Royal Surrey
County Hospital
NHS Foundation Trust

Exercising safely with Type 1 Diabetes

Physiotherapy Department

Patient information leaflet

This leaflet is for patients with type 1 diabetes who wish to exercise. It explains how to exercise safely whilst avoiding hypos, high blood sugars and keytones.

Why should I exercise?

Exercise is beneficial for you in many ways. It makes you feel good and it reduces your risk of heart disease and stroke.

To exercise safely and successfully with type 1 diabetes, you need to take certain precautions. This is necessary because exercise can cause your blood sugar to fall or rise, depending on your control at the time.

Before beginning any exercise program you should ensure that you are fit to undertake it. Special precautions are necessary if you have complications of diabetes such as food problems, eye disease, kidney disease, high blood pressure or heart disease. If you have any of these problems please discuss your intended exercise program with either a doctor or diabetes specialist nurse.

These guidelines are intended to help you manage your diabetes during exercise and to prevent problems such as hypos (hypoglycaemia or low blood sugar). However, they are a general guide and you may need more specific help and advice.

How do I avoid hypos?

Hypos can occur during exercise. There is also an increased risk of hypos just after exercise as well as 6-8 hours after exercise. There are a variety of steps you can take to avoid it.

- Test your blood sugar regularly before, during and after exercise. Do not exercise if your blood sugar is less than 5.5mmol-1. Take an extra carbohydrate and test again in 20 minutes.
- Inject your insulin in a site away from an exercising muscle.

- You will probably need to reduce your dose of insulin prior to exercising. The size of the reduction will depend on the duration and intensity of the exercise. For example, for exercise of moderate duration and intensity eg. 30-60 minutes of swimming or football, you should reduce your insulin by 30%-50%. By careful monitoring, you will learn how to adjust your insulin for different types of exercise.

- Remember that exercise can cause your blood sugar to fall for up to 6-8 hours after you have finished exercising. To avoid hypos during the night, you may need to reduce your evening insulin dose by up to 30%-50%. This is very individual to each person and you can monitor and do what works best for you. Avoid exercising when your insulin is working at its peak of action. If you are unsure of when this is then ask your doctor or diabetes specialist nurse. A good time to exercise is when you are a bit more resistant to insulin. For many people, this is in the morning as the exercise helps to bring blood sugar levels down with less risk of hypos.

- You may need to take extra rapidly absorbed carbohydrate before, during or after exercise. You should also eat an extra-large bedtime snack containing slowly absorbed carbohydrates. Examples of these foods can be found on the back page of this leaflet. More detailed dietary advice can be obtained by discussing your needs with a dietician.

How do I avoid high blood sugars and ketones?

Exercising with poor diabetic control can cause your blood sugars to rise even further. The following precautions should be taken to avoid deterioration in control.

- Test your blood sugar before exercising.

- If your blood sugar is higher than 14mmol-1 then test your urine for ketones. If you have ketones it is advisable to delay exercising as your blood sugar is likely to rise further, and you may produce more ketones.

- If your blood sugar is higher than 17mmol-1 irrespective of whether you have ketones, it is advisable to delay exercising as your blood sugar is likely to rise further, and you may produce more ketones.
- If you are feeling unwell with high blood sugar and ketones are present then definitely do not exercise and you need to follow sick day rules and resolve the ketones.

Please speak with your diabetes nurse if you have any questions regarding your diabetes control with exercising.

Ideas for snacks

Rapidly Absorbed

- 6 dried apricots
- 2 tablespoons of raisins
- 1 fruit yoghurt
- 150ml orange juice
- 100ml Ribena ®
- 100ml isotonic sports drink
- 100ml Lucozade®

Slowly Absorbed

- Sandwich
- Bowl of cereal
- Portion of pasta
- 1 apple
- 1 small banana
- 1 orange
- 1 peach

Reference sources

- NICE guidelines Type 1 diabetes in adults: diagnosis and management (2015)
- https://www.nhs.uk/conditions/type-1-diabetes/
- https://www.diabetes.org.uk/guide-to-diabetes/enjoy-food/eating-with-diabetes/out-and-about/sports-nutrition-and-type-1-diabetes

Notes

Notes

Contact details

Royal Surrey County Hospital Diabetes Nurse Specialists
Telephone: 01483 571122 extension 2413
Email: rsch.diabetesnurses@nhs.net

Physiotherapy
Telephone: 01483 464153

PALS and Advocacy contact details

Contact details of independent advocacy services can be provided by our Patient Advice and Liaison Service (PALS) who are located on the right hand side as you enter the main reception area. PALS are also your first point of contact for health related issues, questions or concerns surrounding RSCH patient services.

Telephone: 01483 402757
Email: rsc-tr.pals@nhs.net
Opening hours: 9.00am–3.00pm, Monday to Friday

If you would like information documents in large print, on tape or in another language or form please contact PALS.

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