This booklet should not be used as a substitute for medical advice or diagnosis. If you have diabetes, or think you may have diabetes, consult a medical professional.
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What is Diabetes?

Diabetes is a disease in which the body does not produce or properly use insulin. Insulin is a hormone that is needed to convert glucose (also known as sugar), starches, and other foods into the energy needed for daily activities. The exact cause of diabetes is unknown, although both genetics and environmental factors, such as obesity and lack of exercise, appear to play serious roles in the diagnosis of type 2 diabetes.

Diabetes is the seventh leading cause of death in Pennsylvania and sixth in the nation. Nearly 8% of Pennsylvanians, 760,000 adults and 4,800 children, have diabetes. It is estimated that 23.6 million (7.8%) Americans already have Diabetes, with 5.7 million not yet diagnosed, making Pennsylvania’s rate higher than the national average.

Are you at risk?

Sources

I. Risk Factors of Diabetes

Check each box that relates to you.

☐ I am age 45 or older.

☐ I am overweight (See Body Mass Index, pg. 8-9).

☐ I am physically inactive, or exercise less than 3 times per week.

☐ I have a parent, brother, or sister with diabetes.

☐ I am a member of a high risk ethnic population (ex.. African American, Latino, Native American, Asian American, or Pacific Islander).

☐ I have been diagnosed with high blood pressure, or currently have blood pressure equal to or greater than 140/90 mm/Hg.

☐ I have high cholesterol, or I have normal cholesterol, but my HDL (good) cholesterol is less than or equal to 35 mg/dl and/or triglycerides are equal to or greater than 150 mg/dl.

☐ I have been previously diagnosed with pre-diabetes.

☐ I have had gestational diabetes or have given birth to a baby weighing equal to or greater than 9 pounds.

* Adapted from “Am I at Risk for Type 2 Diabetes?” NIH publication No. 02-4805 June 2002.

Dietary Guidelines
www.health.gov/dietaryguidelines

Emedicine – Diabetes Mellitus
www.emedicine.com/EMERG/topic134.htm

Food Guide Pyramid—Nutrition
www.mypyramid.gov

Food and Nutrition Center
www.nal.usda.gov/fnic

Healthier US Initiative
www.healthierus.gov

Help for Type 2 Diabetes
http://outreach.missouri.edu/hesfn/diabetes/helptype2.htm

Juvenile Diabetes Research Foundation, Northwestern PA Branch
www.jdrf.org/northwestpa

National Diabetes Education Program
1-800-438-5383 or www.ndep.nih.gov

National Heart, Lung, and Blood Institute
301-592-8573 or www.nhlbi.nih.gov


National Institutes of Health
www.nih.gov

PA Advocates for Nutrition and Activity
www.nrqbalance.org

PA Department of Health
www.health.state.pa.us

Penn State University—Nutrition
http://nirc.cas.psu.edu

Produce for Better Health Foundation
www.fruitsandveggiesmorematters.org

Type 2 Diabetes – Conditions
www.diabetes.org/type-2-diabetes.jsp
What is the Next Step?

The risk factors listed are meant to increase your awareness of diabetes. If you are age 45 or older and overweight, testing for diabetes and pre-diabetes is strongly recommended. If you are younger than 45 years, overweight, and checked any other items, consider your risk and discuss with your physician the need for further testing.

How is Diabetes Diagnosed?

Your doctor will order a blood test to determine whether or not you have diabetes or pre-diabetes. The following tests are used to diagnose diabetes.

**Fasting Plasma Glucose Test**—measurement of glucose in the blood after you have not eaten for 8 hours.

**Random Plasma Glucose Test**—measurement of glucose in the blood taken at any time, that if elevated requires the presence of symptoms to diagnose.

**Oral Glucose Tolerance Test**—measurement of glucose in the blood taken after consumption of a drink containing 75 grams of glucose dissolved in water (100 grams are used to test for gestational diabetes).
What is a Normal Blood Glucose Level? 13

A fasting blood sugar should be ordered by your doctor and done after you have fasted for 8—10 hours.

