

Diabetes Management



Presented By: Alexa Marks RD, CND & Victoria De La Rosa, PT, DPT

Objectives

1. Pre-Diabetes Overview
2. Lowering your Risk of Type 2 Diabetes
3. Managing Type 2 Diabetes
4. How Exercise Can Help
5. At Home Exercise Options



Presenter



Victoria De La Rosa PT, DPT

- Doctorate of Physical Therapy from Quinnipiac University
- BlazeSports America Certified Adaptive Recreation and Sports Specialist Level I
- APTA and ANPT SIG Member
- Interested in population health and educating communities to optimize health and safety.
- Enjoys running, yoga, and spending time with friends and family.

What is Diabetes?

What is Diabetes

- A long-lasting health condition that affects the way your body processes food into energy
- With Diabetes your body doesn't make enough insulin or cells stop responding to insulin and too much sugar stays in the bloodstream
- Too much sugar can lead to serious health problems such as heart disease, vision loss, and kidney disease.

What happens to food when you eat?

1. Eat food →
2. Break down into glucose (sugar) →
3. Sugar goes up →
4. Pancreas releases insulin →
5. Body able to use sugar as energy for your cells

Why is this important?

- More than 37 million US adults have diabetes
 - 1 in 5 people don't know they have it
- Diabetes is the 7th leading cause of death in the US
- Diabetes is the #1 cause of kidney failure, lower limb amputations, and adult blindness
- In the last 20 years, the number of adults with diabetes has doubled

Prediabetes

What is Prediabetes?

- Sugar levels are higher than normal, but not high enough for a type 2 diabetes diagnosis
- Raises your risk for type 2 diabetes, heart disease, & stroke
- 1 in 3 adults have prediabetes in the US
- 8 in 10 people don't know they are prediabetic



Common Signs & Symptoms

- Increased thirst
- Frequent urination
- Increased hunger
- Fatigue
- Blurred vision
- Numbness or tingling in the feet or hands
- Frequent infections
- Slow-healing sores
- Unintended weight loss



When to see a doctor?

If you notice any signs or symptoms.

Ask your health care provider about blood sugar screening if you have any risk factors for diabetes

Risk Factors

Overweight

- BMI 25-29.9

Waist circumference

- men: >40". Women: >35"

Family history

- Having a parent or sibling with type 2 diabetes

Inactivity

- Less than 3 times per week

Sleep

- Obstructive sleep apnea

Race or ethnicity

- African American, Hispanic/Latino Americans, American Indians, Pacific Islanders, and some Asian Americans

Age

- >45 years old

High blood pressure

- >130/80

Low levels of HDL cholesterol

- <40 mg/dL

High triglyceride levels

- >150 mg/dL

Tobacco smoker

Gestational diabetes or giving birth to a baby who weighed more than 9lbs

Having polycystic ovary syndrome

What is the largest risk factor for diabetes?

- a. Overweight
- b. High blood pressure
- c. Diagnosis of prediabetes
- d. Tobacco smoker

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How to prevent or delay type 2 diabetes?

1. With losing weight if you are overweight
2. Eating a Healthy diet
3. Regular Exercise

Exercise Benefits



- Helps to increase insulin sensitivity
- Can lower insulin requirements (Type II DM)
- Improves cardiovascular function
- Reduces high blood pressure
- Helps with weight reduction
- Promotes healthy lifestyle
- Reduces stress
- Improves quality of life

Exercise

Exercise Recommendations

150 min per week of moderate intensity physical activity

20-25 min of activity everyday

2 or more days a week, include activities that work all major muscle groups

•How to get Started?

1. Find something you like
2. Start small
3. Find a partner
4. Pick a goal
5. Schedule it in



Special Considerations

Before Exercise

Check with your healthcare provider

Drink plenty of fluids and check blood sugar

If it's below 100 mg/dL you may need to eat a small carbohydrate snack so your blood sugar doesn't fall too low while being physical active

If it's above 240 mg/dL your blood sugar may be too high to be active safely. Test your urine for ketones; presence of ketones indicate you do not have enough insulin to control your blood sugar.

