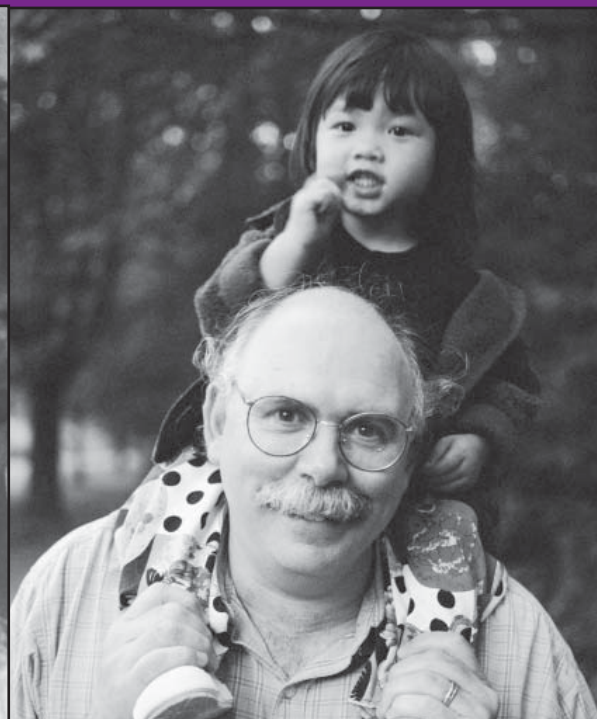


# MANAGING DIABETES

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# TABLE OF CONTENTS

Table of Contents .....	1
What is Diabetes? .....	2
Types of Diabetes .....	2
Diagnosing Diabetes .....	2
Risk Factors For Type 2 Diabetes .....	3
Warning Signs of Diabetes .....	3
Prevention of Type 2 Diabetes .....	3
Taking Care of Diabetes.....	4
All about Physical Activity for People with Diabetes .....	6
Oral Medicines .....	7
Diabetes Pills.....	8
Comparison of Insulins .....	10
Ready, Set, Start Counting .....	12
Hyperglycemia (high blood glucose) .....	14
Planning Meals.....	15
Your Blood Glucose Numbers .....	16
Hypoglycemia (low blood glucose) .....	18
Driving Safely .....	19
Heart Healthy Eating .....	20
Good Nutrition.....	21
Dining with Diabetes .....	21
Guidelines for use of Alcohol .....	22
Help Yourself Prevent the Complications of Diabetes .....	23
Normal Eye .....	24
Microaneurysms .....	24
Proliferative Retinopathy .....	25
Retinal Detachment .....	25
Foot Care for People with Diabetes .....	26
Skin Care.....	27
Diabetes and Gum Disease .....	28
Sick Day Management .....	29
Diabetes and Stress Management .....	30
Coping with Diabetes.....	31
Changing Behavior .....	32
Getting the Very Best Care for your Diabetes.....	34
Resources for People with Diabetes.....	36
Equipment, supplies, medication, and self-managment training: What's Covered?.....	38

## WHAT IS DIABETES?

Diabetes is a serious chronic disease. It happens when too much glucose stays in the blood stream because there is no, or too little, insulin that can move it into the body's cells. Most of the food people eat is changed into simpler proteins, fats or a simple carbohydrate called glucose. Glucose is the form of "sugar" that cells need to make energy. The pancreas, an organ near the stomach, normally makes insulin to move glucose from the blood stream into the cells. In diabetes, the body cannot make insulin or properly use the insulin it has.

Controlling blood sugar helps to prevent the damage to blood vessels and nerves that leads to

complications: blindness, amputations, kidney failure, stroke, heart attack, digestive and nerve problems, gum disease and even depression. Good control is a matter of daily nutrition and exercise, weight control (which affects the risk of type 2 diabetes), daily or regular self-checks (such as blood sugar levels and skin/feet), taking medicines as ordered, and regular checkups (including blood "A1C," dental, eyes, and foot sensation).

## TYPES OF DIABETES

### *type* **1**

- Was called Insulin Dependent Diabetes (IDDM) or Juvenile Onset.
- Accounts for up to 10% of all diagnosed cases of diabetes.
- An auto-immune change damages pancreas beta cells. Causes the body to produce little or no insulin. The person with type 1 diabetes must get insulin daily.
- Is usually diagnosed under the age of 20 but can occur at any age.
- Does not usually run in families, but there is a higher risk.
- Usually occurs in normal-weight individuals.

### *type* **2**

- Was called Non-insulin Dependent Diabetes (NIDDM) or Adult Onset.
- Accounts for most (90%) of all diagnosed cases of diabetes.
- In many cases, people will start with high levels of insulin, but it can occur in people with normal or low levels of insulin.
- Is usually diagnosed in people over 30 years of age but is being found more frequently in youth who are already very overweight.
- Tends to run in families; has a genetic risk.
- Being overweight and inactive raises the risk.
- Increases the risk for heart attack and stroke because many with type 2 also have high blood pressure and high cholesterol.

## DIAGNOSING DIABETES

Diabetes can be diagnosed in 3 different ways:

1. A fasting blood glucose above 126 on two separate occasions.
2. An oral glucose tolerance test. After a 10-12 hour fast, a blood sample is taken, and then a known amount of glucose is given to the patient. Blood is tested after that for elevated glucose.
3. A non-fasting glucose over 200 along with symptoms of diabetes.

