



Nutrition Session 2

Diabetes

Healthy Lifestyle for Blood Sugar Management



Today's Session

- What is Diabetes?
- Nutrition
 - Foods That Affect Your Blood Sugar
 - Food Guide and Other Tools
 - Protein, Fat, Sweeteners
- Glucose Monitoring



What is Diabetes? What is Insulin?

Diabetes is a condition in which your body cannot properly use and store food for energy.

Insulin is a hormone that is produced by the pancreas and tells your body's cells to take in sugar

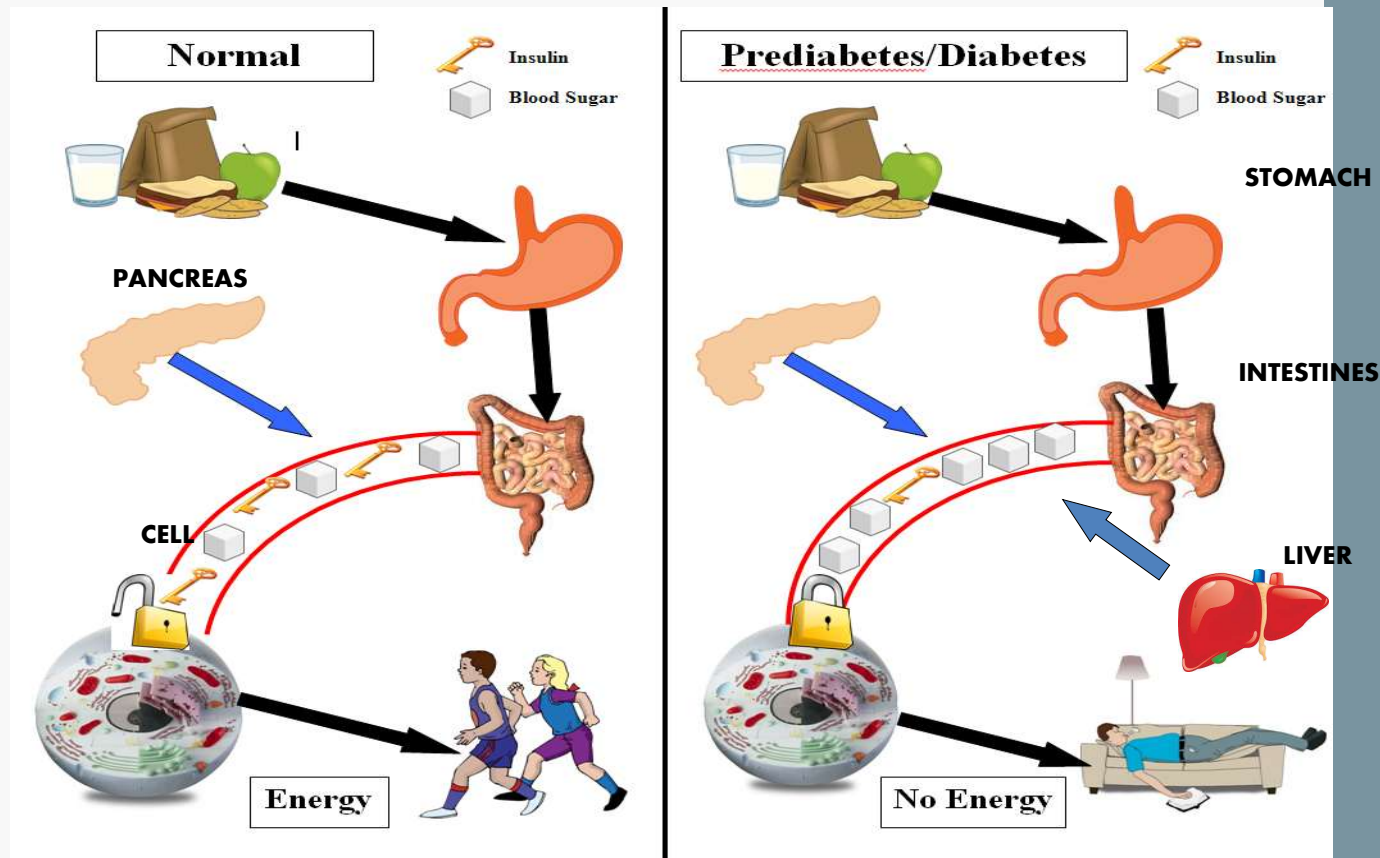


Types of Diabetes

- Type 1 Diabetes
- Type 2 Diabetes
- Prediabetes

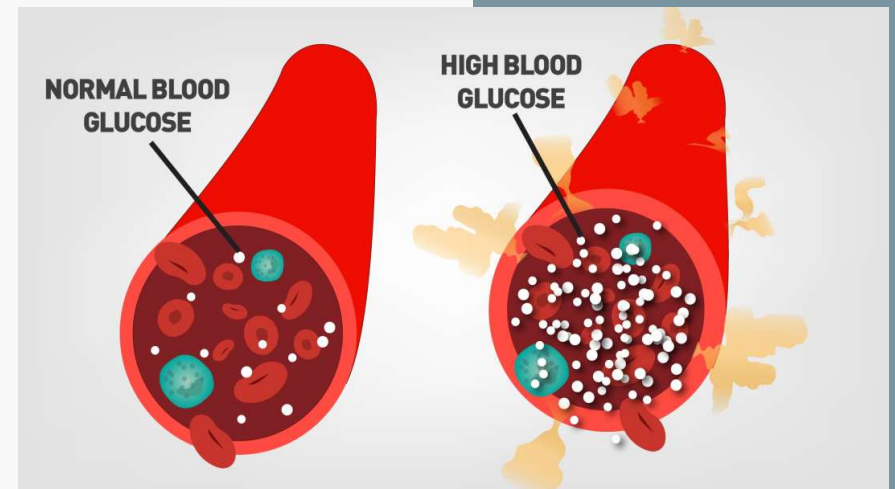


