference in insulin delivery and the benefits and risks associated with insulin pump and hybrid closed loop therapy.
- Ensure the individual has access to the most appropriate device for monitoring blood glucose and blood ketone levels.
- Monitor and support junior staff to ensure they have appropriate competence.

Level 3 training resources

Glooko Academy	Glooko Academy is an education platform for diabetes technology, certified by the Association of British Clinical Diabetologists (ABCD). Modules you may find beneficial include: • Connected pens • Continuous glucose monitoring • Flash glucose monitoring • Self-monitoring blood glucose (SMBG) • Virtual consultations
Cambridge Diabetes Education Programme (CDEP)	The CDEP has a range of CGM training modules suitable for different levels and different staffing groups, as well as a HCL module due April 2025. Please note that a CDEP licence is required to access CDEP training modules. See the CDEP page of this document to get your free CDEP licence.

Level 4 – for senior or expert staff such as Diabetes Specialist Nurses, Consultant Medics, GPs with a special interest in diabetes, Diabetes Specialist Dietitian and Consultant Pharmacists

Aims of level 4 training

Level 4 training covers all the aims listed at levels 1 to 3, plus the following:

- Help develop local guidance or strategy to enable more access to CGM.
- Demonstrate an in-depth knowledge regarding the use of different insulin therapies in conjunction with advanced technologies to support individuals in the management of their diabetes (e.g. insulin pump therapy in hybrid closed loop system, smart meters and smart pens connected to CGM).
- Be able to advise and initiate procured CGM both as standalone and as part of a hybrid closed loop system considering the functionality of the devices and the needs of the individual.

Level 4 aims for specialist diabetes services only

- Co-ordinate assessment processes relating to potential service users.
- Assess the person with diabetes regarding self-management skills.
- Provide structured education to support informed decision-making, regarding how this therapy differs when controlling and monitoring their diabetes, including: specific insulin pump devices, specific hybrid closed loop devices follow-up requirements, risk versus benefit and additional functions associated with pump devices.
- Demonstrate understanding and provide education supporting nutritional requirements, glycaemic effects of different foods, weight management and concepts of carbohydrate counting.
- Review carbohydrate counting skills and insulin ratios.
- Develop and ensure delivery of educational materials, supportive networks and models of diabetes care that foster empowerment and lifelong learning about diabetes.
- Work with the person with diabetes to facilitate lifestyle adjustment in response to changes in their diabetes or circumstances.
- Review blood glucose monitoring results to ensure effective use of insulin pump or HCL system.

- Provide education for other healthcare professionals and care workers in diabetes self-care skills in using insulin pump or hybrid closed loop therapy.
- Demonstrate in-depth knowledge regarding the use of different insulin therapies and advanced technology to support these individuals in the management of their diabetes (e.g. smart meters, CGM).

Level 4 training resources

Glooko Academy	Glooko Academy is an education platform for diabetes technology, certified by the Association of British Clinical Diabetologists (ABCD). Modules you may find beneficial include: • Diabetes technology in pregnancy • Sensor augmented pumps (SAP) • Continuous subcutaneous insulin infusion (CSII) • Pumps for CSII
Cambridge Diabetes Education Programme (CDEP)	The CDEP has a range of CGM training modules suitable for different levels and different staffing groups, as well as a HCL module due April 2025. Please note that a CDEP licence is required to access CDEP training modules. See the CDEP page of this document to get your free CDEP licence.
Tandem T-slim X2	AW-1011078_B, User Guide, tslim X2, Control-IQ 7.7, mmolL, eng, International, Web AW-1004796_C, User Guide, Tandem Device Updater 5.4, Artwork Documents Insulin Pumps and Diabetes Management | Tandem Diabetes Care T-slim-Control-IQ-hybrid-closed-loop-training-booklet-2.pdf
CamAPS FX	Welcome to the CamAPS FX training portal Support - CamAPS FX CamAPS-FX-hybrid-closed-loop-training-booklet-2.pdf
mylife YpsoPump	YpsoPump with mylife Loop - mylife Diabetescare – United Kingdom Welcome to the CamAPS FX training portal

