

SUMMER 2019

Diabetes

Dialogue

REDUCE YOUR RISK FOR PREDIABETES

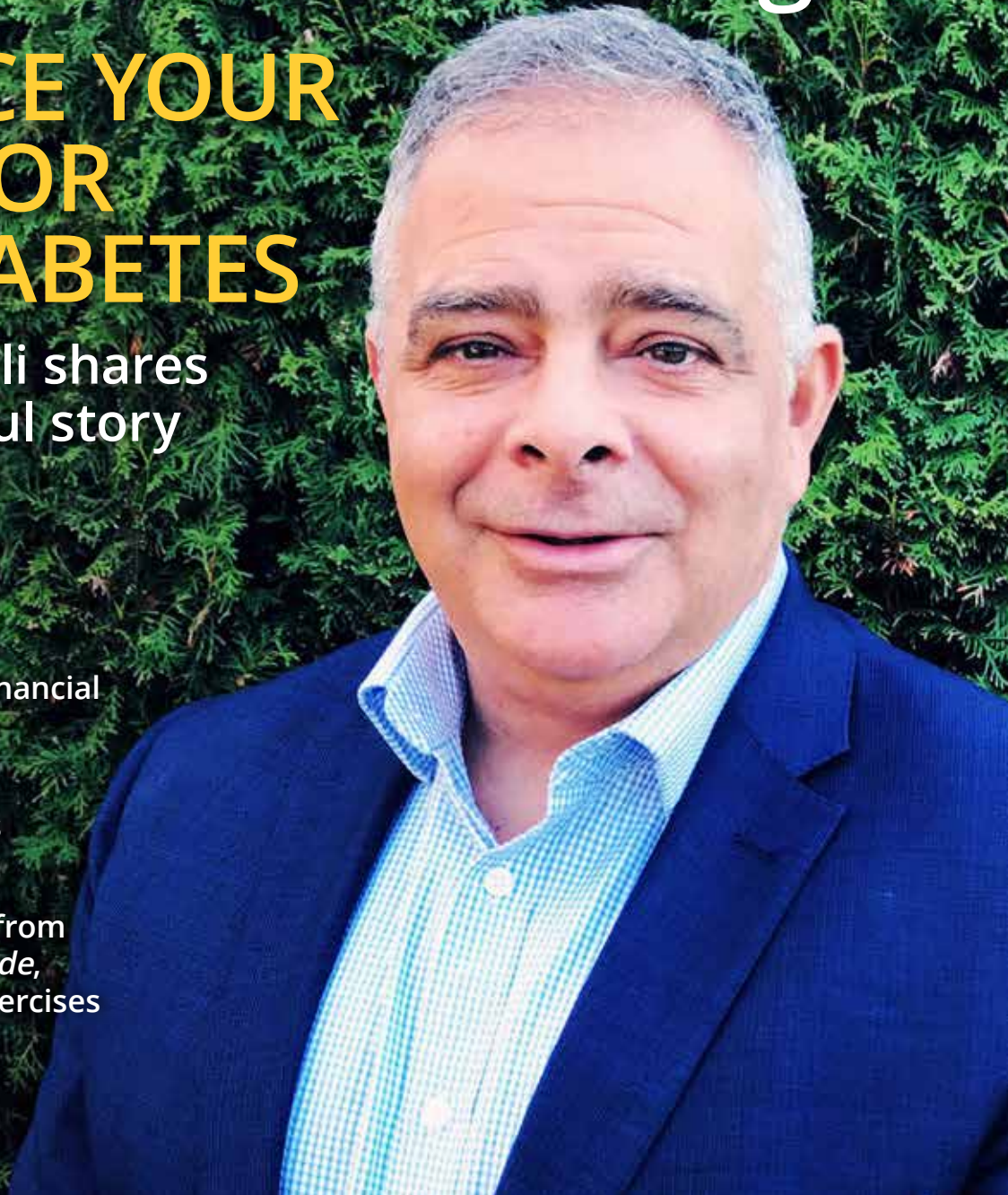
Mario Miceli shares
his powerful story

Take steps to
better foot care

Dealing with the financial
cost of diabetes

Volunteering
builds connections
to community

PLUS: New advice from
Canada's Food Guide,
super snacking, exercises
for better balance



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SUMMER 2019

Diabetes Dialogue, the official publication of Diabetes Canada, is published online quarterly (Spring, Summer, Autumn, Winter). Its mission is to deliver current, reliable information about diabetes to people affected by diabetes.

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VIEW point

Rallying behind a national cause



You can make a difference and help end the diabetes epidemic

It seemed like all of Canada joined in the celebration when the Toronto Raptors won the 2019 NBA finals. That was great, but it is amazing to me that a sports team can bring an entire nation that is the size of Canada together in victory. I would like to see Canadians show that same kind of effort and enthusiasm in trying to end the diabetes epidemic—to see us come together as a country to develop a national diabetes strategy that addresses the personal and economic burden of this chronic disease on Canadians.

Currently, 11 million Canadians live with prediabetes or diabetes. If prediabetes is not managed with lifestyle changes and/or medications, people with this condition will often develop type 2 diabetes eventually. In “Are You at Risk of Prediabetes?” we meet Mario Miceli, who was diagnosed with prediabetes but ignored the condition until he developed type 2 diabetes and complications. He now shares his powerful story in the hope that others will take action sooner.

Did you know that 70 per cent of all leg and foot amputations are the result of diabetes complications? Every day in Canada, 14 people will have a lower-limb amputation. “A Step in the Right Direction” looks at diabetic foot ulcers—sores that can lead to amputation—and what you can do now to prevent them, particularly if you have neuropathy or peripheral vascular disease. With proper screening, foot care, and the use of devices that can ease the pressure on your feet, most amputations are preventable.

Certain diabetes complications can also lead to poor balance, dizziness, and becoming unsteady on your feet. This in turn can lead to falls. “Fit Tip” focuses on the importance of exercise in strengthening the body and decreasing the risk of falls, and includes exercises that improve balance.

“Nutrition Matters” looks at Canada’s new food guide, which is simpler and describes a new way to think about what you put on your plate. This article offers easy and practical ways to help you change your diet—and to enjoy the benefits of those changes.

Finally, it is always a travesty to me that in a developed country like Canada there is no universal coverage to help pay for the medications and supplies that people with diabetes need to prevent complications from occurring. In “Know Your Rights,” we learn that up to 25 per cent of people with diabetes report that they are unable to follow their prescribed treatment because they cannot afford it. We can change this if we all come together—just as we did for the Raptors—and advocate on behalf of our families, friends, neighbours, and those we have never met to push governments to increase coverage. As you enjoy the summer, please help make this important **national cause** a reality.

Diane Donat MD MSc MEd FRCPC
Editor-in-Chief

LETTERS TO THE EDITOR

We welcome your ideas and opinions about what you read in *Diabetes Dialogue*. We would also like to hear about your activity routine and, in future, may feature a collection of your ideas. Write to us at dialogue@diabetes.ca.



