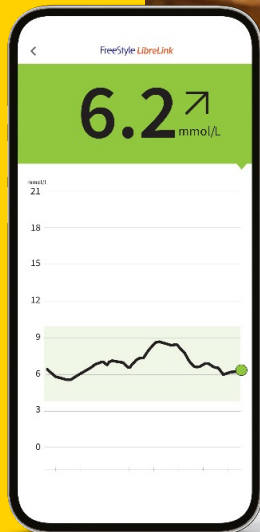




Case study

Case study: Sarah



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Case study: Sarah

Age	37	BMI	22.4 kg/m ²
Diabetes (Type)	Type 1 diabetes	Last HbA1c value	69.0 mmol/mol (8.5%)
Profession	Nurse	Target glucose range	3.9–10 mmol/L
Duration of diabetes	27 years	Treatment	Basal-bolus insulin therapy



Summary

Sarah is a busy nurse and enjoys her job. She doesn't want her diabetes to get in the way of this and is anxious about her health.



Comorbidities

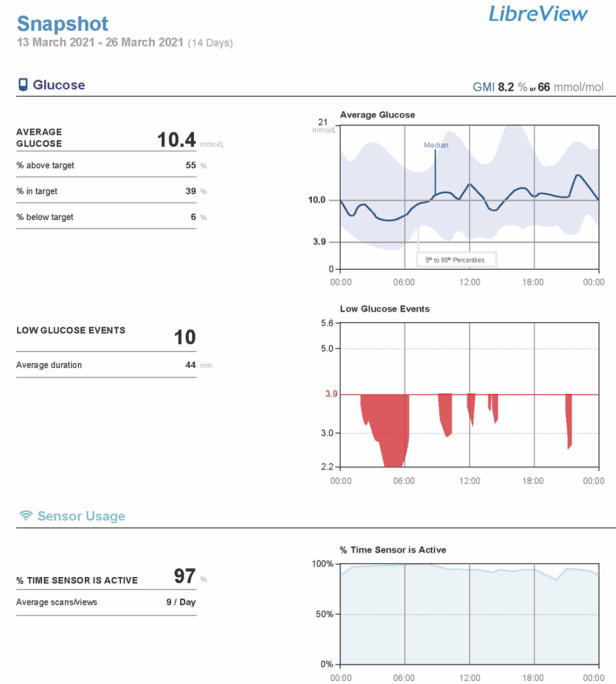
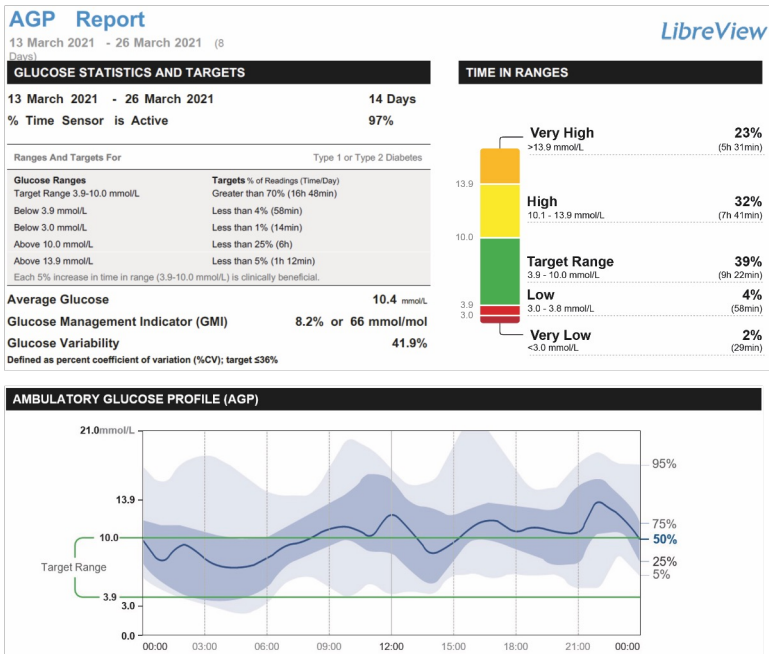
Rheumatoid arthritis and moderate depression; currently prescribed tocilizumab.



Specific objective

Manging her glycaemic control in line with the pressures of her job and arthritis.

