Preventing & Managing Diabetes and Your Health

2016



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Objectives

- Discuss Types of Diabetes, symptoms and complications. Are you at Risk?
- Discuss your responsibilities in prevention and management of diabetes
- Discuss Components of a Healthy Lifestyle:
 - Healthy Eating
 - Physical Activity
 - Abstaining from Smoking
 - Gathering Resources

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Disclaimer: Medical and other information in this resource is intended as information resource only and does not create any patient-physician relationship. The information is not intended as a substitute for professional medical care and advice. Only your doctor can provide medical advice and diagnose and treat a medical problem.

Discuss Types of Diabetes, symptoms and complications. *Are you at Risk*?

PART 1



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What is diabetes ?



- Diabetes: a complex disease which results in high levels of <u>glucose</u> (type of sugar) in blood.
- Hyperglycemia: refers to high levels of blood glucose.
- Insulin: a hormone produced in the body by the pancreas, it is essential to life since this hormone allows glucose to enter cells in the body so that it can be used for energy.

Our body needs glucose to survive, but too much glucose, overtime, is dangerous*.

*It is the continually high blood glucose that has damaging effect on many tissues in the body, leading to kidney, eye and heart complications.

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What is diabetes ?

Did you know that there are 3 types of Diabetes?

1. Type 1 diabetes

- the body does not make the hormone insulin
- usually, onset is during childhood and adolescence (autoimmune disease)
- individuals need insulin injections to stay alive
- \sim 10% of those with diabetes are type 1 (1 in 10)

2, Type 2 diabetes

- the body has trouble using insulin; called insulin resistance
- even when blood glucose is high, the glucose has trouble getting into the cells because the cells do not respond to insulin
- ✓ lifestyle choices play a key role in disease onset
- can start early in life, is usually diagnosed in late adulthood
 - ~ 90% of diabetes cases are type 2 (9 in 10)



Different Types of Diabetes

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What is diabetes ?

Did you know that there are 3 types of Diabetes?

3. Gestational Diabetes

- a temporary condition, resembling type 2 diabetes
- occurs only in women during pregnancy
- ✓ can affect 3-20% of pregnant women (closer to 20% in Canadian Aboriginal women).



Healthy

Unhealthy

What is Pre-diabetes ?

- often referred to as insulin resistance
- occurs <u>before</u> diagnosis with type 2 diabetes
- high levels of sugar in the blood, but not high enough for a diabetes diagnosis – vigilant monitoring is needed
- healthy lifestyle choices play a key role in preventing full diabetes

From this point in the presentation we will refer to type 2 diabetes as diabetes

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What are the Symptoms of diabetes?



Note: Some people with diabetes may display no signs of diabetes (especially during pre-diabetes or early diabetes).

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Who Gets Type 2 Diabetes?

Anyone can get type 2 diabetes.



Assess your risk for developing type 2 diabetes by completing this online survey: <u>http://canrisk.diabetes.ca/</u>

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Who is at higher risk of developing Type 2 Diabetes?

- □ Usually, >40 years old
- Are obese or overweight

Among on-reserve First Nations people in Canada, nearly 32% of men, 41% of women and 36% of children are considered obese. First Nations Regional Longitudinal Health Survey, 2007

- Have had gestational diabetes
- Have family members with type 2 diabetes
- Have pre-diabetes
- Are inactive (sedentary lifestyle)
- Have low HDL cholesterol or high triglycerides levels
- Have high blood pressure
- Are members of certain racial or ethnic groups*



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Why are some Aboriginal people at a higher risk?

While diabetes was rare among the Aboriginal population in North America prior to 1940, the rates increased rapidly after 1950 and have now reached epidemic levels in some communities.

Young TK, Reading J, Elias B, O'Neil JD. Type 2 diabetes mellitus in Canada's First Nations: Status of an epidemic in progress. CMAJ. 2000;163(5):561-566

- Genetic risk factors
 - the "thrifty gene effect"
- Biological risk factors
 - More First Nations women, than First Nation men develop diabetes, compared to other populations
- Environmental risk factors
- Lifestyle risk factors ★



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What are Lifestyle Risk Factors?

