

**MEDIA
PLANET**

NOVEMBER 2009

Diabetes

YOUR GUIDE TO ONE OF THE WORLD'S MOST COMMON CHRONIC DISEASES



Living with Type 2 Diabetes?
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BY: DR. IAN BLUMER

Empowering Yourself To Take Control Of Your Diabetes

If you have diabetes the odds are darn good that you are a member of a club you very much didn't want to join. Given your 'druthers, I suspect you'd give up your membership card to the "diabetes club" in a flash.

But, well, that isn't going to happen. If you have diabetes today you are going to have it tomorrow and the next day and, indeed, for the foreseeable future.

In fact, you might think of having diabetes as being far more than simply making you a member of a club; you may instead see it as a full time job. What, with having to think about the things you eat, the kinds of physical activities you do, the blood glucose levels you have, the medications you need to take, watching out for potential health complications, and so forth, it's pretty well a job from which you get no coffee-break, no weekends off, and, most assuredly, no prolonged holidays.

Perhaps you're waiting for the other shoe to drop. If so, prepare for a NBA-sized piece of footwear to crash to the floor because there are a litany of wonderful "buts" about which you should know if you are living with diabetes...

Most important, you should know that if you are living with diabetes you can lead a full, active, robust and engaged life. How full? How active? If ever you get the chance pose that question to John Chick (www.johnchick97.com) who was just named to the CFL all-star team. John lives with diabetes. Pretty darn successfully! Or check in with Olympic athlete Chris Jarvis (www.ichallengediabetes.org), whose diabetes has, as he says himself, inspired to him work that much harder at succeeding. Sebastien Sasseville's web site name (www.sebastiensassevilleinspires.com) pretty well sums it up well; Sebastien, who lives with diabetes, recently climbed Mount Everest. To the top. The mind boggles.

Perhaps knowing about famous athletes living with diabetes doesn't strike a chord. Fair enough. Would it be meaningful to know that Ernest Hemingway,

Thomas Edison, Elizabeth Taylor and—my favourite piece of diabetes lore—Elvis (yup, that! Elvis) have all lived with diabetes. Got a youngster with diabetes living in your house? Perhaps they already know that teen pop superstar Nick Jonas lives with, performs with, and succeeds with diabetes.

Thriving with diabetes doesn't come easy and if ever someone without diabetes tells you otherwise, ask them if they want to try having diabetes for a while! I suspect you'd not get many takers. Of the many things one needs to do to stay healthy with diabetes there is one that stands head and shoulders above all the others. It is to be empowered; to have the knowledge—the tools—to look after oneself. And this knowledge—and the power accrued from it—won't be obtained by being a passive recipient of health care.

What is it to be empowered about your diabetes? To take charge of your diabetes?

It is to know how to eat healthfully (perish the thought of there being a "diabetes diet" ... a "diabetes diet" is eating a healthy diet). It is to know what exercise to do, how to do it and for how long to do it. It is knowing whether or not you're at a healthy weight and, if not, how to go about trying to achieve it. It is knowing what your blood glucose levels should be and what to do if your levels are higher than they should be. Being empowered is knowing how often you should see your eye doctor—and making sure these visits happen. It is checking your feet every single day to ensure they are healthy—and knowing what to do if you spot a problem. Taking charge is being aware not only of what is your cholesterol level, not only what it should be, but making sure you and your health care team have a plan to get your levels to target and keep it there. It is asking your doctor or nurse what is

your blood pressure and, if it is above target (which you also need to know), discussing with them how to get it down. And that's just a partial list. Is it a big job to do all these things? You bet! Worth it? I sure hope you think your health is worth it.

Seeing the members of your diabetes health care team is essential if you are to stay healthy with your diabetes, but it is not sufficient. For example, you may see your doctor a few times a year, and you may see a diabetes nurse educator, dietitian, pharmacist, eye doctor, foot doctor and other allied health care professionals from time to time, but if you try counting up the entire number of minutes you spend per year with these people I suspect the number would measure in the dozens or, at most, hundreds of minutes. Yet you live with your diabetes 365 days of the year (which, if you're wondering, is 525,600 minutes a year!) So clearly you need to know what to do to stay healthy this 99 plus per cent of the time.

So how then do you become empowered?

Start by making sure you get referred by your doctor to a diabetes education centre. (Or refer yourself.) Meet with a diabetes nurse educator and a registered dietitian (many of whom, by the way, are also fully qualified as diabetes educators). Join the Canadian Diabetes Association (CDA). Join a local diabetes support group. Check out reputable web sites like that of the CDA (www.diabetes.ca). And while you're there have a look at the web page (www.diabetes.ca/about-diabetes/living/cpg-toolkit) where you can find the tools that the CDA Clinical Practice Guidelines Committee has created to help people living with diabetes determine if they are at risk of a heart attack or stroke and what to do to lower that risk. Also, key an eye

out over the next few years as this committee develops and shares additional tools to help people living with diabetes take charge of their health. Just like my favourite motto goes: "Rule your diabetes, don't let it rule you."

Ian Blumer is a diabetes specialist practicing in the Greater Toronto Region. He is the author of *Diabetes for Canadians for Dummies* and is the Chair of the Canadian Diabetes Association 2008 Clinical Practice Guidelines Dissemination and Implementation Committee. He can be found on the web at www.ourdiabetes.com.

Dr. Blumer has neither reviewed nor endorsed the remaining contents of this diabetes supplement.

“It is to know how to eat healthfully... It is to know what exercise to do... It is knowing whether or not you're at a healthy weight... It is knowing what your blood glucose levels should be.”

DISCLAIMER: Dr. Ian Blumer, the author of the preceding piece, has neither reviewed nor endorsed any of the other statements or products within this publication.

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Diabetes 101

BY: BETH MAHER

The statistics are startling: There are currently more than two million Canadians living with diabetes, a tally that is expected to reach three million in the new year.

Scarier yet, diabetic adults are twice as likely to die prematurely, as compared to people without the disease. In fact, diabetes is a contributing factor in the deaths of approximately 41,500 Canadians each year.

Or maybe that doesn't surprise you. These days, it seems as though most everyone knows someone with the disease—a friend, a parent, a co-worker. But how many people actually know what diabetes is?

Understanding diabetes begins with an understanding of insulin. Insulin is a hormone produced by the pancreas that helps the body control the amount of

glucose, or sugar, in the blood. The body derives its daily energy from the production of glucose. In the case of diabetes, glucose builds up in the blood instead of being used for energy. Over time, high blood glucose levels can lead to all sorts of serious complications, including blindness, heart disease, kidney problems, nerve damage and erectile dysfunction.

There are three types of diabetes: Type 1, Type 2 and gestational.

Type 1

Type 1 diabetes is marked by the pancreas' inability to produce any insulin at all. Approximately 10 per cent of people with diabetes are diagnosed with Type

1, usually as children or teens. Unfortunately, the cause of this strain is unknown, but with insulin therapy, proper medical care, a balanced diet and regular exercise, people can still go on to live long and healthy lives with the disease.

