



# Preventing & Managing Complications of Diabetes

**Target Audience:** Persons with diabetes and family members

**Objectives:** Participants will be able to:

1. identify the complications associated with diabetes
2. describe ways to minimize complications associated with diabetes

**Time Required:** 15–20 minutes for the overview and 5-10 minutes to cover each body system (heart, eyes, feet, kidneys, teeth and gums, and lungs)

**Note:** Since there are many complications, the moderator/teacher may wish to cover only 1-2 topic areas at a time.

**Teaching tools:** hand mirror; toothbrush and floss; blood glucose monitor; old calendar; blood pressure cuff; walking shoes; exercise video (if available)

**Handouts:** “Control Your Diabetes for Life: Tips for Feeling Better and Staying Healthy” available from NDEP at [www.ndep.nih.gov/](http://www.ndep.nih.gov/) in the publications catalog.

“Warning Signs for Complications”

“Be Smart About Your Heart”

“How Are You Doing on Reducing Your Risk for a Heart Attack or Stroke?”

“Control the ABCs of Diabetes”

“Fighting Diabetes Complications”

“Foot Care Checklist”

“Diabetes Foot and Skin Care”

“Preventing Foot Injuries on the Job”

“Fitting Recommendations”

**Supplemental Handouts:**

“*Take Charge of Your Diabetes*” is available through the CDC at <http://www.cdc.gov/diabetes/pubs/tcyd/>. Limited copies are available through the CDC or you may print your own copies. It is an excellent teaching tool and wonderful resource for people with diabetes to take home. It is written for people with low literacy levels and includes many pictures to complement the text.

“If You Have Diabetes, Know Your Blood Sugar Numbers” is available from the NDEP publications catalog.

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) also has publications at [www.niddk.nih.gov/](http://www.niddk.nih.gov/).

## Lesson Plan

There are common complications associated with having diabetes. Managing diabetes at home and getting routine medical care can delay and/or prevent the risk of getting serious, possibly life-threatening complications.

Complications include:

- high blood pressure (which may lead to stroke)
- heart disease (which may lead to impaired circulation, heart attack)
- diabetic retinopathy (which may lead to blindness)
- kidney disease (which may lead to the need for dialysis)
- neuropathy (which may lead to amputations)
- gum disease (which may lead to losing teeth).

**Distribute** “Control Your Diabetes for Life: Tips for Feeling Better and Staying Healthy”  
“Control the ABCs of Diabetes”

What are the causes of complications associated with diabetes? The main cause is high blood glucose (hyperglycemia) levels. Hyperglycemia affects circulation and nerves. It limits the delivery of oxygen and nutrients to the cells. It also speeds up how quickly blood vessels narrow and harden, and promotes blood clots that can block veins and arteries. If you have high blood pressure along with your diabetes, the risk for all diabetic complications greatly increases.

By watching for early signs of problems, you can get treatment before they become serious. Here are some symptoms that should alert you to the need to see a doctor immediately and be checked for a complication.

**Distribute** “Warning Signs for Diabetic Complications”

## Take Care of Your Heart

Heart disease is the most common complication of diabetes. If you have diabetes, you are 2-4 times more likely to have a heart attack or stroke than those who do not have diabetes.

Many people with type 2 diabetes also have high blood pressure. (Show blood pressure cuff). This is a deadly combination. When either is out of control, risk for heart disease, stroke, retinopathy (diabetic eye disease), and kidney disease increases. Put them together and complications develop even faster. Your blood pressure should be less than 130/80. Some experts even recommend less than 120/80.

**Distribute** “If You Have Diabetes, Know Your Blood Sugar

Numbers”

“Be Smart About Your Heart”

“How are you Doing on Reducing Your Risk for a Heart Attack or Stroke?”

The best way to control blood pressure is to lost weight. Other important ways include eating less sodium (salt), eating more fruits, vegetables, and nonfat and reduced-fat dairy products, and exercising. Your doctor may also prescribe blood pressure medicine, which you must take every day. How you feel does not indicate how high your blood pressure is. High blood pressure is a silent killer and requires daily treatment.

Losing 5-8% of your total body weight can really reduce your blood glucose and blood pressure. A registered dietitian can help design a meal plan that will work for you. You will need to eat regular meals with controlled portions and less fat and more fiber. If your blood cholesterol or triglycerides are high, eating very little solid fat and substituting olive, canola, and peanut oil may help. Also drinking plenty of water will fill you up.

