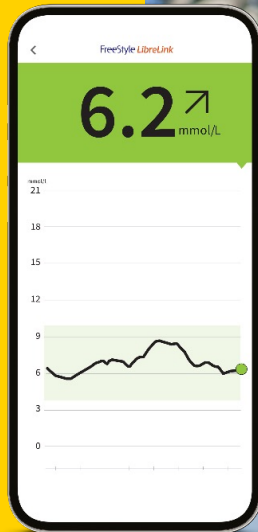




# Case study: Adam

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Case study



# Case study: Adam

<b>Age</b>	76	<b>BMI</b>	24.1 kg/m <sup>2</sup>
<b>Diabetes (Type)</b>	Type 2 diabetes	<b>Last HbA1c value</b>	58.5 mmol/mol (7.5%)
<b>Profession</b>	Retired headteacher	<b>Target glucose range</b>	3.9–10 mmol/L
<b>Duration of diabetes</b>	33 years	<b>Treatment</b>	Basal-bolus insulin therapy



## Summary

Adam is a retired headteacher who loves cycling every afternoon.



## Comorbidities

Arterial hypertension; currently prescribed ramipril.



## Specific objective

To maintain Adam's good glucose control is the key goal and helping him to lead an active life.

# Case study: Adam

## AGP Report

2 March 2021 - 16 March 2021 (14 Days)

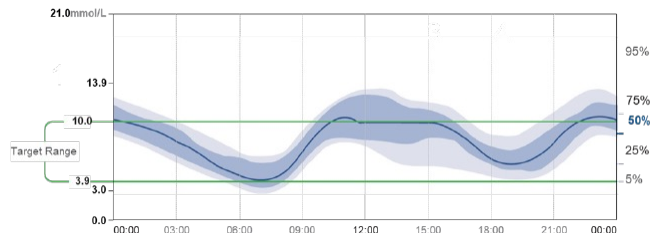
### GLUCOSE STATISTICS AND TARGETS

2 March 2021 - 16 March 2021 **14 Days**  
 % Time Sensor is Active **86%**

Ranges And Targets For		Type 1 or Type 2 Diabetes
<b>Glucose Ranges</b>	<b>Targets % of Readings (Time/Day)</b>	
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** 9.6 mmol/L  
**Glucose Management Indicator (GMI)** 6.7% or 50 mmol/mol  
**Glucose Variability** 32.3%  
 Defined as percent coefficient of variation (%CV); target ≤36%

### AMBULATORY GLUCOSE PROFILE (AGP)



## LibreView

### TIME IN RANGES



## Snapshot

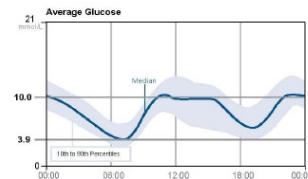
2 March 2021 - 16 March 2021 (15 Days)

## LibreView

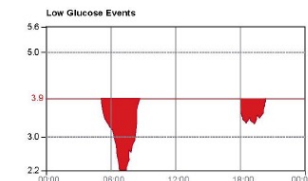
### Glucose

GMI 6.7% or 50 mmol/mol

**AVERAGE GLUCOSE** 9.6 mmol/L  
 % above target 25%  
 % in target 69%  
 % below target 6%

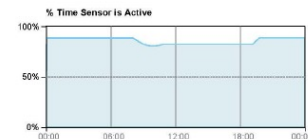


**LOW GLUCOSE EVENTS** 9  
 Average duration 148 min



### Sensor Usage

**% TIME SENSOR IS ACTIVE** 86%  
 Average scans/views 14 / Day



Images are for illustrative purposes only. Not actual patient data.

# What does this 4-step review tell us?

## STEP 1

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

Adam is scanning regularly, and his sensor data capture at 86% has allowed us to generate a 14-day AGP profile that gives us confidence in this evaluation. His Time in Range is also good, at 69%. This is a good way to open his consultation.

## STEP 2

### Look for patterns of hypoglycaemia

With a target range between 3.9–10.0 mmol/L, Adam's median glucose line and his blue IQR band are falling overnight into the hypoglycaemic zone. There is a risk of hypoglycaemia between 6:00pm–8:00pm. The limited variability shown by the narrow blue band suggests that hypoglycaemia is consistent during these times. This should be a priority for action, particularly the morning lows.

## STEP 3

### Look for patterns of hyperglycaemia

Adam's average glucose level, as shown by the blue median line, swings upwards and remains near the upper level of his target glucose range between 10:00am–5:00pm. Adam's median glucose swings upwards again after his evening meal, with a peak around 10:00pm. His time above 10 mmol/L is 27%, with only 8% of readings above 13.9 mmol/L, so below the recommended 10%. It is his post-prandial highs should be a focus for discussion with Adam.