Type 2

With Type 2 diabetes, although the pancreas does produce insulin, either it does not generate enough of the hormone, or the body is unable to properly use the insulin that the pancreas makes. Type 2 accounts for 90 per cent of diabetes cases in Canada. It is a progressive, lifelong condition, which must be closely monitored. As time goes on, it can become more and

more difficult to keep blood glucose levels within the target range, so treatment plans must be ever evolving. That said, like Type 1, Type 2 diabetes is manageable through diet, exercise and medication, if necessary; better yet, unlike Type 1, Type 2 diabetes is preventable. The risk factors for Type 2 are well known (e.g. obesity, high blood pressure, high cholesterol) and easily combated. See "Get with the Program" on page TK for more information on diabetes prevention.

Gestational

Gestational diabetes mellitus (GDM) is defined as the onset of high blood glucose (hyperglycemia) during pregnancy. Placental hormones impair the woman's ability to use insulin, causing glucose levels to rise. The condition affects 3.7 per cent of expectant mothers in Canada,

though that number is higher in Aboriginal populations. GDM carries with it some unique risks to both mom and baby. Among them are an above-average birth weight (which increases the likelihood of Caesarean section); dangerously low glucose levels (hypoglycemia) and high insulin levels (hyperinsulinemia) in baby postpartum; and an increased risk for Type 2 diabetes later in life for mom. However if promptly diagnosed, GDM can usually be managed through simple lifestyle changes, and mom's glucose levels should return to normal shortly after birth.

diabetes noun 1 a potentially fatal disease characterized by the body's inability to produce and/or use insulin, resulting in a buildup of glucose in the blood. 2 a growing global epidemic affecting an estimated 246 million people worldwide.

Blood Glucose Monitoring FAQs

BY: BETH MAHER

Q: What are blood glucose meters?

A: A blood glucose meter is a device designed to allow patients—at home or on the go—to determine the amount of sugar in their blood (blood glucose) at any given time. When used properly, they can be an extremely helpful self-management tool for people with all types of diabetes.

Q: Why is it important that I test my blood glucose regularly?

A: Regular blood glucose testing not only helps your diabetes care team to better direct your treatment by exposing the strengths and weaknesses of your current plan, but also empowers you to immediately make minor adjustments to your lifestyle based upon the results. If, for example, you notice that your blood sugar has risen well above target after a big spaghetti dinner, you may think twice before helping yourself to such a large portion the next time or you may choose to avoid pasta all together. If after making these changes, your levels remain elevated, you can bring that data to your doctor, who will modify your treatment plan accordingly.

Q: What is the cost involved?

A: In addition to the meter, one must also consider the ongoing expense of test strips and lancets. Their prices vary widely from pharmacy to pharmacy. Most meters (available at your local drug store) have a

suggested retail price of \$35 to 45, but some manufacturers offer theirs for free with the purchase of test strips. Specialty meters (e.g. continuous monitoring systems, devices for the visually impaired) boast significantly higher price tags. Your province or territory may subsidize the cost of monitoring supplies. Contact your local Canadian Diabetes Association branch for more information (diabetes.ca).

Q: How do I know which blood glucose meter is right for me?

A: The wide range of meters can be overwhelming at first. Some boast large displays (great for the visually impaired), while others light up (great for testing in the dark). Techies may love being able to download their results to their PC, while less computer-savvy users may appreciate the simplicity of a more basic model. Consider your needs and abilities carefully before making a decision.

Q: Okay, I have a meter. Now how do I use it?

A: 1) Wash your hands. 2) Insert a test strip into the meter. 3) For the most accurate reading, draw blood from the side of your fingertip. 4) Gently squeeze your finger until a drop of blood forms. (Different meters require different sample sizes.) 5) Hold the edge of the test strip to the drop of blood and wait for the result to appear. 6) Record the reading in your logbook

along with the date, time and whether the test was done before or after eating. Once a year, be sure to check your meter's accuracy against a laboratory measurement. Yours should be within 20 per cent of the lab's reading. (Note: Every meter is different, so refer to your user's manual before you begin testing.)

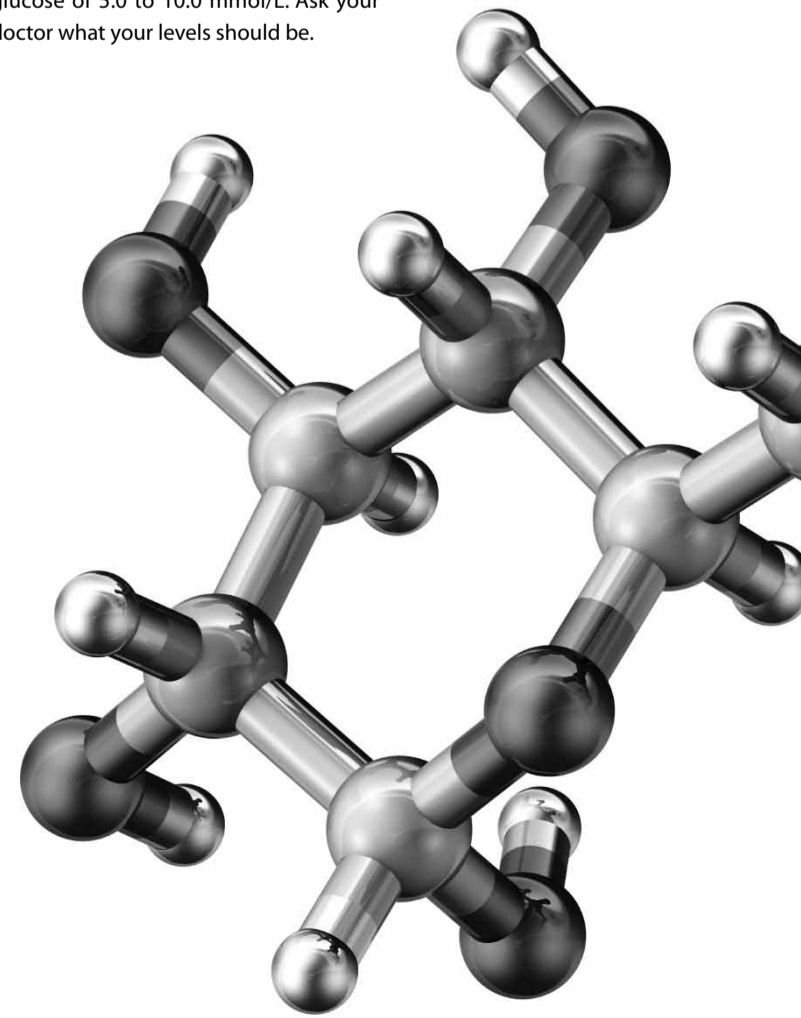
Q: How often should I test my blood glucose?

