

# Diabetes

SPRING 2019

## Dialogue

### PROVIDING THE BEST IN CARE

Dr. Sonia Butalia  
is researching ways  
to bridge the gaps  
in diabetes care

Stop the blood sugar  
roller coaster

Using meditation  
to deal with diabetes

Taking a gamble  
for children

**PLUS:**  
The whole truth about  
whole grains, canned  
fish, exercising with  
complications (part 2)

# Diabetes

Dialogue

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SPRING 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



# Springtime energy

## TAKE A NEW LOOK AT YOUR DIET, EXERCISE, AND DIABETES ROUTINES!

Having to manage diabetes can present challenges at the best of times, as many factors can affect a person's blood sugar—diet, exercise, type of insulin, stress, and poor sleep, to name just a few. "Taming the Blood Sugar Roller Coaster" looks at many of these factors and how to manage them. More and more people are realizing that they are experiencing swings in their blood sugars, thanks to technologies such as continuous blood glucose monitoring (CGM). This technology allows people to track their "time in target" (the amount of time spent within their target blood sugar range)—and emerging evidence suggests that people who have a higher percentage of "time in target" not only feel better, but may have fewer complications. I urge you to discuss this new concept with your health-care providers.

The second feature, "Using the Power of Your Mind and Body," focuses on how mindfulness can help to manage your stress—and your diabetes. The story also offers practical tips for getting started with meditation; give it a try and see how it benefits your health both mentally and physically.

How much do you know about whole grains? Take our quiz in "Nutrition Matters" and find out, and, of course, enjoy some delicious recipes! Also, discover why eating canned fish is not only convenient but a healthy and affordable option for busy Canadians, in "On the Shelf."

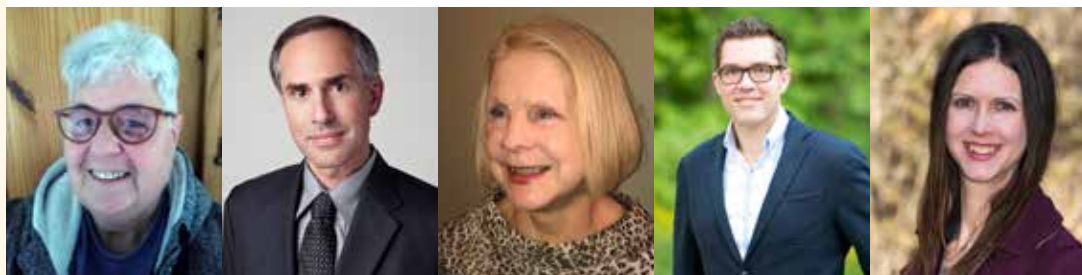
For those of you who are experiencing complications from diabetes, "Fit Tip" follows up from the previous issue with more advice on how to tailor an exercise routine to meet your specific needs (as always, consult with your health-care team before starting a new exercise routine).

It is a real travesty that in this great country, there are still differences from province to province in people's ability to access diabetes medications, supplies, and devices—and each province has room to improve. Learn how you can help yourself or those you love, as well as the millions of other Canadians living with diabetes, in "Know Your Rights."

#### 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](mailto:dialogue@diabetes.ca).

Diane Donat MD MSc MEd FRCPC  
Editor-in-Chief





# LARGE BABIES

## AT RISK OF CHILDHOOD OBESITY

### RISK FOR THESE BABIES HIGHER IF MOM HAD DIABETES DURING PREGNANCY

By Elizabeth McCammon

Large babies born to mothers with diabetes are almost three times as likely to be obese by the time they start school as are children born an average size to diabetes-free mothers. This is the finding of a team of researchers at the University of Alberta in Edmonton.

The researchers looked at the health records of more than 81,000 children born between January 2005 and August 2013 in Alberta. They sorted the children into six groups based on whether the mother had gestational diabetes (a type of diabetes that occurs only during pregnancy), pre-existing diabetes (either type 1 or type 2 before pregnancy), or no diabetes; and whether the child was average size or large at birth.

Rates of being overweight/obese by the time the children reached age four to six were highest among large babies born to mothers with gestational diabetes (43%) or pre-existing type 2 diabetes (42%). In comparison, the lowest rates of childhood overweight/obesity (21%) were among those who were average-sized at birth and whose mothers had either type 1 diabetes or were diabetes-free.

Previous research has shown that large babies are more likely to be larger in childhood, and that large birthweight is linked to the mother's pre-pregnancy weight as well as her weight gain and diabetes status during pregnancy.

The results from this study suggest that excess weight in childhood is more closely related to large birthweight than to a mother's diabetes during pregnancy. This study highlights the need to better understand all factors associated with large birthweight in order to develop strategies to reduce childhood overweight/obesity rates.

"We hope that these findings will reinforce public health campaigns advising women who are planning to get pregnant that...their weight prior to getting pregnant, and weight gain and blood sugar control during pregnancy may have a significant impact on the future health of their children," wrote the authors of the study, which was published in the November 2018 issue of [Diabetologia](#).



## AFTERNOON ACTIVITY BETTER THAN MORNING

### TIMING AFFECTS BLOOD SUGAR CONTROL

Being physically active is one of the most important things people with type 2 diabetes can do for their health. Regular exercise can help control both weight and blood sugar levels.

A small study from a team of researchers in Sweden and Norway suggests that people with type 2 diabetes can gain even more benefit from their exercise by being active later in the day.

The researchers studied 11 men, aged 45 to 68, with type 2 diabetes. The men did high-intensity interval training (short bursts

of intense exercise alternating with rest periods) three times a week for four weeks. They exercised in the morning for two weeks, then in the afternoon for two weeks.

Researchers found that the men's blood sugar levels were better after their afternoon exercises (6.2 mmol/L) compared to after morning exercises (6.9 mmol/L). They noted that morning exercises actually increased blood sugar levels.

While this study (which was published in [Diabetologia](#) in February) highlights potential benefits of being active later in the day, the researchers emphasized that longer training programs need to be studied to confirm their findings.



# Diabetes may begin more than a decade before diagnosis

## Early signs may lead to early prevention


People who develop type 2 diabetes may show early warning signs of the disease more than 10 years before their diagnosis, according to new research presented at the 2018 meeting of the European Association for the Study of Diabetes in Berlin, Germany.

