



Directions

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IN DIABETES CARE

Diet Strategies for Women with Diabetes

Women with diabetes often struggle to keep blood glucose in a safe range—and their weight down too. “Some women blame insulin as the cause for weight gain problems,” explains Joslin dietitian **Karen Chalmers, M.S., R.D., C.D.E.**, director of nutrition services at Joslin Harvard Affiliate. “Many women have discovered that they can lose a few pounds in a few days by cutting back on their insulin. The unfortunate truth is that when they go back to

which makes them think they’ve lost weight, but they’ve only lost water,” Chalmers says. “Then, when women start taking their insulin in the appropriate amounts again, they start over-retaining fluids initially to make up for their dehydration, which makes them think they’ve rapidly gained a lot of weight. Women then associate it with taking insulin, but really what is happening is taking insulin properly is just enabling the body to better use food and maintain a proper water balance.



Women who have a high blood glucose can make them feel more hungry because not all the food they are eating is able to get into the cells as energy to nourish the cells. They lose the weight, then start taking the right amount of insulin again—and continue to eat the same amount of food. Only this time, their body has enough insulin to process the food they’re eating properly and they gain weight.

Weight loss is a big challenge. Chalmer encourages women to focus on the quality, not just the quantity, of food they eat when they are trying to lose weight.

using their normal amount of insulin, they gain the weight back—and perhaps more—in equally rapid fashion.” Over time, these women have come to blame the insulin for their weight gain problems, and as a result take less insulin than they should—even though this means their blood glucose runs higher.

Insulin manipulation to lose weight is a common problem in women with diabetes. Women come to believe that insulin is a root cause of their weight loss battle. But it is not. Chalmers offers an explanation of what is really happening to your body. “When women don’t take the right amount of insulin and your blood glucose run high, they can become dehydrated—

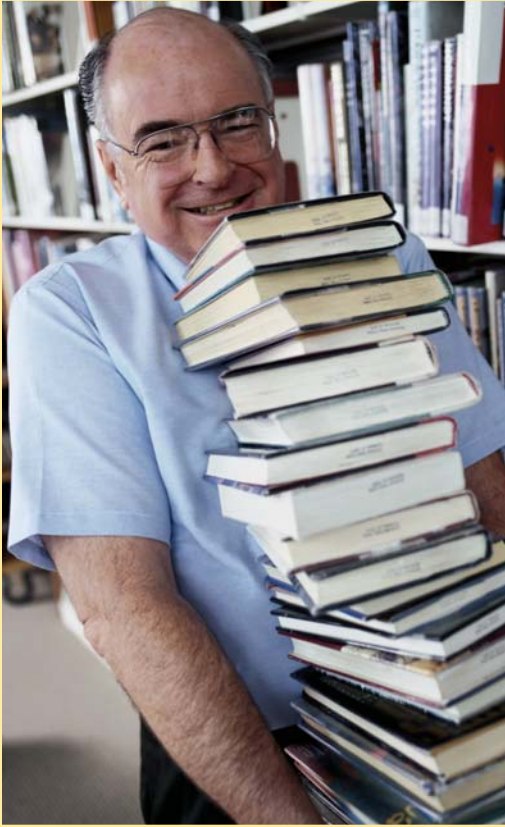
Women are different

Women are more prone to weight gain—whether they have diabetes or not—for a variety of biological and lifestyle reasons. For example, women store fat more easily than men because female hormones tend to promote the formation of fat. Before puberty, boys and girls have about the same amount of body fat. Then after puberty (by around age 20), girls have 22 percent body fat, and active boys only have about 10 percent. In other words, male hormones keep muscle mass high and fat levels low and female hormones do just the opposite.

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Diabetic Neuropathy (Nerve Damage) - An Update



Nerve damage or diabetic neuropathy resulting from chronically high blood sugars can be one of the most frustrating and debilitating complications of diabetes. It can cause pain, discomfort and disability and treatments are not uniformly successful.

While pain or numbness in the legs or feet may be the most common complaint from people diagnosed with neuropathy, it is not the only symptom of this complication. Neuropathy can cause a host of different types of symptoms, depending on whether nerves in the legs, the gastrointestinal tract, or elsewhere in the body are affected. If you have any of these symptoms, neuropathy may be the culprit:

- Inability to adequately empty the bladder of its contents, resulting in frequent infections
- Nausea, vomiting, abdominal fullness or bloating, diarrhea, or constipation
- Low blood pressure upon standing that causes fainting or dizziness
- Inability to lift the foot or new deformities of the foot, or foot ulcers
- In men: trouble achieving or maintaining an erection

While physicians have found some medications and other treatments help ease these symptoms in some people, prevention continues to be the key. "The good news is that the Diabetes Control and Complications Trial shows that people who keep their blood sugars consistently in this healthful range can decrease their risk of nerve damage by over 50 percent. Getting diabetes under better control also may help limit the amount of damage caused by neuropathy once it's developed," says **John Hare, M.D.**, medical director of the Joslin Affiliated Center's program.