A: The Canadian Diabetes Association recommends that people with Type 1 diabetes check their blood glucose at least three times a day and include both pre- (fasting) and post-meal (postprandial) readings; Type 2, at least once a day if they're insulin-dependant. However, all people with diabetes can benefit from frequent testing. Diet, exercise, medication, illness and stress can all have an effect on the results, so it is helpful to test at various times of day. The more often you test, the better you'll be able to manage your blood glucose levels. By limiting the day-to-day highs and lows, you'll reduce your risk of future complications. Your doctor can help you determine your ideal testing schedule.

Q: What should my blood glucose targets be?

A: Target ranges vary from person to person, but most people with diabetes should aim for a fasting blood glucose of

4.0 to 7.0 mmol/L and postprandial blood glucose of 5.0 to 10.0 mmol/L. Ask your doctor what your levels should be.



Operation: Weight Loss

Diabetes doesn't have to be a life sentence. In fact, there is a way to get rid of it once and for all. But freedom from the disease doesn't come cheap; you're going to have to work for it.

Dr. Christopher Cobourn holds in his hands a potential cure for Type 2 diabetes. It doesn't look like much—a coil of silicone tubing, more or less—but the Allergan Lap-Band® System can actually send the disease into remission. Gastric banding has been a viable surgical weight-loss option in Canada for over a decade, but it was only recently that Health Canada approved the Lap-Band®, the device used by Cobourn at his Mississauga-Ont. clinic, Surgical Weight Loss Centre (SWLC; obesitysurgery.ca), as a treatment option for Type 2 diabetes. This endorsement comes as a result of a study published in *The Journal of the American Medical Association* in 2008, which found that 73 percent of Lap-Band® recipients with an initial body mass index (BMI) of more than 35 experienced remission of their Type 2 diabetes within two years of the procedure. Although the Lap-Band®'s approval by Health Canada does not represent any change in funding (unlike gastric bypass, which is covered by provincial health-care programs, gastric banding is not an insured service in Canada), it is still exciting news for obese Canadians with Type 2 diabetes.

"People think that once you have diabetes, you always have diabetes," says Cobourn, who has performed more than 1,500 Lap-Band® operations himself. "Those of us in the surgical world have known for a long time that significant weight loss puts [Type 2] diabetes into remission."

The procedure is quite non-invasive: The surgeon enters the abdomen through a series of punctures and creates a tunnel around the upper part of the stomach to accommodate the Lap-Band®. The inflatable band is sutured in place, creating a small pouch in the upper part of the stomach with the remainder of the organ below. At SWLC, the largest

Lap-Band® clinic in Canada, the procedure takes under an hour, and the patient typically returns home the same day.

The Lap-Band® stimulates weight loss through portion control. As food fills the pouch created by the band, the stretch receptors in the upper-stomach wall send a message to the brain, which the brain interprets as if the entire stomach was full. As a result, the patient achieves a feeling of satiety with a smaller portion of food. The sensation of fullness is maintained as the food passes across the restricted opening to the lower part of the stomach at a slower, controlled rate. Unlike some surgical obesity treatments (e.g. gastric bypass), there is no change to the digestion process or reduction in nutrient absorption.

The Lap-Band® can and should be adjusted periodically to ensure proper function. The band itself is connected by tubing to a small port, which is placed underneath the skin and fat of the abdomen during surgery, making it easily accessible post-op. "If food is crossing that narrow part of the stomach too fast and patients are getting hungry again quickly," says Cobourn, "we can inject a little saline into the port, which inflates the band, tightening it up so it slows down the transit of food and reestablishes that feeling of satiety."

Although standard risks of surgery under general anaesthesia still apply, on the whole, the Lap-Band® procedure is much safer than gastric bypass. But in order for it to work, it requires two things that are not mandated by bypass: ongoing medical support and patient compliance. "If they don't choose to change the way they eat [eating smaller portions, eating slowly, chewing well] or are unable to come back [for band adjustments], they won't get the success they hope for," says Cobourn. "The advantage of gastric bypass from the patient's point of view

BY: BETH MAHER

is that they're pretty well guaranteed to lose weight. They really don't have to be as committed as they do with the Lap-Band®, nor does it require the intensive long-term follow-up."

Most of Cobourn's Lap-Band® patients have worked hard to lose weight through lifestyle changes but haven't been able to achieve lasting results. "Our patients come to us and say 'I'm tired of losing weight and gaining it all back again.' And we say, 'If you're willing to commit to this program and change the way you eat, then the Lap-Band® will work for you.'"

"One of the advantages of having patients be financially involved in their healthcare," says Cobourn (the Lap-Band® program at SWLC costs \$16,000), "is that they are committed. If patients get the surgery at no cost [to themselves], the results aren't as good. If they run into problems, there's a risk of them saying, 'Oh, just take this thing out and do a bypass.'"

The important thing for people with Type 2 diabetes to remember is the value of the sustained weight loss offered by surgery—be it Lap-Band® or gastric bypass. "That's the message that needs to get out there," says Cobourn, "to give people the knowledge that Type 2 diabetes can be put into remission with surgery. If you need to do it with a gastric bypass, that's fine; if you do it with a Lap-Band®, that's fine, too." It doesn't matter how you take the weight off, what matters is that you take it off for good.

“But in order for it to work, it requires two things that are not mandated by bypass: ongoing medical support and patient compliance.”



Dr. Christopher Cobourn

Lap-Band® in Brief

What?

A laparoscopic surgical procedure for the treatment of obesity.

How?

An adjustable silicone band placed around the upper part of the stomach limits the amount of food that can be consumed at one time.

Who?

Severely obese people (35+ BMI) or obese people with weight-related health issues (e.g. diabetes).

How much?

Approximately \$16,000.

Where?

Private surgical weight-loss centres.

Do you have diabetes?

Do your part...protect your heart!

Are you at high risk of heart attack and stroke? Check the items below that apply to you.

- I am a man 45 years old or older or a woman 50 years old or older
- I am over 30 years old and have had diabetes for more than 15 years
- I have problems with circulation:
 - I have had a heart attack, coronary bypass surgery or angioplasty for blocked heart blood vessels
 - I have chest pain with exercise
 - I have leg pain when walking
 - I have had surgery for blocked blood vessels (arteries) in my legs
 - I have had a stroke, transient ischemic attack (TIA) or "mini-stroke"
- My diabetes has affected my eyes, kidneys and/or nerves:
 - My eye doctor tells me that diabetes has affected the back of my eyes (retinopathy)
 - My doctor found some protein in my urine (nephropathy)
 - I have pain or numbness of my feet due to diabetes (neuropathy)
- I have other risk factors for heart attack or stroke:
 - I smoke cigarettes
 - I have high blood pressure
 - I have high cholesterol
 - I have a family history of heart attacks or strokes in a close relative (who was a man under 55 or a woman under 65)

If ANY of the above items applies to you, your risk of heart attack or stroke or other problem related to hardening of the arteries may be more than 15 to 20% over the next 10 years, and you should take steps to reduce the risk.