This Japanese **study** tracked more than 27,000 adults (average age 49) between 2005 and 2016. None of the people had diabetes at the beginning of the study. By the end of the 11-year study, 1,067 people had been diagnosed with type 2 diabetes.

The researchers found several risk factors were more common among individuals who went on to develop type 2 diabetes compared with those who did not. In particular, body mass index (BMI), fasting blood sugar, and insulin resistance (where the body does not respond properly to the effects of insulin) started to increase up to 10 years before the diagnosis.

The differences between the two groups appeared to widen over time. For example, fasting blood sugar levels gradually rose in people who eventually developed diabetes, from 5.7 mmol/L 10 years before diagnosis, to 5.8 mmol/L five years before, to 6.1 mmol/L one year before. In people who did not develop diabetes, fasting blood sugar levels remained relatively steady at about 5.2 mmol/L over the entire decade.

These important findings may result in people being able to take earlier steps to prevent either the development of prediabetes or the progression from prediabetes to type 2 diabetes.

 To find out your risk for type 2 diabetes, take the **Diabetes Canada Test** as part of our awareness campaign in partnership with Sun Life Financial.

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## CANNABIS USE LINKED WITH RISK FOR DIABETIC KETOACIDOSIS

### More study required on effects of marijuana on diabetes

Cannabis, or marijuana, is now legal for adult use in Canada, and new research is shedding light on its health effects in people with diabetes.

In November 2018, **JAMA Internal Medicine** reported that people with type 1 diabetes who have used cannabis within the past year may have a higher risk for diabetic ketoacidosis compared with non-users.

Diabetic ketoacidosis is a dangerous complication that is the result of high blood sugar levels and excess ketones (acids created when fat is broken down to be used for energy). The body normally gets rid of excess ketones through the urine. However, if levels in the body get too high, they can lead to a coma and even death.

The JAMA report was based on a survey of 450 adults with type 1 diabetes at a diabetes clinic in Colorado, where the use of cannabis is legal. Thirty per cent of the survey participants said they had used cannabis in the previous year. This use was associated with almost double the risk of diabetic ketoacidosis compared with non-use.

The authors of the report suggest that cannabis may affect the digestive system and cause severe vomiting, which may play a role in the increased risk of diabetic ketoacidosis. They add, "Further research is needed to confirm these findings and understand the effects and adverse consequences of cannabis use in patients with type 1 diabetes."

## DID YOU KNOW?

Diabetic ketoacidosis often occurs as a complication of other illnesses. Read **Stay Safe When You Have Diabetes and Are Sick or at Risk of Dehydration** for tips on how to manage your diabetes during an illness, and when to call your health-care provider.

**LIZ AND GREG TOLES:**

# Taking a gamble for diabetes

**Their annual Poker for Diabetes fundraiser helps more kids have fun at Diabetes Canada's camps for children with type 1 diabetes** By Mark Witten

When Liz and Greg Toles took their then eight-month-old daughter, Peyton, to a walk-in clinic in May 2008, they knew something was seriously wrong. "Peyton had dark circles under her eyes. She was listless, breathing rapidly, and struggling for air. They tested her blood sugar, and it was through the roof," Liz recalls.

Peyton was diagnosed with type 1 diabetes. She spent four days in hospital being treated and recovering from a potentially life-threatening episode of diabetic ketoacidosis. (DKA is a serious complication of diabetes that can happen when a person's blood sugar is too high for too long, and the body produces ketones, or acids.) Still reeling from the shock, her parents wanted to do something positive and constructive.

While sitting at a picnic table outside the hospital, Greg suggested they start a local fundraiser for diabetes, and Liz proposed the idea of hosting a Poker for Diabetes event in their community of Lethbridge, Alta. "Liz and I met when we were working at the casino in Lethbridge after university," says Greg. "We were both dealing cards and our favourite game was poker. It was in our blood. We knew a lot of people who played and would be supportive."

## A WINNING HAND FOR D-CAMPERS

The Toles held the first annual Poker for Diabetes fundraiser that September and it was an immediate hit: 90 people attended, dozens volunteered, and they raised \$10,000. "In the second year, we decided to direct most of the money raised to [Diabetes Canada] summer camps for kids with type 1 diabetes. We started donating \$10,000 a year to Camp Jean Nelson and haven't stopped since," says Greg.

Over the past 10 years, the Poker for Diabetes Foundation has raised \$100,000 for this Alberta-based D-Camp, located in the picturesque Rocky Mountain foothills just outside Water Valley. Peyton, now 11, was a camper for the past two summers and thoroughly enjoyed the sports, arts, and outdoor activities. "The biggest thing for Peyton was seeing 100 kids exactly like her. The social aspect is huge, and when I picked her up, she didn't want to leave," says Greg.

Seeing how this special camp experience can build the confidence and independence of children with type 1 diabetes fuels the Toles' passion and commitment. "Liz and Greg are doers, motivated to help not only their own



**From left: Liz, Peyton, and Greg Toles lay all their cards on the table for kids with type 1 diabetes.**

daughter but all kids living with diabetes. They're very passionate about D-Camps and its benefits for kids," says Ankur Gupta, Calgary community development account manager for Diabetes Canada.

Gupta nominated Liz and Greg for the 2018 National Volunteer of the Year awards, which honour volunteers for their outstanding long-term dedication and commitment in supporting the work of Diabetes Canada.

## LEARNING A NEW NORMAL

For children living with type 1 diabetes, D-Camps offer opportunities to safely enjoy the same authentic camp experience that so many kids enjoy. As the parents of an infant newly diagnosed with the disease, Liz and Greg had to learn how to make Peyton's life, and their own lives, as normal as possible.

"It was a hard learning curve at first. Peyton was so little she couldn't tell us how she was feeling. But we learned what foods are good and how to read her non-verbal cues, so we could recognize if her blood sugar was high or low," says Liz. "Now Peyton manages her blood sugar and asks for help if she needs it."

When Liz, Greg, and Peyton share their story at the annual Poker for Diabetes nights, it is reassuring for parents of children newly diagnosed with diabetes. "The moms and dads feel a sense of relief. They can see we're not at a place where we're struggling with day-to-day life. Parenting a child with diabetes is about learning a new normal and [realizing] your life will become normal again," Liz says.

