Living Well with Diabetes

Presented by:

Home Health Monitoring Service

Plan for today

- Introductions
- On the Road to Diabetes Health
- What is Diabetes?
- Difference between Type 1 and Type 2 Diabetes
- Preventing Symptoms & Taking Medications
- Self-Management Strategies
- Diabetes Zones
- Resources

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Introductions

What do you have to say about Diabetes?

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On the Road to Diabetes Health

On the Road to Diabetes Health is the educational booklet/binder that you will use during Home Health Monitoring.

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Diabetes

Diabetes cannot be cured,
but it can be treated.

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Being Healthy with Diabetes includes:

- Preventing symptoms and taking your medications.
- Developing a self-management care plan to improve your health and quality of life.
- Adopting and maintaining a healthy and fulfilling lifestyle.
- Connecting with community resources that can help you with ongoing self-management.

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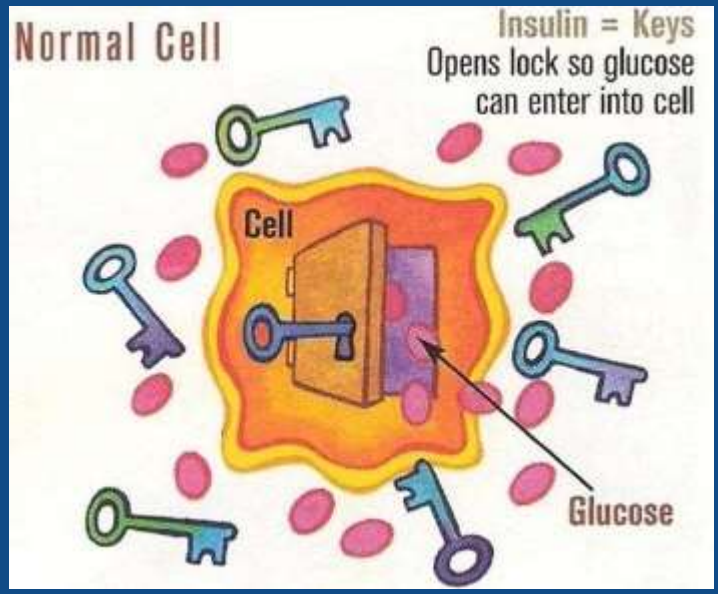
Diabetes: What is it?

- Diabetes is a disease characterized by a lack of insulin and/or impaired insulin action, which causes and elevation of blood glucose (blood sugar) to above normal levels.

Insulin is a hormone produced by the pancreas. Insulin is like a key that opens the door to let glucose enter the cells.



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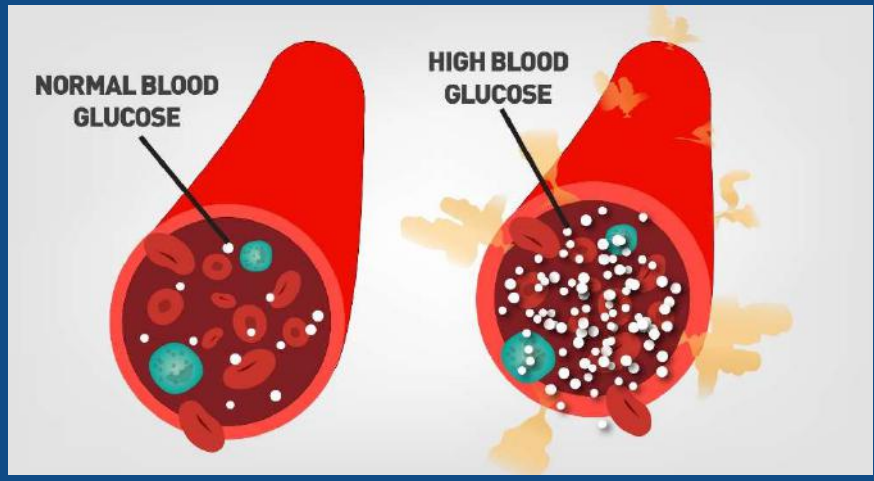
How does this happen?

The glucose cannot enter the cells if:

1. Your body does not make insulin or
2. Your body does not make enough insulin or
3. Your insulin does not work properly (this is called insulin resistance)

When glucose cannot enter the cells of the body, it begins to build up in the blood.



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What is Type 1 Diabetes?

- Type 1 diabetes is a disease in which the pancreas does not produce any insulin. Without insulin, glucose (sugar) builds up in your blood instead of being used for energy.

- The cause of type 1 diabetes remains unknown. It is not caused by eating too much sugar, and is not preventable. The current thought is that type 1 diabetes occurs when the body's immune system destroys the cells that make insulin.

- Insulin therapy is required for the treatment of type 1 diabetes.

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What is Type 2 Diabetes?

- Type 2 diabetes is a disease in which your pancreas does not produce enough insulin, or your body does not properly use the insulin it makes. As a result, glucose (sugar) builds up in your blood instead of being used for energy.