Results

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<tr>
<th>Normal Blood Glucose</th>
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<td>Pre-Diabetes</td>
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Why Should I Try to Keep my Blood Glucose on Target? 1

The closer your blood glucose stays to your target range, the more you’ll lower your risk of blindness or diabetic eye disease, kidney disease, foot problems, nerve damage, tooth and gum disease, and skin problems. You may also lower your risk for heart attack or stroke.

The Special Kids Network: (814) 833-3881
Community Systems Development (877) 986-4550
3745 West 12th St., Erie, PA 16505
www.gotoskn.org
Assist with local planning and developing special programs

Check your local yellow pages:
Shuttle Transportation Services and Home Health Services.

Other Regional Resources

Bradford Regional Medical Center (814) 368-4143
116 Interstate Pkwy., Bradford, PA 16701
www.brmc.com

Center for Diabetes & Nutrition (814) 362-8717
222 W. Washington St., Bradford, PA 16701
www.brmc.com

DuBois Regional Medical Center: (814) 375-6135
Diabetes & Weight Management Center or (814) 375-6383
100 Hospital Ave., DuBois, PA 15801
www.drmc.org

Great Lakes Home Healthcare Services, Bradford (814) 362-8141
600 Chestnut St., Bradford, PA 16701

Great Lakes Home Healthcare Services, Meadville (814) 337-6900
303 Chestnut St., Meadville, PA 16335

Mind-Body Wellness Center (814) 333-5060
Meadville Medical Center www.mind-body.org
18201 Conneaut Lake Rd., Meadville, PA 16335
Weight management classes, diabetes management, cardiovascular prevention services, and empowering services

Sharon Regional Health System (724) 983-5518
740 E. State St., Sharon, PA 16146 www.sharonregional.com

University of Pittsburgh Medical Center, Horizon Hospital (724) 589-6163
2200 Memorial St., Farrell, PA 16121
(800) 533-8762
110 N. Main St., Greenville, PA 16125
Who Should have the Fasting Blood Glucose Test? 13

- If you are age 45 or older
  - Overweight (See BMI, pg. 8-9)
  - Get little or no exercise
  - Family history of Diabetes
- If you are under age 45, overweight and any of the following are true:
  - Blood pressure of 140/90 or higher
  - Cholesterol higher than 200
  - Triglycerides higher than 150
  - Family history of diabetes
  - History of gestational diabetes
  - Get little or no exercise
  - In one of the ethnic groups (African American, Hispanic American, Native American Indian, Latino American) with a higher risk of developing diabetes
II. Prevention of Diabetes

It is important to take action with pre-diabetes. Type 2 diabetes, the most common type, develops gradually over a period of 7-10 years, beginning as pre-diabetes. Efforts to lose weight and get more exercise will make a big difference. By taking action, you can reduce your risk of developing diabetes by 50%.

Healthy lifestyle changes can delay or prevent type 2 diabetes by 50% by simply doing the following:

• Reach and maintain a healthy weight.
• Moderate physical activity.
• Modest changes to your diet.

What is a Healthy Weight and Why Does it Matter?

Reaching a healthy body weight will decrease your risk of developing diabetes. Healthy body weight is defined as a Body Mass Index (or BMI) range of 19-25 among individuals ages 20 years and older. Overweight is defined as a BMI of 26-29. Obesity is defined as a BMI of 30 or higher, which is about 30 pounds of excess weight. Excess weight places you at risk for developing many serious health problems, including diabetes.

If your BMI is above 25, choose sensible ways to get in shape. Avoid crash dieting and make a plan to increase your activity level. Set reasonable weight loss goals. Aim for a long-term goal of losing 5-7% of total body weight. For example, a person weighing 200 pounds would need to lose 10-15 pounds to achieve a 5-7% weight loss. Please refer to the BMI chart on the next page.
To use the table, find the appropriate height in inches in the left column and move across to a given weight in pounds. The number at the top of the column is the BMI at that height and weight. Pounds have been rounded off.