## DID YOU KNOW?

**Has your child recently been diagnosed with type 1 or type 2 diabetes? You are not alone!** The discovery can be difficult emotionally, but remember: While diabetes is now part of your life, it is not your—or your child's—entire life. Visit [Kids, Teens & Diabetes](#) for tips to help you and your family.

Do you know someone who you think is a Diabetes Champion? Let us know at [dialogue@diabetes.ca](mailto:dialogue@diabetes.ca).



# Closing the health-care gaps

## Researcher explores ways to ensure continued diabetes care for young people, and for adults with high cholesterol

By Rosalind Stefanac

**WHO:** Dr. Sonia Butalia, endocrinologist, and assistant professor in the Departments of Medicine and Community Health Sciences, University of Calgary

### RESEARCH HIGHLIGHTS/DISCOVERIES:

- Developing and measuring the effectiveness of tools and strategies that help people with diabetes improve their cholesterol management, and reduce their risk of cardiovascular disease
- Co-author of several national guidelines for Diabetes Canada and Hypertension Canada
- Exploring how young people can successfully move from pediatric to adult diabetes care

### How did you get interested in diabetes?

It happened in medical school. This disease affects many Canadians—including close members of my family. I loved taking care of patients with diabetes, but I realized that research would hopefully allow me to help the broader community.

### Why do cardiovascular risk factors matter for people with diabetes?

Many people with diabetes will develop cardiovascular disease, and when you look at some of the risk factors [such as high blood pressure and cholesterol], they're very treatable with medication and lifestyle. Our research shows only 30 per cent of people with diabetes who should be taking medication to lower their cholesterol are doing so.

### How will you address these issues?

Using Alberta as our study base, we've spoken to people with diabetes and their doctors to determine where the current gaps in health care are, and what would help improve the situation. Once we analyze their feedback, we'll develop tools and strategies to help fill those gaps and look to leverage the resources we already have in place.

### What might these tools or strategies be?

For one example, a patient's lab results go straight to the physician, but perhaps it would help improve diagnosis and treatment if those results were also provided to patients as well as their health-care providers. Some areas already offer the ability for patients to check their medical results online, so they can view their test results and be more proactive.



Dr. Sonia Butalia

### You helped create the guidelines for diabetes and those for hypertension. Why was that important?

In order to improve the health of people with diabetes, health-care professionals have to stay current with the latest research and share best practices for care with both patients and their health-care providers.

### Tell us about your other research project.

Youth with diabetes may not see a health-care provider for a year or two after they stop receiving care from pediatric health professionals. This can result in worsening blood sugar control and/or an avoidable hospitalization. We have spoken to youth to determine where there are problems in transition of care, and we are assessing programs.

### What is your ultimate goal as a diabetes researcher?

To help keep Canadians with diabetes healthy and free from complications. While it's important to prevent diabetes, we also need excellent tools and strategies to support those living with this disease.

### THE LAST WORD

"Sonia is looking at what is causing the gaps in care. [Her work] will create great health benefits to affected patients," says Dr. Jan Hux, president and CEO, Diabetes Canada. Listen to her speak about the *Guidelines on Clinically Speaking*.

Visit [Research](#) for projects and awards funded by Diabetes Canada.

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## SONIA BUTALIA AT A GLANCE

- > Received the Diabetes Canada New Investigator Award (2018)
- > Was a member of the 2018 Expert Committee and a chapter co-author of the *Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada* (2018)
- > Named Medical Lead of the Libin Patient and Family Advisory Group for Cardiovascular Health at the University of Calgary (2017)
- > Received the Clinical Fellowship Award from the Canadian Institutes of Health Research (2009)



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**DIABETES  
CANADA**



# TAMING THE Blood Sugar Roller Coaster

**HERE IS INFORMATION ON HOW TO PREDICT  
AND PREVENT THOSE UPS AND DOWNS**

By Elizabeth McCammon

**B**o Taylor\* follows a very healthy diet, swims three to five times a week, and takes his oral diabetes medications as prescribed. His efforts have paid off. Ever since he was diagnosed with type 2 diabetes 15 years ago when he was 60 years old, his overall health has been good and his blood sugar (glucose) levels have rarely been off target.

“Because I have a history of type 2 diabetes in my family, I have always been very careful to manage my blood sugar. It is so frustrating to suddenly see the numbers go up.”

– Bo Taylor\*, person living with type 2 diabetes

But this past summer, that changed. Since a hip replacement surgery, his ever-so-predictable blood sugar levels have become unpredictable. “Early in the morning before breakfast, my sugar level will be higher than I expect regardless of what I eat the night before. The level should come down after my physiotherapy exercises, but often it will still be higher than usual,” he says. “I can’t figure out what is going on.”

\*Name changed for confidentiality.



## MANY THINGS CAN CAUSE CHANGES IN BLOOD SUGAR LEVELS

### WHAT AFFECTS YOUR BLOOD SUGAR?

One of the first things people learn when they are diagnosed with diabetes is how food, activity, and medications affect their blood sugar levels. “When blood sugar levels don’t behave the way people expect, it can be very stressful and frustrating,” says Dr. Sonia Butalia, an endocrinologist, and assistant professor of endocrinology and metabolism in the Departments of Medicine and Community Health Sciences at the University of Calgary.

She explains that many things can cause changes in blood sugar levels, including surgery. An operation and anesthesia can cause nausea, vomiting, and pain as well as changes in appetite, activity, and weight. While these effects may disappear shortly after the surgery, the effect on blood sugar can linger for many weeks, says Butalia.

**“If you are experiencing challenges with your blood sugar control, remember you are not alone. Talk to your diabetes care team. They are there to help.”**

– Dr. Sonia Butalia, endocrinologist

Stress can also play a role in blood sugar control. People may see significant differences in their blood sugar levels during the week versus the weekend, for example, or during a busy time of year compared to their holidays. Another reason blood sugar levels might be affected in these periods is simply because people may be changing their eating and activity habits.

Butalia suggests tracking blood sugar levels along with food (when, what, and how much you are eating), activity (when,

what, and how hard you are exercising), medication, stress factors, and sleep (when, how much, and how well you are sleeping). “This can be very useful information for your diabetes team. They can spot patterns [in what you are doing and eating] and help develop personalized strategies to improve your blood sugar control,” she says.

