



# Be Active. Eat Well.

## Prevent and Control Type 2 Diabetes

This Guide is for practitioners and organizations who work with older adults. It contains facts and figures about type 2 diabetes and practical tips on how to prevent and manage it with physical activity and good nutrition. This Guide is complementary to the *Be Active Eat Well Guide for Older Adults*. We hope you find these resources useful.

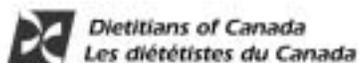


### DID YOU KNOW ...

that the Clinical Practice Guidelines of the Canadian Diabetes Association recommends people over 45 be tested for diabetes every three years?

For more information visit their website at [www.diabetes.ca](http://www.diabetes.ca)

THIS INFORMATION WAS PRODUCED  
IN CONSULTATION WITH ...



## WHAT IS DIABETES?

Diabetes is a disease where the body cannot properly make use of food as energy. Much of the food we eat is broken down into glucose (sugar) which is used for energy. To use sugar, the body needs insulin, which is produced in the pancreas.

### With diabetes ...

- the body does not produce enough insulin, or has difficulty using the insulin it produces.
- sugar builds up in the blood instead of being used as energy.

### If left untreated ...

- high levels of blood sugar can slowly damage blood vessels and nerves.
- numerous complications may develop.

### Type 1 diabetes

(usually diagnosed in children or young adults) ...

- the pancreas stops producing insulin.
- insulin must then be taken by injection.

### Gestational diabetes ...

- a temporary condition that can occur during pregnancy.
- affecting 2 to 4% of all pregnancies.
- involves an increased risk of developing diabetes later in life for both mother and child.

### Type 2 diabetes ...

- blood sugar levels must and can be controlled. Maintaining a healthy weight, healthy eating habits, and regular exercise can control blood sugar levels in many cases.
- over time, additional treatments or medications (pills, insulin) may be needed.

**THERE IS NO SUCH  
THING AS MILD OR  
BORDERLINE DIABETES.  
YOU HAVE IT  
OR YOU DON'T.**

The good news is that, often, diabetes can be prevented, and its complications reduced, with physical activity and good nutrition.

## FACTS & FIGURES<sup>1</sup>

Compared to others the same age, people with diabetes are ...

- 25 times more likely to become blind.
- 17 times more likely to have kidney disease.
- 20 times more likely to get gangrene.
- 15 times more likely to need an amputation.
- twice as likely to have a heart attack or stroke.
- Older adults with diabetes are hospitalized 70% more often than older adults without the disease.

Actually, the prevalence of diabetes

has increased. The rates of other chronic diseases, while high, (eg. hypertension, heart disease, arthritis) have been declining<sup>2</sup>.

Diabetes is projected to increase 44 percent over the next 20 years. This is due in part to an aging population, but also to societal trends towards inactivity and poor nutritional habits.

Older people tend to have physical limitations on their ability to exercise and tend to gain weight as they age, further increasing their risk of diabetes.

- An estimated 27 percent of Aboriginal people are projected to develop diabetes in the next 20 years.
- More than two million Canadians are known to have

diabetes. About 90% of people with diabetes have type 2.

- Up to one million people have the disease and are unaware of it.
- Age is a factor. Individuals 45 years of age and older are at greater risk.

Individuals with diabetes incur medical costs two to five times higher than those without the disease. This is due to more frequent medical visits, the need for supplies and medications, and the greater likelihood of being admitted to a nursing home<sup>3</sup>.

An estimated **\$13 billion** is spent each year in Canada treating people with diabetes and its complications<sup>4</sup>.

1. Unless otherwise noted, all statistics are from *Seniors and Diabetes: A Canadian Perspective*, Division of Aging and Seniors, Health Canada, 1999.

2. *Seniors in Canada: A Report Card*, National Advisory Council on Aging, 2001.

3. Canadian Diabetes Association, [www.diabetes.ca/section\\_about/prevalence](http://www.diabetes.ca/section_about/prevalence).

4. *ibid.*

## RISK FACTORS



*By choosing a healthy lifestyle, older adults can reduce their risk of developing diabetes. They need to know about the risks, and that serious complications can result if the condition is left untreated.*

Risk factors for type 2 diabetes that cannot be changed ...