## RISK FACTORS FOR TYPE 2 DIABETES

1. Overweight –  $\geq 30$  pounds overweight or a body mass index (BMI)  $\geq 25$  ( $\geq 23$  if Asian American)
2. Family history of Diabetes Mellitus (DM)
3. Hispanic/Latino, African American, American Indian or Asian American heritage
4. Over 30 years of age and overweight or over age 45
5. Delivered a large baby, 9 pounds or more, or had diabetes during pregnancy (gestational diabetes)
6. Inactive lifestyle (exercise less than 3 times a week)
7. High blood pressure (140/90 or higher)

## WARNING SIGNS OF DIABETES

1. Excessive thirst or hunger
2. Frequent urination
3. Extreme weakness or fatigue
4. Infections, cuts or sores that are slow to heal
5. Blurred vision
6. Tingling or numbness of the feet or hands
7. Frequent skin, dental (gum), urinary or yeast infections
8. Impotence
9. Feeling that you have “no energy”

## PREVENTION OF TYPE 2 DIABETES

1. You should be tested if two or more risk factors are present.
2. Try to be more active.
  - a. Choose activities you enjoy doing, such as walking, dancing, gardening, or bicycling.
  - b. Make time to do something active and fun.
  - c. Activity should be done regularly, for at least 30 minutes most days a week.
3. Develop healthy eating habits.
  - a. Reduce fats to no more than 30% of daily calories.
  - b. Cook with vegetable oils. Replace hard fats (lard, shortening) with oil.
  - c. Use low-fat cooking methods such as broiling, baking, grilling and steaming.
  - d. Trim fat and skin from meats and poultry.
  - e. Eat smaller portions. Use the Food Guide Pyramid for portion size.
  - f. Choose foods high in fiber, such as fruits, raw vegetables, beans, peas, and whole grains.
  - g. Eat well-balanced meals about the same time each day.
4. Be alert for warning signs. Call your doctor if they occur.

# TAKING CARE OF DIABETES

## What is type 2 diabetes?

Everyone's blood has some glucose (sugar) in it because your body needs glucose for energy. Normally, your body breaks food down into glucose and sends it into your bloodstream. Insulin, a hormone made by your pancreas, helps get the glucose from the blood into the cells to be used for energy. In people with type 2 diabetes, the pancreas doesn't make enough insulin or the insulin doesn't work very well, or both. Without insulin, your blood glucose rises.

## How can type 2 diabetes affect me?

Type 2 diabetes sometimes leads to problems such as heart disease, stroke, nerve damage, and kidney or eye problems. But the good news is that keeping blood glucose, blood pressure, and cholesterol on target can help delay or prevent problems.

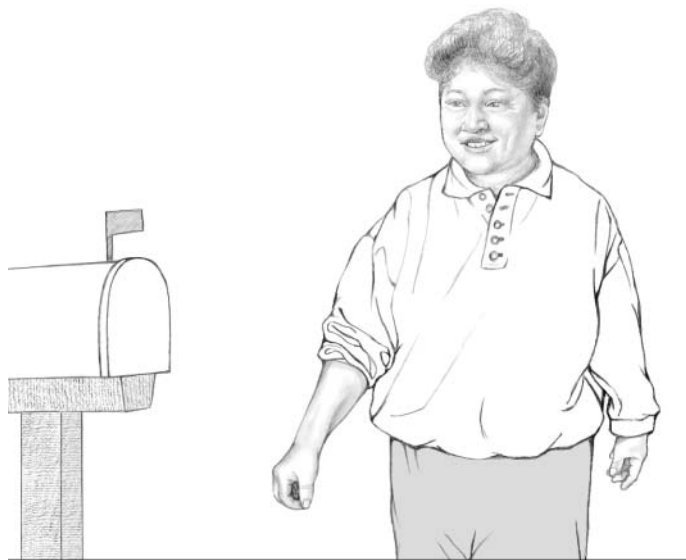
## How is type 2 diabetes managed?

Most of the day-to-day care of diabetes is up to you. Your plan for taking care of your diabetes will include:

- choosing what, how much, and when to eat
- including physical activity in your daily routine
- taking medications (if needed) to help you reach your blood glucose, blood pressure, and cholesterol targets

## What can I do to take care of my diabetes?

- Choose targets for the ABCs of diabetes care:
  - A: your A1C check for average blood glucose
  - B: your blood pressure
  - C: your cholesterol levels
- Work with your health care team to make a plan that helps you reach your targets.
- Keep track of your numbers.
- If you're not reaching your targets, change your plan as needed to stay on target.



Regular physical activity can lower your blood glucose, blood pressure, and cholesterol levels.

## Your Blood Glucose

Targets established by the American Diabetes Association (ADA) are listed below. Your personal targets may differ. Talk with your health care team about the best targets for you. You'll check your own blood glucose using a blood glucose meter. The meter tells you what your blood glucose is at a particular moment.

ADA Targets for Blood Glucose	My Usual Results	My Targets
Before meals: 90 to 130 mg/dl	_____ to _____	_____ to _____
2 hours after the start of a meal: less than 180 mg/dl	less than _____	less than _____

At least twice a year, your doctor should order an A1C check. The results will give your average blood glucose for the past 2 to 3 months.

ADA Target for the A-1-C	My Last Result	My Target
Below 7%		

## Your Blood Pressure

At every office visit, your health care team should check your blood pressure.

ADA Target	My Last Result	My Target
Below 130/80 mmHg		

## Your Cholesterol/Triglycerides

Every year, your health care team should check your cholesterol and triglyceride levels.

Types	ADA Targets	My Last Result	My Target
LDL cholesterol	Below 100 mg/dl		
HDL cholesterol	Above 40 mg/dl (for men)		
	Above 50 mg/dl (for women)		
Triglycerides	Below 150 mg/dl		

## What do I need to know about meal planning, physical activity, and medications?

### Meal Planning

Many people think that having diabetes means you can't eat your favorite foods. But you can still eat the foods you like. It's the amount that counts. Ask for a referral to a dietitian who specializes in diabetes. Together, you'll design a personalized meal plan that can help you reach your goals.

- **Count carbohydrates (also called carbs).**  
Carbohydrate foods – bread, tortillas, biscuits, rice, crackers, cereal, fruit, juice, milk, yogurt, potatoes, corn, peas, sweets – raise your blood glucose levels the most. Keeping the amount of carbohydrate in your meals and snacks consistent can help you reach your blood glucose targets.
- **Choose foods low in saturated fat.**  
Cutting down on foods that have saturated fat can help you lower your cholesterol and prevent heart disease. Foods high in saturated fat include meats, butter, whole milk, cream, cheese, lard, shortening, many baked goods, and tropical oils such as palm and coconut oil.
- **Lose weight if needed.**  
Try to lose weight by cutting back on food portions and increasing your daily activity.

- **Increase the fiber in your diet.**

Include high-fiber foods, such as fruits, vegetables, dried beans and peas, oatmeal, and whole grain breads and cereals, in your diet.