2 broad categories:

NON-MODIFIABLE;

- Member of high-risk group
- Genetics

Good news is...

CONTRABLE

Life style changes





Lifestyle factors that you can modify:

Prevention is KEY!

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What CAN be changed?

- Increase levels of physical activity
- Healthy diet
- ✓ Lower (Abdominal) obesity
- Psychosocial factors
- ✓ Limit Alcohol Consumption
- ✓ Do not Smoke

Discuss your responsibilities in **prevention** and **management** of diabetes

PART 2



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Why Manage Diabetes ?

	Complications	Terminology
	Eye problems	Cataracts, Glaucoma, Blindness
	Kidney problems	Nephrology
	Nerve problems	Neuropathy
/	Vascular problems	Heart Attack (Myocardial infarction, MI), Heart Failure, Stroke, Arthrosclerosis, Peripheral Artery Disease
	Mental health problems	Depression

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 If you manage your diabetes, you may have more energy, and taking good care of yourself can also lower your chances of having heart, eye, kidney, and nerve problems

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Prevalence of adverse complications among First Nations individuals on-reserve aged 18 years and older with selfreported diabetes, Canada, 2008-2010



Source: Public Health Agency of Canada (2011); using data from the 2008-2010 First Nations Regional Longitudinal Health Survey (Phase 2) (First Nations Information Governance Centre).

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What is a Good Diabetes Management Plan?

- If you or someone you know is diagnosed with diabetes, it is important to understand that you or your loved one can live a healthy, well balanced long life
- The journey to a healthier lifestyle is in your control as you are the manager of your personal health outcomes
- There are important characteristics of a good healing journey.



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What is a Good Diabetes Management Plan?

- Documentation is an integral component of diabetes care (e.g. charting & journaling)
- Health care team representatives from the health professions, people with diabetes, the community, and other stakeholders
- Establish your diabetes educational needs and identify resources necessary to meet these needs
- Discussion of treatment options
- Incorporation of healthy lifestyle choices: nutrition, physical activity

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What is a Diabetes Team?



Your diabetes team is a group of health care professionals <u>and others</u> that are there to support you with all aspects of your care.

You are the most important person in your diabetes team, because you make the day-to-day decisions about your diabetes and yourself.



Who Should Be Included in Your Diabetes Management Team?

- General Practitioner (GP) assists you with all your health care needs, including your diabetes treatment, care, and monitoring
- Diabetes educator assists you to better understand and cope with diabetes, and to learn the skills and practices you need to manage your diabetes
- Dietitian assists you to better understand the role of food and nutrition in diabetes and health
- Podiatrist checks the health of and treats your feet, and provides information
 about how to care for your feet
- Endocrinologist specializes in care and treatment of diabetes and other disease related to hormones
- Ophthalmologist specializes in the treatment of eye disease

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- Pharmacist dispenses your medicines and can give you advice about them
- Exercise physiologist can help you to develop an exercise plan tailored to your needs
- Dentist checks and treats any teeth and gum problems
- Psychologist or counselor can help you to manage any stress or anxiety.

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Characteristics of a Good Diabetes Management Plan



Addresses all dimensions of care

- Using medication safely as prescribed
- Monitoring blood glucose
 - Developing personal strategies to address psychosocial issues and concerns
- Developing personal strategies to promote health & behaviour change



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Characteristics of a Good Diabetes Management Plan

Dimensions of Care





Physical What Regulates Your Blood Glucose?

Set your blood glucose levels goals with your health care professional team Then monitor and record the results to share with your team.

What can raise or lower my blood glucose levels?

Your blood glucose may get too high if you:

- Eat more than usual
- Eat foods high in sugar
- Exercise less than usual
- Have a lot of stress
- Have an infection or other illness
- Take certain medications
- Do not take enough insulin or other diabetes medication

Your blood glucose may get too low if you:

- •Eat less than usual
- •Delay or skip a meal
- •Exercise more than usual
- •Take too much insulin or other diabetes medication.