- 45 years of age or older.
- A family history of diabetes.
- Aboriginal, Hispanic, Asian or African descent (high risk groups).
- Giving birth to a baby that weighed over 4 kg (9 lbs.), or gestational diabetes (diabetes during pregnancy).

Risk factors that older adults can change ...

- Being overweight, especially if most of the weight is carried around the middle.
- Not being active.
- Not eating well.
- High cholesterol or high triglycerides.
- Higher than normal fasting blood sugar levels. (6.1 to 6.9 mmol/L)

## KNOW THE NUMBERS

**What is a diagnosis of diabetes?**

A fasting blood sugar level of 7.0 mmol/L or greater on two separate days is a diagnosis of diabetes.

**What is a desirable blood sugar level for those with type 2 diabetes?**

**Before eating**  
4.0 – 7.0 mmol/L

**After eating**  
5.0 – 11.0 mmol/L  
(1 to 2 hours)

## SYMPTOMS

Older adults who experience any of the typical symptoms of diabetes should see their doctor as soon as possible. These include ...

- Unusual thirst.
- Frequent urination.
- Unusual weight loss or change in appetite.
- Extreme fatigue or lack of energy.
- Blurred vision.
- Frequent or recurring infections.
- Cuts and bruises that are slow to heal.
- Tingling or numbness in the hands or feet.
- Impotence or sexual difficulties.



## It's a Simple Test ...

Many people who have type 2 diabetes may display no symptoms. There is a simple blood test for diabetes. This test should be done **every three years for those 45 years of age or older** and more often if additional risk factors are present. Your clients should be encouraged to remind their doctor to include diabetes testing and discuss the results.

## COMPLICATIONS

Complications of diabetes are the result of damage to the blood vessels and nerves by long periods of higher than normal blood sugar. Possible complications include ...

**Retinopathy** (impairment or loss of vision due to blood vessel damage in the retina)

- Diabetes is the leading cause of adult blindness. If done in time, laser photocoagulation can stop or delay total vision loss.

### Cataract

- Cloudiness in the lens of the eye is a common problem often needing surgical extraction and replacement.

### Nephropathy (kidney damage)

- Kidneys contain tiny filters, which filter out blood impurities. Nephropathy occurs when these tiny filters are damaged by long periods of high blood sugar and high blood pressure.

### Neuropathy (nerve damage)

- Diabetes can damage any nerve in the body but most commonly the long nerves to the feet. The first signs are numbness, tingling, or a burning sensation. Later there may be a loss of protective sensation, which can result in painless injury followed by infection.
- Infections can be difficult to heal due to poor circulation resulting in gangrene and amputation.

### Cardiovascular and circulation complications

- Diabetes can cause narrowing of the blood vessels throughout the body. This can increase the risk of heart attack, stroke and reduce circulation to the feet and legs.

- Risk of heart attack and stroke in people with diabetes is up to four times greater than those without the disease.

### High blood pressure (hypertension)

- Seniors with diabetes are twice as likely to develop hypertension than those without diabetes. High blood pressure can damage blood vessels and contribute to eye, kidney, and circulation problems.

### High blood fats

- Abnormal levels of serum cholesterol and triglyceride can narrow the blood vessels and increase the risk for heart attack, stroke.

### Sexual difficulties

- Impotence and other problems in both men and women can be the result of nerve damage and circulation problems.

## ACTIVE LIVING

These healthy choices messages for older adults can help them take control and prevent diabetes and its complications. They can be delivered in a variety of ways. For example ...

- On a poster or bulletin-board display.
- As tips in a newsletter (each could be expanded into a short educational article).
- Through brief 'health tips' talks at the beginning or end of an exercise class.
- As part of a series of health education lectures or discussions.
- In a *Healthy Living* section on an organization's website.

### FIRST STEPS

Here are some good practices to promote when encouraging older adults to be more active.

- Make physical activities a part of your daily routine.

- Do activities you are doing now, just more of them.
- Walk whenever you can.
- Start slowly, build up gradually. Short bouts of activity, 10 minutes each, all add up.
- Most days of the week, aim for 30 to 60 minutes of moderate physical activity.
- Treat your feet. Get a good pair of shoes for walking.