VACCINE MAY REDUCE RATES OF TYPE 1 DIABETES IN KIDS

Australian researchers study link with rotavirus vaccine

By Elizabeth McCammon

Young children who receive the rotavirus vaccine may be less likely to develop type 1 diabetes than children who do not get this childhood vaccination, according to Australian researchers.

Rotavirus is a highly contagious virus that causes diarrhea. It is very common among children under the age of five. The Canadian Paediatric Society recommends that babies between six and 32 weeks old be vaccinated against rotavirus.

For this study, which was published in the January 2019 issue of **JAMA Pediatrics**, researchers compared rates of type 1 diabetes in Australian children during the eight years before and the eight years after 2007. This was the year Australia introduced an oral rotavirus vaccine for infants six weeks of age and older.

They found that type 1 diabetes diagnoses in children under four years old declined after the vaccination was introduced. This was the first time the rate of type 1 diabetes in young children in Australia had fallen since the 1980s. In comparison, the rate of type 1 diabetes did not fall in children aged five to 14, most of whom had not been vaccinated for rotavirus.

The study builds on earlier research that suggests rotavirus infections may trigger autoimmune disorders such as type 1 diabetes. However, more studies are needed to confirm whether the rotavirus vaccine can actually prevent type 1 diabetes.



Gestational diabetes doubles heart disease risk

Higher risk is not linked to type 2 diabetes later in life

Women with gestational diabetes (or GDM, which occurs during pregnancy) have been found to have a higher risk of having a heart attack or stroke (also known as a cardiovascular event).

Women who had GDM in pregnancy were already known to have a higher risk of developing type 2 diabetes later in life, and a team of Canadian researchers explored whether the increased risk of a cardiovascular event in these women was due to their gestational diabetes only, or to the development of type 2 diabetes.

They looked at nine studies published between 2013 and 2018 that followed more than five million women with and without gestational diabetes. The results showed that women who had GDM were twice as likely to have a heart attack or stroke after they gave birth than women who did not have GDM. This risk was highest during the 10 years after giving birth.

The researchers also found that women who had GDM were at increased risk for a cardiovascular event whether or not they developed type 2

diabetes later in life. Women who had GDM but did not develop type 2 diabetes still had a 56 per cent higher risk for a cardiovascular event compared with women who had not had GDM.

The **study's** lead author is Dr. Ravi Retnakaran, an endocrinologist at the Leadership Sinai Centre for Diabetes at Mount Sinai Hospital in Toronto, whose research has been funded by Diabetes Canada in the past. He recommends women diagnosed with GDM be identified as having a high risk of cardiovascular disease so they can be monitored and steps can be taken to lessen the risk.

DID YOU KNOW?

- You can lower your risk of heart disease and stroke considerably by paying careful attention to your risk factors, and by taking medications (if recommended) to manage the risk. Read more in [What Medications Should I Be Taking to Protect Myself from Heart Disease and Stroke?](#)





STUDY CONFIRMS WHOLE GRAINS HELP PREVENT TYPE 2 DIABETES

All types of whole grains are beneficial

It is now a well-established fact that eating whole grains (such as quinoa, whole-grain pasta, whole-grain bread, whole oats or oatmeal, and whole-grain brown or wild rice) can help prevent type 2 diabetes. The newly released **Canada's Food Guide** encourages people to enjoy a wide variety, as they can help lower the risk of several chronic diseases.

A team of researchers wanted to find out if there was a difference in the health benefits offered by different cereals. The researchers, from Chalmers University of Technology in Sweden and the Danish Cancer Society Research Center in Denmark, looked at data from more than 55,000 Danish participants who were between 50 and 65 years old when the study started in the early 1990s. At the beginning of the **study**, people filled in detailed forms of their eating habits. This information was then linked to Denmark's national diabetes register to see who developed type 2 diabetes over the next 15 years (more than 7,000 people did).

The study showed that eating at least one serving (16 grams) of whole grain a day was linked to an 11 per cent lower risk of developing type 2 diabetes for men and a seven per cent lower risk for women. Rye bread, whole-grain bread, and oatmeal/muesli were all associated with a significantly lower risk of type 2 diabetes for both men and women.

The most important factor, researchers found, was how much people ate each day. Those who ate at least 50 grams of whole grain each day (equal to a portion of oatmeal porridge and one slice of rye bread, for example) had the lowest risk of type 2 diabetes: 34 per cent lower for men and 22 per cent lower for women, compared to people who ate the least amount of whole grain.

(Want to learn more about whole grains? Read "The Whole Truth About Whole Grains" in the Spring 2019 issue.)

Poor muscle health may be a complication of type 1 diabetes

CONDITION SEEN IN YOUNG, ACTIVE ADULTS

A new **study** by Canadian researchers suggests that poor muscle health may be a complication of type 1 diabetes, even in young, active adults.

Researchers from McMaster University in Hamilton and York University in Toronto looked at samples of muscle tissue from adults 22 to 30 years of age. Twelve of the participants had type 1 diabetes and 12 did not have diabetes. All the participants were more active than Diabetes Canada's recommended weekly levels for physical activity (at least 150 minutes per week of aerobic exercise and at least two sessions per week of resistance exercise).

Looking at the participants' muscle tissue under the microscope, the researchers found changes in the mitochondria of those with diabetes. Mitochondria are the structures in cells that take energy (sugar) from food and release it for the muscle to use. Exercise usually makes muscles more efficient at using sugar to make energy. However, in the people with diabetes, not only were the mitochondria less able to produce energy for the muscle, they were also releasing high amounts of toxic by-products that cause cell damage.

The researchers suspect that type 1 diabetes is making the mitochondria less efficient. "The current amount of exercise people were doing was not enough to prevent that problem," says **Christopher Perry**, study co-senior author and an associate professor in the School of Kinesiology and Health Sciences and the Muscle Health Research Centre at York University. "We need to determine if even more intense exercise or more minutes of exercise will help prevent this problem."



CLINT DAVIES:

A community role model

This long-time volunteer gives his all for diabetes By Mark Witten

Clint Davies was only 35 when he was diagnosed with type 2 diabetes in 1986. His mother had died a year earlier as a result of diabetes-related complications. Despite the shock, Davies drew two key lessons from the experience of losing his mother and learning his own health was at risk. First, he started to talk openly about diabetes with his family, friends, co-workers at Saskatchewan Power (where he worked as a millwright), and fellow volunteer firefighters in Estevan, Sask.

“When my mother had type 2 diabetes, she kept it hidden, and I didn’t know until six months before she died,” says Davies. “After I was diagnosed, I wanted to let people know about diabetes and its effects on a person’s life. I told everyone at work, and the firefighters. Then, if something happened and I passed out from a blood sugar low, they would know what to do.” In addition, he took good care of his health and always carried snacks at work to prevent dangerous blood sugar lows.

Second, he gave back to his community. As a volunteer firefighter responding to about 75 calls a year, Davies already recognized the importance and urgency of helping others. A friend from work, who had been living with diabetes since he was a boy, encouraged him to pitch in at the local branch of Diabetes Canada in 1987. “I became secretary of the Estevan branch and have been involved ever since,” Davies says. “I’ve met many people over the years volunteering, and have learned a lot.”