### WHAT ABOUT INSULIN?

“People tend to blame themselves when their blood glucose levels go up and down. But that is not being fair to themselves, as other factors are often present. For example, the cause may be the type of insulin they use,” says Toronto-area endocrinologist Dr. Ian Blumer. People who take insulin for their type 1 or type 2 diabetes should be aware that NPH (intermediate-acting) insulin can vary in its action from day to day, sometimes by as much as 50 per cent, depending on the rate at which it is absorbed. (The rate of absorption can be affected by several factors, such as diet, activity, and illness.) “If you take 10 units of NPH insulin nightly, some nights it might act like eight units, sometimes like 12 units,” says Blumer.

Newer, longer-acting insulins have a more consistent effect on blood sugar levels. Blumer explains, “If a person is taking, for example, NPH or a long-acting insulin like Lantus or Levemir, and having erratic blood glucose levels, switching to Toujeo or Tresiba [both newer long-acting insulins] may improve things.” (Lantus and Toujeo are two brand names



**Dr. Sonia Butalia**

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Illustration by: -strizh-/iStockphoto

## TRACKING BLOOD SUGAR LEVELS ALONG WITH FOOD, ACTIVITY, MEDICATION, STRESS FACTORS, AND SLEEP CAN OFFER VERY USEFUL INFORMATION FOR YOUR DIABETES TEAM.



**Dr. Ian Blumer**

for the drug insulin glargine; Levemir is the brand name for insulin detemir; Tresiba, for insulin degludec.) Alternatively, for some people, another strategy that can lessen sharp swings in blood sugar levels is to use an insulin pump (which only uses rapid-acting insulin), allowing them to instantly adjust their insulin dose as needed. (For more information about personal insulin needs, talk to your diabetes care professional; you can also read more at [Getting Started with Insulin](#).)

“The first thing is to determine whether blood glucose [sugar] levels really are erratic. Sometimes people check their blood glucose only when they think it will be high or low [after eating or exercising, for example]. If that’s the case, of course they will see significant ups and downs.”

– Dr. Ian Blumer, endocrinologist

The timing and location of insulin injections may also affect blood sugar levels. Blumer reminds his patients to take their mealtime (rapid-acting) insulin 15 minutes before eating to give it enough time to work.

He also cautions against always using the same spot to inject insulin. This can cause a buildup of fat under the skin (known as lipohypertrophy), which can affect insulin

absorption, leading to unpredictable blood sugar levels. “The key is to move your injection site around; don’t fall into the habit of having a ‘favourite site’ to inject,” he says.

### WHAT ELSE SHOULD YOU KNOW?

Constantly changing blood sugar levels should never be ignored. They may be a warning sign of another health condition, such as celiac disease (an autoimmune disease characterized by sensitivity to gluten) or gastroparesis (a form of nerve damage that affects the stomach, causing it to take too long to empty its contents).

“I have never seen a person who has erratic blood glucose that we can’t do anything about,” says Blumer. “There are always options. Make sure you get the care you need and deserve.”

### DID YOU KNOW?

- It is important to be able to recognize the symptoms of high and low blood sugar. Low blood sugar (less than 4 mmol/L) can cause confusion, dizziness, and even seizures and death. High blood sugar can cause increased thirst, frequent urination, and a general feeling of unwellness.
- Over the long term, high blood sugar can lead to complications such as heart attack, stroke, kidney failure, and blindness. Visit [Lows & Highs: Blood Sugar Levels](#) to find out how you can keep your blood sugar levels in a healthy range.



USING THE POWER OF YOUR

# mind & body

How mindfulness practices  
can help you deal with diabetes

By Anne Bokma





Suzanne Foreman had long been a believer in the power of yoga, meditation, and journaling to help her keep her mood even and her body feeling good. She had not kept up those habits in recent years, until she was diagnosed three months ago with type 2 diabetes. “The first thing I did after the diagnosis was blame myself,” says Foreman, a 57-year-old masseuse/reflexologist in Hamilton, Ont. “I told myself: ‘You idiot, you should have known better. You could have prevented this. It’s totally your fault.’ But I soon realized that wasn’t helpful and then started asking myself, ‘So what are you going to do about it?’”



**Suzanne Foreman**

**“[So often we] get caught up in whatever direction the day is going in and we forget we have a choice to stop for a few minutes. Those few minutes can make a huge difference in how the rest of our day goes.”**

— Suzanne Foreman, recently diagnosed with type 2 diabetes

What Foreman decided to do was “reinvigorate those things that worked in the past.” Now she does 30 minutes of yoga and 20 minutes of meditation each day, and keeps a daily journal she calls “The Reckoning,” which tracks her experience with diabetes, including how she is reacting to dietary changes and questions to ask her doctor. “It’s a place to put a lot of my emotional energy—it’s almost meditative because it gives me a few minutes every day to write down what I’m thinking and feeling,” says Foreman. “It’s like a love letter to myself, a quiet cheerleading exercise that tells me I can do this, I can manage. It’s about self-compassion.”

### **MINDFULNESS HELPS BOTH MENTALLY AND PHYSICALLY**

Mindfulness practices can go a long way toward helping people with diabetes manage the stress that living with a chronic condition can bring. People with diabetes have higher rates of depression and anxiety than do people without the disease; they also live with the risk of developing long-term complications and must deal with the constant day-in-day-out self-management of a disease that can sometimes be unpredictable. This can impact people not just psychologically but also physically, because stress can affect weight loss and exercise efforts, and over time can lead to increased blood sugar levels. Stress reduction practices—whether meditation, tai chi, a walk in the woods, reiki (a therapy that uses touch to rebalance ‘life energy’), journaling, yoga, a creative pursuit such as singing or knitting, positive self-talk, or even deep breathing—can help calm the mind and body, and help a person be more in control of their health.





## TIPS FOR GETTING STARTED WITH MEDITATION

Here are four ways that may help you to enjoy a more peaceful mind.

**TRY AN APP:** Download one of the popular paid meditation apps on your phone or tablet, such as Headspace, Calm, or 10% Happier. Or try Insight Timer, which offers more than 4,500 free meditation sessions.