What does Diabetes do?



Blood Glucose (sugar)

- Amount of glucose (sugar) in the blood
- Consistently high levels are damaging to the body



How can this affect your body?

- Eye damage (retinopathy)
- Kidney damage (nephropathy)
- Loss of feeling in feet (neuropathy)
- Heart disease



BRAIN
Cerebrovascular Disease



EYES
Diabetic Retinopathy
Diabetic Macular Edema
Cataracts
Glaucoma



TEETH
Tooth Decay and Cavities
Gingivitis (early gum disease)
Periodontitis



HEART
Coronary Artery Disease



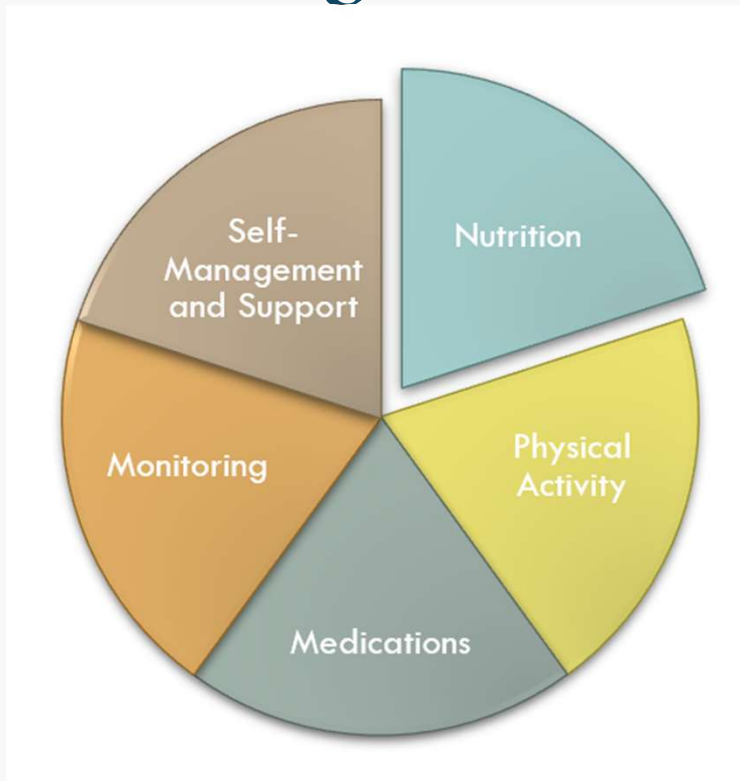
KIDNEYS
Diabetic Nephropathy
(diabetes-induced kidney disease)



