

Continuous glucose monitoring in dialysis

Submission date 20/07/2026	Recruitment status No longer recruiting	☐ Prospectively registered
Registration date 20/07/2026	Overall study status Completed	☐ Protocol
Last Edited 05/08/2026	Condition category Nutritional, Metabolic, Endocrine	☐ Statistical analysis plan
		☒ Results
		☐ Individual participant data

Plain English summary of protocol

Background and study aims

This pilot study assessed how accurately two continuous glucose monitoring (CGM) systems measure glucose levels in adults with diabetes undergoing haemodialysis, compared with standard fingerprick blood glucose tests.

Who can participate?

Patients aged 18 years or over with type 1 or type 2 diabetes requiring insulin therapy who are on stable haemodialysis

What does the study involve?

Around 10 participants wore two sensors at the same time (one on the arm and one on the abdomen) for up to 10 days. They tested their blood glucose four times per day and scanned one sensor at the same time, while continuing their usual daily activities and dialysis sessions. After the study, participants returned for sensor removal and data collection. Sensor glucose readings were not visible, and diabetes management was based on fingerprick results.

What are the possible benefits and risks of participating?

There was no direct benefit to participants, but the study may improve understanding of these devices in people on haemodialysis. Risks were minimal and included skin irritation from the sensors and minor discomfort or bruising from fingerprick testing.

Where is the study run from?

Oxford University Hospitals NHS Foundation Trust, Churchill Hospital (UK)

When is the study starting and how long is it expected to run for?

November 2020 to March 2022

Who is funding the study?

Abbott Diabetes Care Ltd (UK)

Who is the main contact?

Dr Pamela Reid, pamela.reid@abbott.com

Contact information

Type(s)

Public, Scientific

Contact name

Dr Pamela Reid

Contact details

Range Road
Witney
United Kingdom
OX29 7YL
+44 (0)1993 863024
pamela.reid@abbott.com

Type(s)

Principal investigator

Contact name

Dr Thomas Connor

Contact details

Churchill Hospital
Oxford
United Kingdom
OX3 7LE
+44 (0)1865227795
Thomas.Connor@ouh.nhs.uk

Additional identifiers**Integrated Research Application System (IRAS)**

277881

Central Portfolio Management System (CPMS)

44772

Study information**Scientific Title**

Continuous glucose monitoring system use in insulin-treated patients undergoing dialysis

Study objectives

This pilot study aims to evaluate two continuous glucose monitoring (CGM) systems in patients with diabetes undergoing haemodialysis.

Ethics approval required

Ethics approval required

Ethics approval(s)

Approved 20/06/2020, Yorkshire & The Humber - Leeds West Research Ethics Committee (NHSBT Newcastle Blood Donor Centre, Holland Drive, Newcastle upon Tyne, NE2 4NQ, United Kingdom; +44 (0)207 972 25 04; sheffield.rec@hra.nhs.uk), ref: 20/YH/0166

Primary study design

Interventional

Allocation

N/A: single arm study

Masking

Open (masking not used)

Control

Uncontrolled

Assignment

Single

Purpose

Device feasibility

Study type(s)**Health condition(s) or problem(s) studied**

People with diabetes undergoing haemodialysis

Interventions

Participants wear two different on-market glucose sensors concurrently for up to 10 days.

Participants perform four daily fingerprick blood glucose measurements using the provided blood glucose meter.

Glucose data from both sensors is blinded to participants and not used for glucose management. Only the fingerprick blood glucose results are visible to participants.

Intervention Type

Device

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

FreeStyle Libre Flash Glucose Monitoring System, Dexcom G6 Continuous Glucose Monitoring System

Primary outcome(s)

1. Consensus Error Grid (CEG) analysis measured using sensor glucose measurements assessed against capillary blood glucose (fingerprick) reference values and plotted onto CEG at during the sensor wear period (up to 10 days) across all paired measurements

Key secondary outcome(s)

Completion date

14/03/2022

Eligibility

Key inclusion criteria

1. Aged 18 years or over
2. Type 1 or type 2 diabetes, requiring insulin therapy
3. Willing and able to test their blood glucose levels via fingerprick at least four times a day using the provided system
3. On stable haemodialysis (i.e., treatment using dialysis has been in progress for a minimum of 90 days)

Healthy volunteers allowed

No

Age group

Mixed

Lower age limit

18 Years

Upper age limit

100 Years

Sex

All

Total final enrolment

13

Key exclusion criteria

1. Concomitant disease or condition that may compromise patient safety
2. Currently prescribed oral steroid therapy for any acute or chronic condition
3. Female participant known to be pregnant
4. Have a pacemaker or any other neurostimulators
5. Known (or suspected) allergy to medical-grade adhesives

Date of first enrolment

17/11/2020

Date of final enrolment

24/12/2020

Locations

Countries of recruitment

United Kingdom

England

Study participating centre
Oxford University Hospitals NHS Foundation Trust Churchill Hospital
Old Road, Headington
Oxford
England
OX3 7LE

Sponsor information

Organisation
Abbott Diabetes Care Ltd

Funder(s)

Funder type

Funder Name
Abbott Diabetes Care Ltd

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Basic results	version 1.0	01/07/2026	21/07/2026	No	No
Plain English results	version 1.0	01/07/2026	21/07/2026	No	Yes