



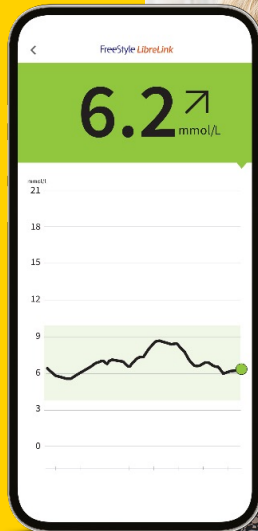
# Case study: Jackie

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Case study



# Case study: Jackie

<b>Age</b>	56	<b>BMI</b>	31.4 kg/m <sup>2</sup>
<b>Diabetes (Type)</b>	Type 2 diabetes	<b>Last HbA1c value</b>	61.0 mmol/mol (7.7%)
<b>Profession</b>	Pub landlady	<b>Target glucose range</b>	3.9–10 mmol/L
<b>Duration of diabetes</b>	9 years	<b>Treatment</b>	Basal-bolus insulin therapy



## Summary

Jackie is a pub landlady which means late nights and irregular mealtimes. She enjoys meeting her customers, but sometimes the temptation of having a drink can be too much. She is also overeating to prevent hypoglycaemia overnight.



## Specific objective

Reduce the incidence hypoglycaemia overnight.



# Case study: Jackie

## AGP Report

25 October 2021 - 7 November 2021 (14 Days)

### GLUCOSE STATISTICS AND TARGETS

25 October 2021 - 7 November 2021 %

14 Days

Time Sensor is Active

70%

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 9.1 mmol/L

Glucose Management Indicator (GMI) 7.3% or 56 mmol/mol

Glucose Variability 37.1%

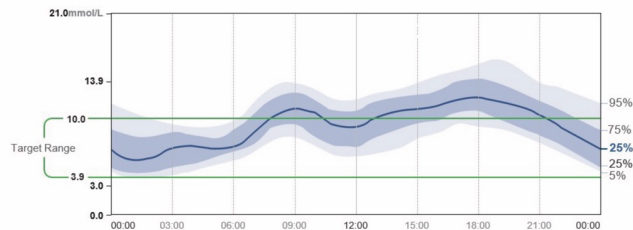
Defined as percent coefficient of variation (%CV); target ≤36%

## LibreView

### TIME IN RANGES



### AMBULATORY GLUCOSE PROFILE (AGP)



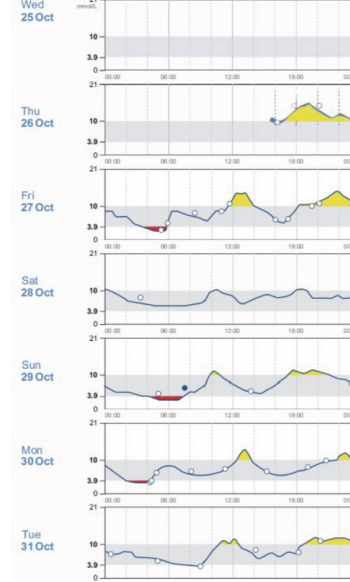
## Weekly Summary

25 October 2021 - 7 November 2021 (14 Days)

## LibreView

### Glucose

Wed 25 Oct



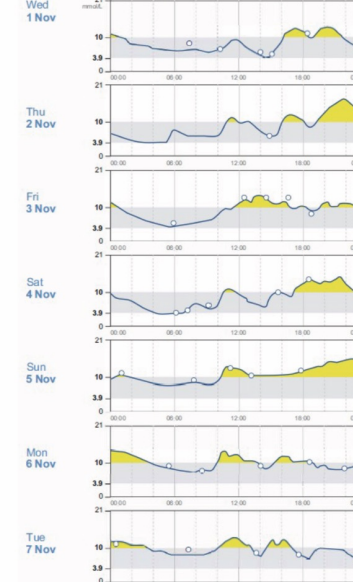
## Weekly Summary

25 October 2021 - 7 November 2021 (14 Days)

## LibreView

### Glucose

Wed 1 Nov



# What does this 4-step review tell us?

## STEP 1

### Data capture and Time in Range (TIR)

Data capture is 70%, which is the minimum recommended for confident interpretation of an AGP report. Jackie's Time in Range is 55%, below the target level but not unusually low. Jackie has a fairly narrow blue-shaded band, which indicates low day-to-day variability. Congratulate her on this achievement.

## STEP 2

### Look for patterns of hypoglycaemia

Although the blue median line does not reach the lower target range, Jackie's darker blue and outer grey bands are slipping towards 3.9 mmol/L overnight, putting her at risk of hypoglycaemia. A review of the daily profiles in the **Weekly Summary** reports does indicate that she is experiencing periods of nocturnal hypoglycaemia, which is a concern. No readings below 3.0 mmol/L are evident on the AGP, but the overall trend here needs to be addressed as a priority.

## STEP 3

### Look for patterns of hyperglycaemia

There is a gradual rise in Jackie's glucose levels as the day progresses until 9:00pm in the evening, with a noticeable spike of hyperglycaemia at 12:00pm and a more-extended high from 5:00pm to 11:00pm. This is confirmed by a look at Jackie's **Weekly Summary** reports, where this trend is a feature of most individual daily profiles.

