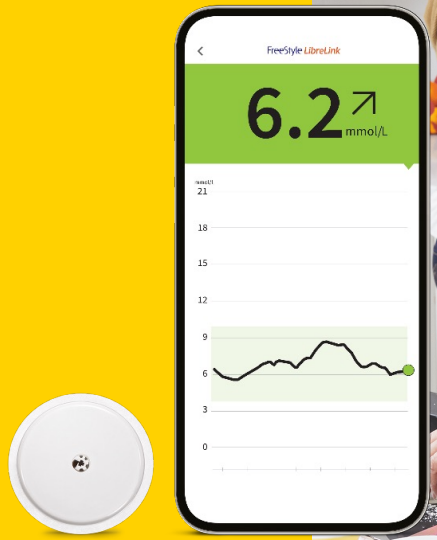
FreeStyle Libre 2

Case study: Barbara



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Case study: Barbara

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Age	76	**BMI**	21.0 kg/m^2
Diabetes (Type)	Type 1 diabetes	**Last HbA1c value**	56 mmol/mol (7.3%)
Profession	Retired	**Target glucose range**	3.9–10 mmol/L
Duration of diabetes	50 years	**Treatment**	Basal-bolus insulin therapy

Summary

Barbara does have complications of diabetes but wants to continue to enjoy her retirement and the company of her family, including her grandchildren.

Specific objective

Managing her glycaemic control in line with her comorbidities is a key objective for Barbara, but her early onset dementia means she relies on help from her husband.

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Case study: Barbara

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AGP Report

17 August 2021 - 30 August 2021 (14 Days)

LibreView

GLUCOSE STATISTICS AND TARGETS

17August 2021 - 30 August 2021	14 Days
% Time Sensor is Active	97%

Ranges And Targets For — Type 1 or Type 2 Diabetes

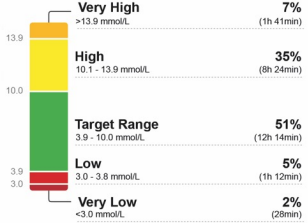
Glucose Ranges	Targets % of Readings (Time/Day)
Target Range 3.9-10.0 mmol/L	Greater than 70% (16h 48min)
Below 3.9 mmol/L	Less than 4% (58min)
Below 3.0 mmol/L	Less than 1% (14min)
Above 10.0 mmol/L	Less than 25% (6h)
Above 13.9 mmol/L	Less than 5% (1h 12min)

Each 5% increase in time in range (3.9-10.0 mmol/L) is clinically beneficial.

Average Glucose	9.7 mmol/L
Glucose Management Indicator (GMI)	7.7% or 61 mmol/mol
Glucose Variability	37.4%

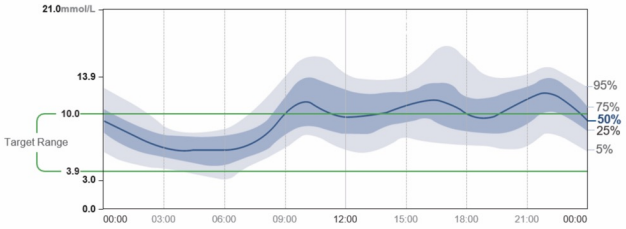
Defined as percent coefficient of variation (%CV); target ≤36%

TIME IN RANGES



Very High	>13.9 mmol/L	7% (1h 41min)
High	10.1 - 13.9 mmol/L	35% (8h 24min)
Target Range	3.9 - 10.0 mmol/L	51% (12h 14min)
Low	3.0 - 3.8 mmol/L	5% (1h 12min)
Very Low	<3.0 mmol/L	2% (28min)

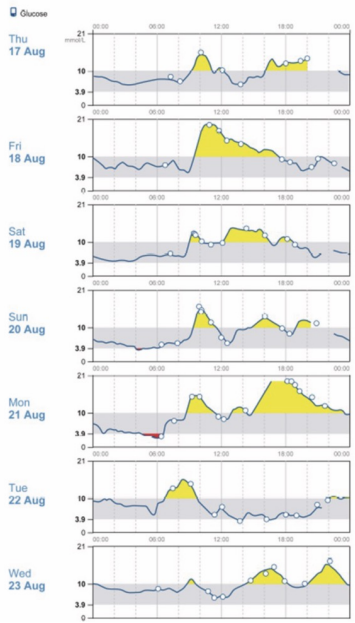
AMBULATORY GLUCOSE PROFILE (AGP)