People at risk for developing Type 2 diabetes may include family history, over the age of 40, excess weight, lack of physical activity, high blood pressure, high cholesterol, stress, and certain drugs (ex. high doses of cortisone or antipsychotics).

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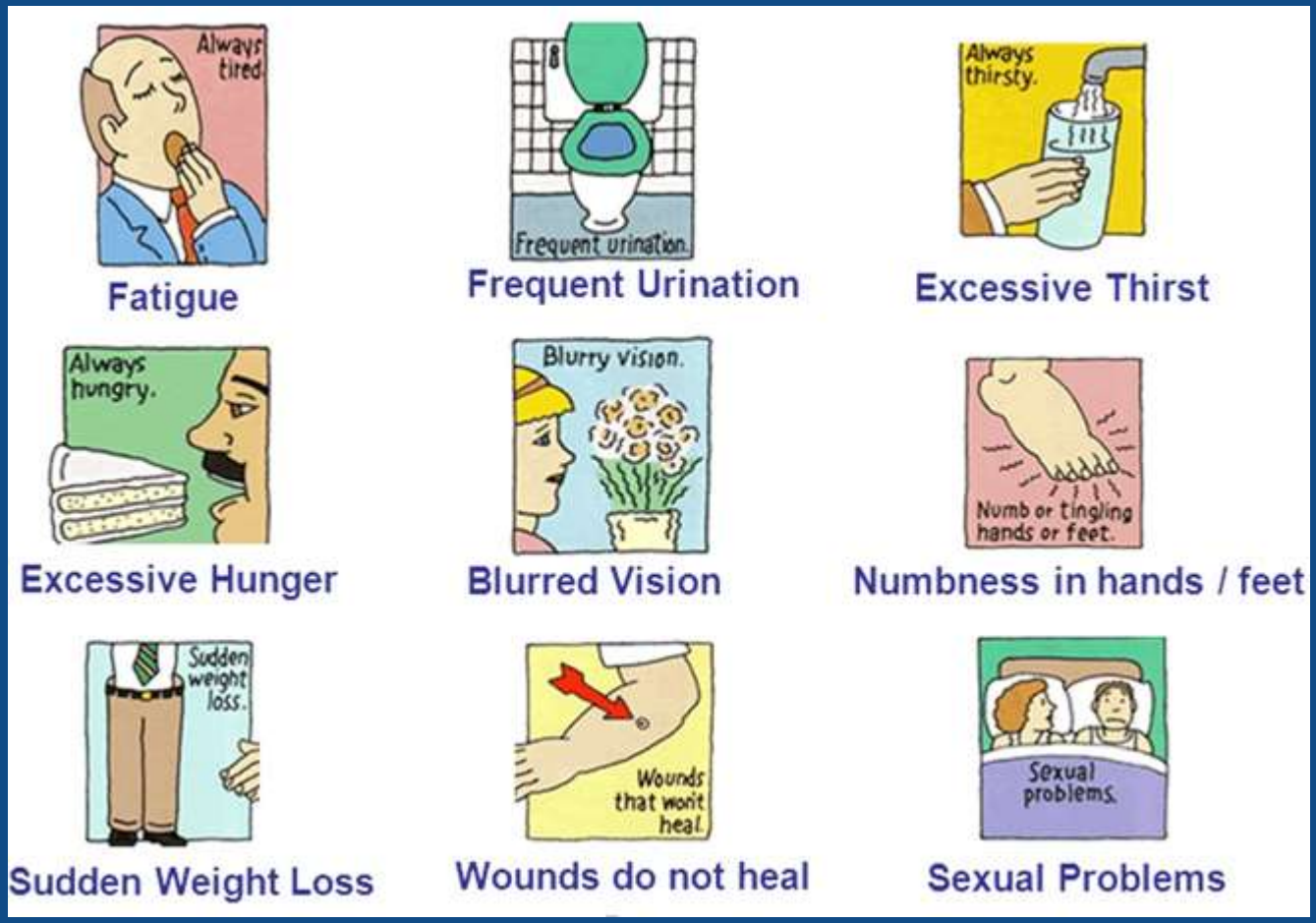
Diabetes Symptoms



Other potential symptoms: Nausea, feeling ill, or skin, gum or urinary tract infections

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Preventing Symptoms
&
Taking Medications

Blood Glucose

Blood glucose levels go up and down throughout the day and night. It is important to keep your blood glucose as close to target levels as possible.

A1C is a blood test that shows how close to target your blood glucose has been over a 3 month period.

Target Blood Glucose Fasting or Before Meals	Target Blood Glucose Two Hours After Meals	Target A1C
4.0 - 7.0 mmol/L	5.0 - 10.0 mmol/L	7% or less

Your primary care provider or Diabetic Nurse Educator may recommend a different target range.