Ask your doctor about the following to REDUCE your risk of heart attack and stroke:

- Blood glucose control (A1c blood test of 7% or lower)
- Blood pressure control (BP lower than 130/80 mmHg)
- Cholesterol-lowering medication (LDL of 2.0 mmol/L or lower, TC/HDL ratio lower than 4.0)
- ACE-inhibitor or ARB medication
- Aspirin (if you have had a heart attack or stroke)
- Quit smoking
- Regular physical activity
- Maintaining healthy diet and body weight

Tips to Prevent Type 2 Diabetes

The National Diabetes Education Program's "Small Steps, Big Rewards" campaign offers this advice in its brochure "Your Game Plan to Prevent Type 2 Diabetes," which you can see at www.ndep.nih.gov:

- Set a weight-loss goal
- Aim to lose 5–10 per cent of your current weight. For a 250-pound person, that would mean a loss of 12.5 to 25 pounds.
- Weigh yourself at least once a week, and track your progress.
- Eat healthy foods
- Reduce portion sizes. Use smaller dinner plates to make less food look like more.
- Eat slowly—it takes about 20 minutes for your stomach to tell your brain that it's full.
- Move more
- Start with a five-minute walk or other fun activity, and add minutes until you're up to at least 30 minutes of moderate-intensity activity at least five days a week.
- Walk the dog. Park a distance from the store. Dance around the room while watching TV or cleaning the house.

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Taking Control

Personal responsibility and diabetes management go hand-in-hand

BY: DANA YATES

According to Nancy Teskey, living well with diabetes requires individuals to play an important role: the self manager.

Taking charge of your diabetes is called self management. You're in the driver's seat, and you can prevent or delay diabetes-related complications," says Teskey, a registered nurse and a certified diabetes educator in the diabetes education program at Toronto's Sunnybrook Hospital. Last month, Sunnybrook hosted a public seminar on diabetes. The event featured a series of presentations, including one by Teskey that offered tips on how to manage this chronic condition. Exercise topped the list. In fact, the Canadian Diabetes Association (CDA) recommends that everyone get a minimum of 150 minutes of moderate-to-vigorous-intensity exercise, including brisk walking,

running or swimming, each week. But what if five or 10 minutes of exercise is all you can do each day? That's OK, says Teskey. "Start wherever you can and build from there." She also recommends that people with diabetes take their prescription medication and eat nutritious, balanced meals. Both activities will help regulate blood glucose. On that note, it's important to use a blood sugar meter to measure levels just before meals and two hours afterward. And for those taking insulin, the CDA recommends that blood glucose levels be tested at least three times daily. Moreover, seemingly small details, such as varying the testing times and writing down the results, can make a big impact.

"If you only check your levels before breakfast, you won't get the full story or see any patterns," Teskey says. "You need to know if your blood sugar levels are out of range so you can explore solutions or seek help." To that end, Teskey also recommends knowing the ABC's of diabetes. A1C is a blood test that should be conducted every three months. Blood pressure and cholesterol levels should also be carefully monitored. The same is true of stress, which can alter blood glucose levels in two ways. First, stress hormones may directly affect blood sugar levels. Second, stress leads people to make poor food choices, exercise less and drink more alcohol—all

of which can influence levels of blood glucose. That said, it's important to find ways to decrease stress. Examples include volunteering or taking up a new hobby. And while solutions will vary, Teskey advises those with diabetes to find unique ideas

that will work in their own lives. The bottom line: when it comes to successfully managing diabetes and making behavioural changes, the key is to set small and specific goals. "When you are assessing and reflecting, you are taking charge of your health," Teskey says.

Put Your Best Foot Forward

Diabetes causes sensory damage in the feet that can make it difficult to feel cuts or blisters. Consequently, small issues can quickly become major problems. To avoid infections and serious complications, follow these helpful tips:

- Inspect feet daily for cracks, ingrown toenails, etc.
- Wear clean socks and well-fitting shoes
- Exercise regularly to improve circulation
- Elevate feet when sitting
- Wear socks at night if feet get cold

For more information, visit the Canadian Diabetes Association at www.diabetes.ca



High-Tech Maintenance

The latest and greatest gadgets for keeping your diabetes on the level.

BY: BETH MAHER

Accu-Chek Aviva Nano

The newest blood glucose meter from Accu-Chek boasts big features for such a small package, including post-meal test reminders, a 500-reading memory capacity and a large, backlit display that's easy to see even in low light. With a five-second test time, it's a speedy, little meter as well, thanks to the fast-fill strip and minimal sample requirement (just 0.6 microlitres).

\$34.99 (free with purchase of 100 strips); accu-chek.ca
Guardian REAL-Time Continuous Glucose Monitoring System
 Reap the benefits of continuous glucose monitoring, day and night, with the Guardian REAL-Time. Its small sensor fits comfortably under the skin, where it continuously measures glucose levels, uncovering trends often missed by finger-

stick testing. \$2,000; pumptherapy.ca

Lantus ClikSTAR

Sanofi-aventis has gone green with their brand new reusable insulin pen, the Lantus ClikSTAR. In a recent international study, patients found the ClikSTAR easier to use than similar models when it came to replacing cartridges and dialing dose-Free with Lantus insulin; sanofi-aventis.ca

OneTouch Ping

Like other insulin pumps, the OneTouch Ping offers sweet freedom from the shackles of multiple daily injections. But unlike other pumps, this precise waterproof system delivers the smallest basal and bolus increments available (0.025 and 0.05 U/hr, respectively). Plus, the handy meter remote allows for wireless control of pump functions as well as blood glucose testing. \$6,995; animas.ca



Am I at Risk?

BY: DANA YATES

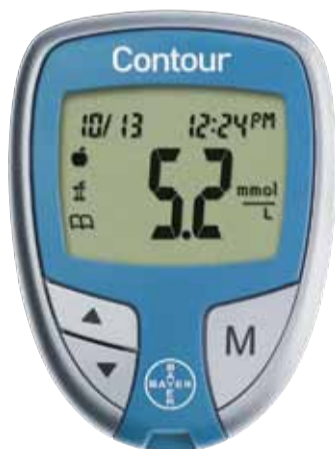
Researchers don't know exactly what causes Type 1 diabetes. There is more information known, however, about the risk factors associated with Type 2 diabetes:

- Having a parent, brother or sister with diabetes
 - Being a member of a high-risk group (Aboriginal, Hispanic, South Asian, Asian or African descent)
 - Having health complications that are associated with diabetes
 - Giving birth to a baby who weighed more than four kilograms (nine pounds) at birth
 - Having gestational diabetes (diabetes during pregnancy)
 - Being told that you have impaired glucose tolerance or impaired fasting glucose
 - High blood pressure
 - High cholesterol or other fats in your blood
 - Being overweight (especially if you carry most of your weight around your middle)
 - Being diagnosed with any of the following conditions:
 - Polycystic ovary syndrome
 - Acanthosis nigricans (darkened patches of skin)
 - Schizophrenia
- If you are at risk for Type 2 diabetes, it's important to be tested. If the condition is left untreated or is improperly managed, the following conditions can result:
- Heart disease
 - Kidney disease
 - Eye disease
 - Problems with erection (impotence)
 - Nerve damage

“If you are at risk for Type 2 diabetes, it's important to be tested.”