## Physical Activity

Regular physical activity helps lower your blood glucose, blood pressure, and cholesterol levels. It also keeps your joints flexible, strengthens your heart and bones, tones your muscles, and helps you deal with stress. Your health care team may want to check your heart function before you start doing new activities. They can help you plan what kinds of physical activities are best for you. The different kinds of activities include:

- **Being active throughout the day**  
Examples: gardening, taking the stairs instead of the elevator, or walking around while you talk on the phone – working up to about 30 minutes of activity a day
- **Aerobic exercise**  
Examples: walking, dancing, rowing, swimming, or riding a bicycle – working up to about 30 minutes a day, 5 days a week
- **Strength training**  
Example: lifting light weights several times a week
- **Stretching**  
Example: stretching your whole body, especially your arms and legs

## Medications

Many people need medications along with meal planning and physical activity to reach their blood glucose, blood pressure, and cholesterol targets. If you've had type 2 diabetes for a while, you may need a change in your diabetes pills to reach your blood glucose targets. If you need insulin shots, it doesn't mean that your diabetes is getting worse. It just means that you need a change in how you reach your target numbers.

If it's difficult for you to reach your target numbers, talk with your health care team about whether medications can help.

# ALL ABOUT PHYSICAL ACTIVITY FOR PEOPLE WITH DIABETES

## Here's what physical activity can do for you:

- It lowers your blood glucose (sugar), blood pressure, and cholesterol.
- It lowers your risk for heart disease and stroke.
- It relieves stress.
- It helps insulin work better.
- It strengthens your heart, muscles, and bones.
- It improves your blood circulation and tones your muscles.
- It keeps your body and your joints flexible.

Even if you've never exercised before, you can find ways to add physical activity to your day. You'll experience benefits even if your activities aren't strenuous. **Once physical activity is a part of your routine, you'll wonder how you did without it.**

### If I haven't been very active lately, what should I do first?

Start with a checkup – your health care provider will check your heart, blood vessels, eyes, kidneys, feet, and nervous system. If the tests show signs of disease, your provider can recommend physical activities that will help you but won't make your condition worse.

### What kinds of physical activity are best?

A comprehensive physical activity routine includes four kinds of activities:

- being active throughout the day
- aerobic exercise, such as brisk walking, swimming, or dancing
- strength training, such as lifting light weights
- flexibility exercises, such as stretching



Find an activity you enjoy, such as a dance aerobics class.

## Being active throughout the day

Being active helps burn calories. Place a check mark next to the things you'd like to try:

- Walk instead of drive whenever possible.
- Take the stairs instead of the elevator.
- Walk around while I talk on the phone.
- Work in the garden, rake leaves, or wash the car.
- Play with the kids.
- Carry things upstairs in two trips instead of one.
- Park at the far end of the shopping center lot and walk to the store.
- Others things I can do: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## Aerobic exercise

Aerobic exercise makes your heart and bones strong, relieves stress, helps your insulin work better, and improves blood circulation. In addition, it cuts your risk for heart disease by lowering your blood glucose, blood pressure, and cholesterol levels. For most people, it's best to aim for a total of about 30 minutes a day, at least 5 days a week. If you haven't been very active recently, you can start out with 5 or 10 minutes a day and work up to more time each week. Or split up your activity for the day – try a brisk 10-minute walk after each meal. Your health care team can show you how to warm up and stretch before aerobic exercise and how to cool down afterward.

Here are some examples of aerobic exercise:

- Take a brisk walk every day.
- Go dancing or take a dance aerobics class.
- Swim or do water aerobic exercises.
- Take a bicycle ride outdoors or use a stationary bicycle indoors.

### My plan for aerobic exercise:

What I'll do: \_\_\_\_\_  
\_\_\_\_\_

What I need to get ready: \_\_\_\_\_  
\_\_\_\_\_

Which days and times: \_\_\_\_\_

How long each session will be: \_\_\_\_\_

How I'll warm up and cool down for each session: \_\_\_\_\_

### Precaution:

Try to exercise after a meal or snack, to prevent hypoglycemia.

## Strength Training

Strength training helps build strong bones and muscles and makes everyday chores like carrying groceries easier for you. With more muscle, you burn more calories, even at rest. Do your strengthening routine several times a week.

Here are some ways to do strength training:

- Lift light weights at home.
- Join a class to do strength training with weights, elastic bands, or plastic tubes.

### My plan for strength training:

What I'll do: \_\_\_\_\_  
\_\_\_\_\_

What I need to get ready: \_\_\_\_\_  
\_\_\_\_\_

Which days and times: \_\_\_\_\_

How long each session will be: \_\_\_\_\_

## Flexibility exercises

Flexibility exercises, also called stretching, help keep your joints flexible and reduce your chances of injury during activities. Gentle stretching for 5 to 10 minutes helps your body warm up and get ready for aerobic activities and cool down after your activity. Your health care team can provide information on how to stretch.

### My plan for flexibility exercises:

What I'll do: \_\_\_\_\_  
\_\_\_\_\_

What I need to get ready: \_\_\_\_\_  
\_\_\_\_\_

Which days and times: \_\_\_\_\_

How long each session will be: \_\_\_\_\_

# ORAL MEDICINES

## What do I need to know about diabetes pills?

Many types of diabetes pills can help people with type 2 diabetes lower their blood glucose. Each type of pill helps lower blood glucose in a different way. The diabetes pill (or pills) you take is from one of these groups. You might know your pill (or pills) by a different name.

- **Sulfonylureas** (SUL-fah-nil-YOO-ree-ahs) stimulate your pancreas to make more insulin.
- **Biguanides** (by-GWAN-ides) decrease the amount of glucose made by your liver.
- **Alpha-glucosidase inhibitors** (AL-fa gloo-KOS-ih-dayss in-HIB-it-ers) slow the absorption of the starches you eat.
- **Thiazolidinediones** (THIGH-ah-ZO-li-deen-DYE-owns) make you more sensitive to insulin.
- **Meglitinides** (meh-GLIT-in-ides) stimulate your pancreas to make more insulin.
- **D-phenylalanine** (dee-fen-nel-AL-ah-noon) derivatives help your pancreas make more insulin quickly.
- **Combination oral medicines** put together different kinds of pills.

Also see: [Specific Pills](#)

Your doctor might prescribe one pill. If the pill does not lower your blood glucose, your doctor may

- ask you to take more of the same pills, or
- add a new pill or insulin, or
- ask you to change to another pill or insulin.