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Why is Physical Activity Important for People at Risk for Developing Diabetes? 1

What physical activity can do for you:
- Lower blood glucose, blood pressure, and cholesterol
- Lower risk for heart disease, stroke, and diabetes
- Relieve stress
- Help insulin work better
- Strengthen bones, muscles, and heart
- Tone muscles
- Improve blood circulation
- Keep joints and body flexible
- Improve mental outlook and mood

Even if you have never exercised before, you can find ways to add physical activity into your daily routine. Once physical activity is part of your routine, you will wonder how you did without it!

If you have not been very active lately, what should you do first?
- Start with a checkup from your doctor to check your heart, blood vessels, eyes, kidneys, nervous system, and feet.
- Your doctor can recommend physical activities that will help you if you show signs of disease.

Practical Activities to Add Throughout the Day:
- Walk instead of drive whenever possible
- Take stairs instead of elevator
- Walk when on the phone
- Work in the garden, rake leaves, wash the car
- Play with the kids
- Carry things upstairs in two trips instead of one

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**Shopping for Supplies**

Check Your Local Pharmacy for Diabetes Supplies.
The following suppliers carry a variety of diabetes products and provide instruction on use. May bill directly to some insurance provider for supplies.

**Diabetes Institute of Great Lakes**
1700 Peach St., Erie, PA 16501
(814) 877-6130
www.greatlakeshhs.com
(click on Diabetes)

**Great Lakes Home Health Care**
Certified Pedorthist/Orthotist
1700 Peach St., Erie, PA 16502
(814) 877-6130
www.greatlakeshhs.com

Check your local yellow pages:
Hospital Equipment & Supplies or Shoes-Orthopedic.

**Preventing Problems**

Complications: Prevention & Care

**American Heart Association**
823 Filmore Ave., Erie, PA 16505
(814) 836-0013
www.americanheart.org

**Blindness & Visual Services**
448 West 11th St., Erie, PA 16501
(814) 871-4401

**Corry Memorial Hospital**
612 W. Smith St., Corry, PA 16407
(814) 663-3668
www.corryhospital.com
Foot care specialist.

**Erie Center on Health & Aging**
406 Peach St., Erie, PA 16507
(814) 453-5072
www.healthyagingerie.org
Medical & Podiatry Care.

**Eye Care American**
Senior Eye Care. Free eye exam, if eligible.
(800) 222-3937
www.eyecareamerica.org

**Erie Retinal Surgery**
300 State St., Suite 201, Erie, PA 16507
(814) 456-4241

**The Sight Center of NW PA**
2402 Cherry St., Erie, PA 16502
(814) 455-0995
www.sightcenternwpa.org
What is a Healthy Diet?

Healthy eating includes watching portion sizes and eating a wide variety of foods including vegetables, whole grains, fruits, low-fat dairy products, beans, lean meats, poultry, and fish.

Dietary Guidelines describe a healthy diet as one that:

- Focuses on fruits, vegetables, whole grains, skim milk and low-fat dairy products;
- Includes lean meats, poultry, fish, beans, eggs, and nuts;
- Low in saturated fat, trans fats, cholesterol, salt, and added sugars.

Check your local yellow pages: Health Fitness Program Consultants; Health Clubs & Gyms; or Exercise and Physical Fitness Programs.

Consultation with a registered dietitian is very important in the management of Diabetes. They can be reached at most local hospitals.
1. Grains—Make Half Your Grains Whole Grains!
   • Eat at least 3 ounces of whole grain bread, cereal, crackers, rice, or pasta every day
   • Look for “whole” before the grain name on the list of ingredients

2. Vegetables—Vary Your Vegetables!
   • Eat more dark green vegetables
   • Eat more orange vegetables
   • Eat more dry beans and peas

3. Fruits—Focus on Fruit!
   • Eat a Variety of Fruit!
   • Choose fresh, frozen, canned, or dried fruit
   • Go easy on fruit juices; limit to 4-6 oz a day, if any