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* With purchase of test strips. † No maltose and galactose interference. 1. Bayer Inc., Internal data 08/08 - 08/09
 Offer expires February 28, 2010. Not valid with any other offer. Offer valid only in Canada while supplies last and void where prohibited by law. Coupon is good for one BREEZE[®]2 blood glucose monitoring system or one CONTOUR[®] blood glucose monitoring system at no charge with purchase of BREEZE[®]2 or CONTOUR[®] test strips when submitted with fully completed warranty card. Offer valid for end-users only. Limit one coupon per customer, original coupons only. Provincial law may require the retailer to charge the applicable tax on the full value of the purchase before the reduction of the coupon value.
 To the Retailer: Please attach this coupon to the warranty card from the BREEZE[®]2 or CONTOUR[®] blood glucose monitoring system. Only original coupons accompanied by completed warranty cards will be reimbursed. Bayer Inc. will reimburse you the published MSRP to a maximum of \$40 for BREEZE[®]2 or \$45 for CONTOUR[®]. Application for redemption on any other basis may constitute fraud and we reserve the right to void this coupon. Reimbursement will be made only to the retailer who redeemed the coupon, who represents the meter was provided free of charge, and who, upon request, provides evidence that sufficient stock was purchased by them to cover the coupons submitted, which become our property. For redemption, contact your Bayer Representative, or mail to: Bayer HealthCare, Diabetes Care Division, P.O. Box 3000, Saint John, N.B. E2L 4L3
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N-TSN-09

An Emotional Experience

BY: DANA YATES

Being diagnosed with diabetes can stir up many feelings.

When Stephanie Simpson was told she had Type 1 diabetes at age 16, it took awhile to grasp the implications of her diagnosis.

"I was in denial for a couple of months," she admits. "But I finally 'got it' at the end of the school year when my friends were going to celebrate by getting slushies—and I realized that I couldn't have one right then."

Simpson's response is a common one, according to Nancy Teskey, a registered nurse and certified diabetes educator with the diabetes education program at Sunnybrook Hospital in Toronto. In fact, regardless if you're dealing with Type 1 or Type 2 diabetes, the process is not unlike doing grief work—it can bring about a range of emotions.

"The diagnosis can come as quite a shock. And it can take some time to move from denial to 'OK, I have this' to making lifestyle changes," Teskey says.

According to the Canadian Diabetes Association, it's normal to feel disbelief, fear, anger and anxiety upon being diagnosed. One way to reduce those feelings is to learn as much as possible about your condition. Simpson, now 28, did just that. Through her local hospital in Sarnia, Ont., she learned how to control her blood sugar and later joined a group for teens with diabetes.

That kind of support can be helpful, especially since several studies have shown that diabetes doubles a person's risk of developing depression. In turn,

depression can negatively affect one's ability to effectively manage their condition. Attending support groups and/or talking to a health professional may help to ease the emotional burden.

For Simpson, meanwhile, it took several years before she fully accepted the responsibilities associated with diabetes. "I eventually realized that it's all on me to determine how healthy I will be," she says. "I'm only hurting myself if I don't monitor my blood sugar, take my insulin injections and eat right."

"... several studies have shown that diabetes doubles a person's risk of developing depression."

Eat Well, Live Well

BY: DANA YATES

Preparing healthful, tasty food is easy with these tips from the Canadian Diabetes Association.

1. Plan your work, work your plan

Making weekly menus will help ease your busy schedule and enable you to try new recipes.

2. Write it down

A grocery list will keep you on track in the supermarket. Find nutritious ingredients for your menus and avoid "impulse buys," such as chips and sweets.

3. Be bold!

With fruit and vegetables, the general rule is the darker the colour, the higher the nutrients. Buy in-season produce for the greatest flavours. Frozen fruit and vegetables are economical options, as are canned versions – just watch for syrups and salt.

4. Prepare your kitchen

Inexpensive tools make low-fat food

preparation a breeze. Look for a vegetable steamer, a pan with a rack that lets fat drip away from meat, and sharp knives that make it easy to trim fat and slice meat thinly.

5. Skip the fat

Use cooking methods that don't add extra fat to your meal. Instead try steaming, baking, broiling, grilling, microwaving and barbecuing your food.

6. Revise favourite recipes

Look for ways to eliminate high-fat ingredients. Reduce the amount of meat in casseroles by adding brown rice, bulgur or tofu. Use smaller amounts of stronger cheeses to get the same flavour of larger amounts of milder cheeses.

7. Spice it up.

Kick up the flavour of your dishes with

parsley, sage, rosemary, thyme, cloves, nutmeg and cinnamon.

8. Try vegetarian meals.

Wonderful, meatless dishes are waiting to be sampled. Try Indian-style dahl (lentils) or add kidney beans to your favourite soup.

9. Rethink the plate

For a well-balanced meal, divide your plate like this: ½ vegetables, ¼ starch and ¼ protein. Drink milk and then have fresh fruit for dessert.

10. Avoid portion distortion

Serve food on smaller plates. And when you "splurge" on a treat, think single-sized containers, mini chocolate bars and small bags of chips, not king-sized indulgences.



Food For Thought

Proper nutrition is vital to managing blood sugar.

Fact or myth: people with diabetes must follow a special diet. If you answered fact, you're not alone, says Registered Dietitian Jill Zweig.

"That's a big misconception," she says. "The truth is the same principles [of healthful eating] that apply to people with diabetes also apply to the general population."

It's a lesson that Zweig frequently shares with clients in the diabetes education program at Toronto's Sunnybrook Hospital. As a certified diabetes educator, Zweig teaches people how to make healthful food choices. That means following Canada's Food Guide, selecting high-fibre and low-fat foods, and eating portion-controlled meals at regular intervals. But contrary to popular belief, sugar isn't a definite no-no.

"It's about moderate portions," Zweig says. "There's really nothing that people with diabetes can't have, but they do need to ask themselves 'what am I eating? How much am I having? And when or how

often am I having it?'"

The result, she says, is a balanced approach to diabetes management—and the benefits are significant. They include minimizing fluctuations in blood glucose levels, helping to achieve weight loss, supporting overall health, and lowering the risk of developing cardiovascular disease and other problems associated with diabetes.

The first step on the road to optimal health is paying attention to your carbohydrate intake. Although carbs have been demonized by celebrity diets, this critical source of energy plays an essential role in regulating blood sugar. On that note, Zweig recommends that everyone consume between 25 to 50 grams of fibre each day. Food such as whole-grain cereal and bread, and whole wheat pasta will help you achieve that goal.

BY: DANA YATES

Next up is protein. Zweig advises limiting your daily protein intake to between five and eight ounces (141 to 226 grams). To that end, select lean meat with little or no added fat or salt. Frequently replace meat with peas, beans and lentils. And each week, eat at least two servings of fish (e.g. char, herring, salmon, trout, sardines and mackerel).