A MULTI-TASKING APPROACH

Davies has volunteered for Diabetes Canada for more than 30 years, serving at the local, regional, and national levels. He was volunteer regional chair for Southern Saskatchewan, speaking and distributing information about diabetes at branches across the province. He continues to be an active member and contributor on the Diabetes Canada Saskatchewan Advocacy Committee. Davies is also a long-time residential campaign volunteer, who served as town captain for Estevan for 10 years, overseeing door-to-door canvassing and other tasks during the annual campaign. He has given public talks about diabetes as well.

“Clint is a dedicated and hard-working volunteer, who regularly attends...the annual day at the [provincial] legislature. As town captain, he oversaw 10 zones, and many zone captains chose to return each year because he was town captain,” says Diana Orser, a Saskatchewan Advocacy Committee member.



Clint Davies, second from the left, holds his Diabetes Canada volunteer award during the presentation.

GOING THE EXTRA MILE

Davies received a 2018 Diabetes Canada National Volunteer of the Year Award, presented to him by Lieutenant Governor Thomas Molloy at Government House in Regina. “What makes Clint stand out is that he goes above and beyond what he’s asked to do. He’s a very easygoing, likeable guy, who uses his persuasive powers to encourage people to canvas an area. If they’re wavering, he can usually convince them to help. But if not, he’ll do it himself,” says Donna Fincati, who nominated Davies for the award and was executive assistant to the regional director in the Regina office of Diabetes Canada before retiring last year.

Davies has remained physically active and experienced few complications from diabetes since retiring eight years ago. In the spring of 2018, he had a stroke, but “I have recovered fairly well,” he says. He and his wife, Sally, spent four months last winter in Arizona, where he golfed regularly and worked out at the gym three times a week. In Estevan, he gardens, takes long walks with Sally, spends time with his grandchildren, and continues to volunteer with Diabetes Canada, his church, and the Estevan Housing Authority.

Davies sees value in each and in every contribution anyone makes to the fight against diabetes. For example, after hearing that a volunteer who used to collect donations from Diabetes Canada coin boxes had passed away, Davies took on the task of collecting coins from the boxes and depositing the funds for the organization. “Everything I do is satisfying. If I help one person by talking to them about diabetes, that’s satisfying for me,” he says.

DID YOU KNOW?

- **People with diabetes may develop heart disease or stroke 15 years earlier than those without diabetes.** The good news is that you can lower your risk considerably by paying close attention to key risk factors—high blood sugar, being overweight, inactivity, high blood pressure, high cholesterol, and smoking—and by following the ABCDEs of diabetes management. Visit [Heart Disease & Stroke](#) for tips to help you prevent these complications.

Do you know someone who you think is a Diabetes Champion? Let us know at dialogue@diabetes.ca.

Starting diabetes prevention during pregnancy

Researcher helps women reduce their risk of developing diabetes later in life

By Rosalind Stefanac

WHO: Dr. Lorraine Lipscombe, associate professor, Department of Medicine, University of Toronto; division director, Endocrinology and Metabolism, Women's College Hospital

RESEARCH HIGHLIGHTS/DISCOVERIES:

- Identifying and reducing the risk of type 2 diabetes after pregnancy
- Testing a lifestyle program for new mothers with gestational diabetes to reduce their risk of type 2 diabetes
- Developing a tool that predicts a woman's risk of developing diabetes in the next five years

How did you get interested in diabetes?

I was initially involved in hormone research while studying psychology, and in particular mothers and how hormones affect their behaviour. I wanted to take this further and care for people who have problems with hormones, so I went to medical school. In my first year, I worked with a diabetes researcher who was studying type 1 diabetes and exercise, and I realized diabetes was an area I wanted to focus on.

How did that evolve to working with new mothers at risk of diabetes?

While using diabetes patient databases for research, I realized we were not doing enough to highlight people at risk of the disease so we could prevent it. Also, in working with mothers who had gestational diabetes, I saw that we didn't have the resources available to help them reduce their risk of developing diabetes later in life. [Women with gestational diabetes are seven times more likely to get type 2 diabetes compared to those without.]

What initiatives are underway to improve this situation?

Based on input from both experts and patients, we developed a health coaching program conducted over the phone that new mothers could access, three to six months after their baby's birth. We recruited women from four

Toronto hospitals in our pilot study and most were very satisfied, with 90 per cent saying they would recommend the program to others because it helped them reach their diet and fitness goals. We think our data is good enough to support expanding this program to a larger group of women at risk. We are now recruiting for another round.



Dr. Lorraine Lipscombe

During the telephone coaching, a certified diabetes educator [CDE] contacts the patient by phone 12 times over six months, and each call lasts up to 20 minutes. Initially, the focus is on goal setting and education; later, it's about seeing if patients have achieved their diet and fitness goals and how to address challenges along the way. Because the CDEs come from existing diabetes resource centres, this program is very sustainable from a health-care cost perspective [there is no fee for patients to access this program].

What other projects are you working on?

We're developing a prediction tool that will calculate a woman's individual risk of diabetes based on factors such as ethnicity, age, weight, and blood sugar levels in pregnancy. We're hoping to complete it in the next two years and, with the help of Diabetes Canada, we are expecting to offer it across Canada.

What is your ultimate goal in terms of your diabetes research?

To find more effective ways of helping people prevent diabetes through healthier lives rather than just giving them pills once they get the disease.

THE LAST WORD

"It's really exciting to see how Lorraine's research plays out in terms of our ability to end diabetes by preventing it and, more specifically, by preventing the development of diabetes in people who are at risk."
—Dr. Jan Hux, President and CEO, Diabetes Canada

📄 Visit [Research](#) to read about the research projects and awards funded by Diabetes Canada.

📄 How can you help us fund research that changes lives? [Donate](#) now!

DR. LORRAINE LIPSCOMBE AT A GLANCE

- > Received a Diabetes Investigator Award from Diabetes Canada (2018)
- > Joined Women's College Hospital in 2006, and was appointed director of the Division of Endocrinology (2017)

- > Appointed associate professor in the Faculty of Medicine, University of Toronto (2014)
- > Awarded the CIHR New Investigator Award (2012)
- > Received medical degree from McGill University, Montreal (1998)

ARE YOU AT RISK OF PREDIABETES

If you are, know that you can take important
steps now to change your health

By Anne Bokma



Photo by: MicroStockHub/iStockphoto

“I want people to avoid doing what I did. I wish I had accepted the wakeup call of my prediabetes diagnosis. Now I am doing what I can to ensure others don’t follow in my footsteps.”

— Mario Miceli, person living with type 2 diabetes



Mario Miceli

Mario Miceli lives with regret and guilt. He wishes he could go back 14 years to when he was 42, and a doctor told him he had prediabetes. Instead of ignoring the diagnosis—as he did for years—Miceli would have taken it seriously and made the necessary changes, including getting more exercise, losing weight, and regularly checking his blood sugar levels.

Prediabetes is a condition where a person’s blood sugar levels are higher than normal, but not high enough to be diagnosed as diabetes. “I didn’t handle the diagnosis well,” says Miceli, now 56. The retired insurance industry executive, who lives in Burnaby, B.C., and is the father of two adult children, adds, “I did what a lot of men do when it comes to health issues—I ignored it and hoped it would go away. And that was a crucial error.”

