

Type 2 Diabetes



Healthy Columbus Nutrition Seminar
August, 2016 Ashley Harris, MS, RD, CSD
FRESH FOOD PERSPECTIVE

Outline

- + What is diabetes?
 - + Type 2 diabetes
- + Nutrition for type 2 diabetes
 - + Plate Method
- + Other Healthy Habits
 - + Exercise
 - + Alcohol Intake
 - + Quit Smoking
 - + Reduce Stress

FRESH FOOD PERSPECTIVE

What is type 2 diabetes?



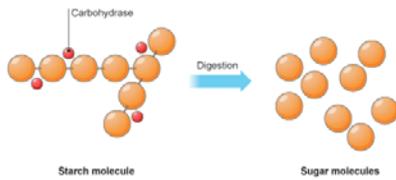
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What is diabetes?

- × When blood glucose is too high
- × Blood glucose is also called blood sugar
- × Blood glucose is the main sugar found in blood
- × Gives the body energy
- × It comes from the:
 - × Liver and the muscles
 - × Food you eat in the form of carbohydrate
 - × Starch is a type of carbohydrate in food which digests into sugar molecules
 - × Sugar is also a carbohydrate

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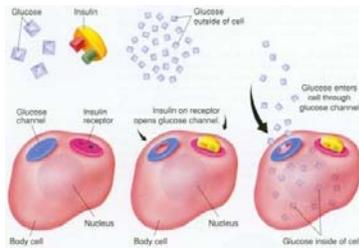
What is diabetes?



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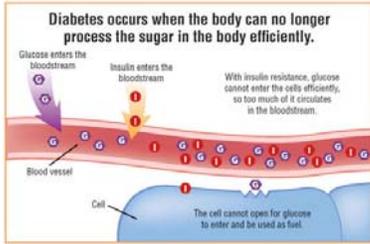
What is diabetes?

- × Insulin is a hormone made and released by the pancreas
- × Helps blood carry glucose to body's cells
- × Insulin acts as the key to open the door for glucose to enter the cell.



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What is diabetes?



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What is diabetes?

- × Signs and Symptoms:
 - × Excessive thirst
 - × Frequent urination
 - × Excessive hunger
 - × Fatigue
 - × Unintentional weight loss
 - × Slowly healing wounds
 - × Dry, itchy skin
 - × "Pins and needles" feeling in feet
 - × Loss of feeling in feet
 - × Blurred vision

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DIABETES

KNOW THE SYMPTOMS



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What is diabetes?

- × Diabetes can lead to:
 - × Damage of the heart, blood vessels, nerves, kidneys, mouth, eyes, and feet
 - × Heart disease
 - × Stroke
 - × Amputation to remove damaged tissues

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Type 2 Diabetes

- × Formerly called “adult-onset diabetes”
- × Risk factors include:

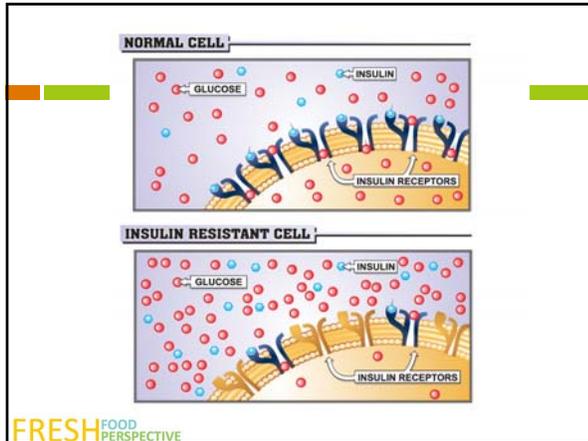


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Type 2 Diabetes

- × Caused by insulin resistance
 - × Muscle, fat, and liver cells no longer react to insulin preventing blood glucose from entering the cell
 - × The body need more insulin so the glucose can enter the cells
 - × At first, the pancreas makes more insulin to try and keep up with the demand
 - × Then, the pancreas does not make enough insulin to meet body's demands

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Type 2 Diabetes

- × Treatment and management include:
 - × Diabetes medicines
 - × Healthy food choices
 - × Physical activity
 - × Blood pressure control
 - × Blood cholesterol level control
 - × Blood glucose monitoring

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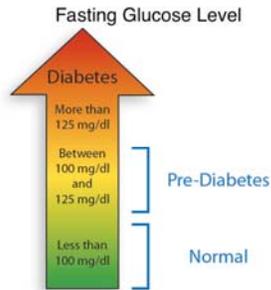
Type 2 Diabetes

