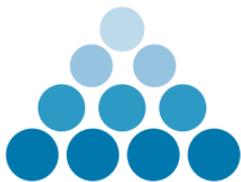


# OVERCOMING OBSTACLES IN TREATING YOUR DIABETES



A Discovery Channel Patient Education  
Resource Guide

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# What is Diabetes?

Diabetes is a serious disease in which your body has trouble processing energy from the foods you eat. Diabetes results from a problem with insulin, a hormone that's normally produced by your body. If your body doesn't produce enough insulin or use it properly, glucose—a form of sugar—builds up in your blood.

There are three common types of Diabetes:

- **Type 1 Diabetes:** The body does not produce any insulin.
- **Type 2 Diabetes:** The body is resistant to the action of insulin. It takes extra insulin to overcome this problem, and the body cannot produce enough.
- **Gestational Diabetes:** Some pregnant women who have this type produce insulin but their bodies do not use it well.

People who have any type of diabetes need to carefully watch what they eat and get enough exercise. People who have Type 1 diabetes must take insulin to survive. People with Type 2 diabetes may be able to control it with exercise and weight loss, or they may need to take pills or insulin. Women with gestational diabetes sometimes need to use insulin, too.

# About Insulin

Insulin is a hormone produced by the pancreas. It helps glucose (a form of sugar) move from the blood into the cells of your body. Your body cells need glucose for energy. Insufficient production of insulin results in diabetes. Insulin is delivered in several ways including: syringe, insulin pen and insulin pump and comes in several types. Insulin differs in length of time before it reaches the bloodstream and starts lowering blood glucose (onset), when it is working the most to control blood glucose levels (peak time) and how it continues to lower blood glucose (duration).

**Syringe:** Today's syringes are smaller, have finer points and special coatings to help make injections easier and relatively pain free.

**Insulin pen:** Insulin pens look a lot like regular pens; but instead of a ballpoint beneath the cap, there is a tiny needle.

**Insulin pump:** A computerized device that you can carry in your pocket, it delivers insulin as a steady, measured and continuous dose through a catheter placed under the skin.

# Diabetes Myths and Facts

## MYTH

1. Eating sugar causes diabetes.
2. If you have a family history of diabetes, you will definitely get diabetes.
3. Insulin will cause a lot of weight gain.
4. Needing to take insulin means you're really sick.
5. Insulin cures diabetes.

## FACT

1. Eating too much sugar can make you gain weight—which can lead to Type 2 diabetes, but not Type 1.
2. Many people with a family history will not develop diabetes.
3. With uncontrolled diabetes, the body can't use glucose properly. As a result, you can consume more calories than you need. With the start of insulin, blood glucose levels are better controlled, which may result in weight gain because you are no longer losing that energy, yet may still be consuming the same number of calories. With proper exercise and nutrition, any weight gain can be temporary.
4. If your treatment requires it, insulin can help you stay healthy.
5. Currently there is no cure for diabetes. Instead, insulin is needed to help promote glucose entry into the cells of your body.

# Fit for Good Health



Physical activity is important for everyone, especially for people living with diabetes. It doesn't have to mean running marathons or lifting heavy weights—fitness can be a brisk walk, dancing and other forms of moderate activity. Stay active!

Tips for success with your fitness program.

- **Talk to your Doctor First.** Learn how exercise fits in with your diabetes care.
- **Use an Exercise Diary.** Keep track of your workouts and how they affect your blood glucose levels. Share the diary with your doctor and adjust if necessary.
- **Watch Your Glucose Levels.** During workouts, check your blood glucose levels to see how exercise is affecting them. This determines if your blood glucose levels are stable, rising or falling and if it's safe for you to exercise.
- **Be Fitness Smart.**
  - Start slowly and build up.
  - Warm up, cool down and stretch.
  - Exercise 30 minutes a day, on most days of the week, if you can.
  - Add resistance exercise such as pushups.
  - Resistance training doesn't have to involve dumbbells and other equipment. You can use your own body weight to add resistance.

# Fitness at Home

Following are some simple exercises you can do at home—no gym membership or expensive equipment required.



**Crunch & Curl**—Lay down on the floor facing up. Bend your knees and cross your arms over your chest. Slowly curl your body up towards your knees so that your shoulder blades are off the floor. Work your way up to performing 2 sets of 12-15 repetitions.



**The “T” Shoulder Raise**—Using soup cans for extra weight, bring your arms straight out to your side so that your body forms a T. Lower your arms down, then raise them straight out in front of you until they are parallel to the floor. Lower your arms back down—that counts as one repetition. Work your way up to perform 2 sets of 12-15 repetitions.



**Towel Tug**—Hold a rolled up bath towel straight out in front of you. Keeping your arms straight, try to pull the towel apart for 10 seconds, then relax. Work your way up to perform 2 sets of 12-15 repetitions.



