



Module 7: Energy in, Energy Out

Participant Guide





Losing weight can help you prevent or delay type 2 diabetes.

In this session, we will talk about:

- The link between weight loss and energy in, energy out
- How the type and amount of food you eat affects energy in and energy out
- How your physical activity level affects energy in and energy out
- How to create the right balance of energy in and energy out

You will also make a new action plan!

Key points to remember:

To find out how many calories you burn, you need to know:

- How much you weigh
- Your current physical activity level
- How long you are physically active
- Your pace (or rate of movement -- low, moderate, or high)

Calories and Weight



Balancing Calories In and Calories Out

Paul's Story—Part 1

Paul is 57 years old and weighs 240 pounds. He's at risk for type 2 diabetes. His doctor has told him that he can enroll in CDC's National Diabetes Prevention Program (National DPP) lifestyle change program and lower his risk by losing as little as 5% of his weight. That is about 12 pounds total. But Paul is wondering why his doctor is suggesting a year-long program over a "diet" that would help him lose weight faster. His doctor explains that slow and steady weight loss is safer and more effective.

Gradual weight loss is the way to make lasting changes. Research suggests that each person will lose weight at different rates but losing an average of about 1 to 2 pounds per week can be a safe goal.

Paul needs to adjust the amount of calories he consumes and the amount he burns if he wants to lose 1 pound a week. He can do this by eating fewer calories and increasing his activity. Paul has some good ideas about what he can do.

Calories and Weight



Small Changes for Paul

What Paul Is Doing

Here are some of the small changes Paul has made:





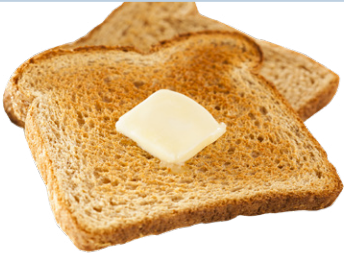

- He adjusted his regular breakfast from three eggs to two eggs and had an English muffin with light butter instead of two slices of toast with butter and jelly, saving him about 200 calories.
- He decided that he would measure the amount of sugar and cream he added to his coffee. To his surprise, he was able to cut another 150 calories by using 1 teaspoon of sugar and 2 tablespoons of cream per cup, and his coffee still tasted good!
- After breakfast, he took a 30-minute walk before work. He walked as briskly as he could while still passing the Talk Test.
- At lunch, he ate some apple slices instead of chips with his sandwich and had sparkling water instead of his usual bottle of soda. This cut out 345 calories.
- Paul and his wife went out for dinner. He asked for his salad to be served with the dressing on the side so he can control the amount added to his food. This cut out 100 calories.
- After dinner, they walked outside at a brisk pace for 40 minutes.

Now, Paul is losing about 1 pound each week through a variety of eating and physical activity changes.



Calories and Weight

Ways to Eat Fewer Calories







Here are some ways to cut calories at each meal. Try these healthy swaps.

Breakfast		
	Instead of	
1 cup oat cereal		1 cup bran and raisin cereal
	Instead of	
2 eggs cooked with 1 teaspoon of vegetable oil		2 eggs cooked in 1 tablespoon of butter
	Instead of	
2 slices of whole wheat toast with 2 teaspoons of butter		1 bagel with 2 tablespoons of cream cheese

Calories and Weight

Lunch		
	Instead of	
Sandwich and fruit		Sandwich and 1 snack size bag of chips
	Instead of	
2 tablespoons of vinaigrette dressing		2 tablespoons of ranch dressing
	Instead of	
1 cup of vegetable soup		1 cup of cream of chicken soup


Calories and Weight

Dinner		
	Instead of	
½ cup of stir-fried broccoli		½ cup of broccoli in cheese sauce
	Instead of	
1 slice of cheese pizza		1 slice of pepperoni pizza
	Instead of	
1 cup of pasta with tomato sauce		1 cup of pasta with tomato sauce and ¼ cup of parmesan cheese

Calories and Weight

Rethink Your Drink

One way to cut calories is to think about what you drink. Drinks don't fill you up the way food does. And, as you can see below, calories from drinks can really add up! But here's the good news: If you replace drinks that are high in calories with drinks that have low or no calories, you can save a lot of calories!

 12 oz. café latte made with half the syrup and vanilla flavoring 190 calories	Instead of	 16 oz. café latte made with regular amounts of syrup and vanilla flavoring 290 calories
 Bottle of water or sparkling water 0 calories	Instead of	 20 oz. bottle of regular cola 240 calories

Calories and Weight

	Instead of	
Water with lemon 0 calories		16 oz. sweet iced tea 120 calories
	Instead of	
Sparkling water with a splash of 100% fruit juice 25 calories		12 oz. regular ginger ale 130 calories
Sources: <ul style="list-style-type: none">• Rethink Your Drink. Department of Health and Human Services. Centers for Disease Control and Prevention. www.cdc.gov/healthy-weight-growth/rethink-your-drink• USDA National Nutrient Database for Standard Reference		

Calories and Weight

Small Changes to Your Drinks Make a Big Difference

Use Nutrition Facts Wisely

When choosing your drink, the calories in some of your favorites may surprise you. Use the Nutrition Facts label. It lists the calories in one serving. You can also check the product's website or ask to see the Nutrition Facts in a restaurant. Another way to cut calories is to think about how much you drink. For high-calorie drinks, size really matters!

