

Exercise

Type 2 diabetes and exercise

Exercise can help to lower blood sugars both during the exercise session as well as for up to 72 hours after the exercise. Exercise improves blood glucose control by increasing the uptake of sugar into cells. This improves glucose tolerance and insulin sensitivity and lowers blood sugar levels. Exercise has the added benefits of promoting weight loss and improving strength and fitness.

How do I get started on an exercise program?

If you were exercising prior to being diagnosed with Type 2 diabetes, and you don't have any medical complications, you can generally continue with your exercise program. If you are new to exercising, it is always best to talk with your physician prior to beginning an exercise program. Generally, it is safe to participate in a wide variety of activities such as walking, swimming, stationary cycling, aerobics classes and resistance training.

The goal is to get at least 150 minutes of cardiovascular exercise per week. This would equate to 30 minutes of exercise 5 days per week. Both aerobic exercise like walking as well as resistance training have a positive effect on blood sugar. This means it is time to get your walking shoes on and head out the door to walk around the block, or to the local mall or store and walk the aisles. If you have access to a pool, swimming is a great exercise and is easy on your joints. Also, grab some

weights or a resistance band and get to work! Resistance exercise should be done two times a week, but three days a week is even better!

Cardiovascular exercise

This is the type of exercise that increases your heart rate and keeps it there, ideally, for 20 minutes or more. Examples of cardiovascular exercise include walking, bicycling, swimming, and water aerobics. You should exercise at an intensity at which you can still carry on a conversation with a friend. You don't have to be huffing and puffing and out of breath to get a good workout!

Guide to Estimating Exercise

Recommendations: 30 minutes a day / 5 days a week	YOUR WEIGHT	
	150 lbs	200 lbs
	CALORIES BURNED	
Aerobics, low impact	180	225
Aerobics, water	145	180
Backpacking	255	315
Baseball, playing catch	85	113
Basketball, shooting baskets	153	204
Bowling	102	136
Canoeing	125	155
Gardening	136	181
Golf, carrying clubs	165	205
Ice skating	255	315
Pushing baby stroller	85	113
Jogging, 5 mph	272	363
Swimming, leisure, no laps	204	272
Vacuuming	119	159
Washing car	102	136
Walking dog	102	136
Walking, 3 mph	109	145
Yoga	85	113

Resistance training

This type of training will increase muscular strength, aid weight loss and improve balance. Free weights, elastic resistance bands and certain body weight exercises (i.e. push-ups) are examples. Each training session should include 5 to 10 exercises involving the major muscle groups and involve the completion of 10 to 15 repetitions for each set of exercises.

Getting ready to exercise

- Test blood glucose before exercise. Your blood sugar level should be between 100mg/dl and 300 mg/dl when working out. Postpone exercise if your blood sugar is above 300 mg/dl. Have a small snack before exercise if your blood sugar is below 100 mg/dl. Have some form of sugar readily available while exercising if you are on medication that puts you at risk for a low blood sugar.
- Wear comfortable, supportive shoes and socks to minimize the chance of injury.
- Stay hydrated! Drink water before, during and after exercise.

Reference:

Exercise and Type 2 Diabetes: American College of Sports Medicine and the American Diabetes Association: Joint Position Statement; Medicine and Science in Sports and Exercise; December 2010 - Volume 42 - Issue 12; pp: 2149-2304, e20-e19.

Diabetes Meal Planner

The Diabetes Meal Planner was designed by dietitians and certified diabetes educators to help simplify the process of changing lifelong habits to create a healthier way of living and improving blood sugar control for people with diabetes.

Your healthy plate

Inside the planner is a plate with a balance of healthy food choices. This plate guides you to choose one half of your plate as vegetables, one quarter of your plate as a protein and the final quarter of your plate as your starch/carbohydrate choice. Outside the plate are visual reminders to include 8 oz. of low or non-fat milk (or other non-sugar beverage) and a small piece of fruit with your meal. The perimeter of the plate is a guide to the size of plate you should be using to help control the size of your servings.

Portion sizes and carbohydrate

The estimated amount of carbohydrate in a food group (example: fruit, starch) is listed under each food group heading on the insert. The serving sizes for carbohydrate containing foods are listed next to the food. Paying attention to serving sizes will help you control your carbohydrate intake and, in turn, control your blood sugar. Paying attention to portion sizes will also help you control your calorie intake and your weight. You can use the portion size guide in this planner to help estimate appropriate amounts of foods just by looking at them. For specific carbohydrate content of individual foods, look at the Nutrition Facts on the package or use a carbohydrate counting reference guide book or website.

