

Appendix 16: Diabetes and Physical Activity

EVERYONE BENEFITS FROM PHYSICAL ACTIVITY!

One of the ways to reduce the risk of type 2 diabetes, and its complications is through physical activity. Some people may not know the term physical activity, but it simply means that a person is moving his or her body and using more energy than if they were just sitting and resting. This could include things that they do at work such as carrying a box of files, housework such as vacuuming, or things that they like to do in their leisure time such as walking or playing hockey. The main idea is that a person is getting up and moving. Every little bit counts, even if it does not seem like much.

3 types of physical activities

- **Sport** is a planned activity that follows rules and is competitive. Some examples of this would be hockey, volleyball, curling and soccer.
- **Exercise** is planned and follows a sort of prescription, such as, walking quickly for 15 minutes, or lifting a weight 20 times.
- **Active living** is integrating physical activity into your daily life though occupational, household and leisure time activities. It can be as simple as hanging the laundry on the clothes line or walking to get groceries instead of driving.

Benefits of physical activity

- Better health including helps to lower cholesterol, lowers blood glucose levels, lowers the risk of heart attack and stroke, reduces the risk of diabetes and its complications
- Better fitness
- Better posture and balance
- Weight control or weight loss
- Stronger muscles and bones
- Better self-confidence
- Improved self-esteem
- More energy
- Overall happiness
- Relaxation
- Stress reduction
- Improved cognitive function and reduced risk of dementia
- Ability to maintain independence with age





Being physically active not only improves the physical aspects of a person's life, but it also helps to improve one's mental, emotional and spiritual health.

Physical activity guidelines

The Canadian Society of Exercise Physiology has physical activity guidelines that provide minimum levels of activity that each person should be getting. It is important to note that if a person is normally inactive, he/she may need to slowly work up to the recommended levels. The guidelines are broken up into five different age groups: early years aged 0-4 years; children aged 5-11 years; youth aged 12-17 years; adults aged 18-64 years and older adults aged 65 and older. The guidelines can be downloaded from the Canadian Society of Exercise Physiology website at www.csep.ca/guidelines. For hard copies of the guidelines see **Appendix 17**.

Early years

For healthy growth and development, infants (less than 1 year of age) should be physically active several times daily, especially through interactive floor-based play. Children 1-4 years old should accumulate at least 180 minutes of physical activity a day. The physical activity can be at any intensity and should include a variety of activities in different environments (indoor, outdoor, with toys and without toys) and activities that develop movement skills (kicking, catching, running, jumping, throwing and rolling, etc). Children should progress to at least 60 minutes of energetic play by 5 years of age.



Children

Children 5-11 years old should get at least 60 minutes of moderate to vigorous activity a day. Moderate to vigorous activity means that they need to do more than walk. They should be working hard enough that they are breathing hard or even sweating. They could include things like biking, swimming, running or playground activities like tag or soccer. Children should also do activities that help strengthen their muscles and bones at least 3 days a week. This could be things like playing hopscotch, playing on monkey bars or even just jumping up and down. While the recommendation is for 60 minutes a day, children do not need to get the 60 minutes all at once. This can be broken up in small bursts of fun activities throughout the day. Also, 60 minutes is the minimum, the more active children are the greater the health benefits.



Youth

Youth should be accumulating at least 60 minutes of physical activity a day including participating in vigorous intensity activity at least 3 days a week and activities that strengthen their muscles and bones at least 3 days a week. The more active youth are the better. Encourage them to find activities that they enjoy so that they will be motivated to do it often. Walking to school, lifting weights, or joining a sports team, such as volleyball are just a few examples of ways that youth can be active.



Adults

Adults 18-64 years old should get at least 150 minutes a week of moderate to vigorous activity a week in periods of 10 minutes or more. This could include things like raking the lawn, going for a walk after dinner, or playing outside with children and grandchildren. Adults should also add activities that strengthen muscles and bones at least twice a week. This can easily be done by shovelling snow, carrying groceries, or lifting weights.

Remember that adults who are not usually active need to start slowly to prevent sore muscles and slowly add more time or weight to these workouts. If the activity is more strenuous than walking, a Physical Activity Readiness Questionnaire (PAR-Q) should be filled out and consultation with a health care provider if any of the questions were answered with a yes. The PAR-Q can be found on the Canadian Society of Exercise Physiology website <http://www.csep.ca/cmfiles/publications/parq/par-q.pdf>. For hard copies of the PAR-Q form, see **Appendix 18**.

Older adults

Individuals 65 years and older should follow the same guidelines as adults and include balance activities. This will reduce the risk of a fall and help to maintain independence as they age.



People with diabetes

Often people with chronic diseases, such as type 2 diabetes feel that they are not able to exercise. In almost all circumstances the benefits of physical activity outweigh the potential risks.



Regular exercise should be part of the treatment plan for people living with diabetes. However, before beginning anything more strenuous than walking they should consult with their health care provider. The Physical Activity Readiness Medical Examination form can be used to determine if an exercise program is advisable. A copy of the form can be found at: <http://www.csep.ca/cmfiles/publications/parq/parmed-x.pdf>. For hard copies of the PARmed-X form, see **Appendix 18**.



People with diabetes should aim for:

- 150 minutes of moderate aerobic activity a week. This can be broken down into periods of 10 minutes throughout the day. If a person was previously sedentary, s/he may need to start with as little as 5 minutes, but still reaching the 150 minutes per week.
 - Aerobic exercise is a repeated, rhythmic and continuous movement of the same muscles. Examples include walking, jogging, swimming, dancing, aerobics and yard work. To reach the moderate activity range, a person should feel warm and be breathing heavier, but still able to talk easily.
- 3 days a week of resistance exercises such as lifting weights, using resistance bands, push-ups, squats, chopping wood and carrying groceries. For someone just starting out, s/he should do 1 set of 10-15 repetitions of a moderate weight. A moderate weight means that it should be somewhat difficult, but the person should feel like s/he could do a few more at the end of the 10-15 repetitions. The individual should slowly progress to 2 sets of 10-15 repetitions and then 3 sets of 8 repetitions at a heavier weight.

Where to start?

Often people will get excited and lift too much weight, or try to walk for too long. They feel sore, or may hurt themselves which is discouraging and they may not continue. Therefore it is important to start slowly and set reasonable expectations. Here are a few tips to make sure that starting a new exercise routine is safe and



enjoyable.

The warm-up

The warm-up is essential to get the body ready for exercise. It prepares the heart and lungs for more activities and helps lubricate the joints to help increase flexibility. The warm-up could include walking slowly and then gradually increasing the speed for 5-10 minutes.



The activity

Exercise can be fun and enjoyable and should be specific to each individual. An individual should start by picking something that s/he enjoys and can fit into his/her day. A few fun ideas are:

- Going for a walk after dinner
- Playing outside with kids or grandkids
- Buying an exercise DVD that will be fun
- Joining a walking club
- Starting a garden
- Buying a resistance band and doing strength activities at home
- Trying a new sport or activity like volleyball, soccer, ultimate frisbee or yoga
- Snowshoeing
- Chopping wood

The cool-down

The cool-down is just as essential as the warm-up. It can help prevent sore muscles and an irregular heartbeat. It also helps get back to a resting heart rate and helps the body cool down. It can be as simple as walking around, gradually getting slower and then stretching. Each stretch should be held for 10-30 seconds and should not hurt.

