

# Diabetes and exercise

# Benefits of exercising

### Benefits of doing exercise if you have diabetes:

Gives you more energy and helps you sleep.

Helps the mind – exercise releases endorphins and being active can reduce stress levels and improve low mood.

If you have type 2 diabetes, exercise can help improve your HbA1c.

Improves cholesterol which helps protect against problems like heart disease.

# How different forms of exercise affect blood glucose levels

In general, moderate forms of exercise that last for long periods of time such as walking and cycling lead to slow drops in blood glucose levels.

Intense forms of exercise such as running and football may cause blood glucose levels to rise. This is due to the body releasing high levels of adrenalin which causes the liver to break down stored glucose and release it into the bloodstream.



# Type 1 diabetes

If you have type 1 diabetes you can exercise, but are advised to take extra precautions to make sure it is done safely.

Doing exercise can affect blood glucose levels differently depending on what type of activity is done; blood glucose levels may rise (hyperglycaemia) or drop (hypoglycaemia).

### **Before exercising:**

Preparation before exercising is important for those with type 1 diabetes.

### Key points for preparing to exercise:

- Have the correct amount of insulin before and after exercising to avoid hypos and hypers
- Too much insulin before exercising can cause a hypo as it reduces the amount of glucose that the liver can add to the blood
- Too little insulin when exercising can stimulate glucose production in the liver, which can cause a hyper
- Make sure to eat the right amount of carbs before exercising to avoid hypos

My notes:	

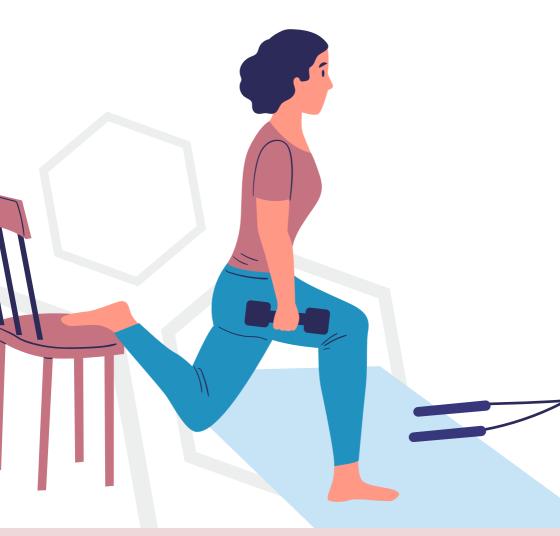


### **During exercise:**

You should regularly check your blood glucose levels before and during exercise to help you work out what to eat and when to adjust insulin.

### After exercise:

After doing exercise, it is important to check blood glucose levels regularly as they can drop up to 12 hours after exercise. This is because adrenalin levels drop and the muscles and liver start to take up extra glucose to replace their stores.



# Type 2 diabetes

If you have type 2 diabetes, exercise plays an important role in the management and treatment of your diabetes. If you do regular exercise and stay fit, you'll be able to better keep blood glucose levels in the right range and better control your diabetes.

If you have type 2 diabetes exercise can also help avoid long term complications such as heart problems. Doing regular exercise helps keep the heart healthy and helps maintain good cholesterol.

# Exercising with diabetes complications

If you have diabetes complications such as heart or eye problems you can still do regular exercise, but you will need to be more careful about which form of exercise to choose.

If you have foot problems such as neuropathy or foot ulcers, then you may need to avoid certain exercises such as jogging. Other alternative forms of exercise that are chair based might be better as they are less weight bearing.

My exercise goals:



## Forms of exercise

### **Aerobic:**

Aerobic exercise such as walking and long-distance exercise tends to be a moderate form of activity which lasts for longer periods of time. This form of exercise tends to lower blood glucose levels due to enhanced insulin sensitivity and accelerated glucose consumption by the muscle cells.

#### **Anaerobic:**

Anaerobic exercise such as weight training and sprinting generally lasts for shorter periods of time and usually raises blood glucose levels due to the release of adrenaline and noradrenalin into the blood, which stimulates the liver to release glucose faster than normal.

### Mixed:

Mixed exercise such as football and netball can both lower and raise blood glucose levels.

M	y exercises:		

# Exercise and diabetes

Diabetes is a medical condition where there is too much sugar (glucose) in the bloodstream.

People with diabetes are encouraged to do regular exercise for better blood sugar control and to reduce the risk of cardiovascular diseases which can happen when the muscles work harder and use more glucose than when resting.

Muscles are one of the main targets for insulin. During physical activity, muscle cells become more sensitive to insulin and the more intense and longer the activity, the longer and greater the insulin sensitivity. If you are taking insulin, you may need to adjust boluses due to greater insulin sensitivity and this will depend on the intensity, duration and exercise type. Healthcare professionals can help you with bolus dosing.

My recommended bolus adjustments: (if required)

# Why exercise is important?

Exercise is important for everyone including those with diabetes and brings many benefits.

Key reasons why exercise is important:

- Strengthens the cardiovascular system
- Helps the body's muscles



Helps people maintain fitness in order to lose or maintain a healthy weight





### Diabetes Care Management Systems









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