**Lunge**—Stand with your feet shoulder-width apart. Take a big step forward with one leg, but make sure your knee does not pass in front of your foot. Lower your other knee to the floor, keeping your back straight. Before touching the floor, use your front leg to push yourself back to a standing position. Then switch to the other leg. Work your way up to performing 2 sets of 12-15 repetitions.



**Superman**—Lay belly-down on the floor. Extend your arms straight in front of you. Slowly lift your arms and legs off the floor, pause, then return to the starting position. Work your way up to performing 2 sets of 12-15 repetitions.



**Perfect Plank**—Assume a pushup position, but rest on your forearms instead of your hands. Keep your back straight. Aim to hold this position for 30-60 seconds. Work your way up to 2 sets of 30-60 seconds.



**Calf Raise**—Stand with your feet shoulder-width apart. Slowly rise up on your toes, pause, then return to the standing position. You can rest your hand on a wall or the back of a chair for balance, but try to keep all your weight on your feet. Work your way up to performing 2 sets of 12-15 repetitions.



**Shape-up Pushup**—Place your hands on the floor, shoulder-width apart, and feet together. Keeping your back straight, lower your body to the floor. Before touching the floor, push yourself back up. If you are unable to do this, you can modify this exercise by placing your knees on the floor. Work your way up to perform 2 sets of 12-15 repetitions.

# Eating Well for your Well-being

There is no single “diabetes diet.” People with diabetes should eat the same healthy, wholesome foods as everyone else.

## A healthy diet for people with diabetes:

- contains complex carbohydrates such as beans, vegetables and grains.
- is low in fat, particularly saturated fat and cholesterol.
- has adequate protein such as lean meat, poultry, fish and tofu.
- includes fiber, which can be found in beans, whole-grain breads, fruits and vegetables.
- is low in sugary foods and sweets.



## Different foods affect your blood glucose levels.

- Some cause the blood glucose to rise gradually.
- Carbohydrates have the most impact on your blood glucose levels.
- Work closely with your dietitian and your diabetes educator to learn how different food choices impact your blood glucose.

# Tips for Healthy Meal Preparation

**Grill or broil meats instead of frying.** Choose leaner meats, trim visible fat and remove the skin.

**Substitute herbs for salt.** To cut down on salt, try new herbs, spices and other natural flavorings. Squeeze in some lemon juice and sprinkle on the basil, chives and garlic in place of fats and salt.



**Reduce sugar in recipes or substitute with other sweeteners.** Try a test batch for a recipe and use a third or half less sugar than the recipe calls for. You may find that foods taste just as good.

**Choose healthy carbohydrates and fiber sources,** especially whole grains for great taste and an energy boost. To start, try mixing grains as a first step to switching to whole grains.

# Savory Substitutions

Small changes in recipes and in everyday meals can go a long way in maintaining good health. Here are just a few kitchen-tested ideas to try:

## Take it out

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whole milk  
whole egg  
cream  
oil (in recipes)  
sour cream  
mayonnaise  
unsweetened chocolate  
cream sauce

## Add it in

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skim or low-fat milk  
egg whites  
evaporated skim milk  
applesauce  
yogurt  
low-fat mayonnaise  
cocoa powder  
tomato sauce



# Healthy and Delicious Recipes

## Wake-up Smoothie

### Ingredients

1¼ cups orange juice, preferably calcium-fortified

1 banana

1¼ cups frozen berries such as raspberries, blueberries and/or strawberries

½ cup low-fat silken tofu or low-fat plain yogurt

1 tablespoon sugar or sugar substitute (optional)



### Directions

Combine orange juice, banana, berries, tofu or yogurt, and sugar or sugar substitute in a blender. (Sugar or sugar substitute optional)

Cover and blend until creamy. Serve immediately.

Nutrition Per Serving: Calories: 157; Carbohydrates: 33 g; Dietary Fiber: 4 g; Fat: 2 g (0 g sat, 0 g mono); Protein: 4 g; Sodium: 19 mg.

## Orange-Rosemary Glazed Chicken



### Ingredients

- 4 bone-in chicken breast halves, skin removed, trimmed of fat
- ¼ teaspoon salt
- Freshly ground pepper to taste
- 1 ½ teaspoon chopped fresh rosemary, divided
- 3 tablespoons orange marmalade
- 2 tablespoons sherry vinegar, malt vinegar or cider vinegar
- 1 teaspoon extra-virgin olive oil

### Directions

1. Preheat oven to 400°F. Coat a roasting pan with cooking spray.
2. Season chicken on both sides with salt and pepper. Place bone-side up in the prepared pan. Sprinkle with 1 teaspoon rosemary.
3. Bake chicken for 20 minutes. Meanwhile, combine remaining ½ teaspoon rosemary, marmalade, vinegar and oil in a small bowl.
4. Turn the chicken pieces over and top with marmalade mixture. Bake until chicken is no longer pink in the center—15 to 20 minutes more. Serve immediately, spooning the sauce over the chicken.