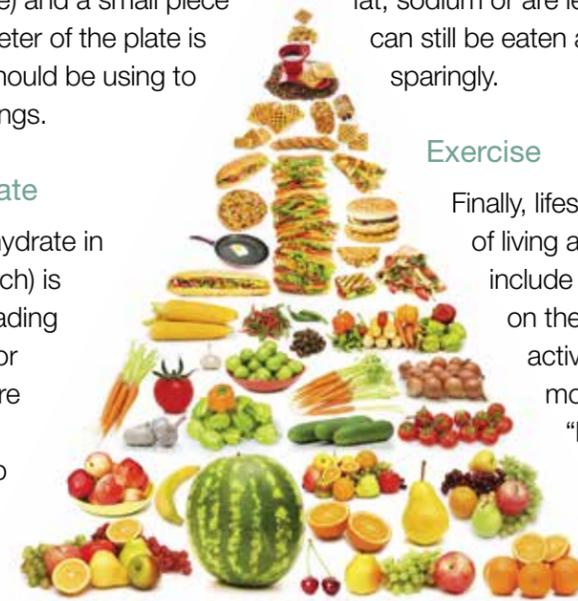
Nutritional content of foods

Choosing high quality foods helps you feel and look better, as well as to help you lose weight. On the insert, foods with 5 stars are higher in nutrient density. That's a way of saying the food contains more vitamins, minerals, antioxidants and fiber and less unhealthy fat. Foods with 2 or 3 stars are higher in fat, sodium or are less healthy versions of food. They can still be eaten as part of a healthy diet if done so sparingly.

Exercise

Finally, lifestyle changes for a healthier way of living and improved blood sugar control include exercise! Use the activities chart on the back of this guide to identify activities you love to do and do them more often, or pick out a new activity "habit!"

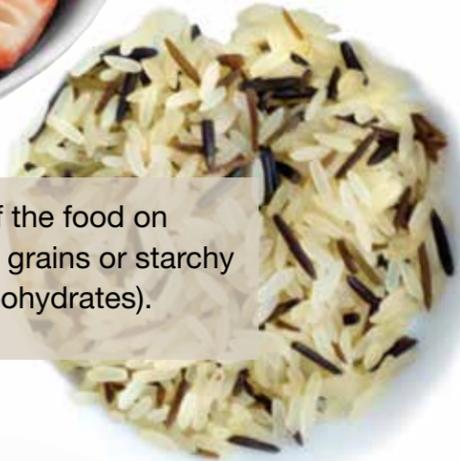
Talk to your dietitian about a specific plan to meet your goals. For more information on portion sizes, tracking food and calorie intake, menu planning guides and diabetes visit the resources section of Wellness.inhs.org. It's full of information, and it's free!



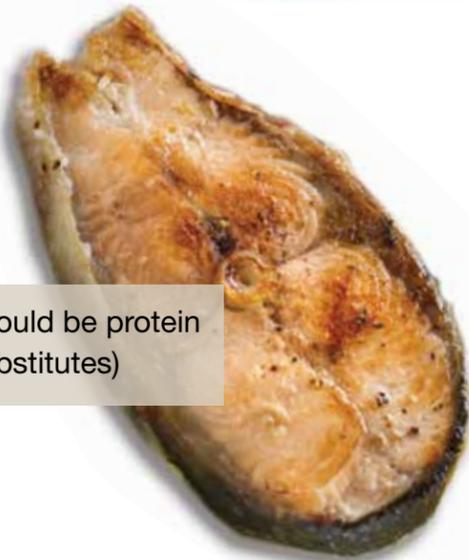
Healthy Guide for Meal Planning



About one quarter of the food on your plate should be grains or starchy foods (complex carbohydrates).



Another quarter should be protein (meat and meat substitutes)



The other half of your plate should be non-starchy vegetables.



Nutrition Facts

Serving Size 1 Cup (148 g / 5.3 oz)

Amount Per Service
Calories 100 Calories from Fat 0

	% Daily Value*
Total Fat 0 g	0%
Saturated Fat 0 g	0%
Cholesterol 0 mg	0%
Sodium 0 mg	0%
Potassium 720 mg	21%
Total Carbohydrate 26 g	9%
Dietary Fiber 3 g	12%
Sugars 3 g	
Protein 4 g	

Vitamin A 0%	• Vitamin C 45%
Calcium 2%	• Iron 6%
Thiamin 8%	• Riboflavin 2%
Niacin 8%	• Vitamin B ₁₂ 10%
Folate 6%	• Phosphorous 6%
Zinc 2%	• Magnesium 6%

*Percent of Dietary Values are based on a 2,000 calorie diet.

Guide to Estimating Portion Size



1 teaspoon = Tip of thumb



2 tablespoons = One large marshmallow



1 ounce = Four stacked dice



3 ounces = Deck of cards



1/4 cup = Golf ball



1 cup = Baseball