### **Take Care of Your Eyes**

Also have your eye doctor inspect your eyes yearly with a dilated eye exam. You need this exam even if you never have had problems with your vision. This exam can detect early changes in your eyes that could lead to diabetic eye disease (retinopathy), cataracts, or glaucoma. These problems can become serious before you notice any symptoms. Don't wait until you can't see before you get help.

### **Take Care of Your Kidneys**

Kidney damage from diabetes is called diabetic nephropathy. It begins long before you have symptoms. An early sign of it is small amounts of protein in your urine. A urine test can detect it. A blood test can also help determine how well your kidneys are working.

If the damage continues, your kidneys could fail. In fact, diabetes is the most common cause of kidney failure in the United States. People with kidney failure need either dialysis or a kidney transplant.

You can slow down kidney damage or keep it from getting worse. Controlling your blood sugar and blood pressure, taking your medicines and not eating too much protein can help.

### **Take Care of Your Feet**

If you have diabetes, you need to inspect your feet daily for any red spots, blisters, wounds, or other breaks in the skin that could lead to an ulcer. Don't expect pain to warn you that you have problems. Nerve damage can make you

unable to perceive foot and lower leg problems.

Use a mirror (show mirror) to look at the bottoms of your feet and between your toes. Also inspect your shoes before you put them on. Shake them out to make sure that nothing has fallen into them that could hurt your feet. If you can't inspect your feet well, have someone else do it for you.

If you find a problem, call your doctor. Every time you have a checkup, take off your shoes and socks so the doctor can look at your feet. You may need to see a podiatrist for special foot care and for shoes that control foot problems, which can lead to amputation.

**Distribute:** "Foot Care Checklist"  
"Diabetes Foot and Skin Care"  
"Preventing Foot Injuries on the Job"  
"Fitting Recommendations"

### **Take Care of Your Teeth**

Another important appointment is a regular visit to the dentist. Uncontrolled diabetes can lead to serious gum disease. Without treatment, you may lose teeth. Brushing after meals and flossing daily, along with good blood glucose control, can protect your teeth and gums. Even if you have dentures you need to see the dentist often so that your gums will stay healthy.

### **Take Care of Your Lungs**

Smoking impairs circulation to the body's cells. It slows down healing. It speeds up damage to the blood vessels. It also makes it hard for you to exercise, because you get winded easily.

Talk to your doctor and contact the local Lung Association and Cancer Society about how to quit. Even if you have stopped before and failed, try again. Most people who quit smoking have tried at least two to three times before they finally kick the habit. When you stop, you will feel better and so will everyone else who has suffered from your second-hand smoke.

Smoking does increase your metabolic rate, so you may gain weight after you quit. Exercise and follow a lower-calorie, lower-fat meal plan to help head this off. Those who exercise when they stop smoking have less weight gain, and go back to smoking less often, than those who don't exercise.

### **National Diabetes Education Materials**

[www.yourdiabetesinfo.org](http://www.yourdiabetesinfo.org)

[www.ndep.nih.gov](http://www.ndep.nih.gov)

**4 Steps to Control Your Diabetes. For Life** [http://www.ndep.nih.gov/media/4\\_Steps.pdf](http://www.ndep.nih.gov/media/4_Steps.pdf)

**If You Have Diabetes, Know Your Blood Sugar Numbers**  
[http://www.ndep.nih.gov/media/KnowNumbers\\_Eng.pdf](http://www.ndep.nih.gov/media/KnowNumbers_Eng.pdf)

**The Power To Control Diabetes Is in Your Hands**  
[http://www.ndep.nih.gov/media/Power\\_broch\\_Eng.pdf](http://www.ndep.nih.gov/media/Power_broch_Eng.pdf)

**Control Your Diabetes. For Life. (Short Feature Article)**  
[http://www.ndep.nih.gov//media/ControlYourDiabetes\\_ShortFeature.pdf](http://www.ndep.nih.gov//media/ControlYourDiabetes_ShortFeature.pdf)

**Control Your Diabetes. For Life. (Long Feature Article)**  
[http://www.ndep.nih.gov//media/ControlYourDiabetes\\_LongFeature.pdf](http://www.ndep.nih.gov//media/ControlYourDiabetes_LongFeature.pdf)

**NDEP Offers Diabetes Control Materials for Minorities at High Risk**  
[http://www.ndep.nih.gov//media/Minority\\_Health\\_Control.pdf](http://www.ndep.nih.gov//media/Minority_Health_Control.pdf)

**Team Care: Comprehensive Lifetime Management for Diabetes**  
<http://www.ndep.nih.gov/media/TeamCare.pdf>

**Working Together to Manage Diabetes : Poster, It helps patients learn about the ABCs of diabetes and work with their eye, foot, and dental care professionals and pharmacists to manage their diabetes.** [http://www.ndep.nih.gov/media/ppod\\_poster.pdf](http://www.ndep.nih.gov/media/ppod_poster.pdf)