Nutrition Per Serving: Calories: 252; Carbohydrates: 10 g; Dietary Fiber: 0g; Fat: 3 g (1 g saturated, 1 g mono); Protein: 43 g; Sodium: 274 mg.

## Mediterranean Roasted Broccoli & Tomatoes

### Ingredients

- 12 ounces broccoli crowns, trimmed and cut into bite-size florets (about 4 cups)
- 1 cup grape tomatoes
- 1 tablespoon extra-virgin olive oil
- 2 cloves garlic, minced
- ¼ teaspoon salt
- ½ teaspoon freshly grated lemon zest
- 1 tablespoon lemon juice
- 10 pitted black olives, sliced
- 1 teaspoon dried oregano
- 2 teaspoons capers, rinsed (optional)



### Directions

1. Preheat oven to 450°F.
2. Toss broccoli, tomatoes, oil, garlic and salt in a large bowl until evenly coated. Spread in an even layer on a baking sheet. Bake until the broccoli begins to brown, 10 to 13 minutes.
3. Meanwhile, combine lemon zest and juice, olives, oregano and capers (if using) in a large bowl. Add the roasted vegetables; stir to combine. Serve warm.

Nutrition Per Serving: Calories: 76; Fat: 5 g (1 g sat, 4 g mono); Cholesterol: 0 mg; Carbohydrates: 7 g; Protein: 3 g; Fiber: 3 g; Sodium: 264 mg.

## Spinach, Avocado and Mango Salad



### Ingredients

- 1/3 cup orange juice
- 1 tablespoon red wine vinegar
- 2 tablespoons hazelnut oil, almond oil or canola oil
- 1 teaspoon Dijon mustard
- 1/4 teaspoon salt, or to taste
- Freshly ground pepper to taste
- 10 cups baby spinach leaves (about 8 ounces)
- 1 1/2 cups radicchio, torn into bite-sized pieces
- 8-12 each small red radishes (1 bunch), sliced
- 1 each small ripe mango, sliced
- 1 each medium avocado, sliced

### Directions

To prepare dressing:

Whisk juice, vinegar, oil, mustard, salt and pepper in a bowl.

To prepare salad:

Just before serving, combine spinach, radicchio, radishes and mango in a large bowl. Add the dressing. Toss to coat. Garnish each serving with avocado.

Nutrition per Serving: Calories: 210; Fat: 14 g (2 g sat, 2 g mono); Protein: 3 g; Fiber: 6 g; Sodium: 258 mg.

## Mixed Berry Pie



### Ingredients

- 12 to 15 medium strawberries, sliced
- 3/4 cup raspberries
- 1/2 cup fat-free, sugar-free instant vanilla pudding made with fat-free milk
- 6 single-serve (tart-size) graham cracker pie crusts
- 6 tablespoons light whipped topping
- 6 mint leaves, for garnish

### Directions

1. In a small bowl, mix together the strawberries and raspberries.
2. Spoon 4 teaspoons of the pudding into each pie crust.
3. Add 2 tablespoons of the strawberry-raspberry mix to each pie.
4. Top the fruit with 1 tablespoon whipped topping.
5. Garnish with mint leaves.
6. Serve immediately refrigerate until ready to serve.

Nutrition Per Serving: Calories: 165; Fat: 7 g; Cholesterol: 0 mg; Carbohydrates: 28 g; Protein: 2 g; Fiber: 2 g; Sodium: 200 mg.

# Diabetes Self-care and Management

One of the most important steps to managing diabetes is to develop a diabetes management plan. Be sure to identify and write down your goals.

1. Work with your doctor to develop a diabetes treatment plan, and follow it—including eating right, controlling your blood glucose and getting enough exercise.
2. Identify short-term actions you can adopt toward a healthier lifestyle, including ways of exercising regularly and eating healthy.
3. Plan for changes in your normal routine. Know what to do regarding diabetes medication when you are ill or traveling.
4. Devise a plan to change unhealthy habits, such as overeating or smoking.
5. Establish long-term steps to prevent or delay problems that result from diabetes. Talk with your doctor to make sure your blood glucose, blood pressure and cholesterol levels are under control, as high blood pressure and high cholesterol raise the risk of heart disease, a particular problem in diabetes.
6. Organize a support team that includes your healthcare team, family, friends, online community or other resources.
7. Find ways of checking your progress over time. Keep your diabetes management team up to date on how your treatment plan is working.



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