Four years after his doctor told him he had prediabetes, Miceli was diagnosed with type 2 diabetes and high blood pressure. He was prescribed insulin because he had extremely high sugar levels—but even then, he admits, he was not careful about checking his blood sugar regularly. His wakeup call did not come until almost 10 years after his initial prediabetes diagnosis. He was 52 when his doctor told him his kidney function was impaired. “That freaked me out. The damage was significant and it was a direct result of the diabetes,” Miceli says.

While waiting for an appointment with a kidney specialist (nephrologist), Miceli had a frightening low blood sugar episode. He awoke in the middle of the night, woozy and sweaty, and thought he was having a heart attack. When he tested his blood sugar, it was just under 3 mmol/L. He stumbled to the kitchen. “There was a piece of cake in the fridge and I started eating it, standing there with the fridge door open.” He checked his blood sugar every few minutes and finally, after an hour, it was back to normal. This experience is what finally made him take his diagnosis seriously.

A WAKEUP CALL

Not taking prediabetes seriously is a mistake a lot of people make, says Dr. Harpreet Bajaj, a community-based endocrinologist and research associate at the Leadership Sinai Centre for Diabetes at Mount Sinai Hospital in Toronto. “Because there may not be any symptoms, initially people can go into denial. They think it’s not that bad, that diabetes is not going to happen to them. But for 60 to 70 per cent of people, it will progress to diabetes over time.”

Diabetes prevention starts when we are young—in our 20s and 30s—when healthy habits such as regular exercise and a balanced diet should be established, says Bajaj, one of the co-authors of the **Reducing the Risk of Developing Diabetes** chapter in the Diabetes Canada



Diabetes prevention starts when we are young—in our 20s and 30s—when healthy habits such as regular exercise and a balanced diet should be established.

2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. But it is never too late to make changes. Bajaj notes that a loss of five to seven per cent of one's body weight can reduce the risk of progression to type 2 diabetes by almost 60 per cent. The risk is also significantly reduced by taking metformin, yet less than 10 per cent of people will go on the drug when they have prediabetes. "They don't want to take medication and would rather focus on lifestyle. Metformin reduces the worsening of diabetes over time and yet it's underutilized," he says.



Dr. Harpreet Bajaj

"Prediabetes is a disease, and not solely a lifestyle problem—often people just don't grasp the depth of the seriousness [of it]."

— Dr. Harpreet Bajaj, endocrinologist and researcher

On an individual level, Bajaj stresses the importance of being screened for diabetes, and points to tools such as the **CANRISK test**, which asks questions to help you determine your risk level. On a national level, prevention

strategies will require changes to public health policies, such as a tax on sugar-sweetened beverages—an initiative to reduce people's consumption. "Obesity is a growing problem across the Western world—it's a public health problem and legislation has to be enforced," Bajaj says.

Miceli cannot turn back time to change the course of his prediabetes diagnosis, but since the episode of his dramatic low he has become much more diligent about his health. He has lost 25 pounds and is careful about monitoring his blood sugar. "Controlling diabetes is all about mitigating the risk of complications such as stroke, heart disease, and amputations," he says. "The impact on your quality of life is significant."

Eleven million Canadians live with prediabetes or diabetes, a number that has doubled since 2000. In an effort to ensure others do not make the same mistake he did, Miceli is now a volunteer advocate with Diabetes Canada, speaking to community groups, politicians, and the media. He wants to raise awareness of the disease and bring attention to Diabetes 360°, Diabetes Canada's framework for a national diabetes strategy to coordinate the efforts underway in all provinces and territories to combat this epidemic.



Joan King

As advocacy chair for Diabetes Canada's BC/Yukon region, Miceli was part of a group that successfully recommended that the provincial government provide insulin pump coverage for all eligible people in the province, regardless of age. He also speaks to men's groups to urge them to get screened for diabetes and to follow a proper treatment plan if they are diagnosed with the

disease. "As men, we sometimes don't take health issues seriously, and I certainly fell into that trap," he says. He also addresses the shame. "You feel it's a self-inflicted disease, one that has a lot of judgment associated with it, even though genetics plays a huge role. I didn't know that at the time and I didn't want to talk about having a chronic [disease] that seemed to have been brought about because of my lifestyle. It was incredibly selfish of me not to deal with this illness, and I feel guilty that I didn't take good enough care of myself. I saw it as a sign of weakness and I wasn't open about it."

"Advocates like Mario are the best people to speak to elected officials, bureaucrats, and key influencers in the community to share their personal stories, and to explain the personal and economic impact of diabetes and why we need a national diabetes strategy."

— Joan King, public affairs and advocacy lead (West), Diabetes Canada

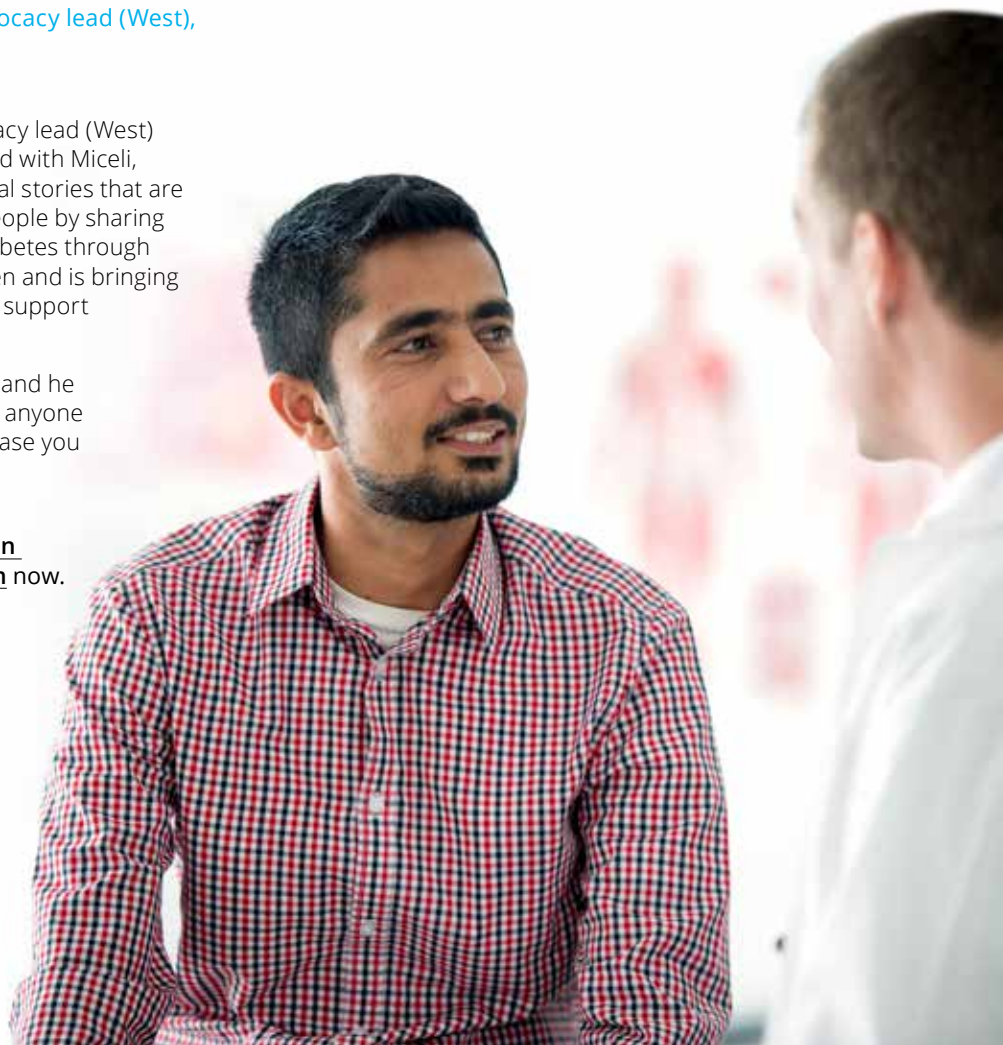
Joan King, a public affairs and advocacy lead (West) for Diabetes Canada, who has worked with Miceli, says, "People are affected by personal stories that are impactful, and Mario is mobilizing people by sharing his story of how he neglected his diabetes through the years. He is passionate and driven and is bringing hope to others about how to get the support that they need."