If your doctor has told you that symptoms you have been experiencing are a result of neuropathy, you certainly have many questions. Here are some answers that may be helpful to you as you battle this complication.

What are the different types of neuropathy?

There are three broad types of neuropathy: sensory, autonomic and motor. Sensory neuropathy (or peripheral neuropathy, usually just called neuropathy) is the most common form and affects the nerves that carry information to the brain about sensations from various parts of the body. It can lead to pain, numbness or tingling in the extremities and, ultimately, an inability to feel heat, cold, pain or any other sensation in affected areas. This is the most common form of diabetic neuropathy.

Autonomic neuropathy affects the nerves that control involuntary activities of the body, such as the action of the stomach, intestine, bladder and even the heart. It can lead to impotence in men, bladder neuropathy, diabetic diarrhea, or bloated stomach.

Motor neuropathy—which occurs rarely in diabetics—affects the nerves signaling muscles to allow motor activities like walking. It can lead to muscle weakness.

If you are diagnosed with neuropathy, your physician may use terms to describe the type that you have based on whether only one side of your body is affected (asymmetric) or both sides (symmetric). If only one kind of nerve is affected, your doctor may say you have mononeuropathy. If several nerves are affected, the term polyneuropathy may be used.

Other terms may be used based on what parts of the body are affected:

- Distal neuropathy—a form of sensory neuropathy that affects the hands or feet. It can be asymmetric but is usually symmetric, and is the most frequently diagnosed type of neuropathy.
- Femoral neuropathy—a painful sensory neuropathy that centers in the thigh muscles. It can be asymmetric or symmetric.

- Diabetic amyotrophy—a motor neuropathy that affects the thigh nerves, with resulting weakness often in addition to or instead of pain. It can be symmetric or asymmetric.
- Gastroparesis—an autonomic neuropathy that affects the stomach, preventing it from emptying normally. It can result in ulcer-like symptoms, vomiting, bloating, and poor absorption of food resulting in malnutrition and hypoglycemic episodes as food fails to be absorbed at the anticipated rate. High blood sugars can later result when the meal finally makes its way through the system.
- Diabetic diarrhea—an autonomic neuropathy that results in an erratic functioning of the small intestine. This can cause unformed stools to be passed. If the nerves which communicate with the sphincter muscles (which control passing a bowel movement) are not working properly, stool can pass without warning, and/or without being able to control when it comes out. Constipation also can result when the large intestine is involved and the stool remains in the large intestine too long.
- Bladder neuropathy—occurs when the bladder nerves no longer respond normally to pressure as the bladder fills with urine, and does not enable the bladder to empty completely. Some urine continually stays in the bladder, leading to urinary tract infections. [Symptoms of this problem include cloudy urine, painful urination, low back pain and fever.]
- Postural hypotension—an autonomic neuropathy that results in low blood pressure when standing. In people with postural hypotension, the pulse does not go up to compensate for the change in blood pressure, so fainting and dizziness can result.
- Charcot joint—also called neuropathic arthropathy and occurs when the bones in the feet fracture or “powder.” The foot then becomes deformed as a result of the lack of nerve stimulation, which causes the muscles to lose the ability to support the foot properly. People who already have neuropathy in their feet and have lost sensation are at a greater risk of developing this.
- Unilateral foot drop—occurs when the foot can’t be picked up because a nerve in the leg has been damaged either by blood vessel disease or compression.
- Impotence—caused by autonomic neuropathy and/or sensory neuropathy, and/or blood vessel disease that leads to an inability to have and maintain an erection in men.

What causes neuropathy?

While diabetes is a frequent cause of neuropathy, it is not the only cause. Nutritional deficiencies (B-12 and foliate), chemical exposures, pressure on nerves, or medications (such as some of those used for chemotherapy or to treat AIDS), can also cause neuropathy.