Weekly Summary

17 August 2021 – 30 August 2021 (14 days)

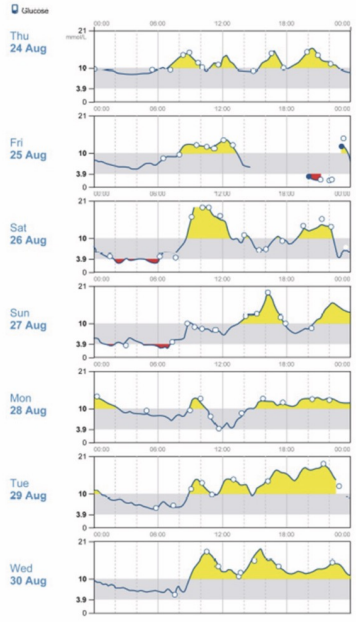
LibreView



Weekly Summary

17 August 2021 – 30 August 2021 (14 days)

LibreView



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What does the 4-step review tell us?

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STEP 1

Data capture and Time in Range (TIR)

Barbara is scanning regularly and has captured 97% of her sensor data. Her Time in Range is 51%, on target for an older person with diabetes. This is a good place to start!

STEP 2

Look for patterns of hypoglycaemia

A feature of Barbara's AGP that immediately jumps out is that her glucose is falling overnight from midnight onwards. Her daily profiles in the **Weekly Summary report** show episodes when she is dipping below 3.9 mmol/L, including some below 3.0 mmol/L. Her risk of low glucose is most marked at between 4:00am and 7:00am. This is the priority for management.

STEP 3

Look for patterns of hyperglycaemia

Barbara's AGP shows a considerable upswing in her median line around 8:00am and that it stays near or above 10 mmol/L from 9:00am until midnight, with some oscillation around meal times, as revealed in her daily glucose traces in the **Weekly Summary report**. Her blue and grey bands reveal that most of her readings in this period are above target. Her current Time in Range is 51% and there is air under the clouds, indicating that efforts to reduce her glucose levels may be possible without increasing her risk of hypoglycaemia.

STEP 4

Look for patterns of glucose variability

The blue and grey bands in Barbara's AGP are widest from 10:00am onwards. Her grey band is billowing above target more than her blue band indicating some variability in her day-to-day activities and routines, especially around mealtimes, as seen in her daily profiles, which also confirm her consistent problem with morning excursions.

What actions might you agree with Barbara?

- Barbara's overnight and early-morning hypoglycaemia is the priority for treatment adjustment here. A reduction in her basal insulin is indicated to reduce the trend towards low glucose.
- Although the focus must be on Barbara's hypoglycaemia, an increase in her prandial insulin doses is also recommended to reduce her mealtime peaks in glucose.

Case study: Barbara

FreeStyle Libre 2

AGP Report

19 October 2021 - 1 November 2021 (14 Days)

LibreView

GLUCOSE STATISTICS AND TARGETS

19 October 2021 - 15 November 2021	14 Days
% Time Sensor is Active	99%

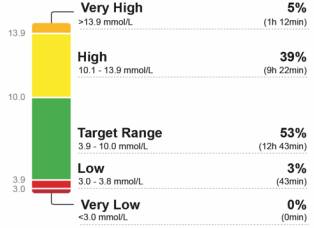
Ranges And Targets For	Type 1 or Type 2 Diabetes
Glucose Ranges Target Range 3.9-10.0 mmol/L	**Targets** % of Readings (Time/Day) Greater than 70% (16h 48min)
Below 3.9 mmol/L	Less than 4% (58min)
Below 3.0 mmol/L	Less than 1% (14min)
Above 10.0 mmol/L	Less than 25% (6h)
Above 13.9 mmol/L	Less than 5% (1h 12min)

Each 5% increase in time in range (3.9-10.0 mmol/L) is clinically beneficial.