Wear cotton socks and athletic shoes that fit well and are comfortable

•After exercise

- After activity check your blood sugar
- after activity check your feet for sores, blisters, irritation, cuts, or other injuries



AT HOME EXERCISE!

Exercise

Moderate Intensity Exercise include...

Walking briskly

Dancing

Swimming

Biking

Sports

Cardio boxing

Standing Marching (Hip Flexion)



- While standing, bring one knee up toward your chest. Set it down and then repeat on the other side.
- Use your arms for support on a stable surface (such as kitchen countertop) for balance and safety as needed.

Standing Side Kicks (Hip Abduction)

- While standing next to a chair or countertop for support, raise your leg out to the side.
- Keep your knee straight and maintain your toes pointed forward as best as you can.
- Then, lower your leg back down and repeat.
- Use your arms for balance support if needed for balance and safety.



Squat (with Chair for Safety)

- Reach forward with your arms and lean forward at your waist as you press down with your legs and rise up to a standing position. As you rise to standing, lower your arms by your side. Stand tall.
- Then, return to sitting on the chair by leaning forward as you raise up your arms. Repeat.
- **NOTE:** If you are unable to stand, try pushing on your thighs with your arms or use a chair that has arm rests to press down on or hold a bathroom or kitchen sink to assist in pulling yourself up.



Upper Body

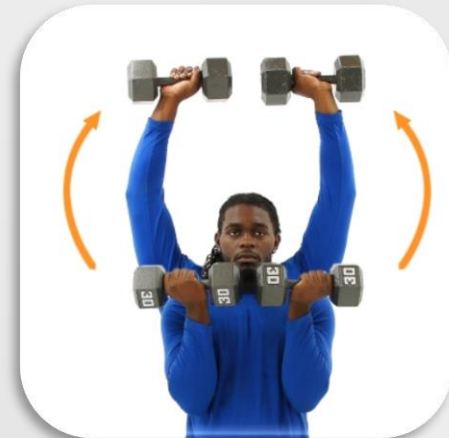
Seated Punches

While seated in a chair, extend your arms forward as in punching as shown. Use controlled smooth movements.



Arnold Press

- Hold household item like cans at upper chest height with palms towards you, then move weights in an arc of motion to the side and raise them overhead as you twist your forearms so that your palms face forward.
- Lower back down to starting position through the same side arc and as you twist your forearms so that your palms face you again.



Nutrition for Diabetes Management and Prevention



Presenter



Alexa Marks, RD, CDN



- Graduated with a Bachelor of Science: Nutritional Sciences - Dietetics Option from The Pennsylvania State University May, 2016
- Passed examination for Registered Dietitian (RD) November, 2017
- Over 4 years experience as an RD at YNHH – St. Raphael Campus
- Joined Gaylord June, 2022: Clinical inpatient and outpatient dietitian

Lowering Your Risk for Diabetes Using MNT

Lifestyle intervention

- 7-10% weight loss
- 150 minutes physical activity per week
- Manage stress

Macronutrient (carbohydrate, fat, protein) distribution should be individualized

- Consideration for food preferences
- Metabolic goals
- Dietary counseling: emphasis on whole grains, legumes, nuts, fruits, and vegetables and minimal refined and processed foods

Pharmacologic intervention

- Metformin therapy for those with prediabetes especially with those with a BMI ≥ 35 , those aged <60 years and women with prior gestational DM

What are carbohydrates (“carbs”)?

