

# The Diabetes Rollercoaster

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Derby Type 1 diabetes group

Supported by a restricted educational grant from Abbott



# Dr Emma Wilmot

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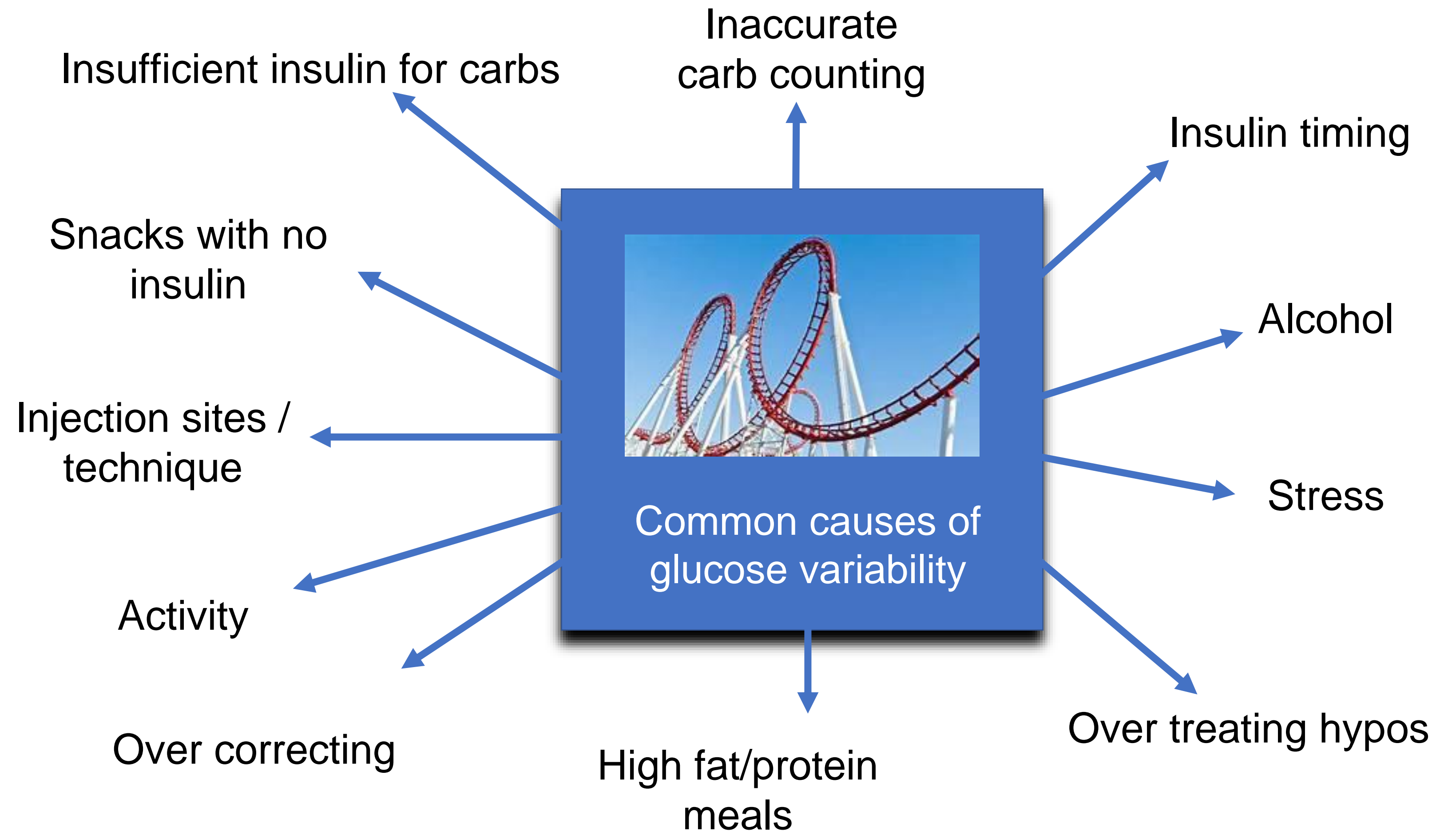
# Nick Rycroft

- Lead for Derby Type 1 diabetes group
- Type 1 diabetes for 41 years

## **EW Disclosures:**

Previous recipient of speaker fees & educational grants from Abbott Diabetes Care, Boehringer Ingelheim, Dexcom, Diasend, Eli Lilly, Medtronic, Novo Nordisk, Roche, Sanofi Aventis