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Facts about Blood Glucose Levels

Things that **Lower** Blood Glucose	Things that **Raise** Blood Glucose
• Regular balanced meals and snacks • Exercise • Reducing body fat • Relaxation techniques • Diabetes medications (pills or injections)	• Too much food or not having meals and snacks on time • Not enough exercise • Weight gain above your healthy weight • Emotional or physical stress and illness • Not taking enough diabetes medication • Certain over the counter medications • Certain hormones which cause the liver to leak glucose into the blood when it is not needed ("leaky" liver)

Keeping your blood glucose levels within the target range will keep you feeling well and will reduce your risk of developing other health problems that are related to diabetes.

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Self-Monitoring of Blood Glucose

- Checking Blood Glucose levels can give you information about how food, exercise, and medication affect your blood glucose.
- Ask your primary care provider or Diabetic Nurse Educator about:
  - If you need to test
  - When you need to test
  - How often you need to test

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Self-Monitoring of Blood Glucose

People taking insulin have to check their blood glucose every day. Those not taking insulin may check less often.

Enter your blood glucose test results in a log book. Take your log book with you to appointments.

Date	Breakfast		Lunch		Supper		Comments
	Before	2 hr after	Before	2 hr after	Before	2 hr after	
May 10	6.9	14.7*					*juice
May 11			3.5*	7.8			*running
May 12					5.4	8.4	

On the Road to Diabetes Health

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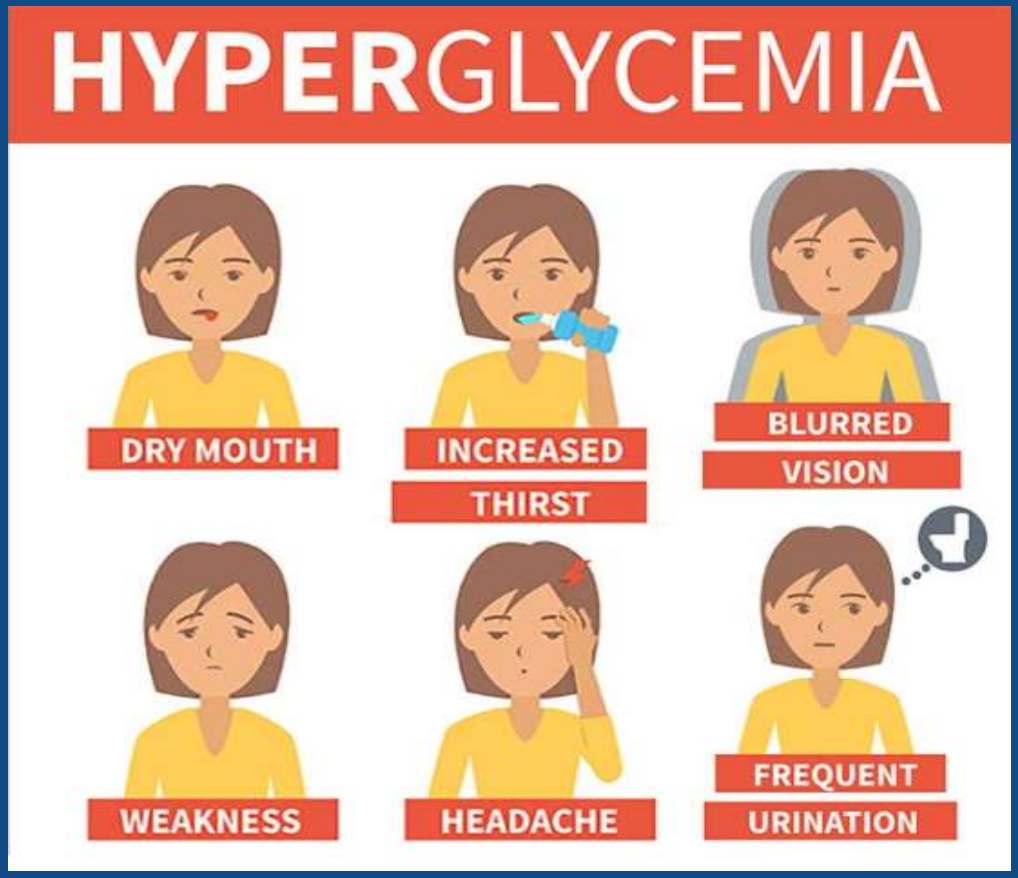
Hyperglycemia
(High Blood Sugar)

If your blood glucose level is above your target range, this is called hyperglycemia.

What are the causes?

- Illness
- Infection
- Eating too much
- Lack of exercise
- Stress
- Not enough medication or insulin



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Hyperglycemia
(High Blood Sugar)

- If you have symptoms, check your blood glucose level within an hour or 2, and check it before every meal for the next 2 days.
- Adjust food choices, portions, meal timing, and activity to help manage blood sugar.
- Follow *Sick Day Management* if your blood glucose is greater than 20 mmol/L (Type 2) or 14 mmol/L (Type 1) for longer then 8 hours.
- Call your primary care provider if you have uncontrolled blood sugar, open sores, rashes, wounds, illness, injury, or infections.