Miceli is no longer in diabetes denial and he is eager to share his experience with anyone who will listen. "This is a chronic disease you simply can't ignore."



ARE YOU AT RISK?

High blood pressure, a family history of diabetes, and being over the age of 40 are some of the factors that may put you at risk for type 2 diabetes. However, many people may not have any symptoms initially. The earlier you are diagnosed, the sooner you can take action to stay well. To find out more and to complete an easy checklist, visit [Are You at Risk?](#)



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**DIABETES
CANADA**

A STEP IN THE RIGHT DIRECTION

Diabetes foot care focuses on prevention

By Elizabeth McCammon

Open sores on the feet (also known as foot ulcers) are common in people with diabetes. Following a foot care action plan to prevent foot ulcers is vital, since a foot ulcer increases a person's risk not only for more foot ulcers but for other foot complications such as infections and amputations. "That is a scary statement, but people need to know that foot ulcers are very serious," says Dr. Zaina Albalawi, a clinical assistant professor at Memorial University and an endocrinologist in St. John's, and co-author of the **Foot Care** chapter in Diabetes Canada's *2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada*.



“Once a person with diabetes has a foot ulcer, recurrence is very common,” she says. About 40 per cent of people will have another foot ulcer within a year of their first one healing, and up to 65 per cent of people will have another ulcer within five years if they do not take preventive steps.

Albalawi encourages people to have their feet inspected by their health-care provider at every visit and to be tested for diabetic peripheral neuropathy (or nerve damage) at least once a year. (A yearly test is essential, as a person’s risk level can change over time.)

The test is simple and painless: A thin nylon rod is pressed to different areas of the foot to determine if the person can feel it. This helps determine a person’s level of risk for future foot problems. The diabetes team can then work with a person to develop an action plan based on that risk level.

People who have no obvious foot problems and no loss of sensation are considered low risk. Their plan would likely include good blood sugar management and a regular foot care routine such as:

- Examining feet and legs daily
- Going to a health-care professional for treatment of any corns, cuts, ingrown toenails, and more
- Caring for toenails regularly

- Applying moisturizing lotion if feet are dry (but not between the toes)
- Wearing properly fitting footwear
- Testing bath water with elbow before stepping in, to make sure the water is not too hot



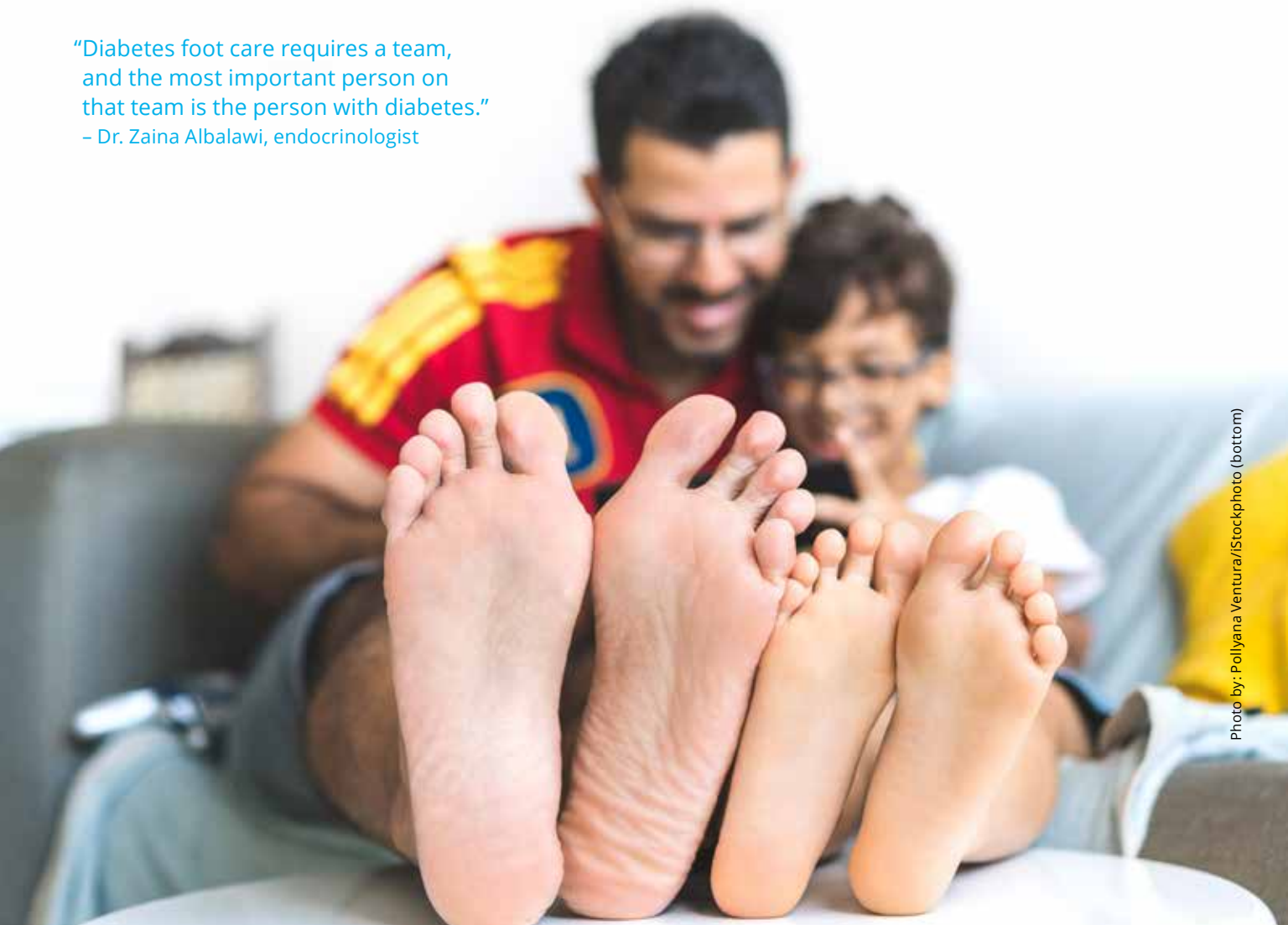
Dr. Zaina Albalawi

People are considered at higher risk if they have any loss of sensation in their feet, issues such as bunions or calluses, or complications such as an ulcer. Their action plan might include foot care education, professionally fitted footwear, and referral to a specialized diabetes foot care clinic.

