

## Prevent or Reverse Pre-diabetes

A person with pre-diabetes is likely to have full-blown diabetes within 5 to 10 years unless they make lifestyle changes. By exercising regularly and losing weight, the risk of diabetes can be lowered by 60 percent. In fact, research shows that exercise and weight loss can prevent diabetes even better than diabetes medications.

### **Get More Exercise**

Physical activity is the lifestyle factor most consistently reported to improve insulin resistance. Insulin moves sugar from the bloodstream into the cell where it is burned for energy. Exercise promotes sugar burning in the cell, the same as insulin. Exercise has such a strong impact on blood sugar that it can improve pre-diabetes even without other lifestyle changes.

Aerobic exercise, in particular, is recommended for pre-diabetes. The American Diabetes Association recommends exercising at least 30 minutes a day, five days a week, for a total 150 minutes or more. Examples of aerobic exercises include: brisk walking, biking, swimming, low impact aerobics, and some team sports like basketball or football. If it's been a while since you've done a particular exercise, start small and gradually work up to 30 minutes. If you're pressed for time, break your workout into three 10-minute intervals a day.

### **Diet for Pre-Diabetes**

Diet is the first line defense against diabetes. This is what the American Diabetes Association recommends:

- **Cut back on calories.** If you are overweight or obese, losing just 5 to 10 percent of your weight will improve your insulin sensitivity and lower your blood sugar. Eat 500 to 1,000 calories less than what you typically eat in one day. Lose weight slowly at a rate of one to two pounds per week.
- **Reduce total fat and saturated fat.** If your diet is high in fat, especially saturated fat, then you are more likely to develop pre-diabetes. Eat fewer than 30 percent of your calories from fat and less than 10 percent from saturated fat to improve your ability to use the insulin you produce.
- **High fat foods** include fast food burgers and cheese, ground meats like sausage and many convenience foods like frozen pepperoni pizza and chicken pot pie. High saturated fat foods come from animal fat, like butter, cheese, fatty meats like prime rib and hot dogs, poultry skin, and ice cream. Trans fat is an unhealthy fat created by the food industry. They are found in processed foods like cookies, cakes, pies, crackers, and French fries. Aim for zero grams of trans fat.
- **Eat omega-3 fatty acids.** While saturated fats make it difficult for your body to use insulin, omega-3 fatty acids generally improve insulin sensitivity. Good

sources of omega-3 fats include: salmon, herring, trout, sardines, flax seeds, flax seed oil, and walnuts.

- **Eat the right amount of carbohydrates.** Insulin sensitivity improves when 50 percent to 55 percent of your total daily calories come from carbohydrates. That's roughly 250 grams of carbohydrates on 2,000 calories a day. Get your carbohydrates from unprocessed and unrefined foods as much as possible. Examples include vegetables and fruit, dried beans and whole grain breads, cereals, and pasta.
- **Eat 20 to 35 grams of fiber every day.** A high fiber diet improves insulin sensitivity by slowing down digestion of carbohydrate digestion. High-fiber foods create a more gradual rise in blood sugar when compared with refined foods. Good sources of fiber are beans, lentils, vegetables, whole fruits, oats, bran, whole-grain breads, and cereals. When reading the food label, look for at least 5 grams of fiber per serving.
- **Limit alcohol.** Modest amounts of any alcohol - not just wine - may lower your risk of diabetes. Women should have no more than one drink a day while men should have no more than two. If you do not currently drink alcohol, do not start up for the sake of preventing diabetes.

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