- × Blood glucose monitoring
 - × Primary tool to check blood sugar control
 - × Checks blood sugar level at a single point in time
 - × May have to check before and after meals
- × People who benefit from checking blood glucose regularly are especially those:
 - × Using insulin
 - × That are pregnant
 - × Having a challenging time controlling blood sugar levels
- × Keep a log of numbers to share with health care providers

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Type 2 Diabetes

- × Fasting glucose level is the measure of glucose in the blood stream after 8 hours of not eating or drinking (except water). Commonly measured in the morning prior to eating or drinking anything for breakfast



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Type 2 Diabetes

- × Testing fasting blood glucose can be used to diagnose diabetes
- × Also used at home with a blood glucose monitor to gauge diabetes control
- × For most people, the goal is between 80-120mg/dl for a fasting blood glucose level
- × Healthy diet and other healthy habits can help reach this goal



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Nutrition for Type 2 Diabetes



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Nutrition for Type 2 Diabetes

- Historically very restrictive diets such as:
 - Carbohydrate counting
 - Diabetes exchanges
 - Glycemic Index
- Now, it is understood that one diet does not fit everyone with diabetes
- The benefits to this approach are:
 - Offers flexibility in diet
 - Can include favorite foods in plan

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Nutrition for Type 2 Diabetes

- The right meal plan can improve:
 - Blood glucose levels
 - Blood pressure numbers
 - Blood cholesterol levels
 - Weight



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Nutrition for Type 2 Diabetes

- In general, think about healthy eating:
 - Eat a variety of foods
 - Vegetables
 - Fruits
 - Whole grains
 - Healthy fats
 - Lean meats or meat substitutes
 - Do not overeat
 - Space meals throughout the day
 - Do not skip meals (Have meal/snack every 3-4 hours)

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Carbohydrates

- × Broken down in the body to sugar (glucose) in the blood
- × Provide body with energy
- × Important for everyday needs but do not want to overconsume



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Carbohydrates

- × Three types of carbohydrates:
 - **Simple** – quickly convert to sugar (glucose) in blood
 - **Complex** – convert more slowly to sugar (glucose in blood), more complex sugar and usually in fiber matrix
 - **Dietary Fiber** – unable for body to digest, provide no calories or energy (glucose)

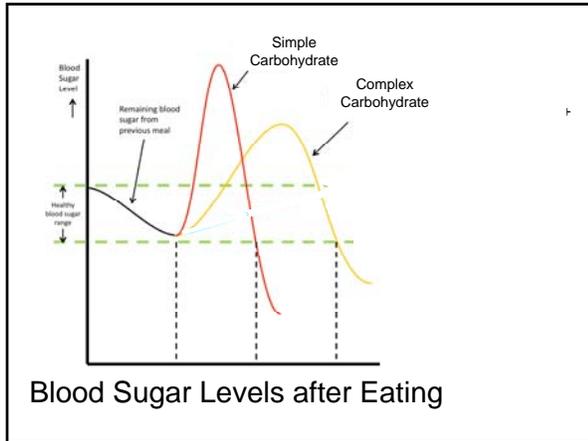
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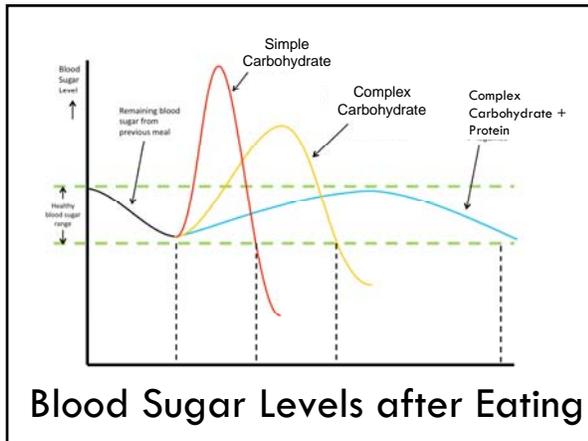
Carbohydrates

- | | |
|--|---|
| <p>Simple Carbs- choose LESS often</p> <ul style="list-style-type: none"> • “Whites” (white bread, white rice white pasta, regular crackers) • White potatoes • Soda, Juice • Candy, Sweets • Sugar, Honey, Jelly, Jam | <p>Complex Carbs- choose MORE often</p> <ul style="list-style-type: none"> • Whole wheat/whole grain bread • Brown rice, Whole wheat pasta • Whole grain crackers • Starchy vegetables (sweet potato, winter squash, corn, peas) • Whole fruits • Other whole grains (oats, quinoa, bran, bulger, etc) |
|--|---|



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Nutrition for Type 2 Diabetes

- × A simple way to begin is by thinking about the "Plate Method"
- × Requires no special tools or counting

Eat What You Love, Love What You Eat with Diabetes Plate

The diagram shows a plate divided into sections: a large green section for "Low-Carbohydrate Vegetables", a yellow section for "Grains or starchy vegetables", a brown section for "Protein", a small white circle for "Dairy", and a small red circle for "Fruit".