**Diabetes & CVD Fact Sheet** . [http://www.ndep.nih.gov//media/CVD\\_FactSheet.pdf](http://www.ndep.nih.gov//media/CVD_FactSheet.pdf)

**You are the heart of your family... take care of it. (Usted es el corazon de la familia... cuide su corazon)** [http://www.ndep.nih.gov/media/TCH\\_Hisp\\_brochure.pdf](http://www.ndep.nih.gov/media/TCH_Hisp_brochure.pdf)

**You Are the Heart of Your Family...Take Care of It Flipchart Presentation**  
[http://www.ndep.nih.gov/media/TCH\\_Hisp\\_Flipchart.pdf](http://www.ndep.nih.gov/media/TCH_Hisp_Flipchart.pdf)

**Take Care of Your Diabetes by Taking Care of Your Heart**  
<http://www.ndep.nih.gov//media/AIANFeatureArticle.pdf>

**Take Care of Your Heart. Manage Your Diabetes**  
[http://www.ndep.nih.gov/media/TCH\\_AmIndian\\_flyer.pdf](http://www.ndep.nih.gov/media/TCH_AmIndian_flyer.pdf)

**Take Care of Your Heart: Manage Your Diabetes for Future Generations**  
[http://www.ndep.nih.gov//media/Yvette\\_Roubideaux\\_Op-ed\\_050305.pdf](http://www.ndep.nih.gov//media/Yvette_Roubideaux_Op-ed_050305.pdf)

**Take Care of Your Heart. Manage Your Diabetes (in English)**  
[http://www.ndep.nih.gov/media/TCH\\_AsAm\\_flyer\\_Eng.pdf](http://www.ndep.nih.gov/media/TCH_AsAm_flyer_Eng.pdf)

**For a Healthy Heart, Control the ABCs of Diabetes**  
[http://www.ndep.nih.gov//media/Control\\_ABCs\\_of\\_Diabetes.pdf](http://www.ndep.nih.gov//media/Control_ABCs_of_Diabetes.pdf)

**Be Smart About Your Heart: Control the ABCs of Diabetes**  
[http://www.ndep.nih.gov//media/BeSmart\\_Article.pdf](http://www.ndep.nih.gov//media/BeSmart_Article.pdf)

**African Americans, Diabetes, and Heart Disease: How to Beat the Odds**  
[http://www.ndep.nih.gov//media/BeSmart\\_AA\\_Article.pdf](http://www.ndep.nih.gov//media/BeSmart_AA_Article.pdf)

**African Americans: Know the Link between Diabetes and Heart Disease**

[http://www.ndep.nih.gov//media/Control\\_ABCs\\_AfricanaAm.pdf](http://www.ndep.nih.gov//media/Control_ABCs_AfricanaAm.pdf)

**Feet Can Last a Lifetime: A Health Care Provider's Guide to Preventing Diabetes Foot Problems** [http://www.ndep.nih.gov/media/feet\\_hcguide.pdf](http://www.ndep.nih.gov/media/feet_hcguide.pdf)

**Take Care of Your Feet for a Lifetime**  
[http://www.ndep.nih.gov/media/Feet\\_broch\\_Eng.pdf](http://www.ndep.nih.gov/media/Feet_broch_Eng.pdf)

**Be Sweet to Your Feet if You Have Diabetes**  
<http://www.ndep.nih.gov//media/be-sweet-to-your-feet.pdf>

**Keeping Feet Healthy and Happy**  
[http://www.ndep.nih.gov/media/Keeping\\_Feet\\_Healthy\\_Article.pdf](http://www.ndep.nih.gov/media/Keeping_Feet_Healthy_Article.pdf)

**Hispanics/Latinos: Help Control a Growing Epidemic by Managing the ABCs of Diabetes**  
[http://www.ndep.nih.gov//media/ControlGrowingEpidemic\\_Article.pdf](http://www.ndep.nih.gov//media/ControlGrowingEpidemic_Article.pdf)

**National Diabetes Education Program Support for Behavior Change Resource** The Support for Behavior Change Resource (SBCR) is a searchable database of research, tools and programs that address the “how to” of psychosocial issues, lifestyle and behavior change. This resource was developed for people with diabetes, pre-diabetes and those who care about them, along with health care professionals, agencies and organizations. The database includes resources that help individuals or groups cope with diabetes and make lifestyle and behavior changes. <http://www.ndep.nih.gov/sbcr/index.aspx>