

# All About Insulin Resistance

Insulin resistance is a condition that raises your risk for type 2 diabetes and heart disease. When you have insulin resistance, your body has problems using insulin. Over time, this makes your blood glucose (sugar) levels go up. The good news is that cutting calories, being active, and losing weight can reverse insulin resistance and lower your risk for type 2 diabetes and heart disease.

## What does insulin do?

Insulin helps your body use glucose for energy. When you eat, your body breaks food down into glucose and sends it into the blood. Then, insulin helps move the glucose from the blood into your cells.

When you have insulin resistance, your body can't use insulin properly. At first, your pancreas makes extra insulin to make up for it. But, over time your body isn't able to keep up and can't make enough insulin to keep your blood glucose at normal levels. If your blood glucose gets too high, you may have either prediabetes or diabetes.

## What raises your risk for insulin resistance?

You are at risk if you

- are overweight
- are physically inactive
- have a parent, brother, or sister with type 2 diabetes
- are African American, Hispanic/Latino, American Indian, Asian American, or Pacific Islander
- have polycystic ovary syndrome, also called PCOS
- have had gestational diabetes, which is diabetes that develops during pregnancy
- have given birth to a baby weighing more than 9 pounds
- are age 45 or older
- have had above-normal blood glucose levels
- have high blood pressure
- have low HDL (good) cholesterol
- have high levels of blood fats called triglycerides
- have had heart disease, a stroke, or disease of the blood vessels in your neck or legs.



Physical activity, such as walking, can prevent or reverse insulin resistance.

Some of these risk factors also raise your risk for heart disease.

## How is insulin resistance diagnosed?

People with insulin resistance usually have no symptoms. Your health care provider can review your risk factors and then consider whether you're likely to have diabetes. If you're at risk, your health care provider should check your blood glucose levels to see whether you might have prediabetes or diabetes.

## How can you prevent or reverse insulin resistance?

You can eat less calories and be physically active. If you do, it's more likely you'll lose weight. Studies have shown that losing even 7% of your weight, may help. For example, if you're 200 pounds that means losing 14 pounds.

### Eat less

Place a check mark next to the steps you'd like to try to eat fewer calories. A dietitian can help you find other ways to eat less and plan healthy meals.

- Eat smaller serving sizes.

- Order the smallest serving size when eating out—or share your main dish. You also can divide your meal, place it in a "doggy bag" and save it for the next day.
- Try calorie-free drinks or water instead of regular soft drinks and juice.
- Choose baked, grilled, and steamed foods instead of fried.
- Use a smaller plate—8" or 9" instead of 10" or 12".
- Fill half your plate with greens and veggies. Fill ¼ with meat or other protein, and ¼ with carbs, such as brown rice or whole grain pasta.
- Eat more vegetables, whole grains, and fruit.
- Ask for salad dressings and sauces “on the side” and then use as little as possible.
- Use nonstick pans or cooking sprays.
- Cut back on high-fat toppings, such as butter, margarine, sour cream, regular salad dressing, mayonnaise, and gravy. Instead, season foods with barbecue sauce, salsa, lemon juice, or other low-fat options.
- Eat small servings of low-calorie, low-fat snacks.
- Another way I’ll try to eat fewer calories is to

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- Take the dog for a walk.
- Park at the far end of the parking lot and walk to the store.
- Walk every day, working up to 30 minutes of brisk walking, 5 days a week—or split the 30 minutes into two-15 or three-10 minute walks.
- Try strength training by lifting light weights 2 to 3 times a week.
- Another way I’ll try to add physical activity to my day is to

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### **Does insulin resistance affect people who already have type 2 diabetes?**

Yes, insulin resistance is why insulin isn't being used properly in people with type 2 diabetes. Diabetes is a progressive disease—even if you don't need to treat your diabetes with medications at first, you may need to over time. If you have type 2 diabetes, control your blood glucose by eating less calories, being more active, and losing weight if you need to. Talk with your health care team about ways to achieve your goals using meal planning, physical activity, and taking medicine.

### **Be physically active**

Place a check mark next to the ways you’ll try to add physical activity to your routine.

- Take the stairs instead of the elevator.
- Walk around while you talk on the phone or during TV commercials.
- Find an activity you enjoy, such as dancing, gardening, or playing with the kids. Move more around the house. For example, clean the house, work in the garden, or wash the car.



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