Finally, Canada's Food Guide recommends that 19-to-50-year-old women eat seven to eight servings of vegetables and fruit each day. Men in the same age group need slightly more, at eight to 10 servings. And both males and females over age 51 require seven servings.

Moreover, the type of veggies and fruit you choose makes a difference. Every day, eat at least one dark green vegetable (e.g. broccoli, romaine lettuce and spinach) and one orange vegetable (e.g. sweet po-

tato, carrots and winter squash). Choose more fresh and unprocessed vegetables and fruit that have been prepared with little or no added fat, sugar or salt. And, more often than not, select vegetables and fruit over juice.

Along the way, keep your eyes open for hidden sources of fat and salt in food. For example, a 2004 community health survey indicated that Canadian adults consume an average of nearly 3,100 milligrams of sodium daily, more than double the recommended level.

In spite of helpful guidelines, however, Zweig admits that it still can be challenging to eat right. She attributes the problem to advertising and society's super-sized outlook on food. For proof, she points to a few examples: muffins now have the same proportions as mini cakes, sandwiches are measured in feet, and the size of dinner plates and glasses has grown considerably. Even a large bag of movie popcorn, measuring in at more than 20 cups, contains more than seven

times the recommended amount.

"Within this context, healthful eating is considered abnormal," Zweig explains.

Another concern is that we see food as far more than just nutrients. Instead, we reach for food when we're frustrated, sad and bored or when we want to celebrate.

"These are learned behaviours and associations, and they are tough to change," Zweig says. "Just consider how you feel when you think about broccoli as compared to a hot-fudge sundae."

So, in the face of these struggles, how is a well-intentioned person supposed to choose the best foods? Recognizing the challenges is important, Zweig says. As is identifying the barriers to eating right, brainstorming solutions and, if necessary, working with a dietitian to set goals.

"Any solution needs to be tailored to fit your life," she says. "We need to reflect [on our choices] and make changes all of the time."

For a copy of Canada's Food Guide, visit www.healthcanada.gc.ca/foodguide



New Del Monte packed in water Fruit Cups,
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Try them all!

Proceed With Caution

BY: DANA YATES

Prediabetes is an alarm that demands to be answered

If diabetes signifies that your body is on high alert, prediabetes is akin to an early-warning system. And while not everyone with prediabetes goes on to develop diabetes, many people do. That's why it's important to take a prediabetes diagnosis very seriously.

But what exactly is prediabetes? Simply put, it means that you have higher-than-normal blood glucose levels. But just because you don't meet the threshold for Type 2 diabetes doesn't mean the all-clear has sounded. Research indicates that heart disease and nerve damage—just two of the long-term complications of diabetes—begin during prediabetes.

Moreover, the condition can take you by surprise. Therefore, it's crucial to know the risk factors (see "Am I at risk?") and have your blood glucose levels tested. This is especially true if you have high blood pressure; a tendency toward abdominal obesity; high levels of triglycerides and low-density lipoprotein cholesterol (LDL-C, also known as "bad" cholesterol); and

low levels of high-density lipoprotein cholesterol (HDL-C or "good" cholesterol).

So how can you silence the alarm bells of prediabetes? While some risk factors, such as age and genetics, cannot be changed, many others can be controlled. In fact, by taking the right steps, you can delay and even prevent the development of Type 2 diabetes.

The key is to manage your blood glucose levels by increasing your physical activity and enjoying nutritious, low-fat meals. Another solution is to lose a modest amount of weight, roughly five to 10 per cent of total body weight. Your doctor may also want to address any cardiovascular risk factors, including smoking, and high blood pressure and cholesterol.

If lifestyle changes, however, aren't

enough to return your blood glucose levels to normal, medication can help. Both metformin and acarbose have been proven effective in preventing Type 2 diabetes among individuals with prediabetes.

Finally, remember this: a diagnosis of prediabetes doesn't mean that diabetes is inevitable. By staying informed, getting your blood glucose levels tested, eating healthfully and exercising regularly, you can make a big difference for your health and quality of life.

“...manage your blood glucose levels by increasing your physical activity...”

Self-Managed Care

BY: BETH MAHER

You have the power to take control of your diabetes

Once upon a time, there was a patient with long-standing diabetes, who had diminished pain perception in their feet. Although their doctor warned them repeatedly to inspect their feet daily and seek urgent medical attention if they noticed anything was wrong, they didn't heed his advice. When the patient finally came to see the doctor, he discovered a huge ulcer on the patient's foot, which was terribly infected, all the way down to the bone.

Unfortunately, the doctor had no choice but to amputate; the infection had progressed too far. Another patient with diabetes, who checked their feet daily, also noticed an ulceration on their foot and immediately contacted the doctor. There was an early infection, probably no more than a day or two old. The doctor treated it right away with antibiotics and foot care. The wound healed up within a few weeks, and the patient's foot was saved.

Sadly, this is no hyperglycemic Aesop's fable. It is the real clinical experience of Dr. Ian Blumer (ourdiabetes.com), a diabetes specialist on a mission to educate people on the importance of patient empowerment both through his work as chair of the Dissemination and Implementation Committee for the Canadian Diabetes Association's 2008 Clinical Practice Guidelines as well as through his own medical practice in Ajax, Ont.

"Both of those patients had the same lack of sensation, the same initial problem. Everything was the same except one knew what to do and did it, and one didn't," says Blumer. "We've got these

fancy new drugs that cost thousands of dollars, but that's not where the big impact on society is. The big impact, for most people, is through simple things: seeing their eye doctor once a year, getting their blood pressure checked and making sure it's kept within target, checking their feet everyday. Simple things. Not the fancy, high-tech gadgetry, not the newest drug on the block."

The therapeutic power that patients possess truly sets diabetes apart from other afflictions. Take appendicitis, for example. "There's really not much you as an individual having the condition can do," says Blumer. "Basically, you put your trust and faith in the surgeon and anaesthetist. The role of the patient is fairly passive. Diabetes isn't like that. Success with diabetes is largely predicated on being actively engaged and participating in the management of your healthcare. Unlike so many other diseases, with diabetes, the more you know about how to look after yourself and the more you employ those

techniques, the better you're likely to do."

So what does an empowered patient look like? Says Blumer: "It's someone who knows what healthy eating means (what percent of their diet should be carbohydrates versus fats versus proteins); who knows what weight they should strive for; who knows how much exercise to do, what's a healthy type of exercise, what's less helpful; who knows how often they should see their eye doctor; and who knows what their blood sugars should be."

"It takes a lot of energy—intellectual, emotional and physical—to manage one's diabetes," says Blumer. "It's a challenge to get people to buy in." But the benefits make it worth all the effort. For one, you'll feel better. It's as simple as that. Two, you can prevent complications from developing. "People tend to minimize the importance of diabetes if day-to-day they feel fine," says Blumer. The danger being that potentially serious complications—eye damage, foot problems, cardiovascular issues—could be developing in the absence of symptoms. Fortunately, 70% of complications are preventable if the person with diabetes is engaged and works actively with their doctor to manage their care. Even when complications do arise, proactive behaviour on the patient's part can actually minimize their progression. "If someone has early eye damage, through regular eye care, blood pressure control, etc., they can prevent it from getting worse," says Blumer. "It's never too late to take control."