Average Glucose	9.7 mmol/L
Glucose Management Indicator (GMI)	7.7% or 61 mmol/mol
Glucose Variability	35.9%

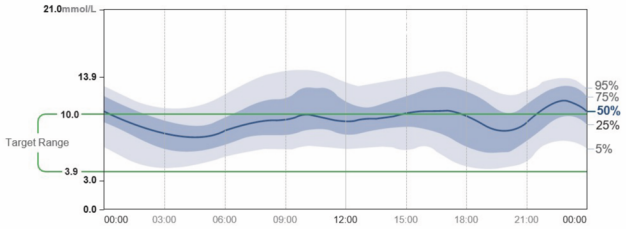
Defined as percent coefficient of variation (%CV); target ≤36%

TIME IN RANGES



Very High	>13.9 mmol/L	5% (1h 12min)
High	10.1 - 13.9 mmol/L	39% (9h 22min)
Target Range	3.9 - 10.0 mmol/L	53% (12h 43min)
Low	3.0 - 3.8 mmol/L	3% (43min)
Very Low	<3.0 mmol/L	0% (0min)

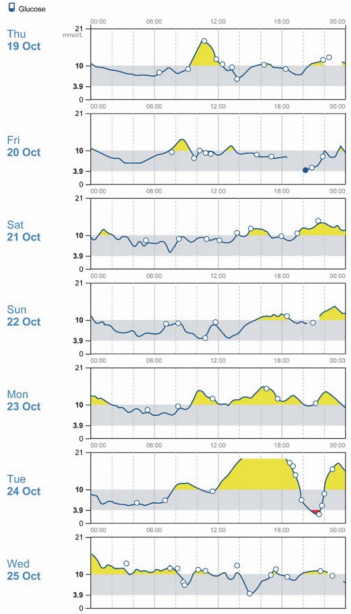
AMBULATORY GLUCOSE PROFILE (AGP)



Weekly Summary

19 October 2021 – 1 November 2021 (14 Days)

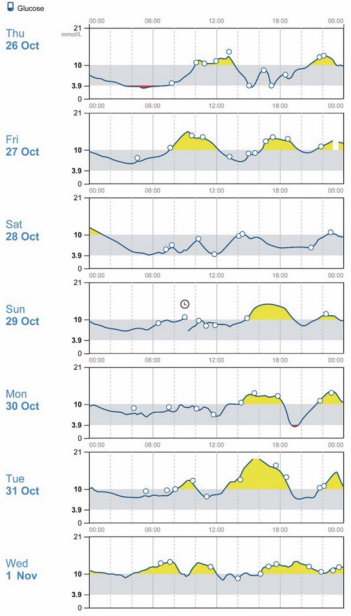
LibreView



Weekly Summary

19 October 2021 – 1 November 2021 (14 Days)

LibreView



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What does the 4-step review tell us?

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STEP 1

Data capture and Time in Range (TIR)

Barbara's data capture is 99%, a really good performance. Her Time in Range is 53%, consistent with her previous consultation and just above target for an older person with diabetes.

STEP 2

Look for patterns of hypoglycaemia

Barbara's glucose is still falling overnight from midnight onwards, with readings below 3.9 mmol/L and a risk of hypoglycaemia between 2:00am and 5:00am, on at least one day in the last 2 weeks, as revealed in her **Weekly Summary reports**. However, she is spending less time below 3.9 mmol/L and has no time below 3.0 mmol/L, as she was previously. However, given her age and her dementia, some further effort is needed to minimise the risk for hypoglycaemia.

STEP 3

Look for patterns of hyperglycaemia

Barbara's median line shows that her average glucose is now straying above target less often, and her daily profiles in her **Weekly Summary report** show that her mealtime oscillations are no longer prominent. She has definitely gotten off the rollercoaster. There is some scope to reduce her Time Above Range, which is at 44%.

STEP 4

Look for patterns of glucose variability

The width of the blue band in Barbara's AGP is not much changed from before, but her grey band does not balloon as much around mealtimes. Her overall stability is clearly improved and is below the CV of 36%. All in all, glucose variability is not a concern right now.

What actions might you agree with Barbara?

- Reducing Barbara's overnight and early morning risk of hypoglycaemia is still the priority here. A further reduction in her basal insulin might be considered, or a review of her afternoon and evening meals to increase consumption of food with a lower glycaemic index.