## DIABETES PILLS

Class	Name	Description	Dosage (rag)	Number of times per Day
<b>Sulfonylureas</b>	Micronase (glyburide)	Round, scored tablet:		1-2
		White	1.25	
		Dark pink	2.5	
		Blue	5.0	
	Diabeta (glyburide)	Oval, scored tablet:		1-2
		White	1.25	
		Pink	2.5	
		Green	5.0	
	Glynase PresTab (glyburide)	Oval, scored tablet:		1-2
		White	1.5	
		Blue	3.0	
		Yellow	6.0	
*Glucotrol (glipizide)	White, scored, diamond-shaped tablet	5.0	1-2	
		10.0		
Glucotrol XL (glipizide XL)	White, round tablet	5.0	1	
		10.0		
Amaryl (glimepiride)	Oval, scored tablet:		1	
		White		1.0
		Pink		2.0
		Green		4.0
Orinase (tolbutamide)	White, round scored tablet	250	2-3	
		500		
Diabinese (chlorpropamide)	Blue tablet, flat on one side, scored	100	1	
		250		
Tolinase (tolazamide)	White, round, scored tablet	100	1-2	
		250		
		500		
<b>Biguanides</b>	Glucophage(metformin)	White, round tablet	500	2-3
		White, round tablet	800	
		White, oval table	1000	
	Glucophage XL	White capsule		1
<b>Insulin Sensitizers Thiazolidinediones (TZDs)</b>	Avandia(rosiglitazone)	Five-sided tablet:		1-2
		Pink	200	
		Orange	400	
		Red/Brown	800	
Actos (pioglitazone)	Tablets:			1
		White, round, convex	15	
		White, round, flat	30	
		White, round, flat	45	

# DIABETES PILLS

Class	Name	Description	Dosage (rag)	Number of times per day	
Glitinides Meglitinide	**Prandin (repaglinide)	Unscored, round tablet		3-4	
		White	0.5		
		yellow	1.0		
		Pink	2.0		
Phenylalanine derivative	***Starlix (nateglinide)	Pink, round tablet	60	3	
		yellow, oval tablet	120		
Alpha-glucosidase inhibitors	**Precose acarbose)	White, round, scored tablet	50	3	
	**Glyset (miglitol)	White, round tablet	25		
			50 100		
<b>Sulfonylurea**** and biguanide combination</b>	Glucovance glyburide/ metformin)	Capsule shape:		1-2	
		Pale yellow	1.25/250		
		Pale orange	2.5/500		
		Yellow	5/500		
	****Metaglip glipizide/metformin)	Oval Tablet (Pink White Pink	2.5-250 2.5-500 5.0-500	2	
<b>Insulin sensitizer and biguanide combination</b>	***Avandamet (rosiglitazone/ metformin)	Oval Tablet			2
		Pale Yellow	1.0/500		
		Pale pink	2.0/500		
		Orange	4.0/500		
		Yellow	2.0/1000		
		Pink	4.0/1000		
	ACTOSplusmet (pioglitazone/ metformin)		15/500 15/880	1-2	
<b>Insulin Sensitizer and sulfonylurea combination</b>	*****Avandaryl (rosiglitazone/ glimepiride)	Triangle-shaped tablet			1
		Yellow	4.0/1.0		
		Peach	4.0/2.0		
		Purple	4.0/4.0		

\*Take 30 minutes before meals \*\*Take with the first bite of meal.

\*\*\* Take 1-3- minutes before meal. \*\*\*\*Take with meals. \*\*\*\*\*Take with first meal

## Hormones Other than Insulin

Symlin is a hormone used to slow down the digestion of food. It is taken by injection when insulin is taken. However, it cannot be in the same syringe with insulin.

Byetta is another hormone -- an incretin mimetic. It enhances insulin secretion in the presence of food. It is injected with a pen and is taken an hour before breakfast and before dinner. It is used by people who do not take insulin

# COMPARISON OF INSULINS

Type	Brand Name	Color	Onset	Peak	End
<b>Rapid-Acting</b>					
Lispro	Humalog	Clear			
Aspart	Novolog	Clear			
Glulisine	Apidra	Clear	5 minutes	1 hour	2-4 hours
Inhalation Powder	Exubera**				
<b>Short-Acting</b>					
Regular	Humulin R	Clear			
Regular	Novolin R ReliOn(Walmart)	Clear	1/2- hour	2-5 hours	6- 16 hours
<b>Intermediate-Acting</b>					
<b>NPH</b>	Humulin N*	Cloudy	2-4 hours	4-10 hours	10- 16 hours
<b>NPH</b>	Novolin N *	Cloudy	2-4 hours	4- 10 hours	10- 16 hours
<b>Long-Acting</b>					
Glargine	Lantus*	Clear	2-4 hours	peakless	20-24 hours
	Levemir*	Clear	2-4 hours	peakless	20-24 hours
<b>Mixtures</b>					
70%NPH/ 30%Regular	Humulin 70/30*	Cloudy	1/2 hour	2-12 hours	24 hours
70% NPH/ 30%regular	Novolin 70/30*, ReliOn(walmart)	Cloudy	1/2 hour	2-12 hours	24 hours
75%lispro protamine/25% lispro	Humalog Mix 75/25*	Cloudy	15 minutes	1/2-4 hours	24 hours
70% aspart- protamine/30% aspart	Novolog Mix 70/30*	Cloudy	15 minutes	1-4 hours	24 hours

\* Available in pre-filled, disposable pens or cartridges for reusable pens.

## LESS COMMONLY USED INSULINS

Generic Name	Brand Name
regular	Humulin R, U500
50%NPH/50%regular	Humulin 50/50

Humulin R, U500 is used in the rare patient who is extremely insulin resistant. Otherwise in the United States, insulin is standardized to U-100 (100 units per cc). U-40 insulin is used in some countries and requires syringes designed for that strength of insulin.

\*\*Exubera Inhalation Powder contains a rapid-acting, dry powder human insulin that is inhaled normally through the mouth into the lungs, where it is rapidly absorbed into the bloodstream to help reduce blood sugar levels.