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Physical What is A1C?

- A1C is a test that measures average blood sugar level over a 3-months
- It is more accurate than everyday finger blood test because the latter only shows a blood sugar level in one point in time

•A1C test shows a whole picture for 3 months and tells how you are generally doing with your diabetes management

•A1C is one of the most important clinical tests to assess your health and diabetes and should be tested every 3 to 6 months



http://farm8.static.flickr.com/7066/6887353125_7d50ef3bb1.jpg

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Physical What is High Blood Pressure?

"Silent Killer"



- Hypertension = high blood pressure
- Blood pressure is the pressure of the blood flowing from the heart into the body through arteries. High blood pressure simply means blood pressure in arteries is high
- Over time, high blood pressure damages blood vessels and causes damage to main organs such as heart and kidneys
- Blood pressure can be lowered by taking medication, losing weight, exercising, as well as avoiding smoking, excessive alcohol consumption and saying 'No' to salt



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Category	<u>Systolic</u>	<u>Diastolic</u>
Optimal	<120	<80
Normal	<130	<85
High normal	130 – 139	85 - 89
Hypertension	1	
Stage 1 (mild)	140 – 159	90 - 99
Stage 2 (moderate)	160 – 179	100 – 109
Stage 3 (severe)	180 – 209	110 – 119
Stage 4 <mark>(very severe)</mark>	210 >	120 >

Cannot be cured, but can be controlled

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Physical What is LDL Cholesterol?

- There 2 types of cholesterol in the body
 - LDL Cholesterol is low-density lipoproteins which is bad
 - HDL Cholesterol is high-density lipoproteins which is good
 - LDL Cholesterol clogs arteries and generally does not go well with diabetes
- LDL Cholesterol should be checked annually at the doctor's office, usually treated with medication
- Ensuring you eat healthy in combination with physical activity is important, it increases HDL cholesterol

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What diabetes numbers do I need to know?

A is for A1C

- The A1C goal for many people with diabetes is below 7.
 - The A1C test is a simple blood test that reflects your average blood glucose over the past 3 months. You should have this test done every 3 to 6 months.

B/is for blood pressure

- The blood pressure goal for most people with diabetes is below 130/80.
 - High blood pressure makes your heart work too hard. It can cause a heart attack, stroke, or kidney disease. You may need to check your blood pressure at home.

C is for cholesterol

- The LDL cholesterol goal for most people with diabetes is less
 than 2.0
 - Bad cholesterol, or LDL, can build up and clog your blood vessels. It can cause a heart attack or stroke.

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Kidney Health

Diabetes may affect your kidney health and people living with diabetes should protect their kidneys by:

Early detection is KEY!

- Keeping blood sugar levels under control
- Avoiding excess amounts of salt or sodium
- Drinking alcohol in moderation
- Keeping blood pressure under control
- Having urine checked for protein once a year
- Having blood tested for creatinine once a year
- Following advice or medication prescribed by your doctor.

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Neuropathy

What can I do to prevent diabetes from damaging my nervous system?

- Keep blood glucose as close to normal as possible
- Limit the amount of alcohol you drink
- DO NOT smoke



- Take care of your feet
- Talk to your doctor about any problems you have with your hands, arms, feet, or legs, stomach, bowels or bladder.