Case study: Sarah

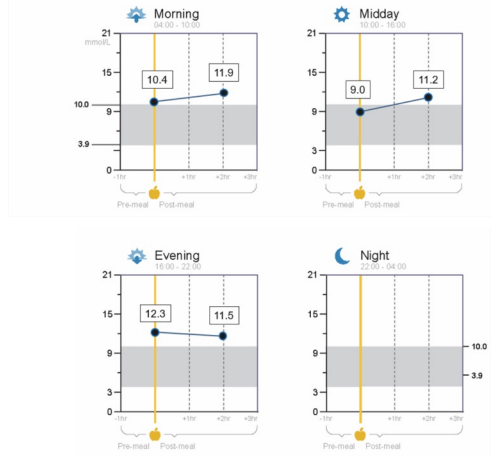


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Case study: Sarah

Mealtime Patterns

13 March 2021 - 26 March 2021 (14 Days)

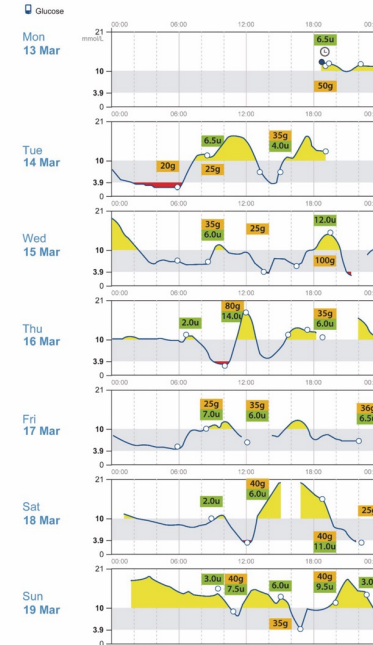


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Weekly Summary

LibreView

13 March 2021 - 26 March 2021 (14 Days)



What does the 4-step review tell us?

STEP 1

Data capture and Time in Range (TIR)

Sarah has 97% data capture so her AGP that can be interpreted with confidence. Her Time in Range is 39%, which means that her overall glucose control is not optimal.

STEP 2

Look for patterns of hypoglycaemia

Her AGP reveals that Sarah is experiencing an extended period of low glucose throughout the night. Her Time Below Range is 6%, including 2% of readings below 3.0 mmol/L. Sarah's **Snapshot report** reveals low glucose events from 3:00am to 6:00am. It is important to resolve this with Sarah. She is also seeing extensive variability and a higher risk of hypoglycaemia in the early afternoon, again confirmed by her low glucose events profile.

STEP 3

Look for patterns of hyperglycaemia

Sarah's average glucose is consistently above 10 mmol/L throughout the day. A look at her **Mealtime Patterns** indicate this starts around breakfast. Her average glucose of 10.4 mmol/L is masking sustained high glucose levels throughout the day, with readings overnight in the lower levels of her range that bring her average glucose down.

STEP 4

Look for patterns of glucose variability

The blue and grey bands in Sarah's AGP are both ballooning across the day, confirming considerable glucose variability. Her blue band is notably wide throughout the night, indicating that she may be active during the night, possibly due to shift work. Her daily glucose profiles as revealed in her **Weekly Summary** also show day-to-day instability.

What actions might you agree with Sarah?

- Sarah's basal insulin dose should be reduced to combat her overnight hypoglycaemia.
- Sarah should also increase her prandial doses of insulin to manage her carbohydrate intake.
- A discussion is necessary regarding Sarah's mealtime and snacking schedule – as a nurse she can't always plan to eat at regular times, so improved training and awareness of how to manage this part of her control is important.

Case study: Sarah



AGP Report

28 March 2021 - 10 April 2021 (14 Days)

LibreView

GLUCOSE STATISTICS AND TARGETS

28 March 2021 - 10 April 2021 14 Days
 % Time Sensor is Active 95%

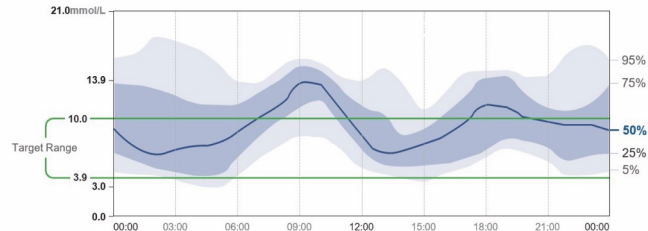
Ranges And Targets For		Type 1 or Type 2 Diabetes
Glucose Ranges		Targets % of Readings (Time/Day)
Target Range 3.9-10.0 mmol/L		Greater than 70% (16h 48min)
Below 3.9 mmol/L		Less than 4% (58min)
Below 3.0 mmol/L		Less than 1% (14min)
Above 10.0 mmol/L		Less than 25% (6h)
Above 13.9 mmol/L		Less than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

Average Glucose 9.6 mmol/L
Glucose Management Indicator (GMI) 7.7% or 61 mmol/mol
Glucose Variability 40.0%
 Defined as percent coefficient of variation (%CV); target ≤36%

TIME IN RANGES



AMBULATORY GLUCOSE PROFILE (AGP)



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Snapshot

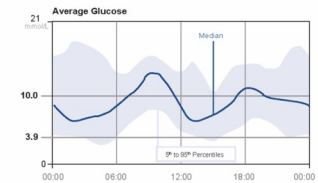
28 March 2021 - 10 April 2021 (14 Days)

LibreView

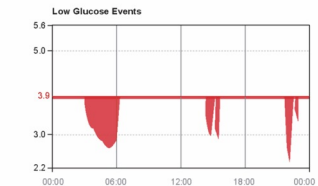
Glucose

GMI 7.7% or 61 mmol/mol

AVERAGE GLUCOSE 9.6 mmol/L
 % above target 45 %
 % in target 48 %
 % below target 7 %

