



Benefits and risks of exercise for people with diabetes

When first diagnosed with diabetes many people tell us they are shocked and scared. They are given a big list of all the risks and things that can go wrong. It's often a time when people are forced to review their life. It's unfortunate that the start is this way but it can inspire people into action. It is the only condition that people have such a large capacity to influence and control its effect, progression and of course, the impact on their life and health.

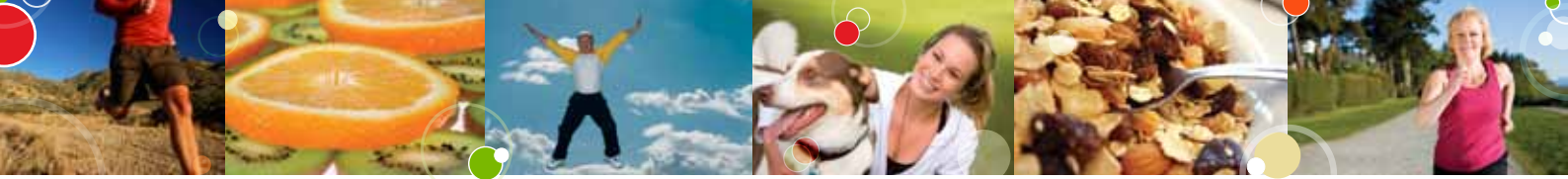
Exercise has many benefits for people with diabetes, specifically in assisting with blood glucose management and insulin sensitivity. When a person's insulin sensitivity is high it makes the process of glucose entering the cells (this is a problem in diabetes) easier and so reducing the amount in the blood, and keeping your HbA1c under control. HbA1c is a three-month measure of how well you are managing your blood glucose levels. A decrease in HbA1c as small as 0.9% has been shown to reduce the risk of diabetic complications such as heart disease, foot problems, etc. by up to 35%. Another study has shown that regular and sustained exercise can reduce a person's HbA1c by 0.74% even without a change in body weight. Dr Fraser's PhD showed that a person's insulin sensitivity peaks 24 hours after a session of exercise, however at 48 hours this improvement has reduced to the level before the person exercised. What this tells us is that exercise has a repeated acute effect, so the moral here is don't let more than 24 hours come between you and exercise to maintain high insulin sensitivity.

The benefits of improved insulin sensitivity don't just stop with improved blood glucose levels. Increased insulin sensitivity also speeds up weight loss and improves our energy levels. In addition certain types of exercise such as resistance training improves muscular strength as well as the muscle cells sensitivity to insulin. Increasing one's strength leads to improved ability to complete daily tasks with less fatigue as well as fighting the age related decline in muscle mass called Sarcopenia. Sarcopenia is considered a major contributor to loss of functional capacity and independence in older adults.

Further to this, the benefits of exercise in general are an excellent side effect – improved bone mineral density, improved cardiovascular capacity, reduced risks of heart and lung problems, cholesterol problems and improved sleep to name a few.

Advice regarding exercise is often "go for a walk" and while walking is good it is often not specific enough, and for some, not a possibility. There are many ways to exercise and an individual program can be designed for you by your Accredited Exercise Physiologist who will understand and address any injuries or health issues you have.

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For all its benefits there are always some risks when exercising. Some are specific to commencing an exercise program and some apply to anyone with diabetes exercising. If you are a regular exercise, or just about to start, these are some points you need to consider:

- Increased chance of hypoglycaemia for people using sulphonylureas and insulin medications. Checking your blood glucose levels before and after exercise can assist in determining your body's response to the exercise you have completed and carrying hypoglycaemic treatment as well as water is necessary.
- Increased risk of foot injuries to those who have peripheral neuropathy, as they may not feel the injury. To address this issue, always wear well fitting and enclosed toe shoes when exercising and have your feet regularly checked by your podiatrist.
- Some people's hearts can have trouble regulating their heart rate and how hard they work (autonomic neuropathy). Use rated perceived exertion to monitor your efforts rather than heart rate.
- Increased risk of musculoskeletal injury. This applies to any person exercising. Ensure you understand the exercise you are performing and get assistance if you are not sure.
- Delayed onset muscular soreness is another common side effect of exercise. It affects everyone who exercises but is important to remember that this is how your body gets fitter. Using a graded program and progressing in small steps as well as stretching can avoid excessive delayed onset muscular soreness.

While these can seem daunting at first, starting small and building up should mean you are less likely to experience these. The benefits as listed above far outweigh these risks, which with care and proper guidance can be avoided.

References:

1. UK Prospective Diabetes Study Group. Lancet. 1998
2. Boule NG et al. JAMA. 2001