.....

**STICK WITH IT:** The more regularly you meditate, the more benefits you will see. A short five- or 10-minute meditation every day is better than meditating every once in a while.

.....

**KEEP AN OPEN MIND:** “I often work with people who would benefit from meditation but they don’t get excited about it because they just don’t see themselves as the type of person who would meditate. I always encourage patients to be open to at least giving it a shot,” says psychologist Michael Coons.

.....

**FIND SMALL WAYS TO BE IN THE MOMENT:** If meditation is not your thing, look for other ways to help you be in the moment—take the time to enjoy each mouthful when you are eating; notice the details of your surroundings when you are out for a walk; or take a moment to consider the things you are grateful for before you go to sleep.

“When stressful things happen, the body responds in a particular way—stress hormones get released and this causes inflammation and short-term problems with our blood sugars,” explains Michael Coons, a clinical health and rehabilitation psychologist based in Burlington, Ont., and a co-author of the mental health chapter of the *Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada*. “With a regular mindfulness practice, people will react less intensely when things go wrong, because they have a tool they can use that helps them change their perception of the experience.”



**Michael Coons**

“People [with diabetes] may worry about the possibility of developing health complications in the future, or kick themselves for not living differently in the past. The concept of mindfulness and being present in the here and now is going to be very helpful for them.”

— Michael Coons, psychologist and co-author of the mental health chapter of the *Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada*

Researchers have found that mindfulness practices, which are designed to help you deliberately focus your attention on the present moment without judging your thoughts, can boost your mood and decrease stress—and that, in turn, makes it easier to maintain healthy habits. Studies show such practices can improve everything from weight loss to sleep hygiene. For example, Canadian researchers who analyzed 19 studies involving 1,160 participants with overweight or obesity (52 of whom had type 2 diabetes) found mindfulness meditation helped participants lose an average of 3.5 per cent of their body weight, according to a 2017 report in *Obesity Reviews*. And a 2011 study from the University of Minnesota found that meditation significantly improved insomnia and overall sleep patterns.

### MORE CONFIDENCE, LESS PAIN

Crystal Johnson, a 39-year-old Vancouver registered clinical counsellor who was diagnosed with type 1 diabetes when she was 11, says a daily walk, 20-minute meditation session, and regular yoga routine help her keep things in perspective when, despite her best efforts, her blood sugar levels are not exactly where she wants them to be. “Whether it’s intended or not, there’s a perception that people are judging you because they don’t always understand the factors involved in dealing with diabetes,” she says. “Meditating helps me stop some of the self-judgment by recognizing there will always be times when managing diabetes will be challenging.”





**Crystal Johnson**

better able to separate themselves from what their senses are telling them.

Johnson has also discovered that meditating helps her cope better with the pain of injections. "I am able to relate to the pain in a less reactive way. I still acknowledge the pain, but I try to bring mindful attention to it, rather than flinching." Research supports the idea that the brain patterns of people who meditate appear to show that they are

**"One of the challenges of living with diabetes is that there are so many unpredictable factors that affect your health. Having some kind of practice like meditation or yoga can take away self-blame and give you the opportunity to be more self-compassionate."**

— Crystal Johnson, registered clinical counsellor who lives with type 1 diabetes

Most importantly, says Johnson, meditative practices keep her in the present, instead of worrying about the future or thinking about the past. "With mindfulness

practices, you are able to live more fully in the moment," she says. "Rather than repeatedly berating yourself for yesterday's hyperglycemic [high blood sugar] episode or worrying over an upcoming medical appointment, you can focus on what you are doing today."

Coons says many of his patients with chronic health conditions have experienced real benefits from mindfulness practices. "It increases their confidence because they have tools they can use when their life or body feels out of control. They know there is something they can do that will have a positive impact on their health and well-being."

Foreman says the best part of her renewed commitment to meditation, yoga, and journaling is that she has gained "a sense of being back in control" that makes her feel hopeful about the future. "I've known for years about the changes [to my health routines] that I needed to make, and made half-hearted efforts. Now I am making a fully conscious effort, and it's working."

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**DID YOU KNOW?**

- You can take action to help end the diabetes epidemic in Canada. Visit [Get Involved](#) today.

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# Ready to be MORE MINDFUL?

Here are four meditation practices you can try.

**1 BODY SCAN OR PROGRESSIVE RELAXATION:** In this practice, you consider each part of the body, paying special attention to the way each area feels. Try this 30-minute [body scan](#) from mindfulness guru Jon Kabat-Zinn.

**2 SELF-COMPASSION:** While many people can show compassion to others, they sometimes have a hard time being compassionate with themselves. This [worksheet](#) guides you through some steps that will help you show greater kindness to yourself.

**3 BREATH AWARENESS:** This simply involves breathing slowly and deeply, paying attention to the rise and fall of your breath and ignoring all other thoughts. Try this 10-minute [breath meditation](#) from the University of Minnesota's Center for Spirituality and Healing.

**4 MANTRA:** Repeating a positive statement (also known as an affirmation or mantra) can help produce feelings of relaxation by focusing your mind and helping you block out distractions as you meditate. Here is a [step-by-step guide](#) from *Yoga Journal*.



## THE WHOLE TRUTH ABOUT

# whole grains

### Find out what they can do for your health

By Rosie Schwartz, RD, FDC

Many people are puzzled about grains (think rice, breads, and cereals), especially with the conflicting media reports about their pros and cons. But the truth of the matter is, not all grains are created equal: It is important to choose the right ones. Whole grains offer various health benefits, while refined grains are stripped of valuable bran and germ, along with key nutrients such as B vitamins, iron, and fibre. While some nutrients are added back to refined grains, they still do not measure up nutritionally, which is especially important for people living with diabetes.

Check out your knowledge with this quiz and learn why whole grains are a smart choice.

#### 1. If you have diabetes, it is best to:

- a) avoid grains altogether
- b) eat them only occasionally
- c) include them on a regular basis

**Correct answer:** (c) "It's a fallacy that people with diabetes should avoid grains," says Joanne Lewis, a registered dietitian and certified diabetes educator, and director of healthy eating and nutrition programming at Diabetes Canada. "This misconception stems from the fact that grains contain carbohydrates, and carbohydrates raise blood sugar levels. The key is to choose healthy grains that offer health benefits, and avoid highly processed and refined grains."