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© 2012 Eat What You Love, Love What You Eat with Diabetes

Nutrition for Type 2 Diabetes

- × Breaking down the “Plate Method”
- × Fill half of the 9 inch plate with “low-carbohydrate” or “non-starchy” vegetables
- × Full of vitamins, minerals, fiber, and phytonutrients
- × Choose fresh, frozen, or canned (without added sodium)



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Nonstarchy Vegetables

Each 1 cup serving of raw vegetables or each ½ cup serving of cooked vegetables contains 5 grams of carbohydrate, 2 grams of protein, 0 grams of fat, and 25 calories.

Artichoke	Salad greens (dillweed, endive, escarole, lettuce, romaine, arugula, radicchio, watercress. 2 cups of salad greens is equal to 1 serving of raw vegetable)
Asparagus	
Baby corn	Mushrooms, all kinds
Bamboo shoots	Okra
Bean sprouts	Onions
Beans (green, wax, Italian)	Pea pods
Beets	Peppers (all varieties)
Broccoli	Radishes
Cabbage (green, bok choy, Chinese)	Rutabaga
Carrots	Sauerkraut
Cauliflower	Soybean sprouts
Celery	Spinach
Coleslaw, packaged, no dressing	Squash (summer, crookneck, zucchini)
Cucumber	Sugar snap peas
Eggplant	Swiss chard
Gourds (bitter, bottle, luffa, bitter melon)	Tomato (fresh, canned, or sauce)
Green onions or scallions	Vegetable juice
Greens (collard, kale, mustard, turnip)	Turnips
Jicama	Water chestnuts
Kohlrabi	Yard-long beans
Leeks	
Mixed vegetables (without corn, peas, or pasta)	

Modified from Choose Your Foods: Exchange Lists for Diabetes Management 2008

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Nutrition for Type 2 Diabetes

- × Breaking down the “Plate Method”
- × Fill one quarter of the plate with grains, starchy vegetables, or legumes
 - × Try to choose whole grains
 - × Rich in vitamins, minerals, phytonutrients, and fiber
 - × Limit foods made with processed white-flours and added sugars
 - × Use as an occasional treat



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Nutrition for Type 2 Diabetes

Whole grains	Refined grains
<ul style="list-style-type: none"> ▪ Brown rice ▪ Quinoa ▪ Buckwheat ▪ Bulgur (cracked wheat) ▪ Millet ▪ Oatmeal ▪ Oat bran ▪ Popcorn ▪ 100% Whole wheat or whole grain bread, pasta, or crackers ▪ Barley 	<ul style="list-style-type: none"> ▪ White or wheat bread ▪ White rice ▪ Corn flakes ▪ Couscous ▪ White pasta ▪ Grits ▪ Pretzels ▪ Most crackers and snack foods

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Nutrition for Type 2 Diabetes

- × Examples of starchy vegetables:
 - × Parsnip, plantain, potato, pumpkin, acorn squash, butternut squash, green peas, and corn
- × Examples of legumes:
 - × Dried beans (black, lima, pinto, etc.)
 - × Lentils
 - × Dried peas (black-eyed, split, etc.)



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Nutrition for Type 2 Diabetes

- × Breaking down the "Plate Method"
- × Fill one quarter of the plate with lean protein such as:
 - × Fish and seafood
 - × Poultry without the skin
 - × Eggs
 - × Lean beef cuts- tenderloin, sirloin, flank, etc.
 - × Tofu/tempeh
 - × Nut/seeds
 - × Nut butter (peanut/almond butter)
 - × Beans*, hummus*
(*also contain complex carbs)



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Nutrition for Type 2 Diabetes

- × Breaking down the "Plate Method"
- × The extras: Fruit
 - × Enjoy a small piece of whole fruit or about 1/2 cup of fruit along with your meal
 - × Fruit contains vitamins, minerals, and fiber
 - × Choose fresh, frozen, or canned fruit with no added sugar
 - × Stick to only about 2-tbsp of dried fruit such as raisins at one time



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Nutrition for Type 2 Diabetes