“It takes a lot of energy—intellectual, emotional and physical—to manage one's diabetes,” says Blumer. “It's a challenge...”



Dr. Ian Blumer

10 Simple Things You Can Do To Take Control

1. Test your blood glucose levels regularly and learn how to interpret the results.
2. Check your feet daily for signs of injury.
3. Read Dr. Ian Blumer and Dr. Alan L. Rubin's book, *Diabetes For Canadians For Dummies* (For Dummies, 2009), now in its second edition.
4. Get your blood pressure checked whenever you stop by the drug store and track the results.
5. Go for a 30-minute walk everyday.
6. Join a diabetes support group in your community or online.
7. Keep a written record with you listing all your medications.
8. Bring a list of key issues you'd like to address to every doctor's appointment.
9. Subscribe to the Canadian Diabetes Association's e-newsletter and quarterly magazine, *Diabetes Dialogue*.
10. See an eye doctor once a year.

ADVERTORIAL

Cardiovascular Self-Assessment Tool

BY: ALICE Y.Y. CHENG, MD, FRCP(C)

Protect Your Heart, Do Your Part:

What is your risk of cardiovascular disease?

If you are living with diabetes, it is important that you understand your risk of developing cardiovascular disease and how to protect yourself from complications such as heart attack and stroke. Cardiovascular disease affects the heart and blood vessels, and remains the number one cause of death for Canadians living with diabetes.

This tool was developed by the Canadian Diabetes Association to help you identify and reduce your level of risk. Given that there is much that can be done to lower the risk of heart attack and stroke, it is important that those most at risk are identified.

Take the time to complete the questionnaire at:

<http://www.diabetes.ca/for-professionals/resources/cpg-toolkit/>

and bring it with you to your next appointment with your doctor or diabetes team!

Canadian Diabetes Association

The Canadian Diabetes Association has neither reviewed nor endorsed the remaining contents of this diabetes supplement.

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ABC's of Diabetes Management

BY: BETH MAHER

The key to living with diabetes is managing diabetes. It may not be as easy as mastering your ABC's, but keeping these three measures on target is surely worth the effort as it will help to reduce your risk of long-term complications.

A is for...A1C

The A1C test takes an average of your blood glucose levels over the previous 120 days. In diabetes management, A1C is kind of like your seasonal batting average; rather than a play-by-play, it gives a good indication of how well your treatment plan is working overall. The Canadian Diabetes Association recommends that A1C be checked every three months with a simple laboratory blood test. For most people with Type 1 or Type 2 diabetes, the target A1C is seven per cent or less. Keeping blood glucose levels under control has

been shown to reduce the risks of heart attack and stroke, as well as microvascular complications, such as eye disease, kidney disease and nerve damage. Although A1C is an extremely important part of glycemic management, it is only one piece of the puzzle. To ensure that you're in complete control of your blood glucose levels, you must also self-monitor daily, or in some cases, multiple times per day, using an at-home meter. Self-monitoring fills in the blanks left by A1C, providing short-term information on how your blood glucose responds to certain foods, medications

and activities, allowing you to adjust your day-to-day routine accordingly.

B is for...Blood pressure

Blood pressure is a measure of the force at which blood moves through the vessels. The higher that force, the harder the heart has to work. High blood pressure (hypertension) and the resulting strain placed on the heart are health concerns for all people but should be monitored closely by diabetics in particular as high blood glucose levels can lead to hardening of the arteries and, as a result, hypertension. Compared to those without the disease,

people with diabetes are two to three times more likely to develop heart disease and stroke at an early age. Diabetics are encouraged to keep their blood pressure below 130/80 mm Hg. Note: Hypertension often presents with no symptoms, so it is vital that you have your blood pressure checked regularly, ideally at every visit to the doctor.

C is for...Cholesterol

Managing cholesterol is another important strategy for diabetics to reduce their inflated risk of heart disease and stroke. Cholesterol is a fatty substance naturally

found in the blood. There are two types: LDL (low-density lipoprotein) and HDL (high-density lipoprotein). LDL, the "bad cholesterol," is no friend to your cardiovascular health as it can lead to clogged blood vessels. HDL, on the other hand, otherwise known as the "good" cholesterol, can actually help protect your heart. Generally speaking, people with diabetes should strive for an LDL of less than 2.0 mmol/L or lower and HDL (TC/HDL-C), less than 4.0 mmol/L.

Get with the Program

How do you prevent diabetes?

BY: BETH MAHER

Eat healthily and exercise regularly. That's it.

Yes, diabetes prevention really is that simple. Two large-scale research studies—the Finnish Diabetes Prevention Study and the Diabetes Prevention Program—both found that losing even a modest amount of weight (five to 10 per cent of total body mass) through healthy eating and regular physical activity was the best way for at-risk individuals to avoid a Type 2 diagnosis. In fact, a low-calorie, reduced-fat diet coupled with a moderate exercise regimen (at least 30 minutes, five times a week) showed a 58-percent reduction in the number of people who progressed from prediabetes to diabetes over the subsequent four years. But if failed new year's resolutions have taught us anything, it's that committing to a healthier lifestyle is often easier said than done. Use these tips and tricks to help you get with the

program. They might just save your life.

Do something, anything.

Take the stairs instead of the elevator. Park in the far end of the supermarket lot. Hop off the bus a few steps early and walk the rest of the way. Every little step counts. Even if you don't lose weight, increased physical activity will lower your blood sugar and boost your insulin sensitivity.

Make it a team project.

There's no reason to face this challenge alone. Find a workout buddy in a friend or family member to help keep you motivated. Trade healthy recipes and weight-loss tips with co-workers. Start a walking group in your neighbourhood. With others on your side, you're more likely to stick to the program and achieve your goals.

Start small, dream big.

The race to reclaim your health is a

marathon, not a sprint. Start by taking a five-minute walk around the block, every other day. Gradually add more time until you reach your 30-minute goal.

Remember, variety is the spice of life.

Mix up your workouts so you don't get bored. Sign up for an aerobics class. Go for a swim. Dance around the house. Take a hike. By integrating activities that you enjoy into your exercise routine, you'll make it even easier to succeed.

Slow down!

It takes about 20 minutes for your stomach to let your brain know that you are full. Avoid overeating by taking smaller bites, putting down your knife and fork every once in a while and never eating in front of the TV. Food is meant to be enjoyed. Take the time to savour every bite.

Know your limits.

Reacquaint yourself with Nutrition Facts labels. Look for foods low in satu-

rated and trans fats, sodium (salt) and sugars.

Hold yourself accountable.

The DPP showed that those who kept

a daily log (see sidebar) of their food intake and physical activity were more likely to lose the recommended amount of weight.