#### 2. Refined grains are enriched with some of the nutrients that were lost during the refining process. They also contain:

- a) the same amount of fibre as whole grains
- b) more fibre than whole grains
- c) less fibre than whole grains

**Correct answer:** (c) "Refined grains have much of the 'goodness' stripped away from them, and what's left over offers little benefit and can send blood sugars soaring," says Lewis.





### 3. Whole-grain products can help:

- a) promote bowel regularity
- b) lower artery-clogging cholesterol levels
- c) regulate blood sugar levels
- d) achieve healthy blood pressure readings
- e) all of the above

**Correct answer:** (e) Whole-grain foods contain a variety of beneficial nutrients, and research shows they are associated with a decreased risk of heart disease, stroke, and type 2 diabetes. For those with diabetes, choosing whole grains over refined grains can help to maintain optimum blood sugar readings. Kelly Toups, nutrition director at Oldways, a non-profit food and nutrition organization, points to research on people who have a condition called metabolic syndrome (which boosts the risk for diabetes). The subjects in the study were randomly placed in groups that ate either whole or refined grains only. "Those who consumed whole grains, rather than the refined grains, had better blood sugar control, which was measured by insulin sensitivity and secretion following meals," says Toups.

### 4. Whole grains can affect blood sugar readings differently depending on how they have been processed.

- a) true
- b) false

**Correct answer:** (a) "Choosing steel cut or rolled oats over [highly processed] instant oatmeal is an example of grains with a lower glycemic index," says Toups. The glycemic index is a measure of how quickly a food is digested in your body; when the food takes longer to digest (meaning it has a low index), that releases a slower and steadier rate of sugar into your body. When grains are highly processed (chopped finely), they have a higher glycemic index as they are more quickly digested.

### 5. The main reason people do not eat whole grains is because:

- a) they think whole grains taste bad
- b) they do not know how to prepare them
- c) whole grains take forever to cook
- d) baked goods containing whole grains are heavy and dense
- e) all of the above

**Correct answer:** (e) Many people are intimidated by whole grains, says Andrea Geary, senior editor at *Cook's Illustrated Magazine*. But she encourages their use and adds, "Using whole grains instead of refined grains can make cooking and baking easier, quicker, and more foolproof." For example, when making fried rice, white rice must be cooled before the dish is assembled, while whole-grain rice can be used while it is still hot.

If you are unfamiliar with whole-grain products, look for recipes that contain them and show how to prepare them. (Turn the page for three easy, delicious options.)

Some whole grains may take longer to cook than refined grains, so preparing larger amounts at a time and freezing the extra (in labelled portions) can be a real time-saver.



As well, since whole grains have a shorter shelf life than refined grains, proper storage is important. Store whole grains in the fridge to keep them fresh tasting. If you buy large quantities of whole-grain breads, keep the extra in the freezer.

### 6. You can tell whether a bread is whole grain by:

- a) its colour
- b) the ingredient list on the package
- c) the name of the product

**Correct answer:** (b) It is easy to be fooled by the colour or the name of the bread. Caramel colouring can be added to the bread, which will make it darker looking, while the names of breads may make you think they are whole grain. For example, *multi-grain* may simply mean that there are a variety of grains included but they may all be refined. Check the ingredient list to be sure (some examples of words to look for include whole grain, whole wheat, stoneground whole grain, brown rice, and wheatberries). Also, since ingredients are listed in descending order by amount, look for products where the first ingredient is a whole grain.

### 7. If you are following a gluten-free diet, you should:

- a) avoid all grains
- b) only have small amounts of grains
- c) go for the wide variety of gluten-free grains

**Correct answer:** (c) There are many gluten-free grains on the market these days; sorghum, quinoa, amaranth, buckwheat, and millet are just a few examples. Pure oats are gluten-free, but they may be cross-contaminated if they are grown near gluten-containing grains, so be sure to look for oats labelled as gluten-free.

## DID YOU KNOW?

Fibre offers a wide assortment of health benefits, yet many Canadians fall short on meeting recommendations for daily intake. For more information, visit [Just the Basics](#).





**Amaranth with Peppers and Cabbage**

This Latin American recipe, from the **Oldways Whole Grains**

**Council**, is a great example of a gluten-free dish that everyone can enjoy. If you are not a fan of the mild heat from poblano peppers, feel free to substitute bell peppers if you prefer. If amaranth is not available, you can prepare this dish with any other whole grain (such as quinoa or buckwheat), but remember that cooking times will vary depending on what you use.

- 1 cup (250 mL) uncooked amaranth grains
- 2 cups (500 mL) water
- 2 tbsp (25 mL) extra virgin olive oil
- 2 garlic cloves, minced
- 1 green bell pepper, cored, seeded, and diced
- 1 poblano pepper, cored, seeded, and diced
- Quarter head purple cabbage, chopped into long shreds
- Salt and pepper

To cook amaranth, bring water and amaranth to a boil. Reduce heat and simmer, partially covered, for 30-35 minutes, or until amaranth is soft, swollen, and tender. Remove from heat and allow to stand for 15 minutes, with the lid still on, to swell more.

Meanwhile, heat oil in a large shallow pan. Gently fry garlic, bell pepper and poblano pepper until soft. Add cabbage, season to taste with salt and pepper, and put the lid on to cook for 5 more minutes.

Gently stir in amaranth; reheat and serve.

Makes 4 servings

**Nutritional breakdown per serving:**

38 g carbohydrate, 8 g protein, 10 g total fat, 2 g saturated fat, 6 g fibre, 175 mg sodium, 270 calories



**Oat Groats Pilaf with Wild Mushrooms**

Oat groats are the whole-grain product before it is flaked or rolled

to become oat flakes or oatmeal. You can use groats as you would use barley or rice in a savoury pilaf or with vegetables in a salad. Look for groats in a natural food store.

- 3½ cups (875 mL) homemade or low-sodium chicken or vegetable broth
- 1 cup (250 mL) oat groats, rinsed
- 1 tbsp (15 mL) extra virgin olive oil
- 1 cup (250 mL) chopped onions
- 4 cups (1 L) sliced mushrooms
- Salt and freshly ground pepper
- 2 tbsp (25 mL) chopped fresh parsley

Bring broth to a boil in a medium-sized saucepan. Stir in groats; return to boil. Reduce heat, cover, and simmer for 55-60 minutes. Allow to stand for 10 minutes.

