

DAFNE Closed Loop Essentials

1. Who is the course for?

Adults living with type 1 diabetes who meet the NICE criteria who have:

- an HbA1c of 58 mmol/ mol (7.5%) or more,
- or have disabling hypos, despite best possible management with at least 1 of either:
 - an insulin pump
 - real-time continuous glucose monitoring or
 - intermittently scanned continuous glucose monitoring.
- Also, as an option for managing blood glucose levels in type 1 diabetes for women, trans men and non-binary people who are pregnant or planning to become pregnant.
- People can be either pump or pen users.
- People do not need to have done any kind of DAFNE course before.

2. What does the course look like?

For access **before** closed loop start, the course is designed to help people to meet the NICE recommendation that:

- the person or their carer is able to use closed loop
- is offered structured education
- is competent in insulin dosing and adjustments

Everyone who is eligible can be given access and the persons engagement with the course and progress through it will give an objective indication or an individual's readiness to make the most of closed loop technology.

- Designed in partnership with the Diabetes Technology Network-UK (DTN-UK) and covers essential key skills to keep safe using closed loop.
- Uses video content and Language Matters plain English to maximise accessibility.
- No educator input required; it is a stand alone online unit that will take 4 to 6 hours to complete.
- Not closed loop system specific.

3. What does the course cover?

People are given access to:

- The online course.
- DAFNE closed loop essentials start checklist.
- DAFNE Closed Loop Essentials tips for success including keeping safe toolkit.
- Carb counting basics booklet.

Online DAFNE Closed Loop Essentials course content (key skills)
How a closed loop pump gives insulin to keep Glucose in range more often. <ul style="list-style-type: none">• Pump Glucose target.• Time in Range targets (no DAFNE specific glucose targets).• Action profile of quick acting insulin.• How the algorithm gives and adjusts insulin.
When you, as the closed loop manager, give insulin using the bolus calculator. <ul style="list-style-type: none">• Giving bolus insulin for meals and snacks (importance of pre-bolusing).• Giving bolus corrections in some situations.
Checking and changing your mealtime ratios. <ul style="list-style-type: none">• Identifying glucose patterns over 2 days or more that indicate a ratio change is required.• Changing a ratio by adjusting the carb number in the bolus calculator up or down by 1 or 2 grams.
Carb awareness and carb counting. <ul style="list-style-type: none">• Estimating carbs by eye.• Counting carbs using carb factors.• Counting carbs using the carb formula.
Avoiding and treating hypos. <ul style="list-style-type: none">• Closed loop will suspend insulin delivery when glucose is predicted to fall below range.• Using low alert alarms.• Giving less rapid acting carbs to treat a hypo (10 g).
What to do if there is a problem with your pump or you are ill. <ul style="list-style-type: none">• Glucose over 15.0 mmol/L for 2 hours or more indicates pump failure.• Problems with insulin, cannula, pod or pump.• Signs and symptoms of high glucose and ketones.• If in doubt change it out.
Ketone checking and ketone management plans. <ul style="list-style-type: none">• How to check for ketones.• Trace ketone management plan.• Large ketones management plan.• Keeping safe toolkit (what you need to hand at all times in case of pump failure).
Going back to insulin injections. <ul style="list-style-type: none">• Keeping background insulin, quick acting insulin, pens and needles on prescription.• How to work out an insulin dose and when to give it.
End of course knowledge check. <ul style="list-style-type: none">• 20 randomly generated questions on key skills topics• 3 attempts to complete and get the digital badge.• Those who are unsuccessful are encouraged to contact their centre for tailored individual support on topics they would like support with.

4. How do people access the course?

Local administration (sent electronically by the central DAFNE team)

For individuals living with type 1 diabetes (participants)

- Identify people requiring access to the course (no limit on number)
- Confirm consent to share data (name, email address, HbA1c) with each individual.
 - HbA1c within 3 months. If a lab HbA1c is not available and the participant uses a continuous glucose monitoring device the Glucose Management Indicator (GMI) value can be used, provided 90 days of data are available, and the amount of time the sensor is active is 70 % or more.
- Complete the referral spreadsheet participant tab.
- Email the spreadsheet to the central DAFNE team.

For any member of the diabetes team who would like to access the course

Complete the referral spreadsheet HCP tab

Email the spreadsheet to the central DAFNE team.

Central DAFNE

Central DAFNE will give access and additional resources to the course to participants.

Individuals receive a digital badge on completion and email to their diabetes service to confirm completion.

Central DAFNE will give access to healthcare professionals in the local team.

5. FAQs

What if a person is unsuccessful in completing the course and end of course knowledge check?

Those who are unsuccessful are encouraged to contact their centre for tailored individual support on topics they would like support with.

Is there any training for educator and doctors associated with the DAFNE Closed Loop Essentials course?

The course is a stand alone resource, there is no educator or doctor input to the course so additional training is not required.

What is available for people who are already using closed loop?

Existing closed loop users can access the course if they wish to complete it but keep in mind it is designed for those about to commence closed loop.

How much local administrator time is required?

Administrator time will depend on the number of people moving to closed loop therapy and how you choose to incorporate DAFNE Closed Loop Essentials in your local pathway.

Who will cover the cost of DAFNE Closed Loop Essentials?

The course is free to access for participants and healthcare professionals, the cost is covered by industry sponsorship.

Why is closed loop use in pregnancy not included in DAFNE Closed Loop Essentials?

Management of glucose during pregnancy using a closed loop requires input from a specialist team aiming for different glucose targets and individualised management plans. The focus of DAFNE Closed Loop Essentials is the essential key skills required to keep safe using closed loop, not individualised specialist management.

Where can I find more information about DAFNE Closed Loop Essentials?

Contact the central DAFNE team for more information dafne@nhct.nhs.uk

The DAFNE-CLE course has been developed by DAFNE in partnership with DTN-UK



The following companies have provided funding to enable this this course to be accessed by people living with type 1 diabetes who's care is delivered by a diabetes service which are not part of the DAFNE collaborative. These companies have had no input to, or influence over the course content.

Sponsorship funding

Medtronic:

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Engineering the extraordinary