# READY, SET, START COUNTING

## HOW TO USE CARBOHYDRATE COUNTING TO KEEP YOUR BLOOD GLUCOSE HEALTHY

When you have diabetes, keeping your blood glucose in a healthy range helps you feel your best today and in the future. Carbohydrate counting is a way to plan the amount of carbohydrate you eat and better manage your diabetes.

Carbohydrate counting is not a diet. It is a meal planning tool that helps you understand how your food choices affect your blood glucose level.

### Carbohydrate and Blood Glucose

Most of the carbohydrate you eat is digested to glucose. The right balance between carbohydrate and insulin (made by the pancreas or from injections) keeps your blood glucose level normal. When you eat, how much you eat, and whether or not you have snacks should be based on your lifestyle, medications, and meal planning goals. A dietitian can help you choose, from the goals below, the one that is best for you.

**Consistency** For many people who use diabetes medications or insulin, it is important to eat the same amount of food at the same times. Planning the amount of carbohydrate you eat can keep your blood glucose from going too high or too low.

**Maximums** If you use a healthy lifestyle to control your diabetes, or medications that do not cause low blood glucose, having a maximum limit for carbohydrate at meals keeps your blood glucose from going too high, and allows you to choose less carbohydrate when you wish.

**Matching** some insulin plans allow you to vary meal times or carbohydrate amounts. If you follow this type of insulin plan you need to know how to match your insulin to the amount of carbohydrate you eat.

### To Count Carbohydrates You Need To Know:

- Foods That Contain Carbohydrate
- Grains, breads, cereals and dried beans
- Starchy vegetables
- Fruits
- Milk and yogurt
- Sweets and desserts

(Non starchy vegetables contain small amounts of carbohydrate and will not affect blood glucose unless you eat large amounts.)

### Portion Sizes

- A “carbohydrate choice” is a portion of food that has 15 grams of carbohydrate.
- (1 carbohydrate choice = 15 grams of carbohydrate)
- Carbohydrate from any food has the same effect on blood glucose. Small portions of sweets or sugar can be used in place of other carbohydrate foods.
- Measure or weigh foods to learn what common portion sizes look like. When you can't, use these hand estimates.



### How to Read a Food Label

- Find the Serving Size.
- Find the Total Carbohydrate in one serving. (Sugars are included in this number, do not count them separately.)
- Compare the serving size listed to your portion.
- Calculate the amount of carbohydrate in your portion.
- You can count grams of carbohydrate or carbohydrate choices.

Nutrition Facts	Amount/Serving	%DV*	Amount/Serving	%DV*
	Serv. size 2 cookies (28g) Calories 120 Fat Calories 60	Total Fat 7g Sat. Fat 2g Cholest. 0mg Sodium 110mg	11% 10% 0% 5%	Total Carb. 18g Dietary Fiber 1g Sugars 0g Sugar Alcohol 5g Protein 2g
*Percent Daily Values (DV) are based on a 2,000 calorie diet.		Vitamin A 0% • Vitamin C 0% • Calcium 0% • Iron 6%		

## Carbohydrate Choices

When there is not a label, these food lists can help you.

Grains, Breads, Cereals	Milk and Yogurt	Fruits	Vegetables	Sweets and Snack Foods
<ul style="list-style-type: none"> <li>- 1 oz bread (1 slice bread, 1/4 large bagel, 6" tortilla)</li> <li>- 1/2 cup cooked dried beans</li> <li>- 1/3 cup pasta or rice</li> <li>- 1 cup soup</li> <li>- 3/4 cup cold cereal</li> <li>- 1/2 cup cooked cereal</li> </ul>	<ul style="list-style-type: none"> <li>- 1 cup milk</li> <li>- 2/3 cup unsweetened yogurt (6 oz) or sweetened with noncaloric sweetener</li> </ul>	<ul style="list-style-type: none"> <li>- 1 small fresh fruit</li> <li>- 1/2 cup fruit</li> <li>- 1 cup melon or berries</li> <li>- 1/2 cup fruit juice</li> <li>- 1/4 cup dried fruit</li> </ul>	<ul style="list-style-type: none"> <li>- 1/2 cup potato, peas, or corn</li> <li>- 3 cups raw vegetables</li> <li>- 1 1/2 cups cooked vegetables</li> </ul> <p>(Small portions of nonstarchy vegetables are free.)</p>	<ul style="list-style-type: none"> <li>- 3/4 oz snack food (pretzels, chips, 4-6 crackers)</li> <li>- 1 oz sweet snack (2 small sandwich cookies, 5 vanilla wafers)</li> <li>- 1 Tbsp sugar or honey</li> <li>- 1/2 cup ice cream</li> </ul>

Each portion is one carbohydrate choice (15 grams of carbohydrate).  
 (Foods with less than 20 calories and 5 grams of carbohydrate are considered "free".  
 These include: sugar-free sodas and beverages, sugar substitutes, spices and seasonings.)

### MY CARBOHYDRATE GOALS

**Breakfast** \_\_\_\_\_ : \_\_\_\_\_ (time)  
 \_\_\_\_\_ carbohydrate choices or grams

**Snack:** \_\_\_\_\_ carbohydrate choices or grams

**Lunch** \_\_\_\_\_ : \_\_\_\_\_ (time)  
 \_\_\_\_\_ carbohydrate choices or grams

**Snack:** \_\_\_\_\_ carbohydrate choices or grams

**Dinner** \_\_\_\_\_ : \_\_\_\_\_ (time)  
 \_\_\_\_\_ carbohydrate choices or grams

**Snack:** \_\_\_\_\_ carbohydrate choices or grams

Most women need about 3-4 carbohydrate choices (45 to 60 grams of carbohydrate) at each meal. Men generally need about 4-5 (60 to 75 grams of carbohydrate). If you eat snacks, 1-2 carbohydrate choices (15-30 grams of carbohydrate) is reasonable. How many carbohydrate choices you need will depend on your size and activity level. Healthy eating is more than just carbohydrate counting.

Eat a variety of foods, including 5 servings of fruits and vegetables, 6 servings of grains (3 whole grain), 2 servings of low-fat dairy. Foods in the meat and fat groups do not directly affect blood glucose. Make heart healthy choices for optimal health.