4. Milk—Get Your Calcium Rich Foods!
   • Go low fat or fat free
   • If you don’t or can’t consume milk, choose lactose free products or other calcium sources

5. Meat & Beans—Go Lean on Protein!
   • Choose low fat or lean meats and poultry
   • Bake it, broil it, or grill it
   • Vary choices—with more focus on fish, beans, peas, nuts, and seeds

6. Oils—Know Your Fats!
   • Make most of your fat sources from fish, nuts, and vegetable oils
   • Limit solid fats like butter, stick margarine, shortening, and lard
Pre-diabetes is diagnosed when an individual has a blood glucose (sugar) level that is higher than normal but not yet high enough to be diagnosed as diabetes. Pre-diabetes may also be called impaired glucose tolerance or impaired fasting glucose. An individual with pre-diabetes has a fasting blood glucose (sugar) level between 100 and 125 mg/dl. Pre-diabetes increases an individual’s risk for developing Type 2 diabetes and heart disease.

Pre-diabetes usually has no symptoms or warnings. Some long-term damage to the body, especially the heart and circulatory system, may already be occurring during pre-diabetes.

If you have pre-diabetes, you can reduce the risk of developing Type 2 diabetes if you:

- Cut back on calories and fat
- Increase physical activity through moderate exercise such as walking, 30 minutes a day, 5 days a week.
- Lose weight, 5-7% of body weight, which is 10-15 pounds for a person that weighs 200 pounds.

It is important to do something about pre-diabetes. An individual can delay or prevent the progression of Type 2 diabetes through wise choices in both diet and increased activity.
What is Insulin Resistance?
Insulin resistance is a condition that increases your chances of developing Type 2 diabetes and heart disease. When you have insulin resistance, your body has difficulty responding to insulin. Eventually, your blood glucose levels will rise above normal.

Can Insulin Resistance be Reversed?
Insulin resistance can be reversed and lessen your chance of developing Type 2 diabetes and heart disease by:
• Cutting calories
• Adding/increasing daily physical activity
• Losing weight
• Taking medications as directed

What are the Risk Factors for Insulin Resistance?
You are more likely to have insulin resistance if you are:
• Overweight (see pg. 8-9)
• Physically inactive
• Over 45 years of age
• A woman with a waist measurement over 35 inches or a man with a waist measurement over 40 inches
  Or have:
• A parent, brother, or sister with Type 2 diabetes
• Polycystic ovary syndrome
• Blood pressure of 140/90 or higher
• HDL cholesterol levels of 35 or less
• Triglyceride levels of 150 or higher

Now What Do I Do?
General Information and Referral

Corry Memorial Hospital  
Corry, PA 16407  
(814) 664-4641
www.corryhospital.com

Erie County Diabetes Association  
Erie, PA 16501  
(814) 454-0715
www.diabeteserie.org

Diabetes Institute of Great Lakes  
Erie, PA 16501  
(814) 877-6130
www.greatlakeshhs.com

Pennsylvania Department of Health  
(724) 662-6068
877-PA HEALTH
www.health.state.pa.us

Hamot Physician Referral Line 
(814) 877-5678
www.hamot.org

St. Vincent Ask-A-Nurse  
(814) 452-5500
(7am to 11pm)

Education & Support 
Diabetes Education

Community Nursing Services  
(814) 725-4300
7 Park St., North East, PA 16428
www.northeastnurses.com

Diabetes education for homebound patients only
Doctor referral needed

Corry Memorial Hospital Support Group  
(814) 664-4641
www.corryhospital.com

612 W. Smith St., Erie, PA 16407
VII. Community Resources

Finding Out
Information, Blood Sugar, Blood Pressure, and Cholesterol Testing

Erie Center on Health & Aging            (814) 453-5072
Preventative Health Services at 40+ www.healthyagingerie.org
Erie County Locations
406 Peach St., Erie, PA 16507
Fee: Free-$6.00 depending on test

Erie County Diabetes Association                  (814) 454-0715
1128 State St., 3rd Floor, www.diabeteserie.org
Erie, PA 16501

Diabetes Institute of Great Lakes          (814) 877-6130
Home Health Care Services     (800) 765-0655
1700 Peach St., Suite 220, www.greatlakeshhs.com
Erie, PA 16501
(click on Diabetes)

Northwest Area Health Education Center         (814) 453-6551
1913 W. 8th St., Erie, PA 16505 www.nwpaahec.org
General Information and referral Services.