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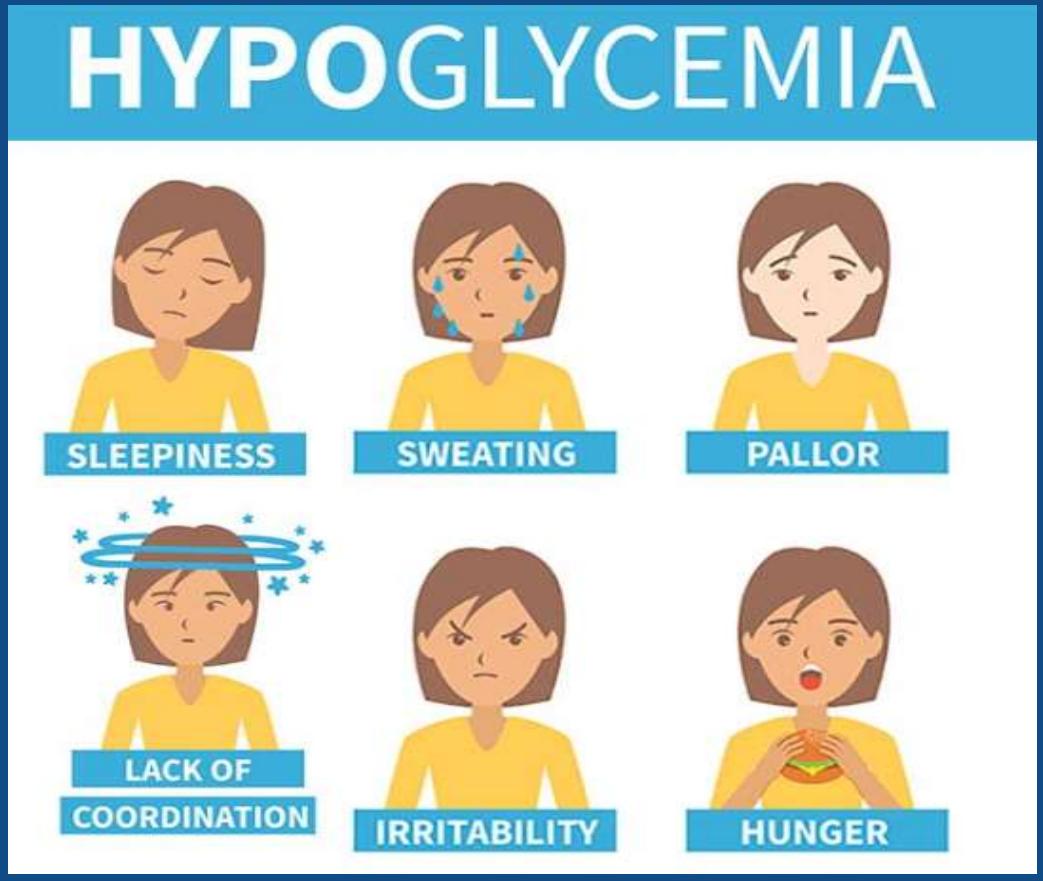
Hypoglycemia
(Low Blood Sugar)

Hypoglycemia is when your blood glucose drops below 4 mmol/L

What are the causes?

- Not enough food or a late meal
- Unusual increase in exercise
- Too much medication
- Alcohol without food
- Diarrhea or vomiting



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Hypoglycemia

(Low Blood Sugar)

It is very important to treat hypoglycemia **quickly!**

Carry fast acting carbohydrates and wear diabetes identification!

Take 15- Wait 15

Call 9-1-1 if you are confused or your blood glucose is less than 4.0 mmol/L on the third test.

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Medications for Diabetes

- Help control blood glucose and symptoms
- Help you feel better
- Help you have a better quality of life

To stay well, take your medications as prescribed and use the proper technique.

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Medications for Diabetes

A. Oral Medications
   - Often used to treat Type 2 diabetes
   - Works by helping the body produce more insulin, decrease liver production of blood glucose, slow absorption of carbohydrates, and/or improves insulin action.

B. Insulin
   - Routinely used to treat Type 1 diabetes, but also used to treat Type 2 diabetes if diet, exercise, weight loss and oral medications do not control blood glucose sufficiently.
   - Keeps blood glucose down by allowing sugar in the blood to enter the cells of the body and decrease liver production of blood glucose.

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Proper Insulin injection technique helps better blood glucose control.