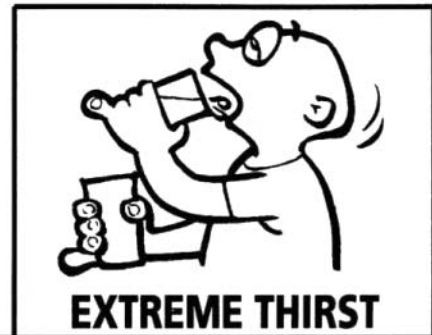
For a referral to a dietitian contact ARC at 272-4636.

Authored by:  
 Belinda O'Connell MS, RD, CDE  
 Susan Wang MS, RD, CDE

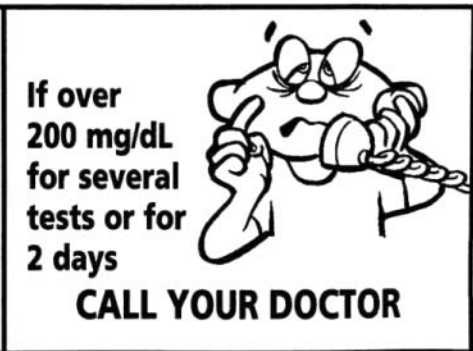
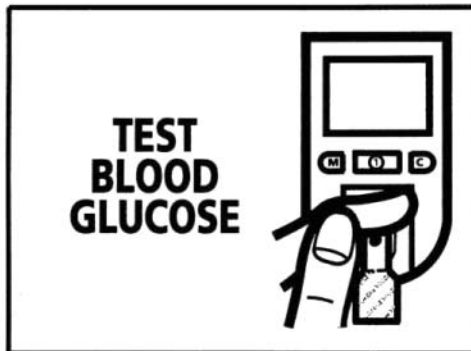
# HYPERGLYCEMIA (HIGH BLOOD GLUCOSE)

**Causes:** Too much food, too little insulin or diabetes medicine, illness or stress.

**Onset:** Gradual, may progress to diabetic coma.

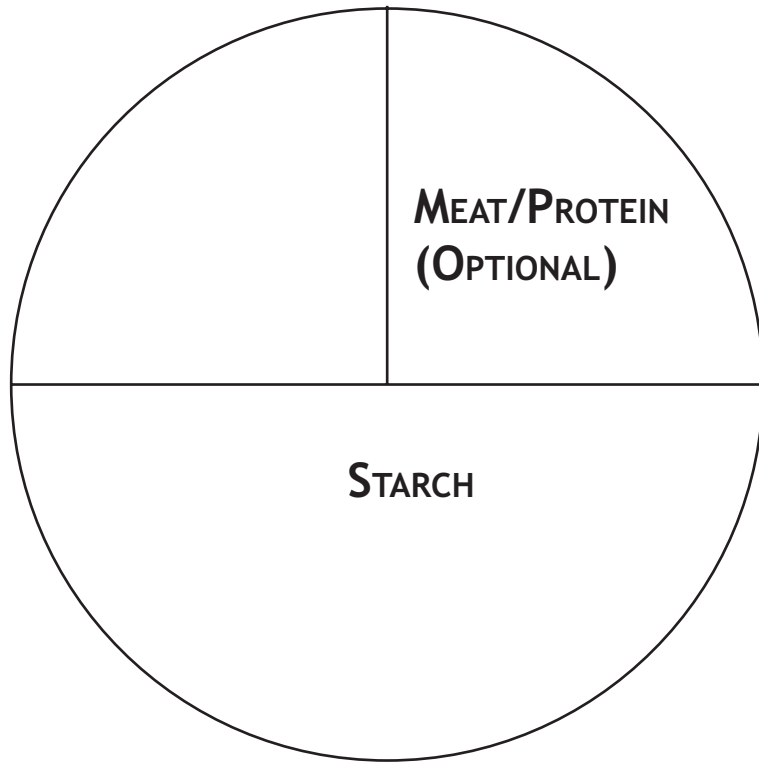
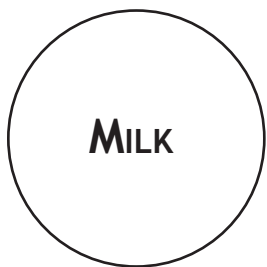
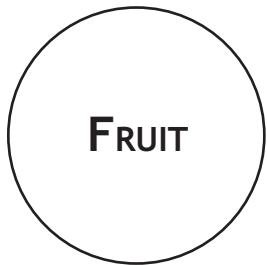


## SYMPTOMS

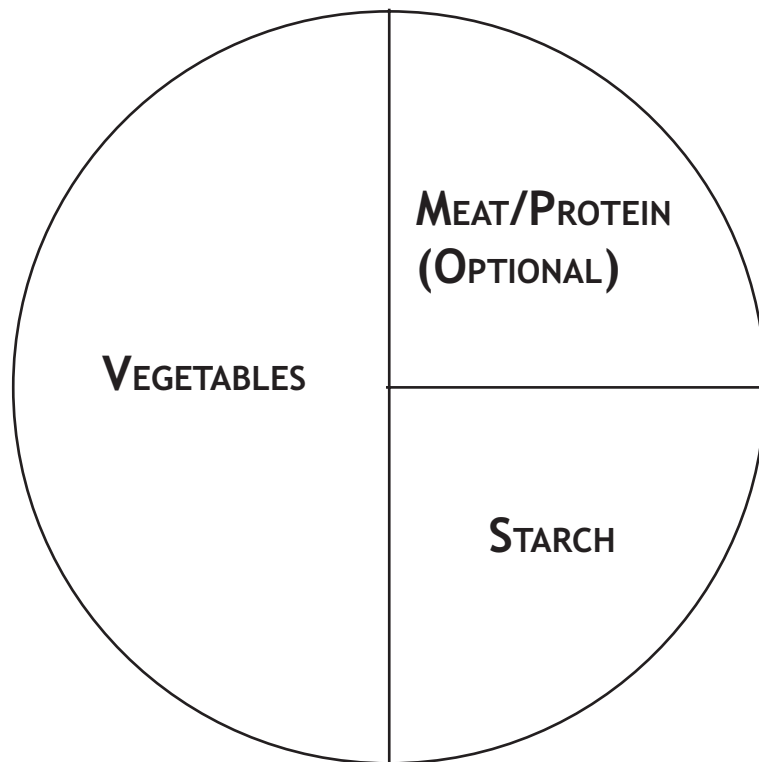
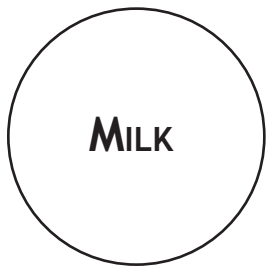
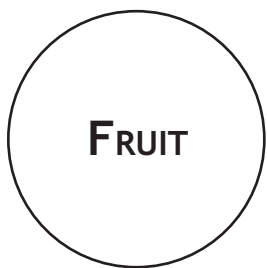