NERVES
Sensorimotor Polyneuropathy
Autonomic Nerve Damage



Diabetes Management

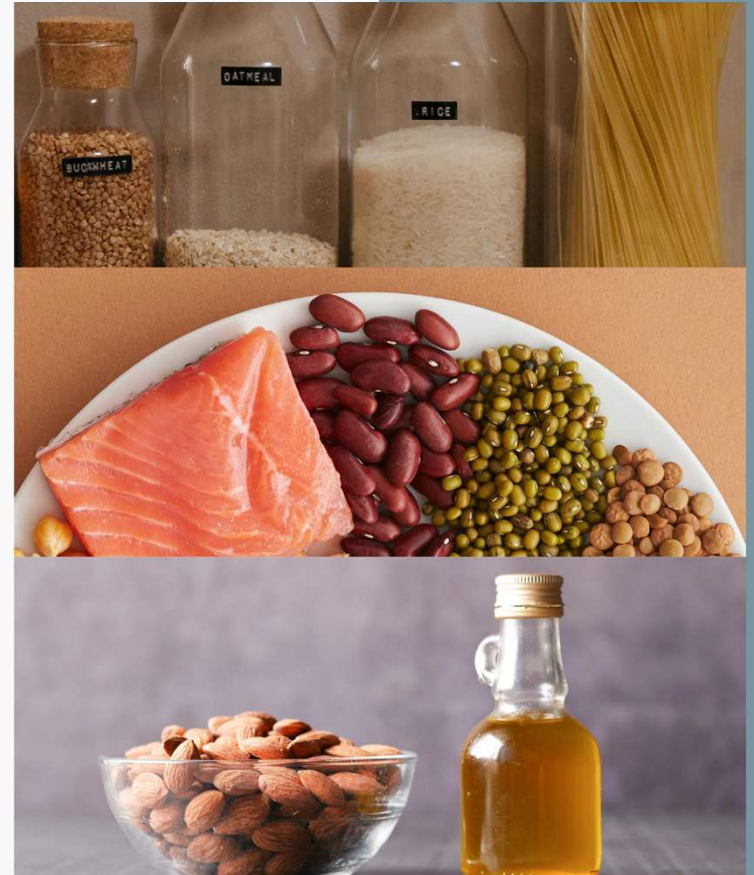


Nutrition in Diabetes



Nutrients found in Food

- Supplies calories/energy (and some provide vitamins, minerals, antioxidants):
 - Carbohydrates
 - Protein
 - Fat
 - Alcohol



Available Carbohydrates

Types of Carbohydrates

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graph TD; A[Types of Carbohydrates] --> B(Starch); A --> C(Sugar); A --> D[Fiber];
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Starch