## STEP 4

### Look for patterns of glucose variability

Adam's AGP shows that the darker blue IQR band is widest between 11:00am–2:00pm suggesting that his glucose is consistently more variable during this period and linked to his therapeutic management in the late morning. The outer grey band is wide between 10:00am–3:00pm, indicating a need to discuss occasional aspects of his day-to-day activities at this time. Both blue and grey bands in Adam's AGP are narrow between 10:00pm–10:00am, indicating a consistent profile. There is a lot of air under the clouds between 10:00am–2:00pm, so there is scope to bring his glucose further into the target range without increasing his risk of hypoglycaemia.

### What actions might you agree with Adam?

- Adam is recommended to reduce his basal insulin in the evening to avoid hypoglycaemia next morning.
- Adam's rapid-acting insulin dose should be increased at breakfast and also in the evening to counter his postprandial rises in glucose.
- Changing Adam's basal insulin product could improve coverage and variability.

# Case study: Adam

## AGP Report

16 March 2021 - 29 March 2021 (14 Days)

### GLUCOSE STATISTICS AND TARGETS

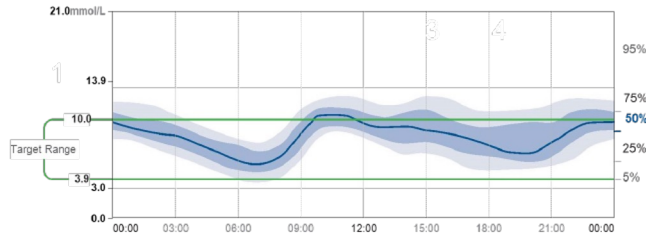
16 March 2021 - 29 March 2021 **14 Days**  
 % Time Sensor is Active **100%**

Ranges And Targets For		Type 1 or Type 2 Diabetes
<b>Glucose Ranges</b>		<b>Targets % of Readings (Time/Day)</b>
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** **8.8** mmol/L  
**Glucose Management Indicator (GMI)** **6.9%** or 52 mmol/mol  
**Glucose Variability** **31.0%**  
Defined as percent coefficient of variation (%CV); target ≤36%

### AMBULATORY GLUCOSE PROFILE (AGP)



## LibreView

### TIME IN RANGES



Images are for illustrative purposes only. Not actual patient data.

## Snapshot

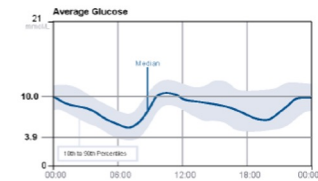
16 March 2021 - 29 March 2021 (14 Days)

## LibreView

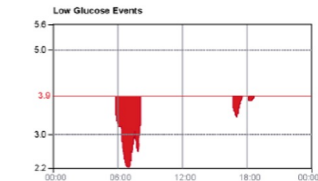
### Glucose

GMI **6.9%** or 52 mmol/mol

**AVERAGE GLUCOSE** **8.8** mmol/L  
 % above target **26%**  
 % in target **72%**  
 % below target **2%**

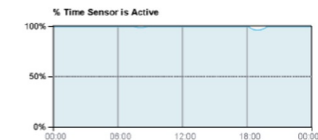


**LOW GLUCOSE EVENTS** **5**  
 Average duration **106** Min



### Sensor Usage

**% TIME SENSOR IS ACTIVE** **100%**  
 Average scans/views **18 / Day**



# What does this 4-step review tell us?

## STEP 1

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

Adam's blue band of variability and his median line are more within his target range in the early morning with less risk of hypoglycaemia, a good result! His Time in Range has also improved to 72%.

## STEP 2

### Look for patterns of hypoglycaemia

Although Adam's time below target has also improved, his AGP shows that the outer grey band is still going low between 6:00am–8:00am with low glucose events logged at this time. A further discussion on managing his basal insulin is warranted to address this.

## STEP 3

### Look for patterns of hyperglycaemia

The blue median line in Adam's AGP still has an upward swing after breakfast at 10:00am before falling back into his target glucose range after 12:00pm. Consequently, Adam's time above target has not improved.

## STEP 4

### Look for patterns of glucose variability

There is significant improvement in Adam's darker blue IQR band of variability between 10:00am and 2:00pm. His CV is at 31%, so well within the guidance on glucose variability. Both the blue and outer grey bands in Adam's AGP are now widest between 2:00pm–10:00pm suggesting a need for a change in behaviour and treatment parameters in the morning. There is a consistent improvement in Adam's glucose variability between 11:00am–2:00pm, revealed by a narrower blue band.

### What actions might you agree with Adam?

- Adam should increase his morning dose of rapid-acting insulin to counter his post-prandial excursion at this time and help improve his subsequent time in range.
- Continued education is needed to help align Adam's morning insulin regimen with his food intake and exercise.
- Changing Adam's basal insulin product can provide greater coverage and further improve his glucose variability.