

# Diabetes and YOU

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Information adapted from the

# Outline

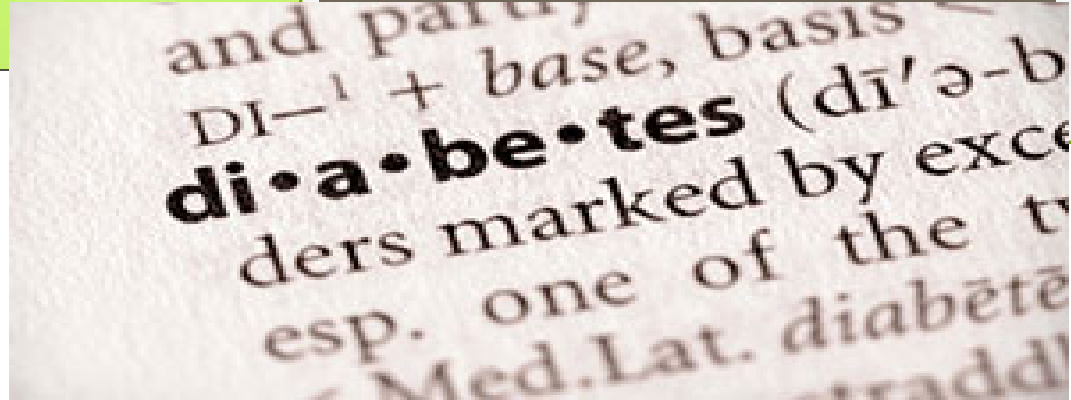
- What is diabetes?
- Complications and ways to prevent them
- Managing your blood sugar (Highs/Lows)
- Insulin and oral medications
- How to stay healthy
  - Diet and nutrition
  - Exercise and weight management
- Heart Health

# Type 1



- A disease in which your body does not produce any insulin
- Insulin is a hormone that helps your body control the level of sugar in your blood
- Without insulin, sugar builds up in your blood instead of being used as energy
- Your body produces sugar and also gets sugar from foods like bread, potatoes, rice, pasta, milk and fruit
- Insulin therapy is required for the treatment of Type 1 Diabetes

# Type 2

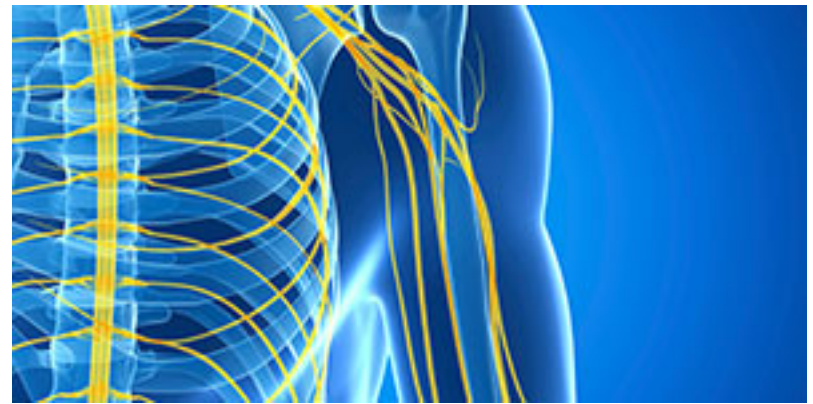


- A disease in which your pancreas does not produce enough insulin, or your body does not properly use the insulin it makes
- Like type 1, glucose builds up in your blood instead of being used for energy

# Who cares?... Your entire body does!

- If left untreated or improperly managed, diabetes can result in a variety of complications:

- Heart attack
- Stroke
- Kidney failure
- Nerve damage
- Blindness
- Problems with erection
- Infections leading to amputation



# The good news

- You can live a long and healthy life by keeping your blood sugar levels in the target range

- Usual TARGETS:

- Fasting – 4-7mmol/l



- Post meals- 5-10mmol/l



- Can do this by:

1. Taking insulin and other medications as recommended and prescribed for you
2. Monitoring your blood sugar regularly
3. Eating healthy meals and snacks
4. Enjoying regular physical activity
5. Aiming for a healthy body weight
6. Managing stress effectively and quit smoking!