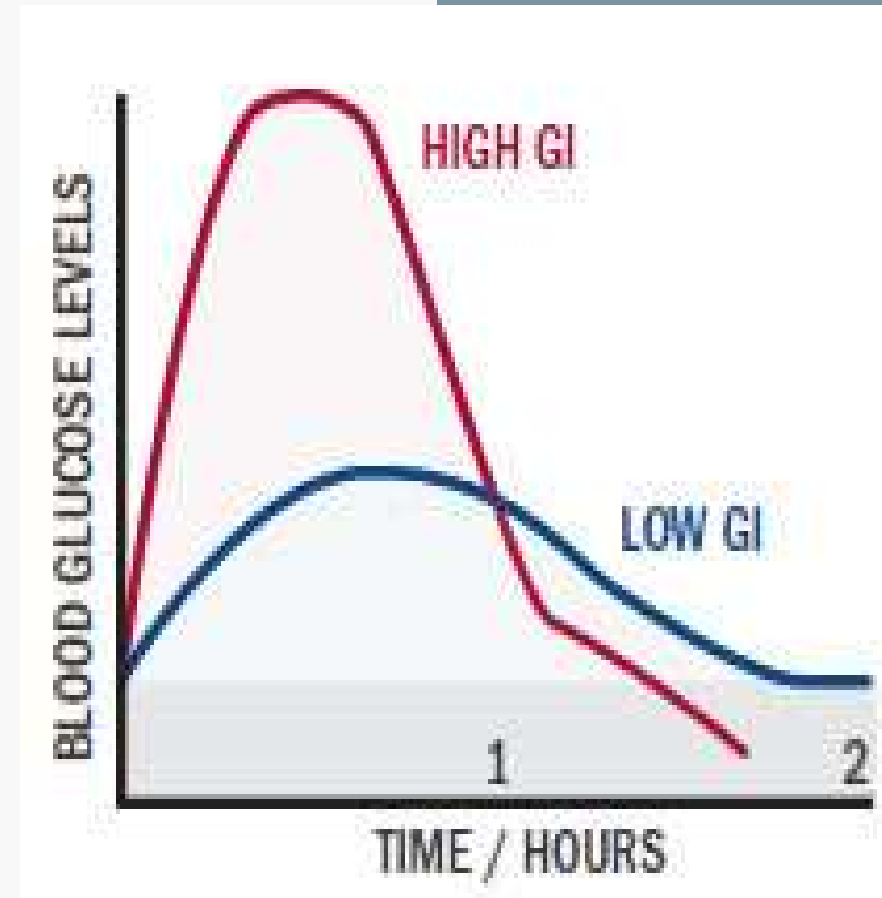
Sugar

Fiber

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The Glycemic Index

- High Glycemic Index items
 - Fried plantain
 - Baked potato
 - White Bread
- Low Glycemic Index items
 - Whole grain and sour dough bread
 - Taro/ Dasheen
 - Sweet Potato (low if boiled)
 - Cassava
 - Lentils and beans

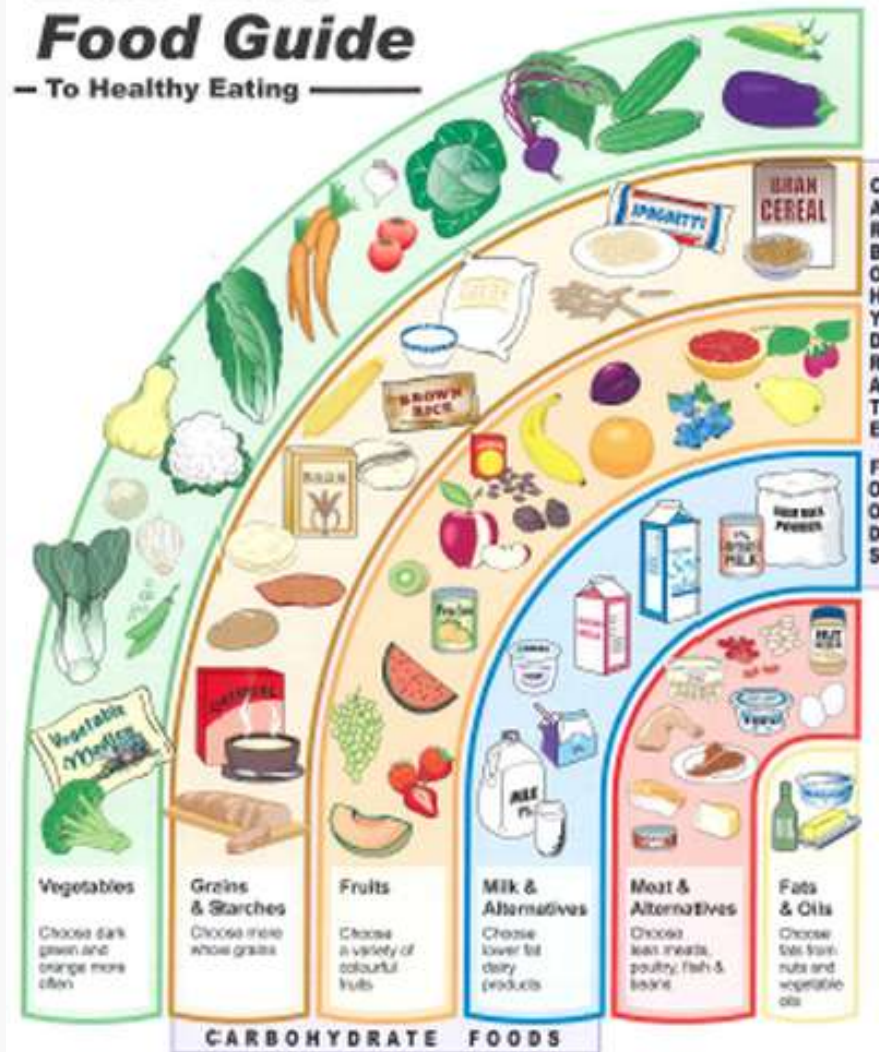


The Diabetes Food Guide

There are six food groups:

- Vegetables
- Grains and starches
- Fruits
- Milk and alternatives
- Meat and alternatives
- Fats and oils

The Diabetes Food Guide — To Healthy Eating —



The Diabetes Food Guide

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- Vegetables
- Grains and starches
- Fruits
- Milk and alternatives
- Meat and alternatives
- Fats and oils

Trace amounts of carbs

CARBOHYDRATES

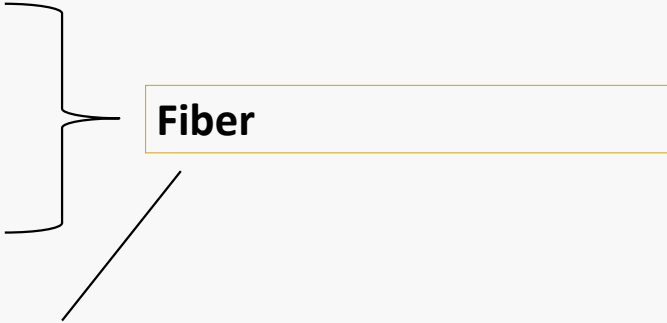
**Pulses do contain carbs
but are counted as a
meat alternative
(protein)**



The Diabetes Food Guide

There are six food groups:

- Vegetables
- Grains and starches
- Fruits
- Milk and alternatives
- Meat and alternatives (pulses)
- Fats and oils



Fiber

Adequate daily fiber recommendations:

Men over 50: **28g**

Women over 50: **22g**



The Diabetes Food Guide

There are six food groups:

- Vegetables
- Grains and starches
- Fruits
- Milk and alternatives
- Meat and alternatives
- Fats and oils

Sugars



Eating recommendations

- WHAT we should eat



- HOW MUCH we should eat



- WHEN we should eat



WHAT we should eat

- A variety of foods from different food groups
 - Spread Carbohydrates over the day



HOW MUCH we should eat

Handy portion guide

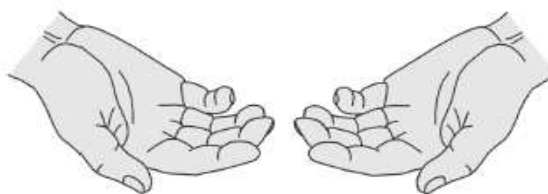
Your hands can be very useful in estimating appropriate portions. When planning a meal, use the following portion sizes as a guide:



FRUITS*/GRAINS & STARCHES*:

Choose an amount the size of your fist for each of Grains & Starches, and Fruit.

MILK & ALTERNATIVES*: Drink up to 250 mL (8 oz) of low-fat milk with a meal.



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.

* Food group names taken from *Beyond the Basics: Meal Planning for Healthy Eating, Diabetes Prevention and Management* © Canadian Diabetes Association, 2005. Please refer to this resource for more details on meal planning.

HOW MUCH we should eat

My Plate Planner
A Healthy Meal Tastes Great

The Plate Method is a simple way to plan meals for you and your family. You don't have to count anything or read long lists of foods. All you need is a 9-inch plate.