Talk with your family doctor for testing.
Check local pharmacies for screening.

What is Type 2 Diabetes?

Type 2 diabetes usually begins with insulin resistance, a condition in which body cells do not use insulin properly. At first, the pancreas keeps up with the added demand by producing more insulin. In time, however, the pancreas loses the ability to make enough insulin in response to meals.

Being overweight and inactive increases the chance of developing Type 2 diabetes. Treatment may include taking oral medications or using insulin, making wise food choices, exercising regularly and controlling blood pressure and cholesterol.

Type 2 diabetes may be controlled through losing weight, improved nutrition, and exercise. Take steps now to lower your risk of getting diabetes.

What is Type 1 Diabetes?

Type 1 diabetes is diagnosed when the body does not make any or enough insulin. Type 1 diabetes most often develops in children and young adults. Individuals diagnosed with Type 1 diabetes need to take daily insulin injections or use an insulin pump. The causes of this type of diabetes are unknown though a viral illness or an autoimmune disease may play a role.
What are the Symptoms of Diabetes?

One third of those who have diabetes do not know it. Sometimes no signs or symptoms are noticed. The signs and symptoms of high blood glucose are:

- Blurred vision
- Increased infections, such as yeast infections in women
- Cuts and bruises that are slow to heal
- Frequent urination
- Fatigue
- Increased hunger
- Unwanted weight loss
- Extreme thirst

If you have any of the symptoms listed above, contact your physician to discuss your concerns.

VI. Prescription Help

Diabetic Medication Assistance Programs

- **Partnership for Prescription Assistance**
  1-888-477-2669
  www.pparx.com

- **Adult Basic Health Insurance for Pennsylvania Adults**
  1-800-462-2742
  (1-800-GO-BASIC)
  www.compass.state.pa.us

- **Children’s Health Insurance Program**
  1-800-986-5437
  www.chipcoverspakids.com

- **Express-Scripts RX Outreach**
  1-800-769-3880
  www.rxoutreach.com

- **Freedrugcard.us**
  1-866-410-4225
  www.freedrugcard.us

- **Lilly Answers**
  www.lillymedicareanswers.com

- **MedCare Solutions**
  1-888-727-8633
  www.medcaresolutions.com

- **Merck Prescription Assistance Program**
  1-800-506-3725
  www.merckhelps.com/uninsured/about.html

- **Novo Nordisk Patient Assistance**
  1-866-310-7549
  www.aging.state.pa.us (click on prescription assistance)

- **Patient Assistant Programs**
  1-215-625-9609
  www.needymeds.org

- **Pfizer Helpful Answers**
  1-866-706-2400
  www.pfizerhelpfulanswers.com

- **Sanofi-Aventis Patient Assistance**
  1-800-221-4025

- **Together Rx**
  1-800-444-4106
  www.togetherrxaccess.com

- **UNA Rx Card**
  1-877-321-6755
Long-Term Complications Continued

Nerve Damage—Nerve damage, peripheral neuropathy, is a common problem among individuals with diabetes. There are two types of nerve damage. With the first type, you might experience tingling or numbness in your hands or feet. The second type damages the nerves that help control blood pressure. You may feel dizzy when you stand up or your heart won’t speed up when you exercise. Other signs of nerve damage include dry skin, bladder and digestive problems, or sexual problems.

Tooth Decay and Gum Disease—Diabetes can increase the glucose in your saliva. Over time, high glucose levels can cause tooth decay and gum disease. See your dentist at least every 6 months for a checkup.