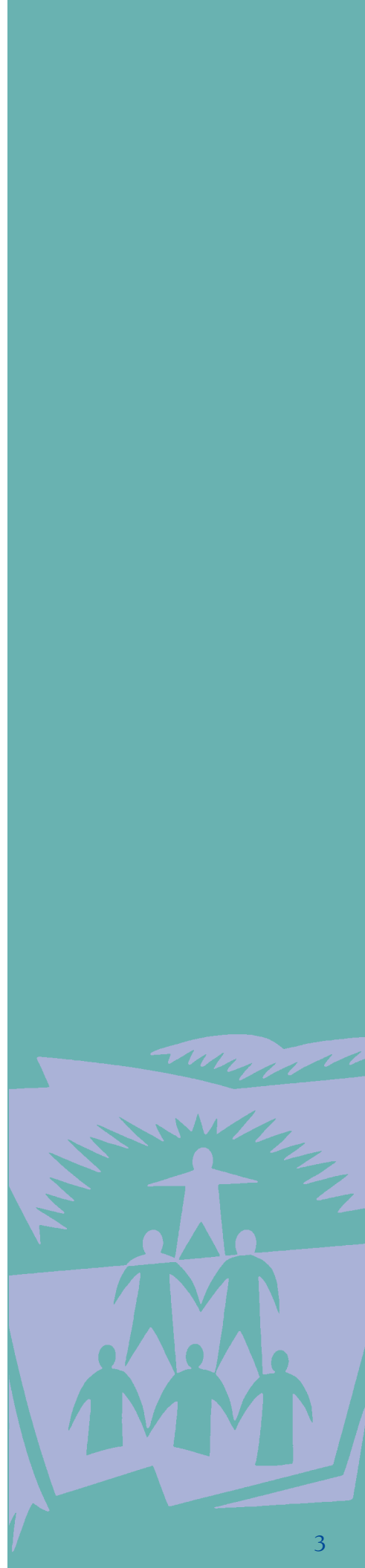
Theories abound as to why exactly neuropathy occurs in people with diabetes. In general, diabetic neuropathy is thought to be a result of chronic nerve damage caused by high blood sugars. “There are many possible ways this might happen,” says Dr. Hare. “Nerves are surrounded by a covering of cells, just like an electric wire is surrounded by insulation. The cells surrounding a nerve are called Schwann cells. One theory suggests that excess sugar circulating throughout the body interacts with an enzyme in the Schwann cells, called aldose reductase. Aldose reductase transforms the sugar into sorbitol, which draws water into the Schwann cells, causing them to swell. This in turn pinches the nerves themselves, causing damage and in many cases pain. Unless the process is stopped and reversed, both the Schwann cells and surrounding nerves die.”

How is it treated?

Unfortunately, there are no miracle cures or treatments for neuropathy, although a variety of treatments are often helpful. There is no way to heal or replace nerves that have been damaged.

The most important thing someone who has neuropathy can do is keep their blood sugar levels at a normal range, exercise regularly, and make sure their weight is as close to what it should be as possible. This will limit the damage high blood sugars can cause to nerves. Exercise will have the added benefit of keeping muscles weakened by decreasing nerve activity to remain strong and toned. Dr. Hare finds patients with painful neuropathy say pain seems less severe when they get some simple exercise regularly.

If pain is the major symptom, non-narcotic pain relievers may also help. However, they should be used consistently throughout the day rather than at night when symptoms may become more severe. Surprisingly, clinicians have found certain antidepressants and a number of other medicines currently on the market can ease the pain of neuropathy as well. For more information on these medicinal treatments, visit www.umm.edu/joslindiabetes.



Blood Glucose and Exercise



When you exercise your muscles need more glucose to supply energy. In response, your liver increases the amount of glucose it releases into your bloodstream. Remember, however, that the glucose needs insulin in order to be used by your muscles. So if you do not have enough insulin available, your blood glucose levels can actually increase right after exercise. Basically, stimulated by the demand from your exercising muscles, your body is pouring glucose into your bloodstream. If you do not have enough insulin available to “unlock the door” to your muscles, the glucose cannot get into your muscles to provide needed energy. The end result is that glucose backs-up in your bloodstream, causing higher blood glucose readings.

Here are some tips to safely exercise:

1. Consult your doctor before starting an exercise program.
 2. If you are over the age of 35 you may need a stress test.
 3. Pick an exercise that you enjoy.
 4. Check your blood sugar before and after exercise.
 5. Do not exercise if your blood sugar is over 250 mg/dl and you have ketones.
 6. If your blood sugar is over 250 but no ketones are present, follow these guidelines:
 - Type 1: If blood sugars are 300 or more, test within 5-10 minutes of beginning exercise. If your blood sugar is dropping, you may continue. If it is not dropping, stop exercising.
 - Type 2: Do not exercise if blood sugars are 400 or more.
 7. Plan exercise to prevent low blood sugar reactions.
 - Exercise 1 to 1 1/2 hours after eating.
 - Always carry a carbohydrate snack (juice, glucose tablets, etc.) with you.
 - Drink plenty of fluids.
- Wear shoes and equipment that fit well.