Meanwhile, heat oil in a large skillet over medium heat; add onions and sauté for 5 minutes. Add mushrooms, and continue to cook for another 10 minutes. Top groats with mushroom mixture. Season to taste with salt and pepper. Garnish with chopped parsley and serve immediately.

Makes 4-6 servings

**Nutritional breakdown per each of 6 servings:**

24 g carbohydrate, 8 g protein, 6 g total fat, 2 g saturated fat, 4 g fibre, 160 mg sodium, 181 calories

© Rosie Schwartz



**Barley Tabbouleh**

Barley is for more than just soup! Chock full of soluble fibre, it is delicious in

salads and other cold dishes. This recipe is from the book *Go Barley, Modern Recipes for an Ancient Grain* by Pat Inglis and Linda Whitworth (Touchwood). Add the tomatoes just before serving to keep their firm texture and taste.

- 1 cup (250 mL) pot or pearl barley
- 2 cups (500 mL) water
- 1 cup (250 mL) chopped fresh parsley
- ½ cup (125 mL) chopped fresh mint
- ½ cup (125 mL) chopped green or red onion
- 1 small cucumber, coarsely chopped
- ¼ cup (50 mL) olive oil
- ¼ cup (50 mL) fresh lemon juice
- ¾ tsp (4 mL) salt
- ½ tsp (2 mL) ground cinnamon
- Freshly ground pepper, to taste
- 3 plum tomatoes, chopped
- Fresh mint leaves, for garnish

In a saucepan over high heat, combine barley and water; bring to a boil. Reduce heat to simmer; cover pan and cook for 40 minutes, then chill.

Once barley has cooled, in a large bowl, combine barley, parsley, and mint. Add onion and cucumber.

In a small bowl, whisk together olive oil, lemon juice, salt, cinnamon, and pepper; pour over barley mixture and mix well, then refrigerate for at least one hour. Shortly before serving, stir in tomatoes. Garnish with fresh mint leaves.

Makes 8 servings

**Nutritional breakdown per serving:**

22 g carbohydrate, 3 g protein, 7 g total fat, 1 g saturated fat, 5 g fibre, 231 mg sodium, 161 calories

## THREE REASONS TO TRY CANNED FISH

It is convenient, healthy, and affordable

By Alyssa Schwartz



Whoever came up with the age-old saying “An apple a day keeps the doctor away” could have substituted “fish” for “apple.”

One of the healthiest foods around, fish contains valuable nutrients such as protein, vitamin D (for strong, healthy bones), and vitamin B2 (for energy and digestion). Research has shown that higher consumption of fish (anywhere from one to three servings per month, to two servings or more per week of oily fish) has been associated with reductions in heart disease, as well as chronic kidney disease in type 2 diabetes, and less albuminuria in type 1 diabetes.

Despite these benefits, most Canadians are not eating enough fish. Factors such as affordability or a lack of fresh options might be contributing to this, especially for Canadians who do not live near a coastline.

But fear not: “Canned fish is a convenient, healthy, low-cost option to add tasty fish to your meals and snacks,” says Stephanie Boutette, a registered dietitian and education coordinator with Diabetes Canada. From tuna and salmon to anchovies and sardines, the easiest fishing around is in the canned foods section of your grocery store. Canned fish typically has a reasonably long shelf life (check the expiry date), is readily available, and is often more affordable than fresh fish.

### CHECK THE LABEL

A few dos and don'ts: “The best canned fish to choose has no or low sodium [salt],” says Boutette. While the Nutrition Facts Table on a product will list the amount of sodium contained (go for products that contain less than five per cent of the Daily Value), some products also indicate on the front of the label that less sodium has been added. “If low-sodium [salt] versions of canned fish are not available, consider rinsing the fish under water to help remove some

of the salt,” Boutette adds. Fish canned in water also contains less added fat than products that are canned in oil. Plus, choosing fish with bones will provide added calcium.

One other issue to watch out is mercury exposure. “All fish naturally contain traces of mercury. For most people, the level of mercury absorbed by eating fish is not of concern,” says Boutette. In fact, she points out, Health Canada states that the fish used in canned tuna is usually younger and smaller, and has significantly less mercury, than fresh or frozen tuna. If you are concerned about mercury, check the product label to see what type of tuna was used. Health Canada recommends limiting consumption of white (albacore) tuna to two cups/300 grams per week for pregnant or breastfeeding women, one cup for children between five and 11 years old, and 0.5 cups for children aged one to four. Canned light tuna can be consumed freely, as it is relatively low in mercury.

If you are concerned about sustainable fishing practices, you can do a Google search on particular brands.

Keeping these things in mind, there is nothing to stop you from falling for canned fish, hook, line, and sinker.

### DID YOU KNOW?

Foods naturally contain small amounts of sodium (salt), but most of the sodium in our diet is added during food processing. Canned and packaged foods are high in sodium because it is added to maintain safety and freshness. For more information, visit [High Blood Pressure and Diabetes](#).

Want diabetes news, recipes, and more? [Sign up](#) for our newsletter.

## YES, YOU CAN STILL EXERCISE!

By Barb Gormley

When Debbie Sissmore, 56, lost her eyesight 27 years ago as a result of diabetic retinopathy, she was devastated. "I thought that my independence, career, goals, and dreams were over," she says.

Sissmore, a member of the *Diabetes Dialogue* editorial advisory board who has lived with type 1 diabetes since childhood, credits the support of her husband, Malcolm, and her own positive attitude for helping her adapt to a new life without sight. An active lifestyle has also played an important role. As Sissmore's eyesight began to diminish, she and Malcolm bought home gym equipment and a tandem bicycle (built for two riders). Later, she started long-distance running with the help of a running guide; over the years, she has participated in countless short races, half-marathons, and marathons. Although a chronic injury means she has not done any long-distance running for the past 10 years, she continues with a fitness routine including short sprints plus Tabata training (a high-intensity training workout). "Being active helps with my blood glucose [sugar] levels and is also a great way to maintain good mental and emotional well-being," she says.