**Check with your doctor before beginning any new physical activity.**

### PHYSICAL ACTIVITY CAN ...

- ✓ lower blood sugar
- ✓ lower blood pressure
- ✓ relieve tension and stress
- ✓ strengthen heart muscles
- ✓ increase lung capacity
- ✓ improve circulation
- ✓ improve sleep
- ✓ help maintain a healthy weight
- ✓ improve sexual interest and more ...

### SOUND ADVICE

For detailed physical activity guidance, consult a qualified fitness advisor/leader in your community.

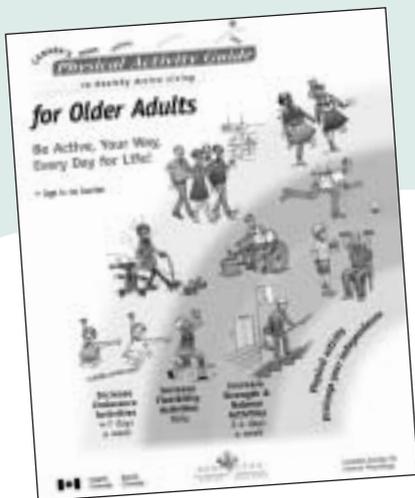
## Age Doesn't Count

Age is no barrier to a healthy, active lifestyle. Regular physical activity improves your general health and well-being. It also helps prevent and control type 2 diabetes.



### A Walking Start

*Walking is fun and easy. You can set your own pace. It's a great activity if you are busy or don't enjoy structured exercise.*



## Canada's Physical Activity Guide to Healthy Active Living for Older Adults

- explains why physical activity is important
- provides tips and ideas on increasing physical activity levels
- helps people understand how much and what kinds of activity are needed.

**It's possible for all of your older adult clients to have a copy of the Guide and Handbook.**

**1-888-334-9769**  
[www.paguide.com](http://www.paguide.com)

## BARRIERS TO PHYSICAL ACTIVITY

Behaviour change is a process that unfolds over time. Many people who are at-risk of diabetes and its complications have complex patterns of behaviour that increase their risk. It is important to ensure that your clients' readiness for change be assessed, and that communications with them be modified to fit their needs.

When a client is not making progress, what often looks like a motivational issue is, in fact, an issue of planning. Match your program's messages with your client's stage of readiness for change. Ensure there is an effective problem-solving strategy for the barriers to each individual's success.

## MAKING IT WORK

You can increase the chance of success with a program or activity by involving older adults in the planning and organization stages.

OLDER ADULTS CITE A NUMBER OF OBSTACLES TO BECOMING MORE ACTIVE. HERE IS THE KEY LIST, ALONG WITH SOME SUGGESTIONS TO HELP OVERCOME THEM.

### I don't have time.

Try several short bouts of physical activity or home exercise. Even 10 minutes at a time helps.  
Plan Ahead. Divide activities over the week. Keeping a schedule may help.

### I don't have much energy.

Start slowly. Being physically active should give you energy, not take it away.  
Pace yourself! Spread out your activities over the whole day.  
Balance activity with rest. You'll have more energy for the things you enjoy.

### It costs too much.

Exercise at home. Try walking or something else inexpensive or free.  
Keep active at home. Daily tasks like gardening, vacuuming and shovelling can keep you active.

### I don't feel motivated.

Find a buddy. Walk with a friend.  
If you can't find a buddy, go to your local recreation centre.  
Think of activities you enjoy.  
Join a group activity that has regularly scheduled events.  
Set realistic short and long-term goals for yourself.

### I don't feel confident.

Try something that is easy and comfortable for you.  
Try something that you've been successful in doing before.  
Start with smaller goals and activities and build from there.

### I need support or partners.

Join a club or class. Ask a neighbour or friend to join in.

### I have trouble getting to the community centre, senior's centre or mall.

Get help with transportation.  
Try doing physical activities at home or at places where you already go.

### The weather is bad.

Join a class. Go for a walk in the mall. Do exercises at home.

### I am sick or have a disability.

Do what you can. See if you can get help designing a program.  
Ask a physical activity expert.  
Pace yourself! Try shorter bouts of activity throughout the day.