Broken down into 3 subgroups

1. Starch
2. Sugar
3. Fiber

Main source of energy for the body

- Typically 35-55% of total calories
- Effect blood sugar levels

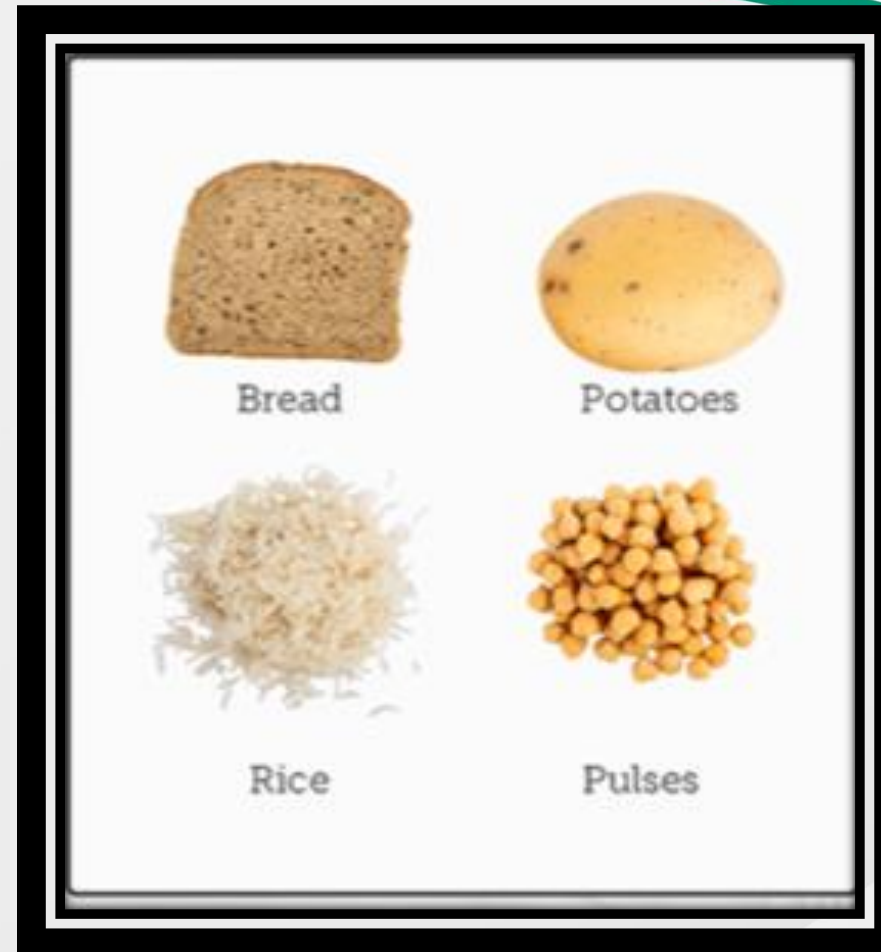
Source: Grains, starchy vegetables, fruit, dairy



Carbohydrates - Starch

- Starch
- Grains
- Starchy vegetables(corn, peas, potatoes, winter squash)
- Dried beans/lentils

Choose whole grains most often for fiber & essential nutrients!



Carbohydrates - Sugar

Naturally occurring

- Fructose (fruit)
- Lactose (milk)

Added

- Sucrose
- Dextrose
- Table sugar
- Syrup
- Honey
- Concentrated fruit or vegetable juice



Photo from US News Health

***Limit consumption of added
sugars for blood sugar control
and overall health***

Carbohydrates - Fiber

Fiber

- Plant-based foods including fruits, vegetables, whole grains and beans
- Recommended intake for adults >50 years old
 - 30 grams for men
 - 25 grams for women
 - Or 14 grams per 1000 calories consumed



Focus on including more fiber-filled carbohydrates

Food Labels

- 5% or less is low
- 20% or more is high

Claims

Reduced sugar: has at least 25% less sugar per serving than the original product

Sugar free: <0.5 gm per serving

No sugar added: No sugar has been put into the food, but may still contain natural sugars

Nutrition Facts

8 servings per container

Serving size 2/3 cup (55g)

Amount per serving

Calories **230**

% Daily Value*

Total Fat 8g 10%

Saturated Fat 1g 5%

Trans Fat 0g

Cholesterol 0mg 0%

Sodium 160mg 7%

Total Carbohydrate 37g 13%

Dietary Fiber 4g 14%

Total Sugars 12g

Includes 10g Added Sugars 20%

Protein 3g

Vitamin D 2mcg 10%

Calcium 260mg 20%

Iron 8mg 45%

Potassium 235mg 6%

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Source of labels: U.S. Food and Drug Administration

