



Managing Blood Glucose with Physical Activity & Exercise

How will I know if my blood glucose is too low while I am exercising?

Always *measure* your blood glucose levels before, during and after any activity or exercise. This can help you to detect low blood glucose levels (hypoglycaemia) and to treat them.

Don't rely on 'feelings'!

Some people can feel their blood glucose levels dropping, *but many cannot*. If you are not aware of hypoglycaemia, speak to your Diabetes Educator or Doctor, who will try to help you to regain awareness of impending low glucose.

Be prepared

Always keep a snack on hand such as fruit juice or glucose tablets (**e.g. 'Super C's'**). Exercise with a responsible partner who knows that you have diabetes and who will be able to assist you should your blood glucose drop unexpectedly.

If you have type 1 diabetes, you must test your blood glucose level prior to exercise

- If your blood glucose levels are 6 mmol/l or lower before exercise, have a substantial snack before exercising (E.g. Peanut butter sandwich).
- If your blood glucose levels are between 7 and 10 mmol/l, have a small snack (E.g. banana).
- If your blood glucose levels are greater than 15 mmol/l, check for ketones in the blood or urine. If there are no ketones, exercise should be safe and would probably be beneficial. If ketones are present, *do not exercise*. Speak to your nurse educator or doctor. Eliminate the ketones first before continuing with exercise.

Preventing delayed hypoglycaemia

The key to good blood glucose control in the hours *after exercise* is correct carbohydrate and protein supplementation during and after exercise. This could be in the form of a sandwich or energy bar. If you exercise for more than 45 minutes, at a moderate to high intensity, it is essential to have a snack or drink like Milo before going to bed. This should help prevent overnight hypoglycaemia.

Hyperglycaemia (high blood glucose)

- Hyperglycaemia may be a common response to high intensity exercise such as sprinting, spinning or squash.
- **Tip** - You can use this effect after endurance exercise to balance the tendency towards hypoglycaemia – speak to your biokineticist about this.
- If your blood glucose levels go too high on a regular basis, speak to your educator or doctor to help adjust your insulin dosage, to counter this effect.



Should I drink more fluids during exercise?

Yes. You should try to drink **400-600 ml** of water per hour during exercise to avoid dehydration. When you exercise, you can lose up to a litre of fluid per hour through sweat and heavy breathing.

What exercise can I do if I have painful or numb feet?

If you cannot feel your feet, weight-bearing exercise such as running or ball sports may lead to blisters or ulceration of your feet, which may put your feet and general health at risk. Remember that injuries take longer to heal if the sensation and circulation in your feet is poor. Non-weight bearing exercises such as cycling or swimming are preferable in this situation. If you are going to run, make sure that your footwear is supportive and fits properly. A registered podiatrist with an interest in diabetes is the ideal person to assist you in the management of your feet.

Conclusion

The majority of people with diabetes will benefit from regular activity. If you are insulin requiring, it is important to balance your insulin dosage, your snacks and the timing of exercise to get the best blood glucose control. This is an *ongoing process* and may require dedication and constant monitoring of blood glucose, food intake and exercise.

For individuals that have been diagnosed with diabetes, a thorough examination conducted by your doctor or biokineticist is essential. This is to ensure the design of a safe and sustainable exercise programme to meet your individual needs.

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