- × Breaking down the "Plate Method"
- × The extras: Dairy
 - × Good source of protein, calcium, and vitamin D
 - × Dairy has about 12g carbohydrate and 8g protein per serving
 - × Best choices include-
 - × Milk (8oz= 1 serving)
 - × Plain yogurt (6 oz= 1 serving)
 - × Unflavored fortified milk alternatives (e.g. soy milk)



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Nutrition for Type 2 Diabetes

- × Breaking down the "Plate Method"
- × The extras: Fats
 - × Choose heart-healthy unsaturated fats which include omega-6 and omega-3 fatty acids
 - × Aim to increase omega-6 fatty acids from these sources:
 - × Vegetable oils
 - × e.g. sunflower and safflower
 - × Use in cooking and dressings
 - × Nuts
 - × e.g. walnuts and almonds
 - × Eat as snacks
 - × Use as a crunch on yogurt, cereal, or salads



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Nutrition for Type 2 Diabetes

- × Omega-3 fatty acids help prevent damage to arteries
- × Aim to increase omega-3 fatty acids from these sources:
 - × Fatty fish
 - × e.g. tuna, salmon, mackerel
 - × Other sources
 - × Walnuts
 - × Pumpkin seeds
 - × Flaxseed



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dietary fats

healthy fats	unhealthy fats
 avocado	 margarine
 nuts	 doughnuts
 salmon	 chips
 olive oil	 store cookies
 seeds	 fried foods

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Plate Method Examples



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Plate Method Examples



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Plate Method Examples



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What about snacks?

Complex carbohydrate

- provides immediate energy
- nutrient dense

+

Healthy protein

- sustains energy
- maintains blood sugar levels
- helps you feel full for longer

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Balanced Snack Ideas

Complex Carbohydrate	Healthy Protein	calories/protein*
½ cup pineapple (C)	+ ½ cup 2% cottage cheese (P)	130 cal/13g
1 cup raw vegetables (C)	+ ¼ cup hummus (P)	150 cal/4g
1 cup berries (C)	+ ½ cup frozen Greek yogurt (P)	150 cal/6g
½ whole grain tortilla (C)	+ 3 slices turkey breast (P)	160 cal/14g
1 pear (C)	+ 1 string cheese (P)	170 cal/8g
1 slice whole grain toast (C)	+ 1 hard boiled egg (P)	180 cal/9g
10 corn chips chips (C)	+ ¼ cup black bean dip (P)	185 cal/6g
1 banana (C)	+ 1 Tbs almond butter (P)	190 cal/5g
¼ cup granola (C)	+ 6 oz Greek yogurt (P)	200 cal/16g
1 apple (C)	+ 2 Tbs peanut butter (P)	215 cal/8g
6 whole grain crackers (C)	+ 1 slice 2% cheese (P)	220 cal/11g
¼ cup dried fruit (C)	+ 1 handful (1 oz) mixed nuts (P)	250 cal/5g

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Nutrition for Type 2 Diabetes

- Remember: The plate method is a great place to begin to incorporate healthy eating habits into your everyday!
- Consult your dietitian and health care provider on which specific dietary approach will work best for you and managing your diabetes.



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Other Healthy Habits



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Other Healthy Habits

- × Regular physical activity
 - × Increased physical activity increases cellular sensitivity to insulin which lets glucose move from blood into the cells for energy
 - × Benefits of physical activity include:
 - × Lowers blood sugar levels
 - × Lowers blood pressure and cholesterol
 - × Burns calories to maintain or help lose weight
 - × Improves sleep
 - × Relieves stress
 - × Reduced symptoms of depression

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Other Healthy Habits

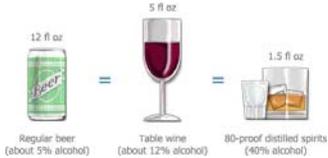
- × Regular physical activity
 - × Consult your physician before begin exercise
 - × Determine with health care provider the type of exercise that is best for you which might include:
 - × Walking
 - × Jogging
 - × Swimming
 - × Dancing
 - × Biking



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Other Healthy Habits

- × If drinking alcohol, do not drink on an empty stomach
- × Have water on hand to maintain hydration
- × Alcohol guidelines:
 - × Men: 2 drinks or less per day
 - × Women: 1 drink or less per day



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Other Healthy Habits

- × Quit smoking
- × Reduce stress
 - × Helpful techniques include:
 - × Deep breathing
 - × Yoga
 - × Meditation
 - × Exercise
- × Follow-up regularly with health care team!



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Questions??



THANK YOU!!

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