# PLANNING MEALS

## BREAKFAST



## LUNCH/DINNER



# YOUR BLOOD GLUCOSE NUMBERS

## Why should I check my blood glucose?

Your blood glucose numbers give you important information about how well your diet, medications and activity are working. Blood glucose levels change all the time. You need to check your blood glucose to make sure it's in your target range. How you feel isn't always a correct sense of what your blood glucose is.

## How often should I check my blood glucose?

If you take insulin, the American Diabetes Association recommends checking your blood glucose three to four times each day. If you don't take insulin to control your diabetes, there is no set number of times each day to check your blood glucose. However, if there is a change in your treatment, activity or health, check your blood glucose more often to see how the changes affect your usual blood glucose patterns.

## When should I check my blood glucose?

By checking your blood glucose at different times, you can learn how it changes throughout the day and how it is affected by food and activity. Write down your daily blood glucose numbers. Look for times when the blood glucose is NOT in your target range.

## When you check depends on what you want to learn

- Any time you feel it might be low, before and after activity, and when you are sick. If you don't have symptoms when your blood glucose is low, (known as hypoglycemia unawareness), always check before driving, and more often when exercising or sick.
- To see how a meal affects your blood glucose, check before and one to two hours after the meal.
- To see how certain medications affect your blood glucose, check when the medication is most active.
- For example, check your morning fasting blood glucose to see how long-acting medications taken the night before are working.
- If you have type 2 diabetes and are not taking medication, a morning fasting blood glucose in the target range shows you that your body is making enough insulin overnight.
- To see how activity and exercise affect your blood glucose, check before and after activity and note the change.

*If the blood glucose is often high or low at certain times of the day, you may need to make changes in your diet, medication or activity. Talk with your health care provider before you make any medication changes.*

Targets for blood glucose	ADA*	AACE**
Fasting or before a meal	90-130 mg/dl	<110 mg/dl
Two hours after the start of a meal	<180 mg/dl	<140 mg/dl

\*American Diabetes Association (ADA)

\*\*American Association of Clinical Endocrinologists (AACE)

*Your blood glucose goals may be different. Ask your health care provider for help setting your goals.*

### Why do I sometimes get unusual readings?

Use your meter's control solution to check the test strip any time you question the reading or get a reading that doesn't match how you feel.

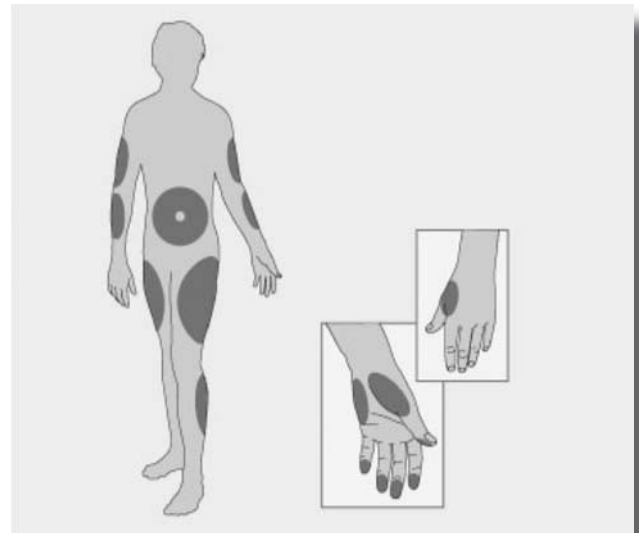
The most common cause of wrong blood glucose readings is not using the meter correctly. Check your meter instruction guide if you think your blood glucose readings may not be right.

### Do I always have to prick my fingers to check my blood glucose?

The most common site used to check your blood glucose is the fingertips. It is possible to get blood samples from sites other than the fingers. To avoid the pain of finger pricks, some meters allow for alternate site testing. Check your meter to see if it is approved for alternate site testing. Read your meter's instruction guide to learn how to use these other sites.

Alternate site testing should NOT be used to check for low blood glucose. *Always use your fingers when checking for low blood glucose. Since blood flows to your fingers three to five times faster than other parts of your body, low blood glucose will be noticed at your fingers first.*

Your blood glucose record is an important part of your health care. Take your records to each visit with your health care team. Checking your blood glucose regularly is an important part of caring for your health. If you have questions about checking blood glucose, contact your health care provider or a certified diabetes educator.



Alternate site testing areas are the upper arm, thigh, calf, fleshy parts of the hand, and abdomen.











**Note:** Always use your fingers when checking for low blood glucose.

# HYPOGLYCEMIA (LOW BLOOD GLUCOSE)

**Causes:** Too little food, too much insulin or diabetes medicine, or extra activity.

**Onset:** Sudden, may progress to insulin shock.

## SYMPTOMS

		 <b>SHAKING</b>	 <b>FAST HEARTBEAT</b>
 <b>SWEATING</b>	 <b>DIZZINESS</b>	 <b>ANXIOUS</b>	 <b>HUNGER</b>
 <b>IMPAIRED VISION</b>	 <b>WEAKNESS FATIGUE</b>	 <b>HEADACHE</b>	 <b>IRRITABLE</b>

**WHAT CAN YOU DO?**

 <p>Drink 1/2 glass of juice or regular soft drink, or 1 glass of milk, or eat some soft candies (not chocolate).</p>	 <p>Within 30 minutes after treatment <b>TEST BLOOD GLUCOSE.</b> If symptoms don't stop, call your doctor</p>	 <p>Then, eat a light snack (1/2 peanut butter or meat sandwich and 1/2 glass of milk).</p>
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Treatment may vary with different medications.