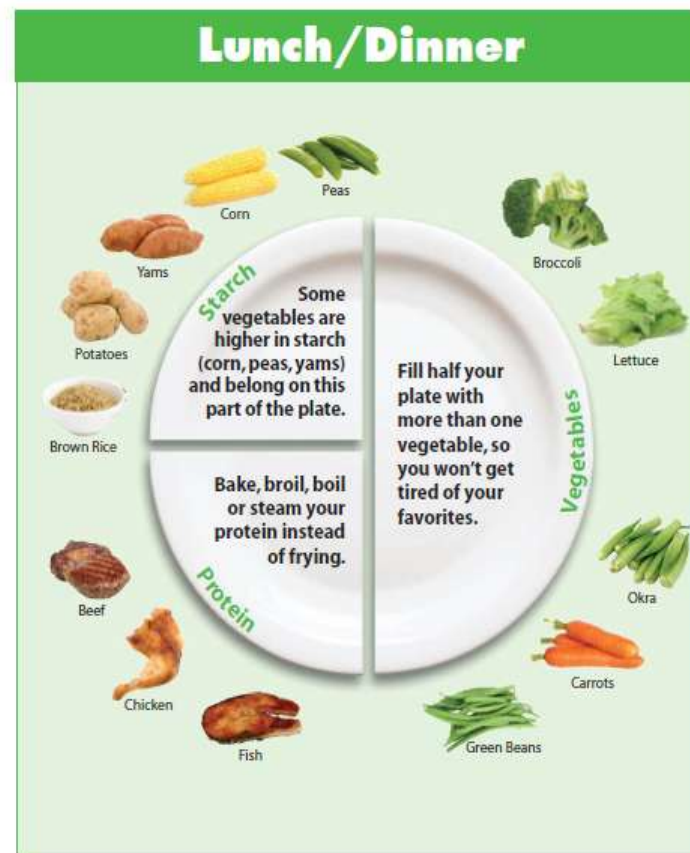
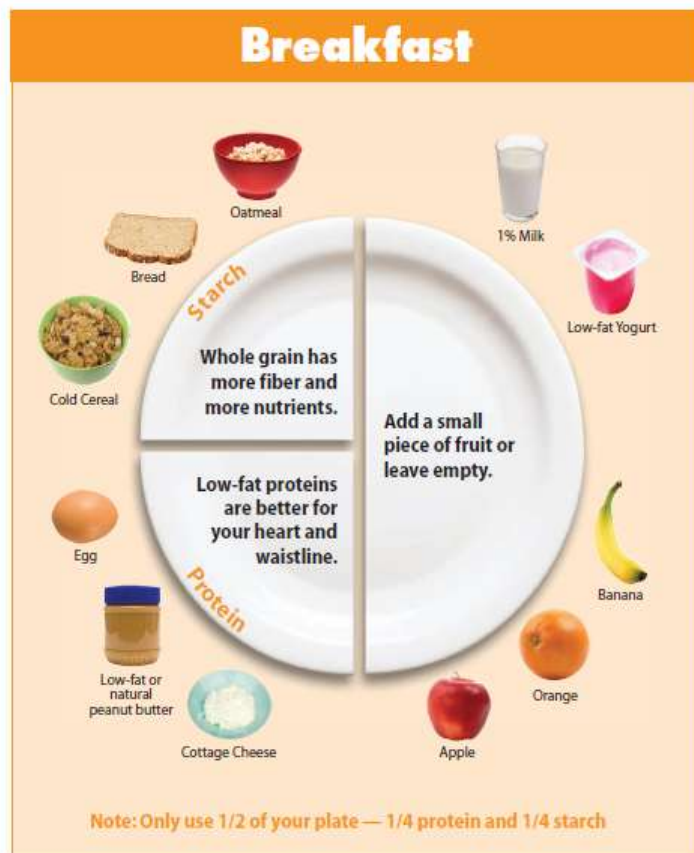
1/4 starch
1/4 protein
1/2 vegetable

1/4 protein. 1/4 starch. 1/2 vegetable. 9-inch plate

NYC Health
Michael R. Bloomberg, Mayor
Thomas R. Frieden, M.D., M.P.H., Commissioner

TAKE CARE NEW YORK

HOW MUCH we should eat



Carb counting

- One carbohydrate choice: 15 g
- Typically 3-4 carbohydrate choices per meal (ask doctor)
 - Rice: 1/3 cup
 - Cassava: 1/3 cup
 - Dasheen: 1/3 cup
 - Plantain: 1/3 cup
 - Baked potato (large): 1/4 potato
 - Sweet potato: 1/2 cup
 - Yam: 1/2 cup

Carb counting

Nutrition Facts

Serving Size 1/2 cup (57g)

Servings Per Container 15

Amount Per Serving

Calories 240 **Calories from Fat** 70

% Daily Value*

Total Fat 8g **12%**

Saturated Fat 0.5g **3%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 90mg **4%**

Potassium 250mg **7%**

Total Carbohydrate 37g **12%**

Dietary Fiber 4g **16%**

Sugars 18g

Protein 5g

- Serving Size = 1/2 cup (57 g)
- Carbohydrates = 37 g
 - Fiber: 4 g Sugar: 18 g Starch: 15 g
- Net Carbohydrate: Subtract Fiber from Carbohydrates: $37 \text{ g} - 4 \text{ g} = 33 \text{ g}$
- 30 grams = 2 Carbohydrate choice in 1 serving of this food item.