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Taking Care of Feet

- Wash your feet in warm water everyday
- Look at your feet everyday to check for cuts, sores, blisters, redness, calluses, or other problems
- If your skin is dry, rub lotion on your feet after you wash and dry them (do not put lotion between the toes)
- Always wear shoes or slippers to protect your feet from injuries
- Always wear socks or stocking to avoid blisters
- Wear shoes that fit well
- Trim nails see a foot care specialist
- Make sure your doctor checks your feet at each check up

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Medical Appointments

Below are some of the things that may affect your health especially if you live with diabetes. It is important to know what they are and how frequently you should go to see your doctor:

Test	Frequency
Blood Pressure	Every check-up
Body Mass Index	Annually
Waist Circumference	Annually
AIC	3 to 6 months
LDL Cholesterol	Annually
Kidney health	Annually



Components of a Healthy Lifestyle: Healthy Eating Physical Activity Abstaining from Smoking Gathering Resources

PART 3



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Healthy eating is a big part of diabetes management

Eating Well with Canada's Food Guide First Nations, Inuit and Métis Canada Choose the foods from 4 main food groups:

vegetable & fruit
grain products
milk & alternatives
meat & alternatives.

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Another good rule of thumb is to choose one food item from each colour of the rainbow when you sit down to eat.





What is a Food Guide Serving of ...

More Vegetables and Fruits Some orange coloured fruit can be substituted for an orange vegetable. See the fruit marked with an asterisks (*)

D	Apple 1 medium		Eggplant 125 mL, ½ cup	0	Pear 1 medium
2	Apricot, fresh * 3 fruits	0	Fig, fresh 2 medium		Peppers, bell 125 mL, ½ cup, ½ medium
0	Avocado ½ fruit		Fruit juice 125 mL, ½ cup	0	Pineapple 125 mL, ½ cup, 1 slice
	Bamboo shoots 125 mL, ½ cup	0	Grapefruit ½ fruit	-	Plantain 125 mL, ½ cup
2	Banana 1 medium	-	Grapes 20 fruits		Plum 1 fruit
	Beans, yellow 125 mL, ½ cup		Guava 125 mL, ½ cup, 1 fruit	6	Potato 125 mL, ½ cup, ½ medium
P	Beets 125 mL, ½ cup	0	Honeydew 125 mL, ½ cup	1	Radishes 125 mL, ½ cup
	Berries 125 mL, ½ cup		Kiwi 1 large fruit	/	Rhubarb 125 mL, ½ cup
-	Bitter melon 125 mL, ½ cup, ½ pod	A.	Kohlrabi 125 mL, ½ cup	۲	Tomato 125 mL, ½ cup
3	Cabbage 125 mL, ½ cup		Lettuce (example: iceberg or butterhead) 250 mL, 1 cup – raw		Tomato sauce 125 mL, ½ cup
7	Cantaloupe * 125 mL, ½ cup	3	Lychee 10 fruits	0	Turnip 125 mL, ½ cup
2	Cauliflower 125 mL, ½ cup, 4 flowerets		Mango * 125 mL, ½ cup, ½ fruit		Vegetable juice 125 mL, ½ cup
~	Celery 1 medium stalk		Mixed vegetables 125 mL, ½ cup		Watermelon 125 mL, ½ cup
5	Chayote 125 mL, ½ cup	Co	Mushrooms 125 mL, ½ cup		
*	Cherries 20		Nectarine * 1 fruit		
-	Corn 1 ear, 125 mL, ½ cup	0	Orange 1 medium		
P	Cucumber 125 mL, ½ cup	-	Papaya * ½ fruit		
	Dried fruit 60 mL, 1/4 cup	6	Peach * 1 medium		

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What is Glycemic Index ?

It is a scale that ranks carbohydrates rich foods by how much they raise blood sugar.

High (70 or more)	Medium (56 – 69)	Low (55 or less)
Cornflakes (84)	Whole Wheat, Rye, Pita	All Bran (42)
Branflakes (74)	Puffed Wheat	Bran Buds with psyllium (42)
Rice Krispies (82)	Oatmeal (42 – 66)	Oat Bran (50), Whole
Cheerios (74)	Black Bean soup	grain pumpernickel (46)
White Bread (71 – 77)	Green pea soup	Basmati ,Brown, Long Grain, parboiled rice (48-56)
Instant rice (87)		Barley (25), Bulgar (48), Buckwheat (54)
Short Grain rice (72)		Popcorn (55)
Pretzels (89)		Pear (38), Plums (39), Peach (42)
Soda crackers (74) French Fries (75) Watermelon (72)		Yam, Legumes (lentils, chickpeas, kidney beans, split peas, soy beans , baked beans