# What can cause this? LOTS!



Association of British Clinical Diabetologists



# 42 factors!

## Factors That Affect BG

Food	Biological
<ul style="list-style-type: none"> <li>↑↑ 1. Carbohydrate quantity</li> <li>→↑ 2. Carbohydrate type</li> <li>→↑ 3. Fat</li> <li>→↑ 4. Protein</li> <li>→↑ 5. Caffeine</li> <li>↓↑ 6. Alcohol</li> <li>↓↑ 7. Meal timing</li> <li>↑ 8. Dehydration</li> <li>? 9. Personal microbiome</li> </ul>	<ul style="list-style-type: none"> <li>↑ 20. Insufficient sleep</li> <li>↑ 21. Stress and illness</li> <li>↓ 22. Recent hypoglycemia</li> <li>→↑ 23. During-sleep blood sugars</li> <li>↑ 24. Dawn phenomenon</li> <li>↑ 25. Infusion set issues</li> <li>↑ 26. Scar tissue and lipodystrophy</li> <li>↓↓ 27. Intramuscular insulin delivery</li> <li>↑ 28. Allergies</li> <li>↑ 29. A higher glucose level</li> <li>↓↑ 30. Periods (menstruation)</li> <li>↑↑ 31. Puberty</li> <li>↓ 32. Celiac disease</li> <li>↑ 33. Smoking</li> </ul>
Medication	
<ul style="list-style-type: none"> <li>→↓ 10. Medication dose</li> <li>↓↑ 11. Medication timing</li> <li>↓↑ 12. Medication interactions</li> <li>↑↑ 13. Steroid administration</li> <li>↑ 14. Niacin (Vitamin B3)</li> </ul>	
Activity	Environmental
<ul style="list-style-type: none"> <li>→↓ 15. Light exercise</li> <li>↓↑ 16. High-intensity and moderate exercise</li> <li>→↓ 17. Level of fitness/training</li> <li>↓↑ 18. Time of day</li> <li>↓↑ 19. Food and insulin timing</li> </ul>	<ul style="list-style-type: none"> <li>↑ 34. Expired insulin</li> <li>↑ 35. Inaccurate BG reading</li> <li>↓↑ 36. Outside temperature</li> <li>↑ 37. Sunburn</li> <li>? 38. Altitude</li> </ul>
	Behavioral & Decision Making
	<ul style="list-style-type: none"> <li>↓ 39. Frequency of glucose checks</li> <li>↓↑ 40. Default options and choices</li> <li>↓↑ 41. Decision-making biases</li> <li>↓↑ 42. Family relationships and social pressures</li> </ul>

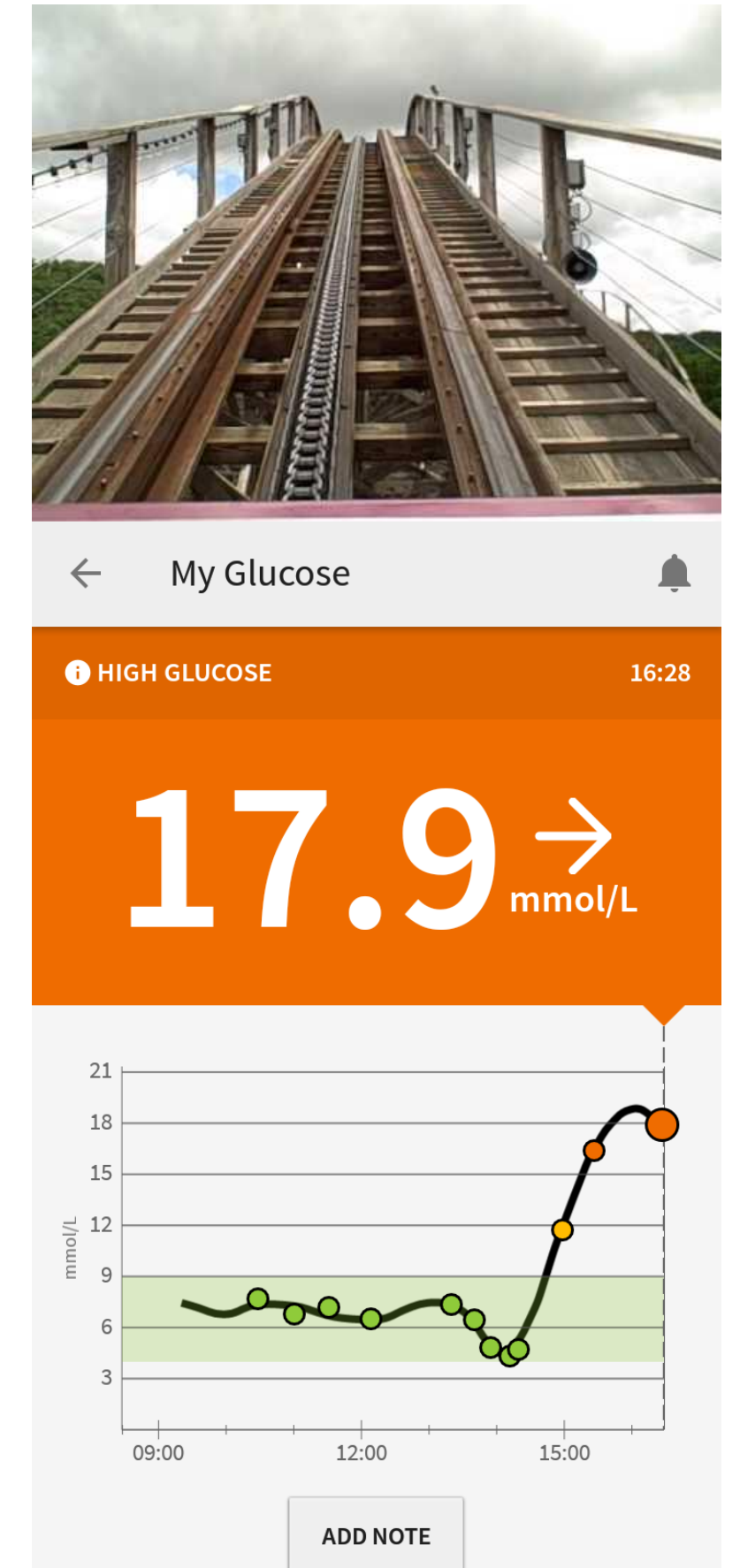
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<https://diatribe.org/42Factors>