Taking Care of Your Diabetes

CARBOHYDRATES

FOOD LIST	CARBOHYDRATE (grams)	PROTEIN (grams)	FAT (grams)	CALORIES
Starch: Bread, cereal, pasta, starchy vegetables, beans, lentils etc.	15	3	1	80
Fruit	15	-	-	60
Sweets/desserts	15	varies	varies	varies
Fat free, low-fat (1%) milk	12	8	0-3	100
Reduced-fat (2%) milk	12	8	5	120
Whole milk	12	8	8	160
Non starchy vegetables	5	2	-	25

1 serving = 15 grams carbohydrate

Carbohydrate Counting

- Eat about the same amount of carbohydrates for each meal
- For health benefits, at least half of your servings of grains each day should be whole grains

1 CHOICE = ~15 GRAMS CARBOHYDRATE

Grains

1 carb choice

Whole Wheat Bread

1 Slice (1 oz.)

Dry Cereal

3/4 cup

Pasta

1/3 cup

Rice

1/3 cup

1 carb choice

Vegetables

Starchy

Baked Beans

1/3 cup

Corn

1/2 cup

Peas

1/2 cup

Baked Potato

Medium (3 oz.)

1 choice = 5 grams of carbs

Non-Starchy

Broccoli

1/2 cup

Carrots

1/2 cup

Tossed Salad

1 - 1.5 cups

Asparagus

1/2 cup

Fruit

1 carb choice

Banana

4 oz.

Cantaloupe

1/4 Melon (11 oz.)

Apple

Small

Grapes

15 Medium (3 oz.)

Dairy

1 carb choice

Milk, Whole

Milk, Skim

Milk, Chocolate

Plain Yogurt

Let's try it!



Serving size: $\frac{1}{4}$ large bagel (1 oz)

How many carbohydrate choices are you consuming if you ate the entire bagel?

Fats



- Include heart-healthy fats (mono and polyunsaturated)

- *Nuts, seeds, avocado, fatty fish, poultry, lean beef, eggs, low fat dairy, beans, soy*

FATS: All fats are high in calories, so keep the portion size small (less than 1 tablespoon in most cases).

EAT OFTEN

Oil-based salad dressing: vinaigrette, oil and vinegar

Oils: canola, olive, sunflower, peanut

Avocado, olives, seeds, peanut or almond butter

SOMETIMES

Low-fat creamy salad dressing like light ranch

Oils: corn, soybean, safflower, sesame

Mayonnaise

LIMIT

Full-fat creamy salad dressing like ranch or blue cheese

Butter, lard, coconut oil

Margarine

Cream

What Can I Eat? | 1-800-DIABETES (1-800-342-2383) | diabetes.org/whatcanieat

Protein



AIM FOR	LIMIT/AVOID
Poultry: White meat, skinless Legumes	Bacon fried foods Hot dogs
Fish: shrimp, tilapia, cod, flounder, haddock, mahi- mahi, tuna	Lunch meats Organ meats Processed meats
Ground beef: >92% lean	Sausage
Pork: opt for a top loin chop, roast or tenderloin	Spare ribs
Low fat dairy	
Nuts and seeds: 1 oz	
Tofu and tempeh	

Why are Balanced Meals Important?