WHEN we should eat

- 3 meals per day
- Meals should be 4-6 hours apart. For example:
 - 8:00 AM - Breakfast
 - 12:00 PM - Lunch
 - 5:00 PM - Supper
- 2-3 snacks per day if hungry in between meals

Other Nutritional Factors

- Protein
- Fat
- Artificial sweeteners



Proteins

There are six food groups:

- Vegetables
- Grains and starches
- Fruits
- Milk and alternatives
- Meat and alternatives
- Fats and oils

Proteins

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Proteins

- How do they affect your blood sugars?
- Why are they important to eat?
 - Slows digestion and rate of release of carbohydrates
 - Variety is important



Fat

There are six food groups:

- Vegetables
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- Fruits
- Milk and alternatives
- Meat and alternatives
- Fats and oils

Fats

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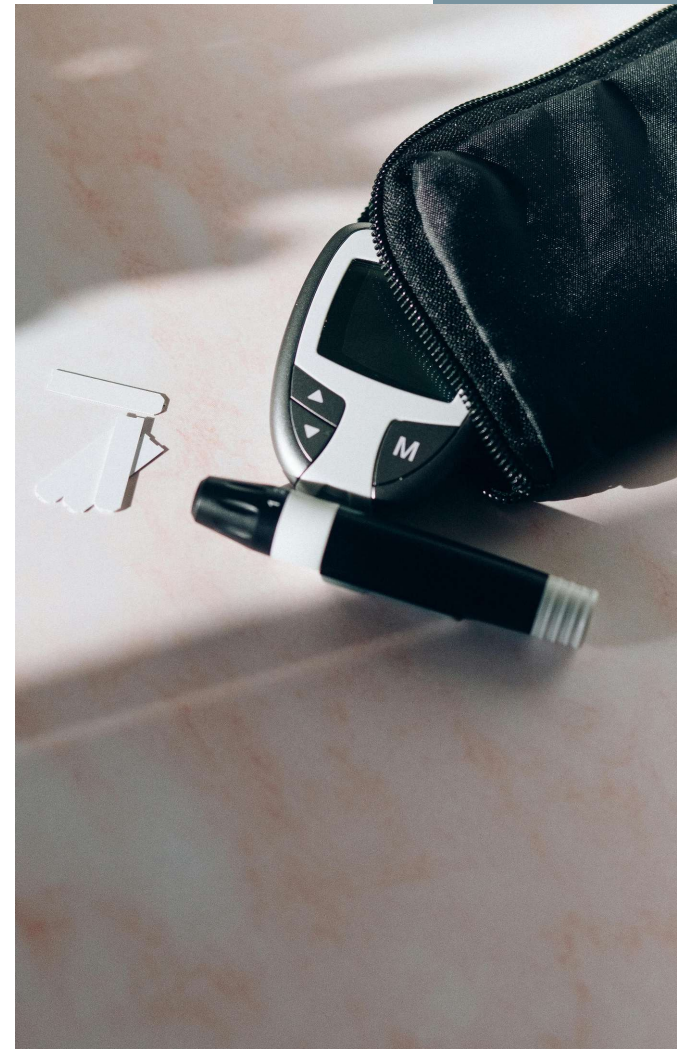
Artificial Sweeteners

- Provide sweet flavor without increasing blood sugar or only increasing it a little
- Types of sweeteners
 - Aspartame, Sucralose, Sugar Alcohols



Glucose Monitoring

- Who should test their blood sugar?
- What are the targets for diabetes?
 - Fasting or before meals: 4-7 mmol/L
 - 2 hour after meals: 5-10 mmol/L
- What is the target for A1C?
 - Less than or equal to 7%
 - May be higher for older people



Useful Tools

- Diabetes Canada (diabetes.ca)
 - For more info about diabetes
- Cookspiration (cookspiration.com)
 - A free meal planner
- Unlock Food (unlockfood.ca)
 - For nutrition and health information, as well as recipes.
- Healthy Eating for Diabetes handout



Questions from last session

- Rice Infographic
- Canola Oil concerns



Thank You



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- Thank you for being here!
 - Next session: Blood Pressure. Jun 4th
 - Questions?
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