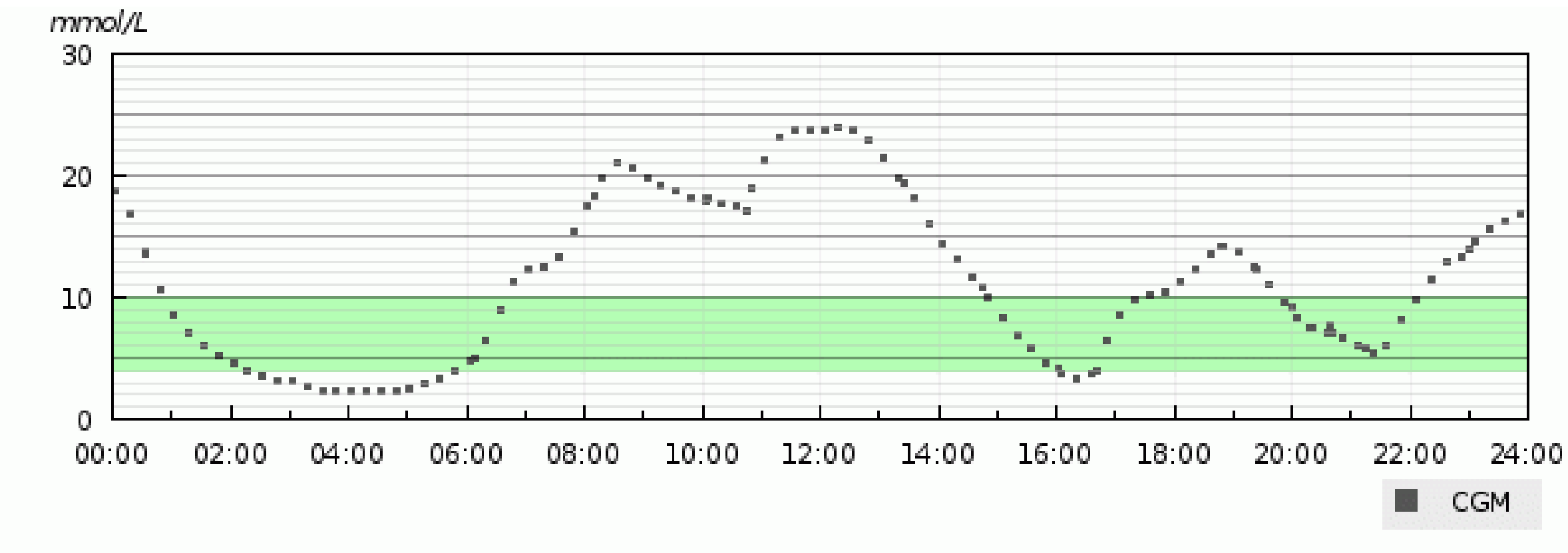
# Rollercoaster climb: The rapidly rising glucose