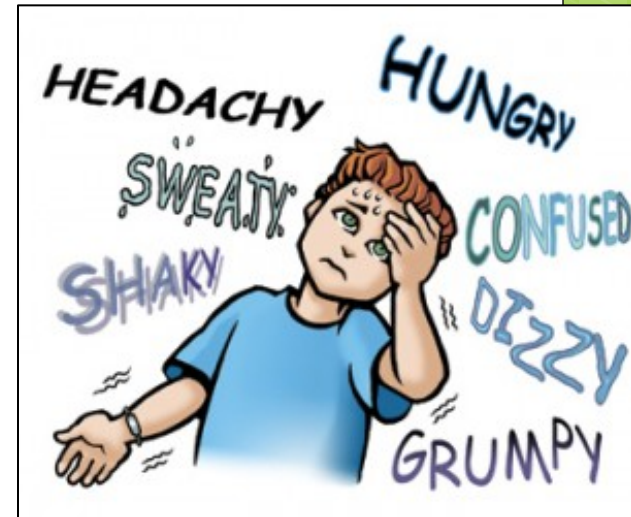
# Managing your blood sugar

- Measuring your blood sugar- Do you know how/how often/what the readings mean?
- Keep a RECORD of your readings- esp. the highs/lows
- Managing your blood glucose when you are ill:
  - Blood sugar can fluctuate, check it frequently
  - Continue to take your diabetes medications
  - Ask your pharmacist before starting any over the counter cold /flu products



# Hypoglycemia

- Low blood sugar= HYPOglycemia (<4mmol/L)
- Signs:
  - Shaky, light-headed, nauseated
  - Nervous, irritable, anxious
  - Confused, can't concentrate
  - Hungry
  - Fast heart rate
  - Sweaty, headache
  - Weak, drowsy
  - VERY LOW: confused, loss of consciousness, seizures





# Causes of low blood sugar

- More physical activity
  - Not eating on time
  - Eating less than you should have
  - Taking too much medication
  - Effects of drinking alcohol
- 
- **\*\*IMPORTANT:** check your blood sugar regularly while on insulin-sometimes cant feel when you are "low"
  - **RECORD IT AND TELL YOUR DOCTOR AND HEALTH CARE TEAM**



# 5 steps to treat low blood sugar

- ① If low reading or feeling "low" → treat right away
- ② Eat/drink a fast-acting carb (15grams) such as:
  - Glucose tablets
  - 1 tablespoon (15ml) or 3 packets of table sugar dissolved in water
  - ¾ cup (175ml) of juice or regular soft drink
- ③ After THAT, WAIT 10-15min then check blood sugar again
- ④ If still low → treat again and have a snack (ex. half a sandwich or cheese and crackers)
- ⑤ Think about why you were low and record what you were doing at the time (let us know if your getting a lot of low episodes)

# Insulin TIPS



- Are you priming before each injection?
- Are you rotating sites of injection?
- Are you checking for lumpy areas and trying to avoid them?
- Are you making sure you are eating regularly around insulin injection times?

# Diabetes oral medications

Class	Medication	What to watch out for
Biguanides	<b>Metformin</b> (Glucophage)-2-3x  Metformin XR ( <b>Glumetza</b> )-1x	<ul style="list-style-type: none"><li>• stomach upset</li><li>• vitamin b12 deficiency</li><li>• dye studies</li><li>• kidney function</li></ul>
Sulfonylureas	Gliclazide ( <b>Diamicron</b> )  <b>Glyburide</b> (Diabeta)-1-2x	<ul style="list-style-type: none"><li>• low blood sugar</li><li>• Not good with irregular meals (30min before meal)</li><li>• kidney function (Diamicron MR safer for bad kidneys)</li></ul>
Meglitinides	<b>Repaglinide,</b>  <b>Nateglinide</b> - 3x	<ul style="list-style-type: none"><li>• take with meal (0-15min before meal)</li><li>• skip dose if skip meal</li></ul>

# Diabetes oral medications

Class	Medication	What to watch out for
GLP-1 agonists	Exenatide <b>(Byetta)</b> 2x Liraglutide <b>(Victoza)</b> 1x	<ul style="list-style-type: none"><li>• stomach upset</li><li>• injection site</li><li>• kidney function</li></ul>
DPP-4 Inhibitors	Linagliptin <b>(Tragenta)</b> , Saxagliptin <b>(Ongyza)</b> , Sitagliptin <b>(Januvia)</b> - 1x	<ul style="list-style-type: none"><li>• sore throat, stuff nose, respiratory</li><li>• kidney function (Tragenta safer for bad kidneys)</li></ul>
Thiazolidin- ediones	Pioglitazone <b>(Actos)</b> -1x	<ul style="list-style-type: none"><li>• Swelling, fluid retention</li><li>• Shortness of breath</li><li>• Nausea/vomiting/loss of appetite</li></ul>



What can YOU do to stay well?