Healthy-Living Log

Use this handy chart to keep your health in check and diabetes at bay.

FAT (g)	CALORIES	EXERCISE (min.)	WEIGHT (lbs.)
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			
Weekly Total			

Diabetes Medications: A Primer

BY: BETH MAHER

Even amongst the best doctors, dietician, dentist and pharmacist, you're still the most important member of your diabetes-care team. Use this primer to educate yourself on some of the medication types available.

Alpha-Glucosidase Inhibitors

A.k.a. Acarbose (Glucobay)

What you need to know: Lowers blood glucose levels after meals by blocking an enzyme in the intestines that breaks down carbs into glucose, slowing down absorption and giving the pancreas more time to secrete insulin; may prevent diabetes in at-risk patients; insulin-friendly.

Antiobesity Drugs

A.k.a. Orlistat (Xenical)

What you need to know: Assists in weight loss by impairing fat absorption; should be accompanied by a reduced-calorie diet and regular exercise program; may prevent or delay diabetes in at-risk patients.

Biguanides

A.k.a. Metformin (generic, Glucophage, Glumetza)

What you need to know: Lowers blood glucose levels by helping liver to reduce glucose production and muscles to use glucose from the bloodstream; most prescribed Type 2 medication; may prevent or delay diabetes in at-risk patients; insulin-friendly.

DPP-4 Inhibitors

A.k.a. Sitagliptin (Januvia)

What you need to know: Works by enhancing the effect of incretins, which stimulate pancreas to secrete insulin and reduce amount of glucose made by the liver; expensive.

Glitazones or Thiazolidinediones (TZDs)

A.k.a. Rosiglitazone (Avandia) and pioglitazone (generic, Actos)

What you need to know: Commonly known as insulin sensitizers; may take up to three months to reach full effectiveness; expensive; not insulin-friendly. Avandia may reduce risk of diabetes in at-risk patients.

Insulin

A.k.a. Rapid-acting analogue (Apidra, Humalog, NovoRapid); short-acting (Humulin-R, Novolin ge Toronto); intermediate-acting (Humulin-N, Novolin ge NPH); long-acting basal insulin analogues (Lantus, Levemir); and premixed (Humalog Mix 25; Humalog Mix 25, 50; NovoMix 30;

Humulin 30/70; Novolin ge 30/70, 40/60, 50/50)

What you need to know: Aims to mimic non-diabetic insulin secretion; required treatment for Type 1 diabetes; may be used by Type 2 patients to assist in meeting blood glucose targets; varieties differ in onset of action and when action peaks

Insulin Secretagogues

Insulin secretagogues stimulate the pancreas to secrete more insulin, hence the name. They fall into two classes:

1. Sulfonylureas

A.k.a. Glyburide (generic, DiaBeta, Euglucon), gliclazide (generic, Diamicron Diamicron MR) and glimepiride (generic, Amaryl)

What you need to know: Long lasting taken once or twice daily.

2. Meglitinides

A.k.a. Repaglinide (GlucosNorm) and nateglinide (Starlix)

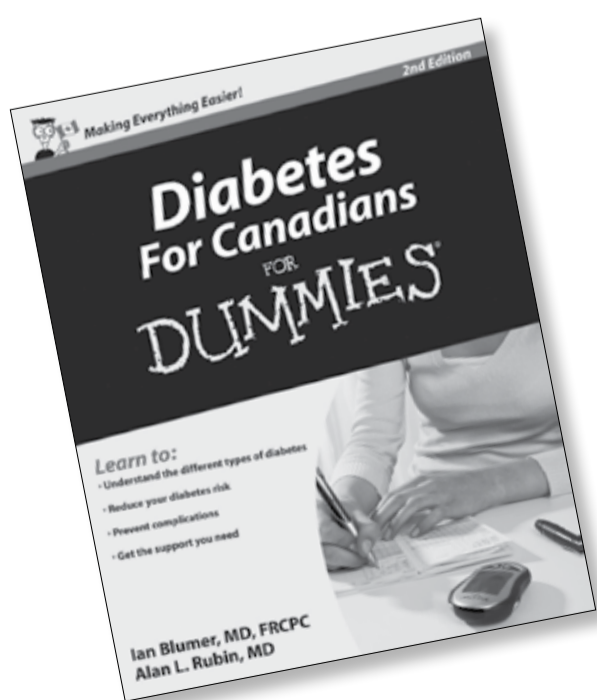
What you need to know: Last four to five hours, long enough to cover meal-times.

For more info and a complete listing of available medications, see "Your Guide to 2009/10 Diabetes Products & Diabetes Medications" at diabetes.ca.



Take Control of Your Diabetes

Filled with expert advice, this essential Canadian resource explores the complex world of diabetes, bringing up-to-date information to your fingertips!



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Gastric Band Procedure

An Effective Option for Losing Weight and Keeping it Off

Link Between Obesity and Type II Diabetes

In Canada, 80-90 per cent of people living with Type II Diabetes are obese. The prevalence of Type II Diabetes is escalating largely due to the increasing incidence of obesity. The good news is that there is now another treatment option for patients trying to manage their disease.

The LAP-BAND® System, a device used in Gastric Banding procedures, has recently been approved by Health Canada to improve or provide remission of Type II Diabetes in Canadians who are obese. The Health Canada approval is based on evidence from a two-year study that showed 73 per cent of patients with the LAP-BAND® System achieved remission of their Type II Diabetes while only 13 per cent of those receiving conventional diabetes therapy did so.

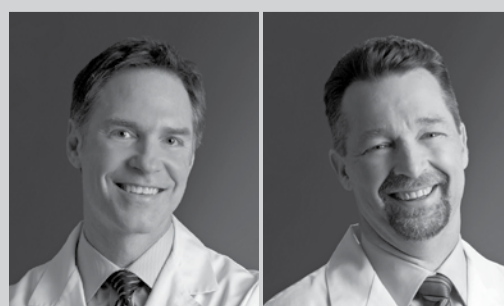
Losing Weight and Keeping It Off With the Gastric Band

The Gastric Band produces a sense of fullness with reduced portions, which results in a reduction of caloric intake and sustained weight loss. Gastric Banding is a minimally invasive laparoscopic procedure, which means recovery time is relatively fast and many of the risks associated with other obesity procedures, such as gastric bypass or stomach stapling are avoided. Once implanted, the band can be adjusted for optimal weight loss and is reversible if required.

To ensure patients reach and sustain their weight loss goals, all SWLC patients receive ongoing support through personalized follow-up and education from an experienced team of surgeons, nurses, patient coordinators, dietician and wellness coach. Patients with a Body Mass Index (BMI) of >30 with or without diabetes are candidates for the SWLC Gastric Band Program.

SWLC – Leading Excellence

Surgical Weight Loss Centre (SWLC) specializes in the medical treatment of obesity and weight loss by delivering safe and effective Gastric Band and Gastric Balloon programs. SWLC is Canada's leader in medically supervised weight loss and has performed over 2,300 successful procedures since the clinic opened in 2005.



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