Running is just one way that people with diabetes complications can keep fit and prevent the development of more diabetes complications, says Sara Hodson, a certified clinical exercise specialist and founder of Vancouver-based Live Well Exercise Clinics. "Depending on your physical abilities and health status, running, walking, stationary cycling, and resistance training with machines or dumbbells may all be excellent exercise options."

Before you increase your activity level, consult with your health-care team. Then contact an exercise professional who has experience working with people who are living with complications of diabetes.

Hodson offers these suggestions for two common diabetes-related complications:

### RETINOPATHY

**Challenge:** High blood sugar levels over a long period of time can damage blood vessels in the retina, resulting in vision loss. You may cause further damage if you do any activities that increase your blood pressure; for example, lifting heavy weights and doing exercises such

as Downward Dog where you have to bend forward so that your head is lower than your heart.

Also, it can be hard to navigate a room filled with exercise machines and fellow exercisers when you have a visual impairment.

**Choose:** gyms and community centres that have quieter times when you will not be jostled by other exercisers. Also, look for facilities with plenty of space around each piece of equipment.

"For cardiovascular fitness, walking indoors or outdoors is an excellent option," says Hodson, "but always walk with a friend who has good vision."

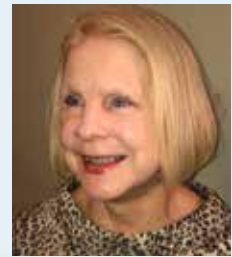
### KIDNEY DISEASE

**Challenge:** Regular exercise can help slow the progress of kidney disease and reduce the risk of more complications, such as cardiovascular disease. However, exercise that is too intense can result in joint pain, shortness of breath, dizziness, and muscle weakness for people with kidney disease.

**Choose:** Gentle exercises. "Aim for an exertion level of 'two' or 'light' on a scale where one is 'very light' and 10 is 'maximum effort,'" says Hodson. "Start with five to 10 minutes of walking, swimming, or stationary cycling, gradually adding one to two minutes as you are able."

The most beneficial effect of light exercise may be to help with the extreme fatigue commonly reported by people with kidney disease. "Physical activity is a very effective mood lifter, which is particularly important because people with kidney disease often suffer from depression," she says.

*[Editor's note: If you live with peripheral or autonomic neuropathy, or with foot sores, you will want to read Part 1 of this article in our Winter 2019 issue, which describes how to safely exercise with these diabetes complications.]*




Debbie Sissmore

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**DID YOU KNOW?**

- Sometimes, changing how you think about possible barriers to physical activity is all you need to get going. If you are not sure how to get started or have concerns about exercising with diabetes, visit [ABCDESS of Staying Healthy with Diabetes](#).

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 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](mailto:dialogue@diabetes.ca).

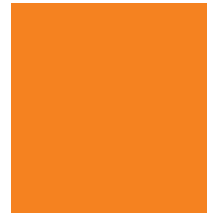




# KNOW your rights

BETTER ACCESS TO MEDICATIONS,  
SUPPLIES, AND DEVICES IS NEEDED FOR

# better health



## Let's close the gap between what we *should* be doing and what we *are* doing

By Laura Tennant

There are many ways in which our health-care system excels. But it is behind in some ways, especially when it comes to diabetes care. Many Canadians living with diabetes struggle to access the medications, devices, and supplies they need to manage the disease. For example, devices such as insulin pumps and continuous glucose monitors have been shown to improve health outcomes for people with diabetes, yet their cost puts them out of reach for many people.

To learn more about the issue, *Diabetes Dialogue* spoke with Diabetes Canada's government relations national director, Jake Reid.

### What are the most important devices and supplies Canadians with diabetes need?

One of the most important provincial public coverage programs for people living with type 1 diabetes is insulin pump coverage. Many of these programs are offered only to youths under age 25, and Diabetes Canada is trying to have governments remove or relax the age barrier [in order] to improve access. [Insulin pumps allow users to easily adjust their insulin dosage throughout the day rather than relying on insulin injections.] Continuous glucose monitors, or CGMs, are a relatively newer device that a lot of people, especially those with type 1 diabetes, are using. [These devices monitor a person's blood sugar to alert them when they are at risk of a low or high.] Currently, no Canadian province has a public program that covers CGMs, which can cost thousands of dollars per year. There is also a cost barrier for many services, like foot care. We call these limb preservation services, and they exist so that we can help people prevent the risk of amputation.

### Who struggles the most to get access to diabetes supplies in Canada?

Many groups of people struggle to access diabetes supplies in Canada, like seniors on a fixed income. People with diabetes often have other things going on in their lives [such as other disabilities] that also require financial attention. Other groups heavily impacted include Indigenous people in Canada [because they have much higher rates of diabetes than non-Indigenous people], people who live in rural or

remote communities, and people whose first language is not English or French. Any of those challenges just adds another layer of complexity to living with diabetes and being able to self-manage the disease.



Jake Reid

### Are provincial public coverage programs doing enough for Canadians?

Public coverage for people who don't have insurance is important. In order to maintain your health, you need to have access to diabetes medication, devices, and supplies. We live in a country that has a mix of public and private coverage. Unless we are to completely overhaul our health-care system, many Canadians with diabetes will need private coverage in their lives.

Diabetes Canada produces the *Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada*. When we look at accessibility, we're looking at the gap between the guidelines—what we should be doing, and the standard care being provided—what we are doing.

There's not a single province that is following all of Diabetes Canada's guidelines for the [prevention], treatment, and care of diabetes. It varies greatly from province to province, but there is something in every province that we could improve.

Experts believe a national strategy for diabetes could help people across the country get better access to the treatment they need.

## DID YOU KNOW?

- Experts believe a national strategy for diabetes could save billions of health-care dollars, as well as helping people get the treatment they need.
- To learn more about Diabetes 360° from volunteers who worked on the project, watch [Why Canada Needs a New Diabetes Strategy Now](#).



How can you help us fund research, projects, and campaigns that change lives? [Donate](#) now!



# Knowing is the first step

In many cases, type 2 diabetes can be prevented. It starts with knowing your risks.

Take a moment. Take action. Take the test.

[diabetestest.ca](https://diabetestest.ca)



**DIABETES  
CANADA**