# First steps

- Eat according to a healthy meal plan
- Increase your physical activity
- Learn as much as possible about diabetes



# Diet and Nutrition BITS



- SWAP out the bad for the GOOD:
  - Instead of juice; drink water, crystal light
  - Instead of a whole plate of pasta/rice; have a small side of pasta/rice and a big plate of salad/veggies
- Alternatives for rice/pasta- quinoa, rice, brown bread, VEGGIES
- Start your meal with a large salad to fill yourself up on the good stuff
- BEWARE SALAD DRESSING- Look for calorie wise, low fat options
- BAKED NOT FRIED
- Use spices and herbs not sauces to kick up the flavor
- Portion control
  - closed fist for carbs
  - palm of hand for meat
  - both hands for veggies and salad
  - thump for fat





# Exercise-Make it FIT!



- One of the most important things you can do to manage and live well with your diabetes:
  - Gives you more energy and strength during the day
  - Decreases stress, anxiety, and fatigue
  - Improves relaxation and sleep
  - Improves confidence and well-being
  - Lets you have fun and involve family and friends
- Can be as simple as walking, gardening, cleaning, swimming and many other activities you may already do!
- Goal- at least 150 minutes of moderate-to vigorous-intensity aerobic exercise each week (30min a day, for 5 days week)
- Safety first!

# Heart Health



# ABCDEs to reduce risk of heart attack and stroke

- **A**-A1C- usually **7% or less** (A1C is a blood test that is an index of your average blood glucose level over the last 120days)
- **B**-Blood pressure- control your blood pressure less than **130/80mmHg**. Decrease salt and alcohol intake (High blood pressure can lead to eye, heart and kidney disease)
- **C**-Cholesterol- LDL (bad) cholesterol target is **2.0mmol/l or less** (high cholesterol can lead to heart disease and stroke)
- **D**-Drugs-Will get back to this one!
- **E**- Exercise-regular physical activity-**150min /week**, which includes healthy diet, achievement and maintenance of healthy body weight- book an apt with a dietician or diabetes educator
- **S**-smoking and stress- **stop smoking** and **manage stress** effectively

# D-DRUGS used to prevent complications



- **Blood pressure- ACE inhibitors or ARBs**

- ACEi (end in -PRIL): Ramipril (Altace), Perinodopril (Coversyl)
- ARBS (end in -SARTAN): losartan (Cozaar), candesartan (Atacand)
- lowers blood pressure AND also offers protection against heart attack and stroke and protects your kidneys from damage
- **MONITOR: BLOOD PRESSURE (INCLUDING LOWS), POTASSIUM LEVELS AND KIDNEY FUNCTION**

# D-Drugs used to prevent complications



- **Cholesterol- Statins**

- Atorvastatin (Lipitor), Rosuvastatin (Crestor)
- Lowers bad cholesterol AND also offers protection against heart attack and stroke
- MONITOR: CHOLESTEROL LEVELS, MUSCLE ACHES

- **Antiplatelet (“blood thinners”)**

- Aspirin 81mg (Baby Aspirin), Clopidogrel (Plavix)
- helps prevent blood clots from forming
- Not safe for everyone- should be prescribed by your doctor
- MONITOR: SIGNS OF BLEEDING/ STOMACH PAIN

# Other TIPS



- Depression and anxiety- speak to your team if you feel you may be depressed or have anxiety
- Smoking- Your health is worth it to keep trying to quit, we can help!
- KIDNEYS-You should be getting urine tests frequently to catch early signs of kidney damage
  - IMPORTANT to know as meds may need to be decreased or stopped if your kidneys aren't doing well
- Nerve damage- let us know if your hands and feet feel numb or pins and needles
- Problems with erection-talk to your health team about it- may have ways to help with the problem – Don't be shy!

# Keep tabs on your health



- Check **blood pressure** at **every** doctor and pharmacy **visit**
- **A1C** should be measured **every 3 months** to monitor your blood glucose control
- **Lipid (Fat) levels** should be measured **every year** and more often if you are on cholesterol-lowering medications
- **Feet** checked **yearly** by foot specialist and often by yourself
- **Eyes** checked **yearly** by an eye specialist
- **Kidney function** checked **yearly** by your doctor
- **Medications** reviewed **every 6 months** by a pharmacist and whenever there is **a change** in medication

**BE AN INFORMED PATIENT!  
TALK TO YOUR HEALTH CARE TEAM ABOUT TESTS,  
RESULTS, YOUR BODY AND MEDICATIONS**

# You are the Captain of your health care team!

- Family doctor
- Diabetes educator
- Endocrinologist
- Pharmacist
- Social worker
- Exercise physiologist
- Psychologist
- Foot care specialist
- Eye care specialist







# Thank you!

Reference:

Canadian Diabetes Association.

<https://www.diabetes.ca/>