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Helpful Nutrition Tips

- Eat at least one dark green and orange vegetable a day
- Choose grain products such as rice, cereal and bannock that have less fat, sugar and salt (sodium)
- Choose wild meat and fish when possible
- Consume less salt, less sugar and less fat
- Choose foods that has a lower Glycemic Index (GI) rating




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Here is Another Way to Look at Glycemic Index

Low GI < 55

Buckweed, Barley, All Bran Products **Medium GI 55-**69 Whole Wheat Rye, Pita

High GI > 70

White Bread, Instant Rice,





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Healthy Eating on a Budget

Planning & Budgeting

- Plan meals for the upcoming week
- Use flyers for sales
- Write grocery list based on meals
- Use coupons for food you eat
- Have a snack before you shop
- Use a notebook to compare prices between stores
- Calculate the cost per unit of product. May be per gram, kg, mL or 250 mL serving size

In the store

- Check the top & bottom shelves
- Don't rely on isle end sales
- Try to shop around the outside of the store
- Compare name brand & store brands
- Buy what you can use: can you use the good deal before it expires or goes bad
- Usually cheaper to purchase
 large cuts than small ones
- Buy according to the season
- Shop the ½ price rack
- Try frozen fruits & vegetables

How to calculate unit price: Example: Shreddies \$ 5.29 per 550 g box 1 serving = $\frac{3}{4}$ cup or 45 grams (from label). Price / weight = unit price. 5.29 / 550 = 0.0096 (price per g). 0.0096 x 45 = 0.432. So 1 serving Shreddies is \$ 0.43

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Physical Activity is a big part of diabetes management

Physical activity in combination with other areas of diabetes management is crucial for controlling diabetes

Regular physical activity provides many health benefits, including:

The only prescription with unlimited refills.





Healthy weight control Improves mood and overall wellbeing Promotes heart health Protects from metabolic diseases Improves sleep Provides more energy Promotes better social life Boosts the immune system



It is important to start slow and build up intensity as your body gets used to the exercise

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Physical Activity is a big part of diabetes management

What is the recommendation ?



Accumulate at least 150 min of moderate to vigorous intensity aerobic exercise per week, in bouts of 10 min or more
 Strength training at least 2 days per week

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Here are some of the things you may consider doing to be physically active...



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NOT Smoking is a big part of diabetes management

The dangers of smoking

- When you smoke, less oxygen flows inside your body
- If you smoke and have diabetes, you are more likely to get kidney disease or nerve damage
- Leads to colds and respiratory infection
- Smoking damages bloods vessels which makes harder for your body to heal

Giving up smoking

- Decreases blood pressure, pulse rate and the risk of cardiovascular disease
- Reduces stress levels and anxiety
- Aids in better sleep and overall appearance
- Decreases the risk of diabetes related complications and other chronic disease





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Helpful Tips for the Smoker on How to Quit

- Prepare to Quit
 - Set a date
 - Tell family and friends



- Remove cigarettes and alcohol from your home
- Ask a friend to consider quitting with you
- Don't let people smoke or drink alcohol in your home
- Get support
 - Ask health care team for resources
 - Join a support group
- Stay focused
 - Developing other interests and hobbies
 - Avoiding events that trigger you to want to drink or smoke
 - Planning what you will do when you feel an urge to drink or use tobacco
 - Keep your mind off drinking or smoking by being physically active.

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What are diabetes medications ?