Skin and Foot Infections—High glucose levels increase the risk of foot and skin infections. Foot numbness, resulting from nerve damage, increases the risk of cuts and infections. Severe problems with blood circulation can lead to toe, foot, or leg amputation. Watch for signs of foot problems that include foot pain or numbness; swelling in the feet or legs; or sores that won’t heal.

Foot Care Tips—Protect Your Feet
- Clean feet well and often. Dry them well.
- Use lotion on outside of feet, not between toes.
- Never go barefoot.
- Wear comfortable socks and shoes.
- Inspect feet daily for bruises, cuts, or swelling.
- File toenails straight across with an emery board.
- Call your doctor if you injure your feet in any way.
- Take your shoes and socks off at every doctor’s appointment for examination.

What is Gestational Diabetes?

Gestational diabetes is a form of glucose intolerance diagnosed in some women during pregnancy. Gestational diabetes occurs more frequently among African Americans, Hispanic/Latino Americans, and American Indians. It is also more common among obese women and women with a family history of diabetes. During pregnancy, gestational diabetes requires treatment to normalize maternal blood glucose levels to avoid complications in the infant. After pregnancy, 5% to 10% of women with gestational diabetes are found to have Type 2 diabetes. Women who have had gestational diabetes have a 20% to 50% chance of developing diabetes in the next 5-10 years. Gestational diabetes affects about 4% of all pregnant women.

How are You Diagnosed?

Gestational diabetes is first diagnosed in pregnancy. It is typically diagnosed with a blood test during the 24th to 28th week of pregnancy and generally resolves after delivery. It is controlled with a meal plan, exercise, and in some cases, insulin. Women who develop gestational diabetes are at high risk for developing Type 2 diabetes later in life.
IV. Diabetes Care

What Can I Do to Develop a Foundation for Healthy Living?

While managing diabetes, you can eat the same foods as your family and friends as long as you space meals evenly throughout the day and control portion sizes. Remember to include a balance of carbohydrates, proteins, and fats with meals, which will help you control your blood glucose levels. By monitoring your blood glucose levels often, you can fine-tune your meal planning.  

Grains—Make Half Your Grains Whole

Grains, such as bread, cereal, and pasta are good sources of carbohydrates. However, these foods can raise blood sugar levels. Limit these portions to 2—4 servings at a meal. A 1/3 cup of rice or pasta equals 1 serving; a sandwich equals 2 servings.

Long-Term Complications

Cardiovascular Disease—Cardiovascular disease is the leading cause of diabetes-related death. People with diabetes are 2-4 times more likely to develop cardiovascular disease due to: high blood pressure; lipid disorders including high LDL, or bad cholesterol; high triglycerides; and low HDL, or good cholesterol; smoking; obesity; and lack of physical activity. Heart disease occurs earlier in people with diabetes and is more often fatal.

High Blood Pressure—Controlling high blood pressure in people with diabetes is especially important because high blood pressure is a major risk factor for cardiovascular disease and increases the risk for heart attack, stroke, and other complications such as retinopathy (damage to the blood vessels in the retina) and nephropathy (damage to the blood vessels in the kidneys). High blood pressure doesn’t usually have any symptoms, therefore you should have it checked regularly.

Blindness—Diabetes can cause damage to the tiny blood vessels that supply the retina, which is the light-sensing section of the inner eye. Glaucoma is an eye disease caused by excess pressure buildup in the eyes, which can lead to blindness.

Kidney Disease—People with diabetes have a higher risk of developing kidney disease. The tiny blood vessels in the kidneys that filter out waste in the blood can get blocked and leaky. Tobacco use can also reduce blood flow to the kidneys.
V. Complications

What are the Short-Term and Long-Term Complications of Diabetes?

