



Exercise Without Fear with Type 1 Diabetes



Podcast: Listen or Watch

This playbook provides evidence-based strategies for managing glucose before, during, and immediately after physical activity.

Before Exercise

Aim to start at 7-10 mmol/L (126-180 mg/dL). If you've eaten within 2 hours, reduce your bolus by approximately 25-50% as a starting point. Optimal timing is either ≥ 3 hours after eating or ≤ 60 minutes with insulin reduction.

- Know your personal glucose response patterns
- A1D users: Set exercise target 1-2 hours beforehand
- Pump users: Reduce basal by 50-80% 1-2 hours prior

During Exercise

Monitor your CGM every 20-30 minutes and supplement small and early with 3-20g carbohydrates depending on trends. If arrows show downward movement and glucose drops below 7 mmol/L, consider a fingerstick confirmation.

- Start with small carb amounts: 3g \rightarrow 6g \rightarrow 10g \rightarrow 15g \rightarrow 20g
- Avoid stacking large carbohydrate loads
- Trust your CGM but verify with finger prick blood glucose if < 7.0 mmol/L or 126 mg/dL with fast-falling trend arrows

EXERCISE & MEALS: 2 KEY RULES



① **RULE 1 – EARLY MEAL** Eat ≥ 3 hours before exercise

- ✓ Food absorbed
- ✓ Insulin action settled
- ✓ Glucose more predictable

② **RULE 2 – CLOSE MEAL** Eat 30–60 mins before exercise

- Reduce bolus insulin 25–50%
- ⚡ Glucose absorption + activity better aligned



<https://theglucoseneverlies.com/faq-t1d-exercise-activity/>



Post-Exercise Safety Protocol



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First Hour Post-Exercise

1

Highest hypoglycaemia risk period.

AID users should maintain exercise targets for 1-2 hours.

Pump users continue reduced basal rates for approximately 2 hours.

Consider reduce post-exercise meal bolus by 25-50%.

2

Late Evening Considerations

Exercise sessions in the evening carry increased risk around 2 a.m.

Consider 20g protein before bed and maintain temporary targets overnight.

Monitor closely during this vulnerable period.

Safety Alert: High Ketones

Never use physical activity to correct high glucose if ketones are elevated >1.5 mmol/L. This can worsen the situation and lead to dangerous complications.

Manual Mode Option

Competitive athletes may benefit from switching AID to manual mode before sessions for consistency, then returning to automated mode overnight for safety.

When to Fingerstick

During rapid glucose drops with high insulin on board, CGM readings may lag. Verify with fingerstick when readings seem inconsistent with symptoms.



Quick Answers: Starting below 7 mmol/L? Take 10-20g fast carbs immediately. Evening weights session? Watch for night dips and use protein before bed. Check glucose every 20-30 minutes during activity, more frequently during intense training.



Expert guidance: Prepared by John Pemberton & Prof. Othmar Moser with contributions from leading diabetes specialists. This information supplements, but does not replace, professional medical advice.

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