Efforts are underway to improve foot care and reduce amputations. Diabetes Canada and Wounds Canada—along with other key patient and health-care organizations, researchers, and frontline health-care providers—are working together to gain government funding for amputation prevention devices (known as offloading devices), which are specialized products that relieve pressure and, in so doing, help with healing and reduce the risk of amputation. Learn more at [**The Economic Impact of Amputation Prevention Devices.**](#)

“Diabetes foot care requires a team, and the most important person on that team is the person with diabetes.”

– Dr. Zaina Albalawi, endocrinologist



LEARNING BY EXPERIENCE

Mark Hough* knows first-hand how important foot care is. When he was diagnosed with type 2 diabetes in his early 20s, he barely gave the disease a second thought. “Like a lot of young guys, I thought I was invincible,” he says.

For almost 10 years, Hough treated his diabetes like it was more of a nuisance than anything he should be concerned about. Yes, he took the oral diabetes medications his doctor prescribed, but he made only half-hearted attempts to improve his diet. He rarely checked his blood sugar (glucose) levels and hardly ever checked his feet for cuts or sores.

It was not until he developed his first foot ulcer (the result of poor-fitting boots) that Hough realized the importance of good diabetes management, including foot care. But by then, the damage had been done—he had developed diabetic peripheral neuropathy, or nerve damage (see sidebar, “Nerve Damage Can Lead to Amputations”). Over the past 10 years, Hough has had many ulcers, resulting in several surgeries on his feet and two toe amputations. Despite taking charge of his foot care in recent years—he now inspects his feet every day and visits a diabetes foot care clinic twice a week—he currently has two ulcers on his left foot that still have not healed after more than six months.

“My amputations and recurring ulcers have changed the way I live my life, my future career path, basically how I go about my day every single day,” says Hough. “If I could go back 20 years, I would tell my younger self to take my diabetes and foot care seriously.”

*Name changed for confidentiality.



The good news? With proper screening, care, and devices, up to 85 per cent of amputations are preventable. “Diabetes foot care requires a team, and the most important person on that team is the person with diabetes. I encourage people to choose to be proactive in caring for their feet and working with their diabetes team to prevent complications,” Albalawi says.

DID YOU KNOW?

- Taking care of your feet and managing your blood sugar levels will help you stay in good health.
- Visit [Foot Care: A Step Toward Good Health](#) for practical tips for a daily foot-care routine.

NERVE DAMAGE CAN LEAD TO AMPUTATIONS

Diabetic peripheral neuropathy is nerve damage caused by long-term high blood sugar levels. It is a complication of both type 1 and type 2 diabetes.

This nerve damage increases the risk for foot ulcers as it “takes away the gift of pain,” explains Dr. Zaina Albalawi. “If you don’t feel pain, you are more likely to injure your foot by stepping on something or wearing tight-fitting shoes. Unless you regularly check your feet, you will not know there is a problem until skin breaks down and an ulcer starts.”

Learn more at [Nerve Damage & Amputation](#).





NUTRITION
matters

A NEW WAY TO LOOK AT

YOUR PLATE

Canada's Food Guide offers new advice
for all Canadians, including those
affected by diabetes

By Rosie Schwartz, RD, FDC



CANADA'S NEW FOOD GUIDE IS HERE AND IT IS LIKE NONE BEFORE IT.

Instead of recommending specific portions of various foods to be eaten throughout the day, as previous versions did, the new guide offers more general recommendations about what to eat and how to enjoy it more. Another plus: It acknowledges that healthy food choices can be adapted into any cultural traditions, preferences, or values.

Based on current scientific research, the guide recommends Canadians have less free or added sugars (not just table sugar but also foods where sugar is naturally present, such as fruit juices) and sodium; choose healthy fats (such as canola and olive oils, and nuts and seeds); and eat fewer processed or prepared foods. It also places more emphasis on eating plant-based rather than animal-based foods. The suggestions in these guidelines not only help people avoid developing certain chronic diseases, such as diabetes, but are also beneficial for those already living with the disease.

If you live with diabetes, you have probably heard most of this advice before, including choosing water instead of sugary drinks, and whole grains rather than refined ones. Now, it is considered good advice for everyone.

What should be on your plate?

"The new **Food Guide** emphasizes the 'plate method' of portioning, which Diabetes Canada has promoted for a long time," says Joanne Lewis, a registered dietitian and certified diabetes educator, and director of healthy eating and nutrition programming at Diabetes Canada. "This dietary pattern helps people understand portions at a glance without necessarily having to measure out foods."

The guide suggests that half of your plate should be filled with vegetables and fruit. Lewis recommends that people with diabetes focus more on

the vegetables and less on the fruit, which contains more sugar. "Save fruits for a snack or dessert, and limit the portions to a medium-size fruit twice a day," she says.

Starchy vegetables, such as potato and corn, are included in the Food Guide with all other vegetables, but Lewis suggests being cautious with your portions of these veggies because of their high carbohydrate content. Instead, choose lower-carb vegetables (such as dark leafy greens, cauliflower, and zucchini) to help keep blood sugar levels from climbing.

Enjoy plant-based proteins

The guide recommends regularly incorporating more plant-based proteins—such as pulses (dried peas and beans), soy, nuts, and seeds—rather than animal ones. This does not mean you have to give up animal foods altogether: Just include a smaller portion so you can include a plant-based protein on your plate as well.

Many plant-based proteins have a low glycemic index, which is helpful for blood sugar control and weight management. Plus, plant proteins are easier for the kidneys to process than animal proteins, and that is an important consideration if you have diabetes, given that you are higher risk for kidney disease.

There are many new meat alternatives (such as burgers, ground meat, and sausages) on the market today, and they may look like an easy way to go

meatless—but a word of caution. They are ultra-processed, tend to be higher in sodium, and lack many nutrients (including fibre), all of which means they are not as good for you as whole foods, such as lentils and chickpeas.

Make your own meals more often

Sample new recipes, or consider revising family favourites. Lewis says, "Get creative with your recipes and learn new food skills to become less dependent on highly processed ready-made foods and eating out." For example, if you love chili, switch out the meat and use beans instead, or use less meat and more beans. Making the dish yourself will make it easier to keep the amount of sodium and sugar you consume at healthier levels while upping your fibre.