Insulin Devices

Syringes

Insulin Pens

Insulin Pumps

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Insulin Technique Videos

Injecting Insulin with a Syringe

How to Mix and Inject Insulin with a Syringe

How to inject Insulin using a Pen Needle

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Self-Management Strategies

Today we will cover:

- Healthy Eating
- Exercise & Physical Activity
- Caring for your Feet

Over the next 3 months we will also cover:

- Stress Management
- Smoking Cessation
- Sick Day Management
- Complication Prevention
- Advanced Care Planning
- Emergency Planning
- Travel Tips
- Local Community Resources

Healthy Eating

Healthy eating will help you keep your blood glucose levels in the target range.

- ✓ Plan meals and snacks ahead of time
- ✓ Balance meals and choose the right portions using The Plate Method or The Handy Portion Method
- ✓ Choose low Glycemic Index foods
- ✓ Make high fibre food choices
- ✓ Track daily carbohydrate intake
- ✓ Read Food Labels

Meal Timing

- Always eat 3 meals each day
- Eat your first meal of the day within 1-2 hours of waking up
- Do not go longer than 4 to 6 hours without eating during the day
- If your meals are more than 4-6 hours apart or you prefer smaller meals, have a healthy snack
- An evening snack may be recommended

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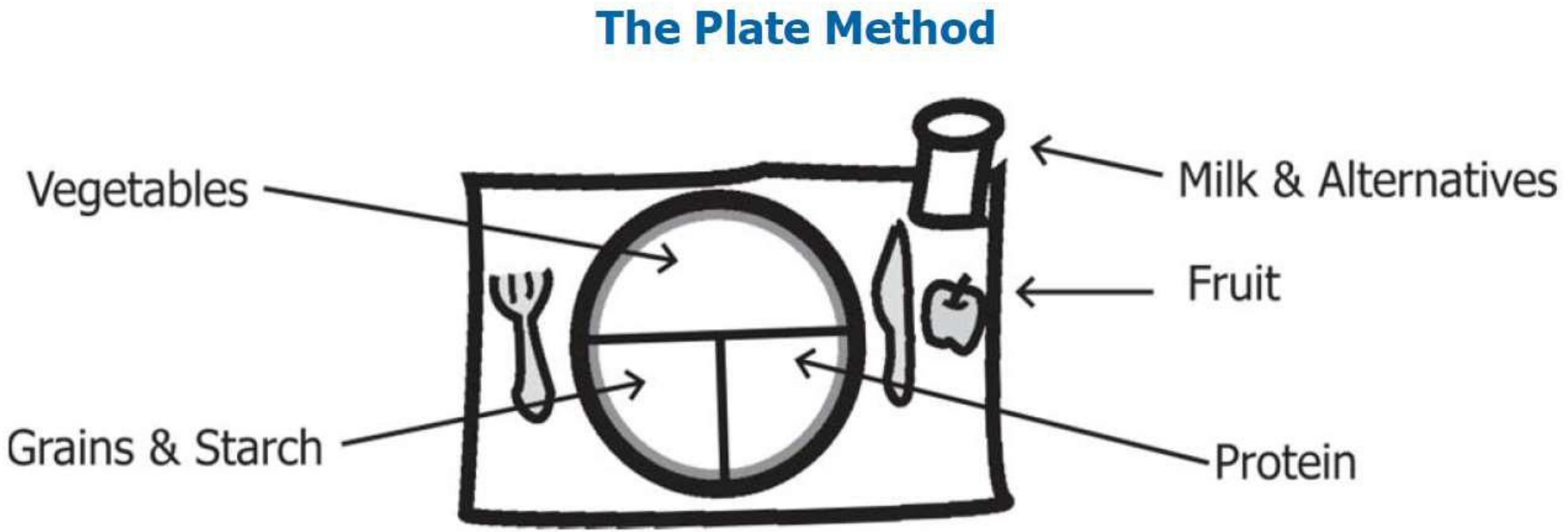
Balance and Portions



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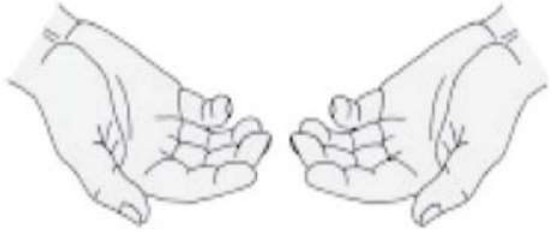
Balance and Portions

The Handy Portion Method

Use your hands to measure the amount of each type of food for your meal.

FRUIT/GRAINS & STARCHES
Choose an amount the size of your fist for each of Fruit and Grains & Starches.



VEGETABLES
Choose as much as you can hold in both hands.

MEAT & ALTERNATIVES
Choose an amount up to the size of the palm of your hand and the thickness of your little finger.

FATS
Limit fat to an amount the size of the tip of your thumb.