- Some common causes are eating carbohydrate
  - With missed bolus of insulin
  - A late bolus of insulin
  - Not getting the carb count quite right
  - To treat a hypo and overdoing it
- If you are on an insulin pump always consider set failure as a potential cause



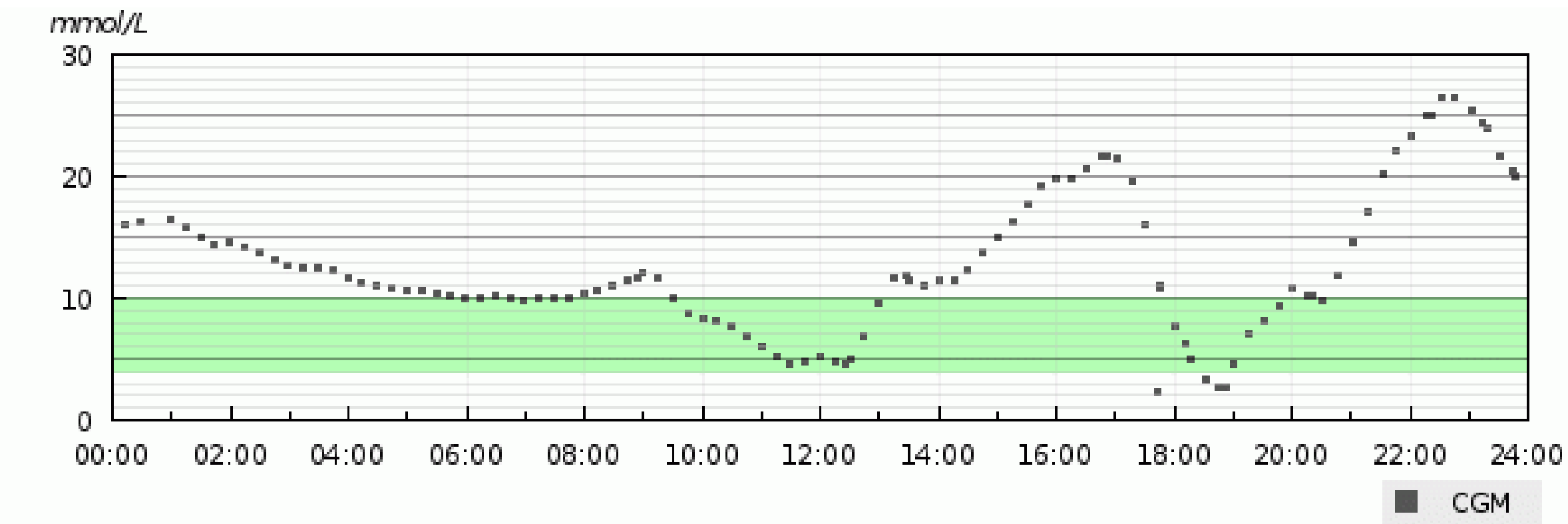
# Look familiar?