Choose healthy fats

Another new recommendation from the Food Guide: Choosing foods with healthy fats instead of saturated fat can help reduce the risk of heart disease—the leading cause of death in Canada. If you live with diabetes, you know you are already at a higher risk for heart disease than the average person. Healthy fats can be found in foods such as nuts and seeds, vegetable oils such as canola and olive oil, avocados, and fatty fish. Eating lower-fat dairy products, small portions of well-trimmed meats, and fewer processed foods can also help to reduce the amount of saturated fat you consume.

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DID YOU KNOW?

- You can save time in making nutritious meals by planning ahead.
- For example, if you are preparing chicken and vegetables for dinner, double the amount, and use the leftovers for lunch or dinner the next day. Leftover grilled chicken would be tasty in a chicken quesadilla or salad, while leftover vegetables can make a delicious marinated salad.
- For more information, visit [Basic Meal Planning](#).

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NUTRITION matters

For the first time, *Canada's Food Guide* looks not only at how much food you are eating but at other aspects, such as the social side of eating. Here are three recipes for you to enjoy with others.



Chickpea Mushroom Cakes

Here is a main course, from my kitchen, for your Meatless Monday.

If you like, you can serve it on a whole-grain pita with chopped tomatoes and cucumbers, and topped with tahini sauce.

- 1 tbsp (15 mL) extra-virgin olive oil, divided
- 2 cloves garlic, minced
- 1 small onion, finely chopped
- 1 cup (250 mL) chopped mushrooms
- 1 can (540 mL/19 oz.) chickpeas, rinsed and drained
- 2 slices whole-grain bread, moistened with water and squeezed dry
- 1 tsp (5 mL) ground cumin
- ½ tsp (2 mL) ground coriander
- ¼ tsp (1 mL) salt
- ¼ tsp (1 mL) freshly ground pepper

In a large non-stick skillet, heat 1 tsp (5 mL) olive oil over medium-high heat. Add garlic and onion; sauté until softened, or for 3 to 4 minutes. Add mushrooms and continue to cook until moisture evaporates, or for another 2 to 3 minutes. Remove from heat. Add mixture to food processor bowl. Wipe skillet to remove any of the vegetable mixture.

In food processor, combine mushroom mixture, chickpeas, bread, cumin, coriander, salt, and pepper until finely chopped. Gently shape into 4 patties.

Add remaining 2 tsp (10 mL) oil to skillet and heat on medium. Add patties and cook for 4 to 5 minutes, or until golden brown. Turn patties over and cook for another 4 to 5 minutes.

Makes 4 servings

Nutritional breakdown per serving:

20 g carbohydrate, 6 g protein, 5 g total fat, 1 g saturated fat, 5 g fibre, 228 mg sodium, 150 calories

© Rosie Schwartz



Salmon, Quinoa and Walnut Stuffed Avocados

This example, adapted from **California**

Walnuts, shows how to incorporate plant-based foods along with small amounts of animal-based options.

- 1 salmon fillet (250 g/8 oz.)
- 3 large avocados
- 1½ cups (375 mL) cooked quinoa
- ½ cup (125 mL) walnuts, toasted and chopped (plus additional for garnish)
- ⅓ cup (75 mL) minced red onion
- ¼ cup (50 mL) extra-virgin olive oil
- 3 tbsp (45 mL) lemon juice
- ½ tsp (2 mL) sea salt (type of salt optional)
- 1 clove garlic, minced
- ⅛ tsp (0.5 mL) black pepper
- 2 tsp (10 mL) fresh basil, finely chopped (optional)

Cook salmon on a well-oiled grill over medium-high heat for 3 to 4 minutes on each side or until cooked through. Remove from grill and remove skin. Let cool, then flake with a fork.

Cut avocados in half and carefully remove pits. Cook cut side down on well-oiled grill over medium-high heat for 1 minute or until nicely grill-marked.

Place quinoa, walnuts, and onion in a large bowl.

In a small bowl, whisk together oil, lemon juice, salt, garlic, and pepper; pour over quinoa mixture. Toss lightly to coat, then lightly stir in salmon.

Scoop mixture into avocado halves; top with basil, if desired. Garnish with additional walnuts, if desired.

Makes 6 servings

Nutritional breakdown per serving:

20 g carbohydrate, 13 g protein, 31 g total fat, 4 g saturated fat, 9 g fibre, 230 mg sodium, 390 calories



Eggplant, Roasted Red Pepper, and Goat Cheese Sandwiches

This is a delicious way to enjoy more

veggies when having a sandwich.

Bonus: If you cook more of the veggies than needed for this dish, you will have leftovers ready to use as a garnish for another day.

- 1 medium eggplant, cut lengthwise into ½-inch (1.25-cm) thick slices
- 2 tsp (10 mL) extra-virgin olive oil
- 250 g (8 oz.) soft lower-fat goat cheese
- 8 slices whole-grain bread
- 2 red peppers, roasted, peeled, and cut into halves
- 8 large basil leaves
- Salt and freshly ground pepper

Prepare barbecue (medium-high heat), or preheat broiler. Brush eggplant slices lightly with oil. Grill until golden, or for about 4 minutes per side. Cool. Spread goat cheese over 4 slices of bread. Top each slice with eggplant slices, roasted pepper, and basil. Season with salt and pepper. Top each with remaining slice of bread.

Makes 4 servings

Nutritional breakdown per serving:

37 g carbohydrate, 9 g protein, 8 g total fat, 2 g saturated fat, 9 g fibre, 275 mg sodium, 280 calories

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Want to be a better snacker?

FIND OUT HOW CANADA'S NEW
FOOD GUIDE CAN HELP YOU

By Alyssa Schwartz



We are a nation of snackers. According to a recent report from market research company Ipsos, on any given day about two thirds of the time Canadians spend eating and drinking happens outside of breakfast, lunch, and dinner. That is considered snacking. For some people, this means junk food (and empty calories), but, in fact, snacks can be part of a healthy diet.

"Think of a snack as something that offers you some nutrition and gives you an energy boost. This is different than a treat, such as cookies, chips, and chocolate," says Stephanie Boutette, a registered dietitian and education coordinator with Diabetes Canada. Choosing healthy snacks can help you to meet nutrient recommendations—and feel full between meals. According to research, this feeling may reduce the temptation to overeat, and thus the overall number of calories consumed in a day. Snacking during the day may also help to regulate cholesterol and insulin levels.

But knowing the difference between healthy snacking and indulging is key—and, fortunately, Canada's new Food Guide offers some helpful strategies. For starters, aim for nutrient-rich foods that are either minimally processed or unprocessed. The Food Guide also recommends eating snacks mindfully, meaning that you take the time to think about whether you are actually hungry or are simply eating for emotional reasons, and that you avoid distractions from things like watching TV or looking at your phone while enjoying your snack. Lastly, plan ahead so that when hunger hits, you have healthy options on hand.

For people with diabetes, Boutette also recommends talking to a registered dietitian. While snacks can help some people prevent low blood sugar, they do not need to be included in all meal plans. "A dietitian can help determine what would work for [the individual] in terms of meal spacing and controlling blood sugar levels, while also preventing overeating and weight gain," she says.

WHAT MAKES A HEALTHY SNACK?