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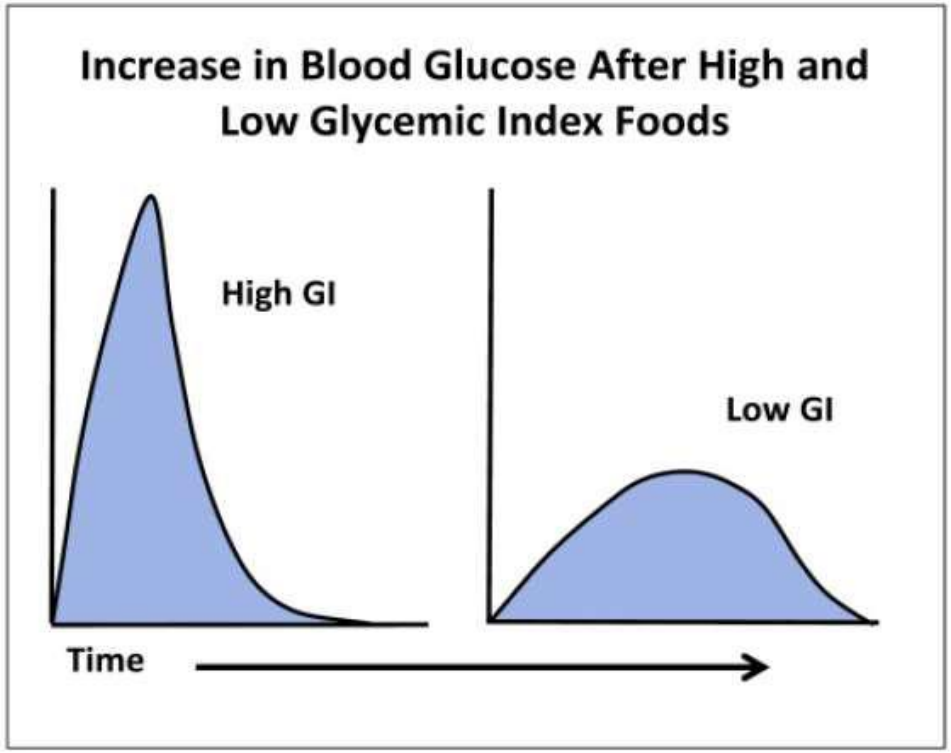
Glycemic Index

Glycemic index or GI ranks foods containing carbohydrate by how much they raise blood glucose levels. Foods with a **high** GI raise blood glucose **quickly**. Foods with a **low** GI raise blood glucose **slowly**. Lower GI foods can help you manage blood glucose, cholesterol and weight.



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HOW DOES FOOD AFFECT BLOOD GLUCOSE?

Increases Blood Glucose

Carbohydrate

Breads, crackers, roti, tortilla

Cereals

Grains (e.g. rice, barley, corn)

Pasta, noodles

Potatoes, corn, yams

Fruits, juices

Milk, yogurt

Sweet foods, snacks

Little or No Increase in Blood Glucose

Protein

Fish

Poultry

Meat

Eggs

Cheese, cottage cheese, plain Greek yogurt

Beans & lentils*

Tofu, soy beverage (unsweetened)

Nuts, seeds, peanut butter, nut butters

Fats

Oils, salad dressing

Margarine, butter

Most Vegetables**

Extras

Water

Coffee, tea

Sugar-free pop

Balance meals to include proteins, vegetables and small amounts of fats at meals along with carbohydrates

*Beans and lentils contain carbohydrate but raise blood glucose less than most other carbohydrate foods
**Beets, parsnips, peas and winter squash can increase blood glucose if eaten in large amounts

Tracking Carbohydrates

3 ways to count carbohydrates

1. Simple Plate Method or Handy Portion Method
   - Using your plate or hands to keep your portion of grains & starch to ¼ of your plate or no more than the size of your fist.
2. Carbohydrate Choices
   - Carbohydrate choices are portions of food that contain 15 grams.
3. Grams of Carbohydrates
   - Reading the nutrition facts found on food labels.

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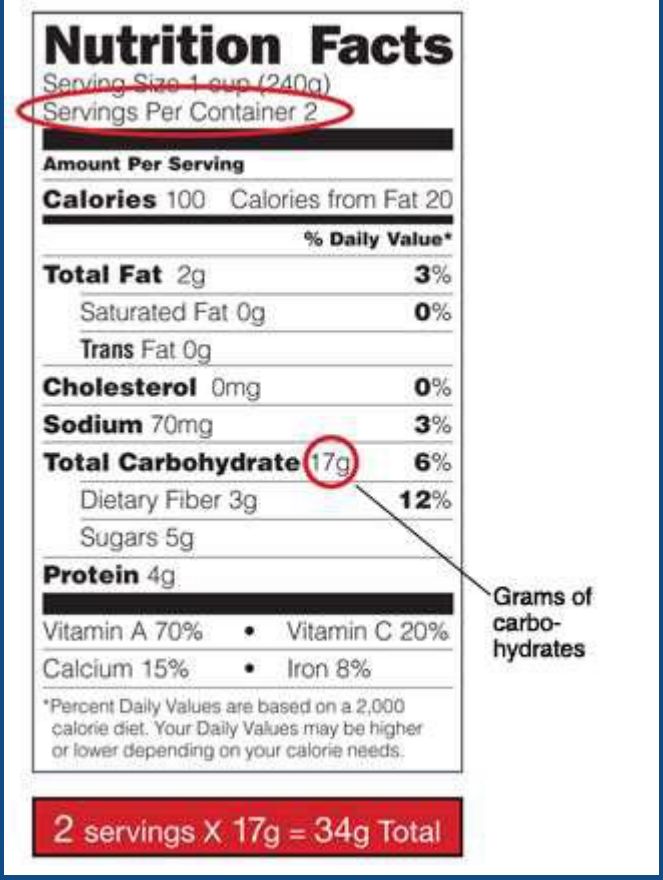
Reading Food Labels