≻Pills

- Work in different ways to reduce blood glucose (sugar), some:
 - Decrease sugar released by the liver
 - Make insulin work better
 - Make the body make more insulin
 - Cause more glucose (sugar) to be spilled in urine
- Your diabetes pills should be assessed regularly to make sure they are right for you

<mark>≻Ins</mark>ulin

- Many people need insulin to get healthy glucose levels. An insulin plan might include:
 - Rapid acting insulin at meals (Apidra, Humalog, Novo Rapid),
 - Basal insulin (Lantus, Levemir) once or twice a day as background support, or
 - Pre-mixed insulin (a mix of faster and slower insulins) taken twice a day (NovoMix30, Humalog Mix 25 and Mix 50)
- Talk to your Diabetes Care team about the best insulin pan for you

≻Other Pills

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- Most people with diabetes also use pills to help control bad cholesterol and reduce blood pressure
- Some doctors recommend baby aspirin for people with higher risk of heart disease
- Health Canada recommends Vitamin D for adults over 50



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The new ABC of diabetes

A is for Activity

B is for reducing your Belly

C stands for Change



Dr Mike Evans- ABC of diabetes VIDEO https://www.youtube.com/watch?v=MUb0nywugug





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Characteristics of a Good Diabetes Management Plan

Dimensions of Care





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Mental

It is important that people with diabetes view diabetes management wholistically to achieve harmony & balance

- Commit to the challenge of living a **balanced lifestyle**
- Achieve a level of <u>personal responsibility</u> one takes for his/her health
- Accept that one can live a healthy and happy life with diabetes
- Actively work with a personalized Health Care Team
- Commit to being more **physically active**, regularly
- Choose to eat healthy foods
- Believe that education is important and can be used to change lifestyle
- Discuss diabetes with friends, family and Elders

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Mental dimension

- Anger, blame, and self-pity, feeling alone, pretending that a diabetes diagnosis is not a big deal
- When denial starts to fade, you are able to take control of your life and manage your diabetes
- Start by sharing your feelings with others
- Start relying on others for help.



Canadian Mental Health Association *Mental health for all*

For more information and resources visit www.cmha.ca



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Mental

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Mental Well-Being

Managing emotions and feelings is another important aspect of prevention and management of diabetes.



What is Stress?

Physical, mental, or spiritual tensions that can make you feel out of balance. There are many stress reduction techniques that can help.

Talking to Elders
 Regular stretching
 Reading
 Listening to music

Participating in sweats and sharing circles

Canadian Mental Health Association Mental health for all

Click on logo to visit website

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Dimensions of Care - Spiritual

Spiritual

- Finding our you have diabetes can be a shock. At first you only see bad things – doom and gloom, blindness, amputations and dialysis but as you learn more you can live well with diabetes. There is hope!
 - Changing how you look at diabetes helps, look for some positives
 - Think about your strengths and the good things in your life, like if you do not smoke or use alcohol, if you have good eating habits
 - Make a list of things you have going for you
 - Being active
 - Strong communities
 - Spiritualism
 - Structure to your life
 - Making new friends
 - Taking care of yourself



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Dimensions of Care: Social

- Get help from others
- Talk to Elders and seek their wisdom
- Get support for other issues in your life
- Be physically active
- Learn something new
- Eat healthy foods
- Take time to do things you enjoy
- Do something nice for someone else
- Make a list of your strengths and accomplishments
- Keep a journal







Social

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Since the beginning of time...

• The Creator provides everything people need to maintain health...





 Growing, gathering, fishing, hunting and preparing foods, medicines and maintaining ceremonies are apart of health and wellbeing

 Maintain physical strength through sports, play and hard work.



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Questions for Your Diabetes Team

- /What are my A1C, blood pressure, and cholesterol numbers?
- When and how often should I check my blood glucose?
- What is the correct way to use the glucose meter?
- What is my blood glucose target range?
- What should I do if my readings are too high or too low?
- Are there classes to help me learn more about how to manage my diabetes?
- How should I take care of my feet?
- What is the doctor's name and phone number?
- Is my medication covered?





Additional Resources can be found at <u>www.nada.ca</u>

Provincial level resources can be found at http://www.nada.ca/resources/resource-directory/

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If you require the speaker notes to this presentation, please email the NADA Project Manager at <u>diabetes@nada.ca</u>