



DIABETES and Exercise

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DIABETES AND EXERCISE

It is known that a clear correlation exists between having a more active lifestyle and having less disease/illness. People who exercise have lower blood pressure, lower heart rates, and improved circulation. They also have lower cholesterol, lower blood glucose levels, lower body mass indices (BMI) and less body fat; as well as higher metabolic rates and better weight control. They sleep better, have more energy, are less stressed/anxious and are happier and more confident. Exercise can improve someone's social life and regular exercisers are also able to maintain independence for longer in their own homes.

Why is exercise especially important for someone with diabetes?

Unlike medication, exercise is low cost and side-effect free. Those with diabetes who don't exercise are three times more likely to have poor blood glucose control and are more likely to suffer diabetes complications. However, those who exercise regularly— apart from getting the benefits listed above—have improved sensitivity to their body's own insulin and their bodies become better at transporting glucose. This happens because exercise stimulates the body's muscles.

Exercise also reduces the level of fat in the body, particularly around the abdominal area. It is thought that it is this mobilization of the body's fat stores by exercising that might improve the person with diabetes' blood glucose control. There is less glucose in the blood because it's now stored in the body's muscle, which means improved blood glucose control and reduction in the complications associated with diabetes.

How long do these effects from exercise last?

The good news is that if someone regularly exercises these benefits can be permanent, and for someone with diabetes it can mean reducing their medication. For those with a family history of Type 2 diabetes, engaging in a routine exercise program may prevent or at least delay the onset of Type 2 diabetes.

A single session of exercise can benefit the body's sensitivity to insulin for 16-18 hours—exerting effects on blood glucose control for 24-48 hours, but these effects have worn off by 60-72 hours. Even a little bit of exercise is better than none at all, and an "a-little-and-often" approach to exercise can be of benefit.

How much exercise should I be doing?

To obtain health benefits, it is recommended that adults should be aiming to exercise at a moderate intensity for 30 minutes a day for a minimum of five days a week (preferably seven days). However, the same health benefits can be gained by breaking this down into 10 minute intervals of moderate activity. The overall aim should be to accumulate at least 150 minutes of moderate activity per week.

Before you start!

- Get a medical clearance if you have not exercised in over a year, if you are a man over 45 years old or a women over 55 years old.
- Start with 5-10 minutes of activity per day for the first week, then add on 5 minutes per day each week until the target goal of 150 minutes of moderate activity is reached.
- Build up slowly and gently increase activity levels over a series of weeks.
- If using a pedometer, aim initially to build up an extra 3,000 steps/day; alter this each week by just doing a little more within the daily routine (see below for some ideas) until the target 10,000 steps/day is reached.

What do we mean by moderate activity?

A scale known as Borg's scale of Rate of Perceived Exertion (RPE) is used to rate how hard the exerciser is working. Moderate activity means the exerciser should feel some breathlessness, be aware that his/her pulse is raised, be sweating, know that he/she is using his/her muscles but still be able to hold some brief conversation.



What types of exercise should be performed?

Three S's make up the components of all-round exercise. These are **strength, suppleness and stamina**. To gain the benefits of exercise all of these components should be included in the exercise routine, as this will mean having sufficient power, strength and range of movement to repeatedly undertake activities of daily living.

Traditional exercise prescriptions focused on aerobic exercise, but it is now recognized that health benefits—particularly for people with diabetes—are best conferred by doing some strength (resistance) exercises too. To develop these components and achieve the benefits of exercise you don't have to join a gym or an exercise class, but these methods are recommended—as you will have company exercising, someone is likely to be supervising what you are doing, and if in the gym you will probably have been prescribed a personal exercise plan by a professional trainer.

But if the gym or exercise class is not for you, there are still ways to exercise in and around your home and during your daily routines.

- Walking is an inexpensive and easy way of getting exercise and can be built into daily routines by parking the car further away from work, getting off the bus a stop earlier, or intentionally going for a walk at lunchtime or after work.
- Purchase a pedometer; as counting the number of steps you take each day can be a good motivational tool and demonstrates your progress in reaching your target.
- Use the stairs instead of elevators.
- If doing a home-based exercise routine, instructor-led exercise videos/DVDs can be readily bought or borrowed from the library, or a range of simple and not too expensive exercise equipment can be purchased. Check the want ads or thrift stores for used equipment.



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How do I get started?

- Check with your health care professional that your diabetes is presently stable enough to allow you to begin an exercise routine.
- Start with small sessions of exercise of low intensity and build up gradually.
- Find an exercise partner — this could be a family member, your child or grandchild, or a friend or work colleague — and make it fun.
- Choose something you enjoy, as you are more likely to stick with it.

How do I make sure I'm exercising safely?

In order to prepare the body for exercise there must always be some kind of warm-up, which involves gently raising the pulse and getting the muscles warm for 5-10 minutes before the main exercise activity. Instructor-led sessions will build this into the activity.

However, if you are exercising independently, and this includes doing heavy housework, work around the house, and gardening, remember to start the activity gently and build up.

It is also important to cool-down following exercise, to avoid feeling faint and dizzy and to help the body return to a resting state. Again instructor-led sessions should automatically include this, but if exercising independently, spend 5-10 minutes repeating the activities undertaken in the warm-up.

STAYING HEALTHY UNTIL A CURE IS FOUND.

How to avoid becoming an exercise casualty

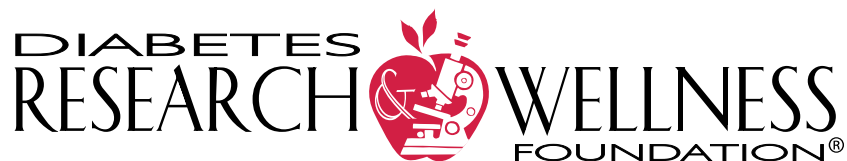
- Build up slowly—this is both within a single exercise session as well as within a whole exercise program.
- Don't ever try to lift maximum weights, and never hold your breath when doing any weight or resistance-based exercises.
- Don't try to do too much or advance too quickly; stick to moderate intensity exercise.
- If new to exercise it may be best for you to monitor your blood glucose before, during, and after exercise until a routine is established. If doing any prolonged exercise or heavy household, gardening, or DIY chores—check blood glucose during the activity and adjust food as necessary. You may need to discuss your medication regimen with your health care professional.
- Do not exercise if you are feeling ill, vomiting, or have an infection.
- Exercise is very important during a pregnancy for you and the baby. Talk to your health care professional about your exercise program.
- Be sure you are wearing proper, well-fitting shoes and inspect your feet daily.
- If you've been diagnosed with retinopathy you may not be able to engage in strength-training activities. Be sure to contact your health care professional for guidance.
- If you have been diagnosed with autonomic neuropathy or peripheral neuropathy, be sure to contact your health care professional for special guidance in developing an exercise program.

And finally...

To have all the benefits of exercise you must do it regularly and stick with it; so make sure you find something that is enjoyable and fun. Taking up exercise or becoming more active won't just benefit your diabetes, it can also impact on any other disease and age-related problems you may have. A more active you will also benefit your family, friends, and work colleagues too.



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The mission of **Diabetes Research & Wellness Foundation (DRWF)** is to help find the cure for diabetes, and until that goal is achieved, to provide the care and self-management skills needed to combat the life-threatening complications of this terrible disease.

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