

Blood glucose levels (BGLs) and physical activity

This resource is for people with diabetes and explains how blood glucose (sugar) levels can change with physical activity. Learning this helps you to exercise safely and with confidence.

How does physical activity change my blood glucose levels (BGLs)?

Your BGLs may increase or decrease depending upon how hard and how long you exercise for. You can use the scale below to rate how hard your exercise is:

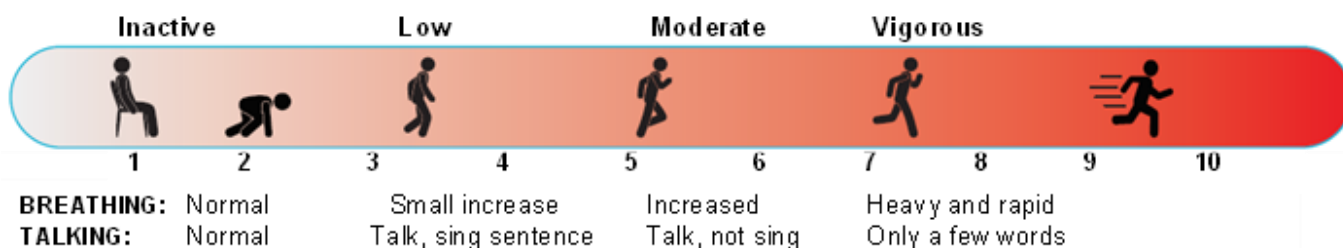


Image source: Diabetes Tasmania



BGLs may go down during or after moderate activity.

- Exercise like fast walking, swimming, dancing or heavy housework can lower your BGLs.
- Your BGLs can drop for up to 24 hours after exercise if you use insulin.



BGLs may go up during or after high intensity activity.

- High intensity exercise such as running, uphill cycling or competitive sport can raise BGLs due to the release of stress hormones.
- BGLs will usually fall again after the exercise and may go too low (hypo) if you use insulin.

How do I manage my blood glucose levels when exercising?

To help you to stay within your optimal BGL range, you may need to change how much insulin you use, eat extra carbohydrate foods or change both insulin and carbohydrate intake. Physical activity helps insulin to work better in your muscles (improves insulin sensitivity). This effect lasts for up to 48 hours. Talk to your diabetes team to make a plan that is right for you.



Adjusting your insulin amount

How to change your insulin for exercise depends on your fitness, the amount of time spent exercising, how hard the exercise is for you (use the 10-point scale) and your insulin pattern. For example, you may need to reduce your rapid acting insulin 2 hours before exercise. Your diabetes team can help to guide you with these changes.



Eating extra carbohydrate food

Extra carbohydrate food may be needed for exercise lasting more than 30 minutes.

As a general guide, consider:

- 15g carbohydrate serve for each hour of gentle exercise
- 30g carbohydrate serves for each hour of moderate exercise
- 45g carbohydrate serves for each hour of high intensity exercise

See the table below for examples of carbohydrate serves:

Examples of foods with 15g of carbohydrate	
<ul style="list-style-type: none">• 1 slice of bread• 1 piece of fruit (e.g. banana, apple)• 1 cup (250ml) plain milk or 1 tub (150-200g) yoghurt	<ul style="list-style-type: none">• 2 plain sweet biscuits (e.g. Nice, Arrowroot)• 250ml Gatorade/Powerade• 200ml fruit juice

Exercise tips

- Test BGLs **before, during and after** exercise.
- Talk with your diabetes team to make an exercise plan that works best for you.
- Always carry fast acting carbohydrate to treat low BGLs (hypo) if needed (see table below).
- It is not recommended to exercise when unwell or if your blood sugars are too low or too high.

Examples of foods with 15g of fast-acting carbohydrate	
<ul style="list-style-type: none">• 100ml Lucozade• 7 jellybeans• 150ml soft drink (non-diet)	<ul style="list-style-type: none">• 200ml fruit juice• 3 teaspoons sugar or honey• Glucose gel or glucose tablets equal to 15g carbohydrate (talk with your diabetes team)

To learn more, contact your Dietitian: _____