Short-Term Complications

**Hypoglycemia**—Low blood sugar levels

**Symptoms:**
- Nervous or irritable
- Dizzy or shaky
- Hungry
- Headache
- Sweating
- Fast heartbeat
- Blurry vision

**Causes:**
- Not eating or eating too little
- Taking too much insulin or diabetes medication
- Being too active without enough available energy source

**Treatment:**
Eat or drink one source of fast acting carbohydrates such as:
- 3-4 glucose tablets
- 1/2 can regular soda (not diet)
- 4 oz of fruit juice
- 3-5 hard candies to quickly chew

**Hyperglycemia**—High blood sugar levels

**Symptoms:**
- Frequent urination
- Extreme thirst
- Dry skin/mouth
- Hunger
- Blurred vision
- Drowsiness
- Slow healing wounds

**Causes:**
- Not taking enough insulin or medication
- Eating more than usual
- Not exercising

**Treatment:**
- Follow your meal plan
- Do an activity in your exercise plan
- Take your medications as directed

Vegetables—Vary Your Veggies
Vegetables are low in fat and calories, and high in vitamins, minerals, and fiber. Non-starchy vegetables are low in carbohydrates and can be eaten freely. Non-starchy veggies include dark, leafy greens like spinach or broccoli, and orange veggies like carrots and sweet potatoes.

Fruits—Focus on Fruits
Like vegetables, fruits contain carbohydrates, vitamins, minerals, and fiber. You can have canned, dried, fresh, or frozen fruit and 100% fruit juices. Aim for 1–3 servings of fruit per day, limit juices to 4oz—6oz since it is a concentrated source of carbohydrates.

Milk—Get Your Calcium-Rich Foods
Dairy products are sources of nutrients. Milk and yogurt are considered carbohydrates; cheese is protein; butter, cream cheese, and sour cream are fats.

Meats and Beans—Go Lean on Protein
Meat, poultry, fish, dry beans and peas, eggs, nuts, and seeds are sources of protein, which your body needs to build and repair tissue, muscle, and bones. Protein affects blood glucose levels much less than carbohydrates. An adequate serving of protein is 3 oz., or the size of a deck of cards.

Oils—Know Your Fats
Use oils from plants like olive and vegetable oils, which don’t have any cholesterol and are usually low in saturated fats. Limit use of hydrogenated products like stick margarine and shortening. High fat meals can slow absorption of carbohydrates and keep blood sugar levels higher for 3-5 hours after a meal.

Physical Activity—Food and Physical Activity
Balancing food, activity, and medications is the key to managing diabetes. Exercise, however, can cause hypoglycemia. Monitoring blood sugar levels before and after exercise is recommended.
What are the Standards of Diabetes Care?

There are at least 7 important tests for a person with diabetes. Ask your doctor about these tests.

At Every Visit:
- Blood Pressure Check—to help prevent heart attack and stroke
- Foot Exam—to keep feet healthy to prevent infection or amputation
- Weight—to maintain a healthy weight

At Least Twice a Year:
- HbA1c Blood Test—to check sugar control over the past 2-3 months. Quarterly testing is recommended if your treatment changes or you are not meeting your goals

Once a Year:
- Dilated Eye Exam—to help prevent blindness
- Urine Test for Protein—to help prevent kidney failure
- Cholesterol Panel—to help prevent heart attack

What Do These Tests Mean?

**Hemoglobin A1C (HbA1c) test** is a simple lab test showing the average amount of glucose in your blood over the last 2-3 months. It is one of the best ways to find out if your blood glucose level is under control.

**HbA1c Levels:**
- Normal: less than 6%
- Goal: less than 7%
- Action Taken: greater than 8%

**Plasma Blood Values**
- Average Before Meals: 90—130 mg/dl
- Average After Meals: less than 180 mg/dl

**Lipid and Blood Pressure**

**Lipid Profile:**
- Total Cholesterol: less than 200 mg/dL
- LDL: less than 100 mg/dL
- HDL: greater than 40 mg/dL for Men
- HDL: greater than 50 mg/dL for Women
- Triglycerides: less than 150 mg/dL

**Blood Pressure:**
- Systolic: less than 130 mm Hg
- Diastolic: less than 80 mm Hg