Food labels, including the **Ingredients** list and **Nutrition Facts** table found on packaged foods can help you keep track of the amount of carbohydrates you are eating and make heart healthy choices.

Ingredients: are listed in order from highest amount to least amount. Look for foods that contain whole grains and healthy unsaturated fats.

Nutrition Facts: table lists the amount of carbohydrate, fat and sodium, among other things. Be sure to make note of the serving size you plan to eat.

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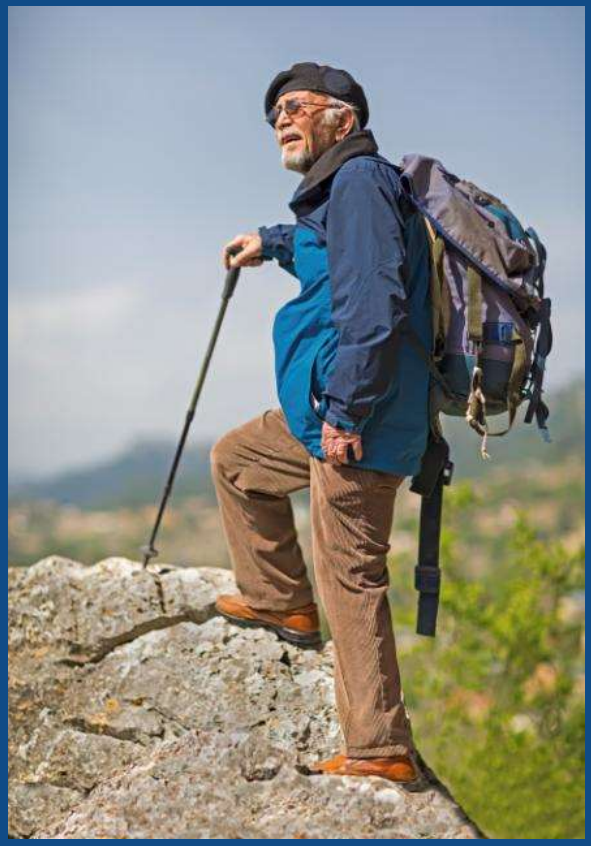
Exercise
&
Physical Activity



Questions to Think About

Am I doing some exercise and physical activity on a regular basis?

- If yes, what do I do? How often?
- If no, what makes it difficult for me to exercise?

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Benefits of Exercise for Diabetes

- Lower blood glucose
- Improve insulin sensitivity
- Increases muscle mass and helps maintain bone mass
- Improve circulation
- Improves functional abilities and endurance
- Improves mood and reduces risk of depression
- Improves sleep and quality of life

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Thinking About Increasing your Exercise & Activity Levels?

- At least 30 minutes per day is recommended
- Aerobic and strength training are both recommended
- Discuss your exercise plan with your doctor or health professional before starting it!