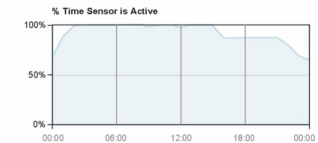


LOW GLUCOSE EVENTS 7
 Average duration 71 min



Sensor Usage

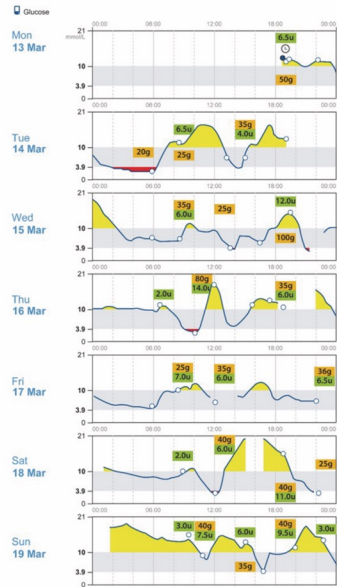
% TIME SENSOR IS ACTIVE 95 %
 Average scans/Views 9 / Day



Case study: Sarah

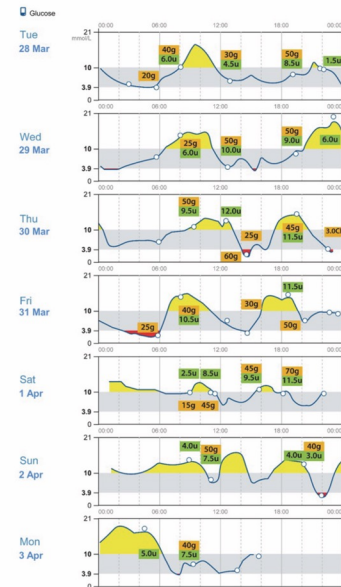
Consultation 1

Weekly Summary LibreView
13 March 2021 - 26 March 2021 (14 Days)



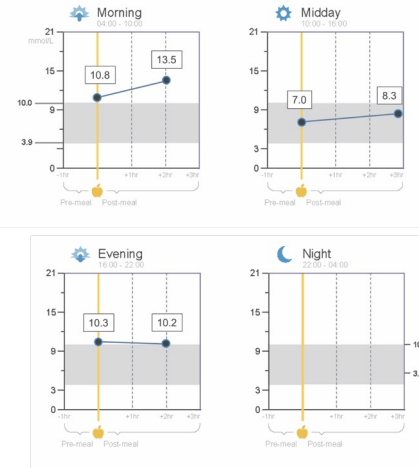
Consultation 2

Weekly Summary LibreView
28 March 2021 - 10 April 2021 (14 Days)



Mealtime Patterns

28 March 2021 - 10 April 2021 (14 Days)



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What does the 4-step review tell us?

STEP 1

Data capture and Time in Range (TIR)

Sarah's Time in Range has increased to 48%, which is a great outcome since last time. Her data capture is 95%, which continues to be good.

STEP 2

Look for patterns of hypoglycaemia

The problem with Sarah's nocturnal low-glucose readings is still evident, and her Time Below Range is 7%, including 1% of readings below 3.0 mmol/L. However, her low glucose events in her **Snapshot report** have reduced. Her AGP also reveals that hypoglycaemia and risk of hypoglycaemia in the afternoon is also still a concern.

STEP 3

Look for patterns of hyperglycaemia

Sarah's average glucose trace has moved down nearer to her target glucose range in some parts of the day but is still showing excursions above 10 mmol/L after breakfast and in the late afternoon. A look at her **Mealtime Patterns** confirms that glucose excursions are still a feature of Sarah's breakfast, whereas her midday meal is less of an issue. Her Time Above Range is 45%, including 14% or time with very high glucose. These are significant features of her daily glucose management and should be addressed.

STEP 4

Look for patterns of glucose variability

The blue shaded IQR band in Sarah's AGP is still very wide overnight, as is her grey band, indicating unplanned snacks and activities. Her blue band is narrower in the late morning and early afternoon, suggesting she is managing her insulin and carbs better in this part of the day, but the scale and consistency of her morning excursion indicates a clear target for management. Her daily profiles in her **Weekly Summary** report continue to give concern about her overall stability and her trouble with morning excursions. A side-by-side comparison with her previous daily profiles clearly illustrates Sarah's lack of progress on this issue.

What actions might you agree with Sarah?

- A discussion is necessary regarding Sarah's night-time routines to identify the causes of glucose variability that give her a wide blue band overnight and risk of early morning hypoglycaemia. Better understanding and management of this period is critical to reducing hypoglycaemia.
- Sarah should further increase her prandial insulin doses in the morning and evening. She should pay particular attention to her insulin:carbohydrate ratio and management of carbs at breakfast, to reduce her persistent glucose excursion at this time.