Insulet - Omnipod 5	Omnipod 5: Tubeless Insulin Delivery System | Omnipod UK Omnipod 5 FAQs: Answers to Your Questions About Omnipod 5 | Omnipod UK Watch Omnipod® 5 Video Tutorials | Omnipod UK omnipod-5-hybrid-closed-loop-training-booklet-1.pdf
Dexcom	Dedicated website for healthcare professionals containing training and education videos, education modules and webinars. Helpful frequently asked questions to support healthcare professionals.
Freestyle Libre 3	Healthcare professionals should contact the local Abbott representative for demonstration and sampling of the FreeStyle Libre 3 sensor. If you need contact details for the local representative, call the helpline number: 0800 032 1016 - 8am to 8pm Monday to Friday (excluding bank holidays) and 9am to 5pm on Saturdays. Or you can email Abbott at: ADChelpuk@abbott.com The FreeStyle Libre 3 web page has further information about the system including key product details, a compatibility list, accuracy data, FreeStyle Libre 3 App and videos.
Medtronic	Medtronic holds local and national events, and uses its Facebook, Instagram and YouTube channels to support patients. Please see this document Medtronic training and education overview for further details. Medtronic-MiniMed780G-hybrid-closed-loop-training-booklet-2.pdf
Medtrum Touchcare Nano	Medtrum Diabetes Youtube channel

DTN-UK Resources

The Academy - educational platform for diabetes technology, certified by the Association of British Clinical Diabetologists (ACBD).	The Academy | The Association of British Clinical Diabetologists
Hybrid Closed Loop System: Information Leaflet	HCL System - Information Leaflet 2023.pdf
Expert views on Devices	Expert Opinions: Pump Choices for Hybrid Closed Loop | The Association of British Clinical Diabetologists Expert Opinions: Dana I | The Association of British Clinical Diabetologists Expert Opinions: Medtronic Minimed 780g System | The Association of British Clinical Diabetologists Expert Opinions: mylife YpsoPump | The Association of British Clinical Diabetologists Expert Opinions: Omnipod 5 | The Association of British Clinical Diabetologists Expert Opinions: Tandem T-Slim Pump | The Association of British Clinical Diabetologists
Introduction to HCL	Introduction to Hybrid Closed Loop | The Association of British Clinical Diabetologists
Choosing your HCL system	Choosing your Hybrid Closed Loop System | The Association of British Clinical Diabetologists
HCL Essentials to Know	Hybrid Closed Loop - Essentials to know | The Association of British Clinical Diabetologists

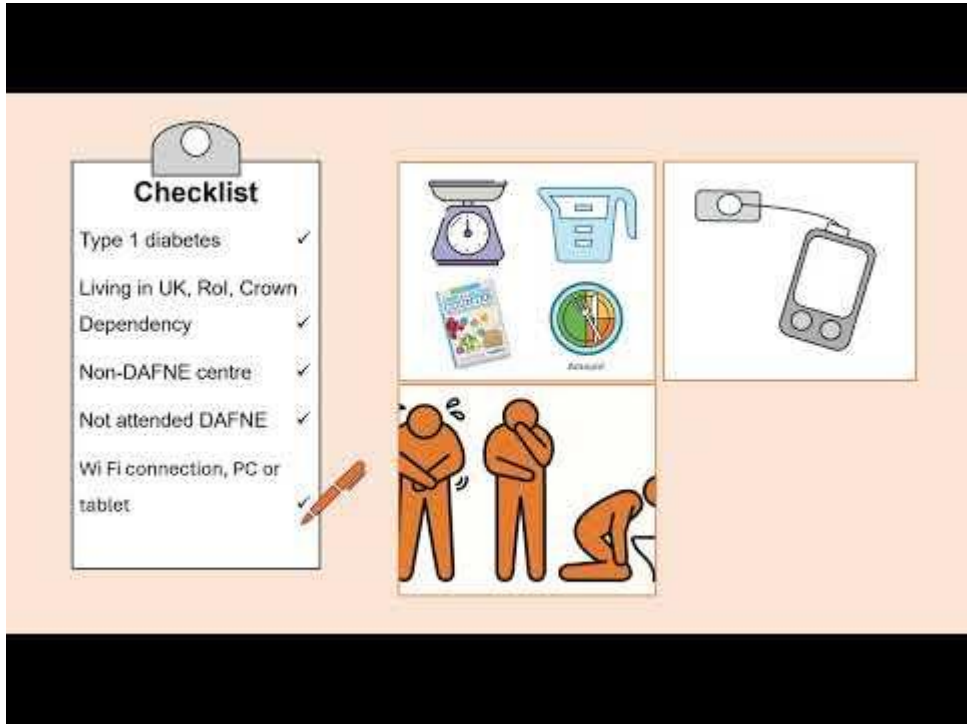
HCL and Exercise	Hybrid Closed Loop Systems and Exercise | The Association of British Clinical Diabetologists
Getting Started on HCL – CamAPS FX	Getting started on Hybrid Closed Loop Systems - CamAPS FX | The Association of British Clinical Diabetologists
Getting Started on HCL – Medtronic MiniMed 780G	Getting started on Hybrid Closed Loop Systems - Medtronic MiniMed™ 780G | The Association of British Clinical Diabetologists
Getting Started on HCL – Tandem T: slim x2 Insulin Pump with Control-IQ	Getting started on Hybrid Closed Loop Systems - Tandem t:slim X2 Insulin Pump with Control-IQ™ | The Association of British Clinical Diabetologists