Recipe Creamy Corn Pudding

Preparation time: 45 Minutes to 1 hour Serves: 24 Serving size: 1/2 cup

2 Tbsp. olive oil	3 cups fresh whole-wheat bread crumbs; (Place crustless whole wheat bread, torn into chunks in a food processor and process until crumbs form. Then measure out what you need.)	1 (14 1/4-oz) can cream style corn	1/2 cup whole-wheat flour
2 medium onions, diced		3 whole eggs	1/4 cup sugar or Splenda®
3 cups evaporated, nonfat milk		1 cup egg substitute	1 Tbsp. hot sauce
	2 16-oz bags frozen yellow corn, thawed and drained	1/2 cup corn meal	Salt and pepper to taste

Preparation Instructions

1. Preheat oven to 350 degrees F. Coat two 9”x11” baking dishes with cooking spray. In a 6-quart saucepan, heat the olive oil over medium heat. Add the onions and sauté for 5 minutes. Add the milk and heat through.
2. Stir in the remaining ingredients until well mixed. Ladle into the prepared pans.
3. Place each of the corn pudding pans into separate larger pans. Pour boiling water into the larger pans so that the water comes halfway up to the sides of the corn pudding pans. Bake for about 45 minutes to 1 hour until a knife inserted into the center of the pudding comes out clean.

Joslin Exchanges: Starch exchanges 1.5, Fat exchanges 0.5 Per Serving: Calories 139 (Calories From Fat 22), Total Fat 2 grams (Saturated Fat 0 grams), Cholesterol 26 milligrams, Total Carbohydrate 24 grams, Dietary Fiber 2 grams, Sugars 8 grams, Protein 7 grams

Diet Strategies for Women with Diabetes

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The specific way men and women gain weight is different too. Women deposit fat from the bottom up—they gain weight in the thighs and buttocks first, then the stomach, and then finally on the upper body, arms, etc. Men gain weight first in the stomach—“the classic big beer belly.” Whatever fat is gained first is the last to be shed—which is why it is so hard for women to lose weight on their thighs and rear end, and why weight loss seems to happen first in the face, neck and upper body.

Skipping meals promotes weight gain

Skipping meals actually causes your body to gain weight over the long haul. When you skip meals, your body slows down its metabolism and becomes very efficient at conserving calories, instead of burning them. “Your body does this to protect you, because your body doesn’t know when you’ll feed it again—it stores more calories as fat so you’ll have reserves on hand for the next time you skip a meal. This also true if you aren’t eating more total calories than you might have eaten if you ate three square meals a day—because your body is going to conserve more of those calories as fat,” Chalmers explains.

The weight loss key—keep metabolism up

The best way to lose weight is to keep your metabolism up by spreading calories over the day, regular physical activity, and not skipping meals or following a diet too low in calories. If

you are on a 1,500 calorie a day diet, be sure you spread those calories over three meals and one to two snacks throughout the day. By doing that, fewer of the calories will be stored as fat than if you ate all the calories at one time. This will help keep your metabolism steady.

Many of us who define food as “good” or “bad,” or find their entire day revolves around food, struggle with dieting constantly. They take their failure to lose weight as a personal failure. They lose a lot of their self-esteem, when the real truth is that diets just don’t work unless they are individualized and relevant to one’s lifestyle and food preferences.

There are programs to help people lose weight sensibly. Joslin’s Fit and Healthy Program, for example, is a 14-week program that offers people with diabetes the opportunity to learn new patterns of eating and activity that will enable them to take weight off and keep it off.

For those whose problem isn’t just weight, but an obsession with food, thinness, and losing weight, there are also people and programs to help. The self-diagnosis checklist to the right will help determine if you are overly concerned about food and your weight and need some additional help because you have an eating disorder. Talk to your doctor about your weight loss concerns. He or she may provide you with information about certain antidepressant medications have been known to help patients with eating disorders.

Recipe Mustard-Glazed Pork Loin Roast

Preparation time: 15 minutes Serves 22 Serving size: 4oz
Cooking time: 30 to 40 minutes

2 4-lb, boneless pork loin roasts, trimmed of fat	1/2 cup Dijon mustard	2 tsp. grated orange zest
Salt and pepper to taste	1/4 cup fresh orange juice	1/2 tsp. ground cinnamon
	2 Tbsp. honey	1/4 tsp. ground allspice

1. Preheat the oven to 400 °F.
2. Sprinkle the pork with salt and pepper. Place it on two racks in two shallow roasting pans. Roast for about 1 hour.
3. Combine remaining ingredients. Brush the glaze over the pork roasts and continue to roast for another 30 to 40 minutes. Remove from the oven and allow the pork to stand for 10 minutes before serving.