## HEALTHY EATING

Healthy, balanced eating is essential. It is important for general well-being and to help prevent and control type 2 diabetes.

*Canada's Food Guide to Healthy Eating* sets out important dietary principles in an easy-to-follow format. All individuals should be encouraged to get a copy of the Guide and keep it handy as a reference.

([www.hc-sc.gc.ca/nutrition](http://www.hc-sc.gc.ca/nutrition))

## NUTRITION SAMPLER

*Canada's Food Guide* includes a full plan for healthy eating. Here are some general guidelines you can promote in any healthy-eating campaign.

- Enjoy a variety of foods from each food group every day.
- Choose lower-fat foods more often.
- Choose lower-fat dairy products, leaner meats, poultry and fish, and foods prepared with little or no fat.
- Choose fruits and vegetables more often.
- Keep between-meal or bedtime snacks small and nutritious.
- Limit salt, alcohol, caffeine and foods high in fat and sugar.

## GOOD EATING HABITS

Glucose (sugar) comes from foods such as fruit, milk products, vegetables, grains, and sugar. While it is particularly important for people with diabetes to monitor their total sugar intake, everyone can follow a healthy, balanced eating plan. Here are five good habits older adults should be encouraged to practice, along with the reasons why they are so important.

### TRY ...

- Eat at least every 4 to 6 hours. Make sure to eat regular meals and snacks.
- Limit sweets. For example: sugar, regular pop, desserts, candies, jam and honey.
- Limit high-fat items like fried foods, chips and pastries.
- Eat more high-fibre foods like whole grain breads and cereals, lentils, dried beans and peas, brown rice, fruits and vegetables.
- Drink water regularly all day long.



## Did You Know?

Older adults with type 2 diabetes can be healthier than those without diabetes who don't eat well and are not physically active.

It's typical for diabetes to progress over time. Most people need adjustments in their treatments to keep blood sugar in the target range.

Many people have diabetes for years before diagnosis.

People who are physically active age at a slower rate. Statistics\* estimate 55% of men and 67% of women over 65 are inactive.

\*Seniors in Canada: A Report Card, National Advisory Council on Aging, 2001.

### WHY?

- Eating regularly helps the body control blood sugar levels.
- The more sugar you eat, the more your body needs insulin to keep blood sugar levels normal.
- Over consumption of high-fat foods can lead to weight gain and contribute to cardio-vascular disease.
- Foods high in fibre may help control blood sugar, control cholesterol levels, make you feel full, and help with regularity.
- Water quenches thirst and prevents dehydration, where regular pop or fruit juice contain large amounts of sugar that can increase the body's demand for insulin.

## SPECIAL CONCERNS

For a variety of reasons, healthy eating may be more difficult for some older people. Reasons could include ...

- **Income.** Some older people cannot afford the foods needed for a healthy diet. This may lead to food choices and diets that are low in fruits and vegetables and too low in protein.
- **Living situation.** Many older adults who live alone are not motivated to prepare proper meals. They may not eat as well as they should at home, or depend too often on restaurants.
- **Health conditions.** Those with poor teeth or ill-fitting dentures may need soft or pureed foods. If these aren't available, an unbalanced diet may result.
- **Cultural concerns.** Dietary change and declining use of traditional foods have led to the use of store-bought products, high in fat and sugar.

To order free copies of the  
**Be Active. Eat Well.**

Guide for Older Adults, contact  
Active Living Coalition for Older Adults

**1-800-549-9799**

e-mail: [alcoa2@istar.ca](mailto:alcoa2@istar.ca)

View the Guide online at  
[www.alcoa.ca](http://www.alcoa.ca)

Registered Dietitians can provide advice on food selection and meal planning to older adults with particular concerns. Allied health professionals and social service personnel can help sort out some of the issues that may have a negative impact on dietary practices. Congregate Dining, Meals-On-Wheels and other services can be a real help here.

To find a local dietitian, contact Dietitians of Canada, [www.dietitians.ca/find/index](http://www.dietitians.ca/find/index).

## TIPS FOR ORGANIZATIONS — WHAT CAN YOU DO?

Get the message out: type 2 diabetes can be prevented and controlled with physical activity and good nutrition! It is possible!