Wednesday 11/5

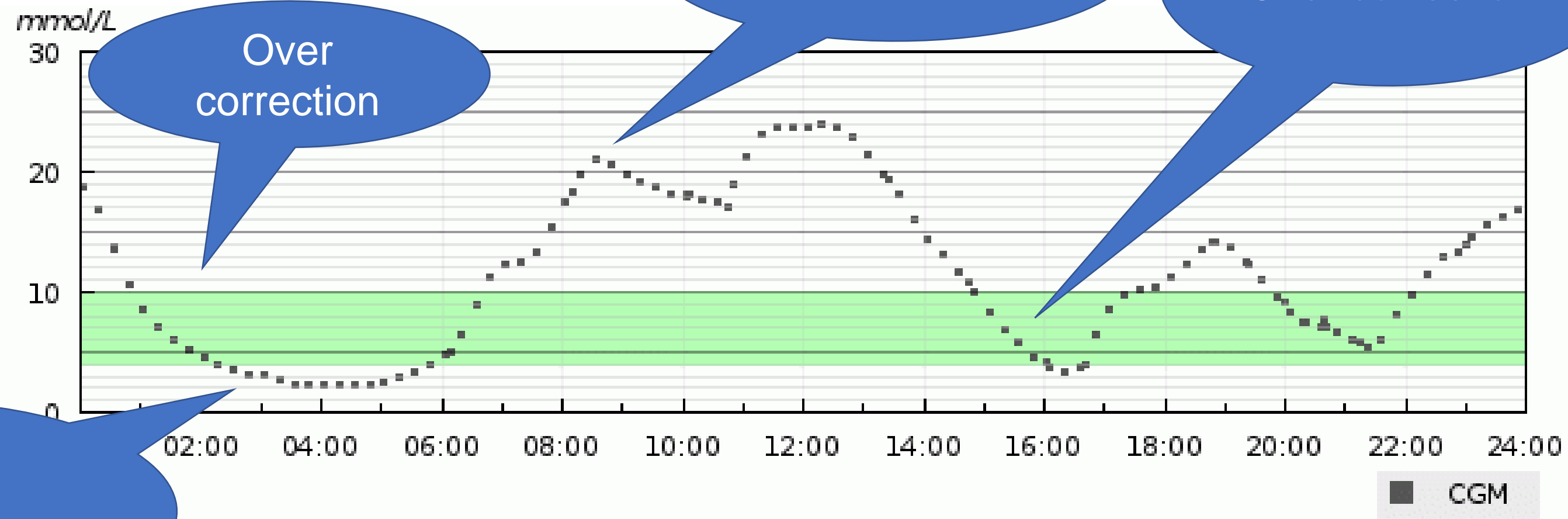


What could be causing this?

Tuesday 10/5

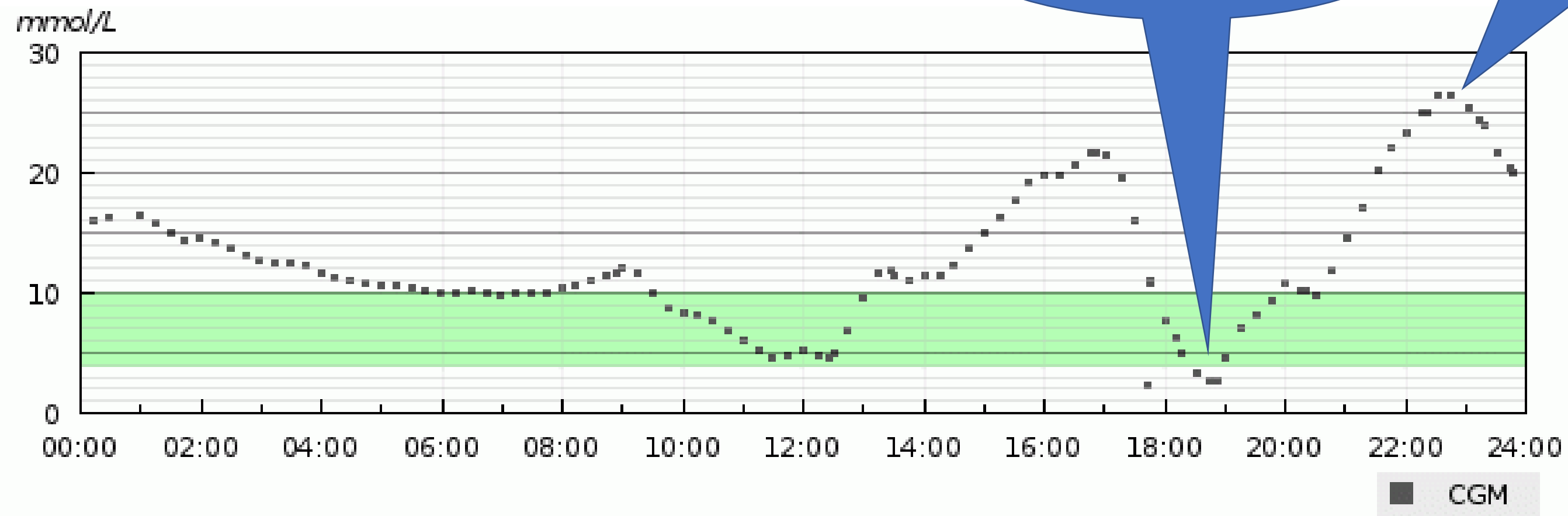


Wednesday 11/5



Nocturnal hypoglycaemia

Tuesday 10/5



# Conclusion



- Type 1 diabetes is really challenging to manage
- Everyone has days that don't go according to plan
- Reflect on the causes of large fluctuations in your glucose
- Review your Libre data regularly
- Discuss any concerns with your team