DAFNE Closed Loop Essentials for PWD

The DAFNE Closed Loop Essentials (DAFNE-CLE) is a free online course to help PWD learn about using HCL.

The course includes how HCL works, what to do when you eat and how to make sure it's working safely.

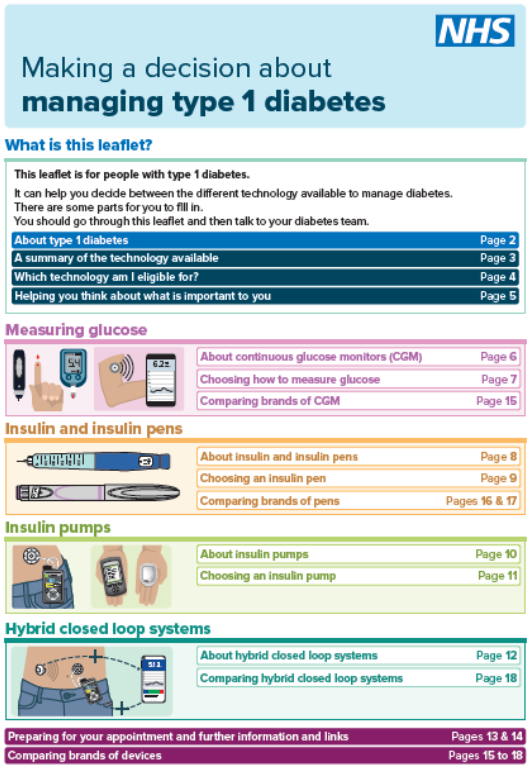
It takes four to six hours to complete online. Click on the short video below to find out more.



Decision Support Tool – Making a Decision About Managing Type 1 Diabetes

This leaflet is designed for people with Type 1 diabetes. It can help an individual decide between the different technologies available to manage their diabetes.

To view and download the leaflet click the following link: [Making a decision about managing type 1 diabetes]



Tuesday, 19 May 2026

NHS Nottingham and Nottinghamshire
notts.icb.nhs.uk/

Hybrid Closed Loop Module via Cambridge Diabetes Education Programme (CDEP) – Now Available

CDEP is an online e-learning platform consisting of bite-sized diabetes training for healthcare staff.

Each CDEP topic generates a CPD certificate and reflection document for revalidation and appraisal purposes as well as CDEP rewards.

Nottingham and Nottinghamshire ICB have acquired licences to CDEP to ensure **FREE** access for local HCPs. Please see instructions below on how to register.

A new module launched in Spring 2025 covering Hybrid Closed Loop.