Distribute these resources through displays, meetings, conferences, mailings ...

- ✓ *Be Active. Eat Well.* Guide for Older Adults
- ✓ *Canada's Food Guide to Healthy Eating*

- ✓ *Canada's Physical Activity Guide for Older Adults* and Handbook
- ✓ *Research Update on Diabetes* and *Walking Tips* insert from the Active Living Coalition for Older Adults

Use these resources and promote them to your networks.

Download and use the *Be Active. Eat Well.* information. [www.alcoa.ca](http://www.alcoa.ca)

## TIPS FOR PRACTITIONERS — WHAT CAN YOU DO?

Practitioner is a broad term describing a range of health and wellness professionals, and active living leaders who, in their daily work, have direct contact with older adults.

When working with or counselling older adults ...

- ✓ Distribute the *Be Active. Eat Well.* Guide for Older Adults. Use it as a point of discussion.
- ✓ Routinely include information on healthy eating, active living, and their link to diabetes prevention and control.
- ✓ Refer clients to services from your local public health unit and municipal community services,

or to physical activity specialists, registered dietitians or diabetes educators.

- ✓ Provide older adults with a list of community active living opportunities designed for them.
- ✓ Join ALCOA's ActiveAge listserve to keep apprised of the latest information on active living for older adults. Join for free by visiting ALCOA's website at [www.alcoa.ca](http://www.alcoa.ca).
- ✓ Invite an ALCOA speaker to your agency to address a group of older adults or colleagues.
- ✓ Use this Guide as background information, should your clients have additional questions.

## ORDER THESE FREE RESOURCES ...

*BE ACTIVE. EAT WELL. PREVENT AND CONTROL TYPE 2 DIABETES.* Guide for Older Adults.  
1-800-549-9799 [www.alcoa.ca](http://www.alcoa.ca)

*CANADA'S PHYSICAL ACTIVITY GUIDE FOR OLDER ADULTS.*  
1-888-334-9769 [www.paguide.com](http://www.paguide.com)

*CANADA'S FOOD GUIDE TO HEALTHY EATING*  
(613) 954-5995 [www.hc-sc.gc.ca/nutrition](http://www.hc-sc.gc.ca/nutrition)

## RESEARCH

Studies show that type 2 diabetes and its complications can be prevented or delayed by ...

- early detection
- maintaining target blood sugar levels
- exercising regularly, and • eating healthy foods.

**Early detection and good control of diabetes can reduce or prevent complications.**

See ALCOA's web site for references and further research. [www.alcoa.ca](http://www.alcoa.ca)

## FOR MORE INFORMATION ...

ACTIVE LIVING COALITION FOR OLDER ADULTS  
1-800-549-9799 or (416) 423-2163 [www.alcoa.ca](http://www.alcoa.ca)

CANADIAN ASSOCIATION OF OCCUPATIONAL THERAPISTS  
[www.otworks.ca](http://www.otworks.ca)

CANADIAN CENTRE FOR ACTIVITY AND AGING  
(519) 661-1603 [www.uwo.ca/actage](http://www.uwo.ca/actage)

CANADIAN DIABETES ASSOCIATION  
1-800-BANTING or (416) 363-3373  
[www.diabetes.ca](http://www.diabetes.ca)

CANADIAN ETHNOCULTURAL COUNCIL  
(613) 230-3867 [www.ethnocultural.ca](http://www.ethnocultural.ca)

CANADIAN HEALTH NETWORK  
[www.canadian-health-network.ca](http://www.canadian-health-network.ca)

CANADIAN PHYSIOTHERAPY ASSOCIATION  
1-800-387-8679 [www.physiotherapy.ca](http://www.physiotherapy.ca)

CANADIAN SOCIETY FOR EXERCISE PHYSIOLOGY  
1-877-651-3755 or (613) 234-3755 [www.csep.ca](http://www.csep.ca)

DIETITIANS OF CANADA  
(416) 596-0857 [www.dietitians.ca](http://www.dietitians.ca)

NATIONAL ABORIGINAL DIABETES ASSOCIATION  
(204) 927-1220 [www.nada.ca](http://www.nada.ca)

## LOCAL RESOURCES ...