Joslin Exchanges: Lean meat exchanges 4 Per Serving: Calories 233 (Calories From Fat 95), Total Fat 11 grams (Saturated Fat 4 grams), Cholesterol 85 milligrams, Sodium 183 milligrams, Total Carbohydrate 3 grams, Dietary Fiber 0 grams, Sugars 2 grams, Protein 30 grams

Food addiction—a self-diagnosis checklist

For many, food addiction is a self-diagnosable disease. See how many of these questions you answer “Yes.”

- Do you frequently lose weight only to regain it?
- Have you been on five or more weight loss diets in the past five years?
- Do you think you have a problem with food?
- Do you eat large amounts of food in a short space of time?
- Do you have trouble controlling the amount you eat?
- Do you seem to constantly crave food?
- Do you eat until you feel uncomfortably full?
- Does your eating always seem to interfere with your diabetes control?
- Has your weight ever affected any part of your life?
- Do you weigh yourself every day? More than once a day?
- Do you often eat more than you planned to eat?
- Do you worry about your weight or body size?
- How many of these methods of weight loss have you tried?
 - Diuretics/laxatives
 - Self-induced vomiting
 - Fasting/starvation
 - Amphetamines or over-the-counter diet pills
 - Compulsive exercise
 - Insulin manipulation
 - Liquid diets (supervised or unsupervised)
 - Hypnosis
 - Special foods and drinks from individual weight loss programs

Do you prefer to eat alone?

Do you avoid mirrors?

If your answers to these questions concern you, you may need additional help. Discuss your answers to this quiz with your physician or your registered dietitian.

Programs to Help

The Joslin Diabetes Centers in Maryland offer programs to help you cope with every aspect of diabetes management. Please join us for the following courses in self-care. For more information about classes offered at our University of Maryland Medicine affiliate, call 410-328-6584. Outside the Baltimore area, call toll-free 1-888-JOSLIN8. For more information about classes offered at our Baltimore Washington Medical Center affiliate, please call 410-787-4940, for classes at our Maryland General Hospital affiliate please call 443-552-2960.

Comprehensive Diabetes Management

Life-long wellness begins with a solid understanding of diabetes and how it affects you. Start with this ten-hour course which covers nutrition, blood sugar monitoring, medications, complications, exercise, foot care, sick day management, and similar issues. The course will leave you with essential skills and a better awareness of the many resources available to you.

Fit & Healthy Weight Management Program

In twelve weekly sessions, you'll learn techniques for balanced eating, exercise, and stress reduction to improve your overall health and fitness. These management strategies can help you achieve better control of blood sugar levels while lowering cholesterol and blood pressure. The program is geared toward adults with type 2 diabetes who are at least twenty pounds heavier than their ideal weight.

Fresh Start

An exercise class for patients who wish to begin a new exercise program or maintain a current exercise regimen under the supervision of a physical therapist.

Getting the Most from Your Insulin Pump

This class is a refresher for pumpers who want to review sound insulin pump management practices and optimize diabetes control with pump therapy. It is a good choice for individuals who use pump therapy but achieve sub-optimal diabetes control.

Insulin Pump Program

With proper use, the insulin pump can provide easier and more precise control of blood sugar levels—but education and special skills training are necessary before you can take advantage of this device. Find out whether you're a candidate for the insulin pump, then join this intensive education program to learn its use.

Insulin Users Class

Learn to recognize when insulin adjustments are needed and know your choices in insulin types and delivery options. Learn about using an insulin pen, multiple injection therapy, and how flexible insulin delivery can fit your lifestyle.

Joslin Circle

Living with diabetes isn't easy. The Joslin Circle gives you a place where you can meet and talk with others facing your same daily challenges. You'll find a positive, caring environment where you can share your concerns, learn new management approaches, and help others benefit from your own life experiences.

On the Road to Living Well with Diabetes

Prevent diabetes complications by learning about the long-term complications of diabetes and what you can do to reduce your chances of developing them.

The SolutionR Method Training

Many times we know what to do to take care of ourselves, but have a hard time actually doing it! This program teaches the skills of self-nurturing and effective limits which turn off the drive to go to excess. A lack of these skills may manifest in a tendency to overeat, overspend, overwork, neglect diabetes self-care, rescue others, think too much, people-please, etc. Participants experience enhanced intimacy, vibrancy and balance in their lives. We offer 4-week beginner groups, ongoing 12-week groups and individual coaching, all by a health professional certified in the method. To learn more about this life-changing method, call 410-328-7118.



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