## STEP 4

### Look for patterns of glucose variability

Jackie's blue-shaded band is consistently narrow, meaning she has low day-to-day variability; her outer grey band is wider, especially at night. There is a lot of air under the clouds for most of the afternoon and evening, indicating there is scope to bring her glucose down and back towards her target range without increasing the risk of hypoglycaemia. This could also increase her current Time in Range from 55% towards the target of more-than 70%. A concern is that Jackie is also not scanning her sensor every day, she should be encouraged to do this, in order to ensure her AGP report can be reviewed with confidence.

### What actions might you agree with Jackie?

- A reduction in Jackie's basal glargine 300 is recommended to reduce the overnight incidence and risk of hypoglycaemia.
- This may also influence Jackie's eating and drinking habits, to prevent her 'chasing her sugars' with food to prevent a hypo.
- Jackie must be counselled to scan her sensor each day to collect more data on her glucose control.

# Case study: Jackie

## AGP Report

30 November 2021 - 14 December 2021 (14 Days)

LibreView

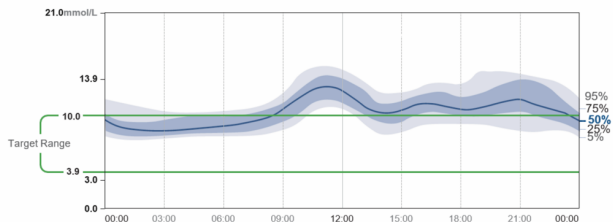
### GLUCOSE STATISTICS AND TARGETS

30 November 2021 - 14 December 2021 % 14 Days  
Time Sensor is Active 90%

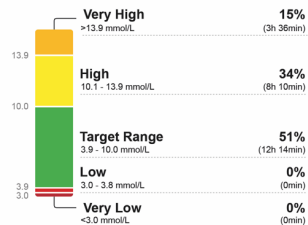
Ranges And Targets For		Type 1 or Type 2 Diabetes
Glucose Ranges	Targets % of Readings (Time/Day)	
Target Range 3.9-10.0 mmol/L	Greater than 70% (16h 48min)	
Below 3.9 mmol/L	Less than 4% (58min)	
Below 3.0 mmol/L	Less than 1% (14min)	
Above 10.0 mmol/L	Less than 25% (8h)	
Above 13.9 mmol/L	Less than 5% (1h 12min)	
Each 5% increase in time in range (3.9-10.0 mmol/L) is clinically beneficial.		

Average Glucose 10.2 mmol/L  
Glucose Management Indicator (GMI) 8.0% or 64 mmol/mol  
Glucose Variability 34.8%  
Defined as percent coefficient of variation (%CV); target ≤36%

### AMBULATORY GLUCOSE PROFILE (AGP)



### TIME IN RANGES



## Snapshot

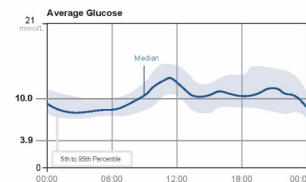
24 November 2021 - 14 December 2021 (21 Days)

LibreView

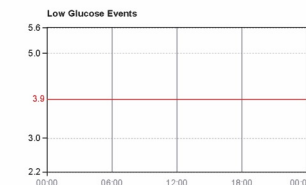
### Glucose

GMI 8.0 % or 64 mmol/mol

AVERAGE GLUCOSE 10.2 mmol/L  
% above target 49 %  
% in target 51 %  
% below target 0 %

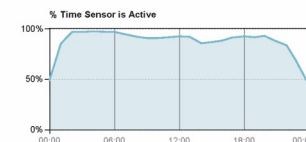


LOW GLUCOSE EVENTS 0  
Average duration 0 min



### Sensor Usage

% TIME SENSOR IS ACTIVE 90 %  
Average scans/Views 6 / Day



# What does this 4-step review tell us?

## STEP 1

### Data capture and Time in Range (TIR)

Jackie has seen a small reduction in her Time in Range to 51%, but has been scanning her sensor more frequently, as agreed, with 90% data capture.

## STEP 2

### Look for patterns of hypoglycaemia

Jackie has not experienced a single episode of hypoglycaemia in her most-recent 14-day AGP Report, confirmed in her Snapshot report. Her glucose levels are consistently within or above her target range. Having addressed her risk of hypoglycaemia, she can focus on other aspects of her glucose control.

## STEP 3

### Look for patterns of hyperglycaemia

Jackie's **median line** is still showing a tendency towards a spike in glucose levels around lunchtime. The median line is also running either high or above the target range of 10 mmol/L from 9:00am onwards. Her Time in Range has dropped from 55% to 51% and has become a focus for improvement.

## STEP 4

### Look for patterns of glucose variability

The width of the blue and grey shaded bands on Jackie's profile have been significantly reduced, except for during the evening hours and the median line is flatter than before. Her glucose variability is 34.6%, below the target threshold of 36%, so a good outcome!

### What actions might you agree with Jackie?

- The elimination of the threat of hypoglycaemia provides an opportunity to address Jackie's median glucose levels and improve her Time in Range; this can be done by slowly titrating up her insulin glargine dose to achieve success.
- Jackie may benefit from the introduction of bolus insulin to prevent her lunchtime excursion, but the complexities of the regimen and her busy lifestyle may lead to compliance issues.
- Because of her hectic and unpredictable lifestyle, careful consideration should be made before making any changes to Jackie's treatment.