In Canada, where chips are the most popular snack food and where we face lots of advertising and choices, how can you pick healthier options? Start by skipping the snacks aisles. "Several foods advertised as snacks are not always the best selections," says Boutette. "They [may be] high in sugar, saturated fat, and/or salt, and with little fibre and nutrients."

If convenience is important to you, look for items that can be eaten on the go with very little advance preparation, or that are sold in portions. Recommendations from *Canada's Food Guide* include:

- > Apples
- > Nut butter (peanut, almond, cashew)
- > Plain popcorn
- > Whole-grain crackers
- > Nuts
- > Pumpkin or sunflower seeds

Other good choices? Whole or cut-up fruits and vegetables; hummus or guacamole; individual containers of yogurt (compare labels to find ones that are lower in fat and sugar); and low-fat cheeses. Adds Boutette, "Keep in mind [that] the portion size of the snack is also important."

There is no need to fear a snack attack. Instead, think of snack time as an opportunity for nourishment and adding important nutrients to your diet—and choose wisely.

DID YOU KNOW?

Choosing lower glycemic index foods can help you control your blood sugar. Find out more at the [Glycemic Index Food Guide](#).

How is your balance?

Learn how to prevent slips, trips, and falls, so you can stay active!

By Barb Gormley



Mandy Shintani

Poor balance can make you dizzy and unsteady on your feet. It can also cause you to do things like miss a stair step, bump into furniture, or trip over the family pet. In the worst situations, stumbles can lead to falls and potentially serious injuries.

Falling can definitely be a concern if you live with diabetes and are managing complications linked to poor balance. These complications include peripheral neuropathy or nerve damage (loss of sensation in the feet, legs, and hands), retinopathy (damaged blood vessels in the eyes), and hypoglycemia (low blood sugar). Other conditions such as cataracts and glaucoma can also present challenges.

But do not let fear get in your way when it comes to staying active! Exercise can help strengthen both body and mind, and actually lessens your risk of falling.

MAKE YOURSELF FALL-RESISTANT

“When people are afraid of falling or if they have experienced a fall, they [may] begin to limit their physical activity and socializing,” says Mandy Shintani, a Vancouver-based occupational therapist who works with older adults and also lectures on fall prevention. “As they do less, they can move into depression and lose their motivation to be active, which leads to a deterioration of their balance and physical condition. The end of this cycle is often another fall.”

While you cannot reverse neuropathy or vision loss, you can decrease your risk of falling by developing better balance.

Here are three exercises, recommended by Shintani, to help improve your balance and keep you steady on your feet. Practise them several days a week.

1 ONE-FOOT BALANCE Stand beside a table or chair, and place one hand on it for support. Lift one foot slightly off the ground to stand on the other leg, and, when you feel ready, also lift the hand off the chair. Hold this position for 10 seconds, then lower your foot and hand, and briefly rest. Repeat with the other leg and hand. Repeat up to two times. Over time, progress to holding the position for a longer time, up to a maximum of one minute.

2 HEEL-TOE WALK Stand beside a wall or kitchen counter, and place one hand on it for support. Walk 10 steps, placing the heel of one foot to the toes of the other foot, as if you were walking on a tightrope. Turn around and walk 10 steps in the other direction. Progress to performing the exercise twice, and eventually without hand support.

3 TOE RAISES Stand facing a table or chair with both hands on it for support and your feet together. Raise the front half of your feet off the floor so your weight is on your heels, hold for one second, and then lower them. Build up to doing two sets of 10 repetitions each, then to holding the table or chair with only one hand, and then without any support.

CREATE A SAFE HOME

Most falls happen in the bedroom and living room, but it is important to ensure your entire home is free of tripping hazards.

“Be sure your rooms are brightly lit and that floors are free of clutter,” says Shintani. “Discard throw rugs; install grab bars in the bathroom and, if needed, additional stairway handrails; and always wear sturdy non-slip footwear.”

DID YOU KNOW?

- **Treat physical activity like sleep or food: It is something your body needs every day to be healthy.** If you need help getting started, visit [**Planning for Regular Physical Activity**](#).

Do you have a story about the difference physical activity has made for you and your health? Please let us know at dialogue@diabetes.ca.



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LIVING WITH DIABETES IN CANADA

Learn about the financial cost of the disease

By Laura Tennant



Diabetes can be expensive—treating the disease will cost our health-care system nearly \$30 billion this year. If you live with diabetes, you can often face high costs for supplies such as glucose testing strips, glucose monitors, medications, and syringes. Provincial and federal coverage is often limited, and those who have private insurance coverage often face high deductibles.



Kimberley Hanson



Grace Leeder

diabetes can lead to complications, such as heart disease, stroke, kidney failure, blindness, and non-traumatic amputation. These complications also have a huge cost on our health-care system.

How does Diabetes Canada advocate for this issue?

Hanson We believe good

coverage—meaning access to

public or private insurance that covers most of the cost of treating diabetes—should be available to every Canadian, not only for their medications, but also for their devices and supplies. We do a lot of advocacy at the provincial and federal level to encourage governments to provide better coverage, by calling attention to the gaps in coverage. We do research into the impact of those gaps, and what it would cost to close them. And then we work with governments and with advocates all over the country, such as volunteers, people who live with diabetes, and their family members, to push governments to increase their coverage. Better access to care is a key reason we're calling for Canada to implement our national strategy to address diabetes, **Diabetes 360°**.

To learn more about this issue, *Diabetes Dialogue* spoke with Kimberley Hanson, executive director of federal affairs for Diabetes Canada, and Grace Leeder, team lead for the information and support centre at Diabetes Canada, which receives calls and emails from people all across the country.

How does diabetes affect Canadians financially?

Hanson We know that the vast majority of Canadians with diabetes struggle with what are considered 'catastrophic costs'—spending more than three per cent of their income to treat their diabetes. A lot of medications and supplies people require are not covered unless the individual has an extended medical plan.

Leeder For most folks in Canada, diabetes supplies are covered through provincial insurance. But due to insufficient coverage, many people still have to pay high out-of-pocket costs. It's estimated that people will pay anywhere from between \$1,000 up to \$5,000 per year out of pocket, depending on how they manage their diabetes.

How do gaps in financial support affect Canadians living with diabetes?

Hanson According to a Statistics Canada report from 2014, a quarter of people with diabetes report that they are unable to follow their prescribed treatment because they can't afford it. That puts their short- and long-term health at risk, which means they may be more likely to go to the hospital emergency room or to develop complications.

Leeder We certainly hear from people who are not checking their blood sugar as often as their doctor recommends. They might not be taking their medication as often, either. Not being able to properly manage

Where can people turn for help?

Leeder You can call us at 1-800-BANTING (226-8464) or email us at info@diabetes.ca. Our team can walk you through everything that you're eligible for, and tell you what programs are out there. We also suggest calling your MPP, who may be aware of smaller, local programs offering financial support.

DID YOU KNOW?

As a person living with diabetes, you may qualify for disability benefits. To find out more, read **Financial Assistance for People with Diabetes** and check out the downloadable **Diabetes Resource Manual**.



How can you help us fund research, projects, and campaigns that change lives? **Donate now!**