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Diabetes Zones

EVERY DAY	✓ Self-monitor blood sugar as recommended by your primary care provider. ✓ Take Medications as prescribed. ✓ Daily foot care and inspection. ✓ Eat a healthy diet and increase physical activity; both promote better control of blood sugar, weight, blood pressure, cholesterol, and stress.
WHICH ZONE ARE YOU IN?	
GREEN SAFE ZONE	**ALL CLEAR – You are in the *safety zone* if you have:** • No symptoms of low or high blood sugar. • Fasting and/or before meal blood sugar is between 4-7 mmol/L or within your target range recommended by primary care provider. *Target blood sugar: _____ mmol/L* • Blood pressure less than 130/80 mmHg. *Target blood pressure: _____ mmHg* • A1C is 7% or less OR within your target provided by your primary care provider. *Target A1C: _____ %*
YELLOW CAUTION ZONE	**CAUTION – You are in the *caution zone* if you have:** • Symptoms of low or high blood sugar: ➢ **LOW**: Blood sugar is less than 4 mmol/L, shaky, light-headed, nauseated, irritable, anxious, confused, sweaty, faster heart rate, headache, hungry, weak, drowsy, numbness or tingling in your tongue or lips. ➢ **HIGH**: Blood sugar is above target range, increased thirst, headache, fatigue, weak, urinate more than usual, blurred vision, weight loss. • Open sores, rashes, or wounds. • Illness, injury or infections. **What should I do?** ✓ Take action to treat low blood sugar, use 'Take 15 - Wait 15' rule, and test blood sugar again. ✓ If blood sugar is above the target level once, then drops to within target level, do not be concerned. If it is above target for more than a week, contact your primary care provider. ✓ Adjust food choices, portions, meal timing, and activity to help manage blood sugar. ✓ Call or see your primary care provider if you have uncontrolled blood sugar, open sores, rashes, wounds, illness, injury, or infections.
RED DANGER ZONE	**EMERGENCY – This is the *danger zone*, act quickly if you have:** • Confusion and/or disorientation • Double vision • Fainting episode or passing out • Convulsions or a seizure • Blood glucose that is still less than 4 mmol/L after 3 attempts to treat low blood sugar • Blood glucose that is greater than 20 mmol/L for more than 8 hours and you are symptomatic (if you have Type 2 Diabetes) • Blood glucose that is greater than 14 mmol/L before meals or at bedtime on two tests in a row and you are symptomatic (if you have Type 1 diabetes) • Urine ketones are moderate to large or blood ketones are 1.5 mmol/L or higher **What should I do?** ***Call 911 for an ambulance or have someone take you to the nearest emergency department***

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Diabetes Zones help to:

- Recognize your symptoms
- Recognize when your symptoms are getting worse
- Know how to prevent symptoms from getting worse and how to treat symptoms
- Know when and who to call if your symptoms do not improve

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When You Feel Well

GREEN SAFE ZONE	**ALL CLEAR – You are in the *safety zone* if you have:** • No symptoms of low or high blood sugar. • Fasting and/or before meal blood sugar is between 4-7 mmol/L or within your target range recommended by primary care provider. *Target blood sugar:* _____ *mmol/L* • Blood pressure less than 130/80 mmHg. *Target blood pressure:* _____ *mmHg* • A1C is 7% or less OR within your target provided by your primary care provider. *Target A1C:* _____ *%*

What are your usual symptoms? Be aware of how you feel when your Diabetes is well controlled.

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When You Feel Worse

YELLOW
CAUTION ZONE

CAUTION – You are in the *caution zone* if you have:

- Symptoms of low or high blood sugar:
  - **LOW**: Blood sugar is less than 4 mmol/L, shaky, light-headed, nauseated, irritable, anxious, confused, sweaty, faster heart rate, headache, hungry, weak, drowsy, numbness or tingling in your tongue or lips.
  - **HIGH**: Blood sugar is above target range, increased thirst, headache, fatigue, weak, urinate more than usual, blurred vision, weight loss.
- Open sores, rashes, or wounds.
- Illness, injury or infections.

What should I do?

- ✓ Take action to treat low blood sugar, use 'Take 15 - Wait 15' rule, and test blood sugar again.
- ✓ If blood sugar is above the target level once, then drops to within target level, do not be concerned. If it is above target for more than a week, contact your primary care provider.
- ✓ Adjust food choices, portions, meal timing, and activity to help manage blood sugar.
- ✓ Call or see your primary care provider if you have uncontrolled blood sugar, open sores, rashes, wounds, illness, injury, or infections.

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When You Feel You are IN DANGER

RED
DANGER ZONE

EMERGENCY – This is the *danger zone*, act quickly if you have:

- Confusion and/or disorientation
- Double vision
- Fainting episode or passing out
- Convulsions or a seizure
- Blood glucose that is still less than 4 mmol/L after 3 attempts to treat low blood sugar
- Blood glucose that is greater than 20 mmol/L for more than 8 hours and you are symptomatic (if you have Type 2 Diabetes)
- Blood glucose that is greater than 14 mmol/L before meals or at bedtime on two tests in a row and you are symptomatic (if you have Type 1 diabetes)
- Urine ketones are moderate to large or blood ketones are 1.5 mmol/L or higher

What should I do?

Call 911 for an ambulance or have someone take you to the nearest emergency department

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Caring for your Feet

- Foot care is an important part of diabetes management
- It is important to inspect and care for your feet daily
- You can prevent serious foot problems by taking care of your feet
- A 60 second Diabetic Foot Screen should be done annually

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Resources

- **HealthLink BC** www.healthlink.ca

  Phone 8-1-1 for non-emergency health information. Registered Nurses, dieticians, pharmacists and exercise professionals are available.

- **Diabetes Canada** www. diabetes.ca

  Line: 1-800-BANTING (226-8464)

- **QuitNow** www.quitnow.ca

  QuitNow is free and available by phone or online.

- **Self-Management Program** www.selfmanagementbc.ca

  Diabetes or Chronic Disease Self-Management Program, check their website or call 1-866-902-3767

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