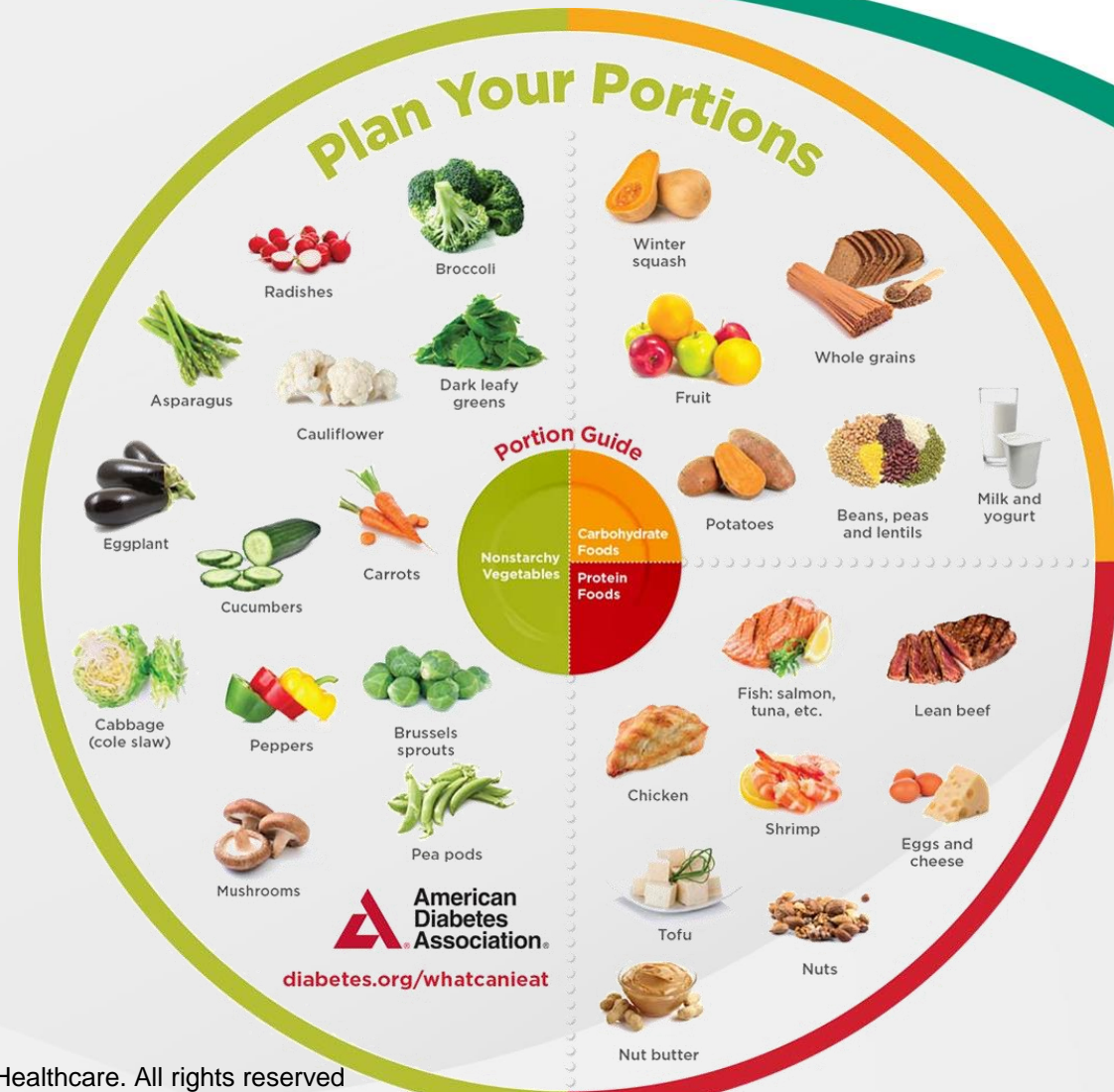


Carbs + protein, fiber, or healthy fat = better blood sugar control!



Diabetes Plate Method

Can be used as a
guide to plan meals



Want to learn more?

- Contact your local Physical Therapists
 - Gaylord PT Madison- 28 Durham Road, Madison CT; 203-284-2929
 - Gaylord PT Cromwell – 50 Berlin Rd, Cromwell CT; 203-284-3020
 - Gaylord PT Cheshire –1154 Highland Ave, Cheshire CT; 203-679-2533
 - Gaylord PT North Haven—8 Devine Street, North Haven CT; 203-230-9226
 - Gaylord PT Wallingford- 50 Gaylord Farm Rd, Wallingford CT; 203-284-2800
- Contact your local Nutrition Professionals
 - 50 Gaylord Farm Rd, Wallingford, CT 06492; 203-284-2800
 - Offering nutrition for heart health, diabetes management, Ulcerative Colitis, Crohn's Disease, and IBS management, Tube feeding assessment and adjustment, weight management

Thank you!

Any Questions?

Victoria De La Rosa, PT, DPT
Gaylord Specialty Healthcare
Outpatient Services
Wallingford, CT
vdelarosa@Gaylord.org

Alexa Marks, RD, CDN
Gaylord Specialty Healthcare
Inpatient and Outpatient Nutrition
Services
Wallingford, CT
Amarks@Gaylord.org