Here is the Nutrition Facts label on a 20-ounce bottle of soda. It says that one serving is 8 ounces. It tells you that there are 2½ servings in the bottle. And it lists the calories in one serving (100).

To figure out the calories in the whole bottle, multiply the calories in one serving by the number of servings in the bottle (100 x 2½). If you were to drink the whole bottle, you would take in 250 calories.

NUTRITION FACTS LABEL	
Serving Size	8 fl. oz
Servings Per Container	2.5
Amount per serving	
Calories	100

At the Coffee Shop

Coffee drinks taste good and may be a regular part of your day, a morning routine, an afternoon pick-me-up, or a special treat. But the calories in some of your favorites may surprise you. When a coffee craving kicks in, try these tips.

- Ask for your drink to be made with fat-free or 2% milk instead of whole milk.
- Order the smallest size available.
- Cut back on flavored syrups. Ask for half the syrup or ask for sugar free syrup. Flavored syrups contain sugar and add calories.
- Skip the whipped cream. The whipped cream on top of coffee drinks adds calories and fat.
- Try lower-calorie drinks that you still enjoy. Try an espresso drink with just a little milk or cream. Check the online menu or ask for a healthier alternative at your coffee shop.
- Order a plain cup of coffee and estimate your own milk, cream, and sugar. You may find that you can cut back on dairy or sweeteners when you're in charge of them. Or try drinking your coffee black. Remember that plain coffee is very low in calories. It's the flavoring that adds the calories!
- Make coffee at home and save the special coffee drinks for an occasional treat.

Calories and Weight

Better Drink Choices

Here are some ideas for healthier drink options:

- Choose water or sparkling water.
- Carry a water bottle. Refill it all day long.
- Flavor your water with no-calorie drink mix or add slices of lemon, lime, cucumber, or watermelon. Or add a splash of 100-percent fruit juice to plain sparkling water.
- Drink tea or coffee without sugar. Enjoy them hot or cold.
- Keep a pitcher of water in the fridge.
- Put your pitcher of water on the table during meals.
- If you order a smoothie, order the one with the fewest calories and ask for it to be made without added sugar. Fruit is naturally sweet.
- If you do choose drinks that contain sugar, get the smallest size you can. Order a child's size if possible.
- Milk contains vitamins, minerals, and protein. But it also contains calories. Choosing low-fat or fat-free milk is a good way to cut calories and still get the nutrients your body needs.

How To Track the Calories You Take In

Paul's Story—Part 2

Paul needs about 2,200 calories a day just to stay at the same weight. If he cuts out about 500 calories per day, that leaves him with around 1,700 calories.

It's hard to do, but worth it. Taking small steps and focusing on one thing at a time helped keep Paul on track. But don't forget that Paul can also get closer to his goal by increasing physical activity.

What are daily calorie needs?

Your daily calorie needs are the calories you need to maintain your weight. This number is based on your age, sex, height, build, and weight. It doesn't take your activity level into account. It's a general estimate.

Let's see how Paul does on Sunday.

- He ate three meals and two snacks for a total of about 2,000 calories.
- He tried to increase his physical activity and walked after breakfast and after dinner. He also mowed the lawn. He burned about 310 calories with these activities.

To figure out Paul's actual calories, we'll start with the calories he takes in. Then we'll subtract the calories he burns:

$$2,000 - 310 = 1,690$$

Paul is right on target!

Now, Paul is losing about 1 pound each week through a combination of eating and physical activity. And he's halfway to his goal weight.

How To Track the Calories You Burn



How Many Calories Does Activity Burn?

Depending on your age, your biological sex, your level of physical activity, and your weight, you burn different amounts of calories.

If a 14-year-old boy, his mom (who's physically active daily), and his 80-year-old grandmother all did yard work together, they would burn different amounts of calories, even if they all weighed the same amount.

This chart shows about how many calories, on average, a person who weighs 154 pounds would burn at a moderate pace.

How To Track the Calories You Burn

Activities	Calories Burned at a Moderate Pace	
	In 1 hour	In 30 minutes
Hiking	370	185
Light gardening/yard work	330	165
Dancing	330	165
Golf (walking and carrying clubs)	330	165
Bicycling	290	145
Walking	280	140
Weight training (general light workout)	220	110
Stretching	180	90
Watching TV*	70	35
Sleeping*	62	31

Source: Physical Activity for a Healthy Weight. <https://www.cdc.gov/healthy-weight-growth/physical-activity/>

Individual Assignment (Optional)

Without changing your routine, use this log for 2 days this week to track the calories you take in and the calories you burn doing physical activities. Then consider where you can make changes to your eating and exercise habits so that you consistently take in about 500 calories less than you burn. This is not meant to be an exact measurement of how many calories you burn. It is to give you an easy way to think about how you balance what you eat and drink with your physical activity. Remember that exercise will not have the same impact as what you eat, but it will increase the impact of cutting calories.

1. Track your food and exercise calories for 2 days.
2. Review your results.
 - You know yourself best.
 - Make easy changes first.
3. Track again for 2 to 3 days once you have a good routine down.
4. Repeat when your progress slows.
5. Learn from your logs.

Calories Taken In				Calories Burned		
Day	Item	Amount	Calories	Activity	Minutes	Calories Burned
Day 1						
Day 1 Totals						
Day 2						
Day 2 Totals						