## DRIVING SAFELY

Low blood sugar can make it dangerous to drive. When your blood sugar drops as low as 70, your reflexes slow down. You may not be able to hit the brakes quickly, or think quickly enough to avoid an accident. The following steps should help you drive safely:

1. Keep 2 sources of glucose in your front seat. Glucose Tabs or a can of juice are good sources.
2. If you feel like you are getting low (shaky, dizzy, weak, etc.), find a safe place to pull off the road. **DO NOT KEEP DRIVING!** It is not safe to drive with hypoglycemia, because you can become disoriented. Once you have stopped the car, eat your source of glucose and wait 10 minutes. If you feel the hypoglycemia leave, then it is safe to drive. If you still feel bad, eat a second 15 grams of carbohydrate.
3. If you are a person who does not feel symptoms when low, then you must test your blood sugar before you drive. If it is less than 100, have a snack before you drive. Some people do not have symptoms when their blood sugar is low. These people can faint before they realize their blood sugar is low. If this is the case for you, talk to your doctor about hypoglycemia unawareness.
4. Medical identification can be life-saving if you do lose consciousness from hypoglycemia. Carry a wallet card next to your driver's license or tape a card to your dashboard where medical personnel can see it easily.

# HEART HEALTHY EATING

## Heart Healthy Foods

All fruit: fresh, dried, or “lite” canned

All vegetables: raw or cooked

Lowfat cheese (5 grams fat per ounce):  
mozzarella, cacique, Parmesan, cottage,  
finlandia, cabot light

Lean meat (limit to 6 ounces a day):

Fish (use 2-3 times a week), chicken,  
round steak, lowfat lunch meats, pork loin

1% or fat-free milk, nonfat sour cream,  
sugar-free, nonfat ice cream

Bread, corn tortillas, English muffins  
bagels

Sugar-free puddings, popsicles, jello;  
vanilla wafers, gingersnaps, animal crackers

Light popcorn, peanut butter, saltines, dry  
roasted or raw nuts and seeds, baked chips,  
WOW chips, pretzels, Melba toast, Ry-Krisp

Baked, boiled, grilled, or broiled foods

Olive and canola oils, soft margarines, Take  
Control or Benecol margarines, mayonnaise,  
salad dressings

High fiber cereals, cooked cereals

Herbs, spices, garlic, onions, hot sauce, pepper,  
Mrs. Dash, picante sauce, Liquid Smoke

Tea, water, diet sodas

## Heart Hurting Foods

Rich desserts: pies, cake, coconut

Fried vegetables; cheese or cream sauces  
Regular high-fat cheese: cheddar, American,  
swiss, cream cheese, monterey jack

Ribs, sausage, regular lunch meats, chicken skin,  
fried meats, bacon, pork rinds

2% or whole milk, sour cream, ice cream

Biscuits, flour tortillas or corn bread made with  
Shortening or lard, muffins

Doughnuts, pastries, sweet rolls, rich cookies

Buttered popcorn, fried chips, oil-roasted nuts

Fried foods

Butter, stick margarine, lard (manteca), bacon  
fat

Sweet cereals, granola

Salt, soy sauce, lemon pepper, steak sauce,  
barbecue sauce

Regular sodas

## GOOD NUTRITION

People with diabetes often have other health problems too. High cholesterol, high blood pressure, and high triglycerides often accompany diabetes. These are some principles that may be helpful in guiding your diet choices.

1. Get plenty of fiber in the form of vegetables, whole grains, and fruit. Eight to ten servings of fruit and vegetables daily can help your blood pressure and reduce your risk of heart disease. Remember that fruit and grains are carbohydrate-rich, and need to be counted in your carbohydrate budget.
2. Use fat-free dairy products to help your blood pressure without raising your cholesterol.
3. Try to minimize animal fats with small portions of lean meat and low fat cheese.
4. Reduce your caloric intake. Losing weight makes most diabetes-related problems better.
5. Watch your salt. Try to limit sodium to no more than 1500-2000 milligrams daily. Do not add salt to your foods.
6. For more help with diet planning, visit a registered dietitian.

## DINING WITH DIABETES Guide To Restaurant Food Choices

### Low fat

Mexican: burritos, fajita tacos, taco salad without the shell, chicken enchiladas, caldo, chili, guacamole

Italian: spaghetti with red sauce, salad, vegetarian pizza, Italian ice

American: gumbo, shrimp cocktail, barbecued chicken, grilled and char-broiled foods, salads, clear soups, baked potato

Chinese: egg drop soup, stir-fry, steamed rice, lo mein dishes, fortune cookies, won ton soup

Thai: satay, Thai salad, curry, Thai duck, fried rice

Japanese: sushi, sashimi, miso soup, teriyaki dishes, other steamed or broiled dishes

Greek: grilled meats, shishkebab, dolmas, hummus, baba ghanoush, Greek salad, taboolie

### High fat

Enchiladas, crispy tacos, Spanish rice, refried beans, tamales, nachos, chips

Cheese sauces, lasagna, veal Parmesan, calzone, cheesecake, fettucine alfredo

Fried cheese, chicken tenders, ribs, fried foods, sour cream, bacon, chicken fried steak, quiche, pie, ice cream

Egg rolls, fried wontons, fried rice, sweet and sour

Spareribs, tod mun, crispy chicken

Tempura, agemono, katsu

Phyllo, falafel, spanikopita, moussaka, pasticchio, baklava

If you don't see any good food choices on a menu, ask for some grilled or broiled meat, and a salad with dressing on the side.

## GUIDELINES FOR USE OF ALCOHOL

- Discuss use of alcohol with your health care team. Consider drinking only if your diabetes is well controlled and you are not pregnant. Alcohol can make some problems worse.
- Alcohol initially lowers your blood glucose level. If you use insulin or certain diabetes medications, you are more likely to have a low blood glucose reaction when you drink alcohol.
- Drink alcohol with meals or snacks containing carbohydrate, such as pretzels, bread sticks, or crackers.
- Alcohol makes insulin reactions harder to recognize. It also interferes with some medicines.
- Use alcohol in moderation (up to 1 equivalent for women and 2 for men per day).
  - Equivalent = 1% oz distilled spirits
  - 4 oz dry wine
  - 12 oz beer

### Mix alcohol with:

#### Free

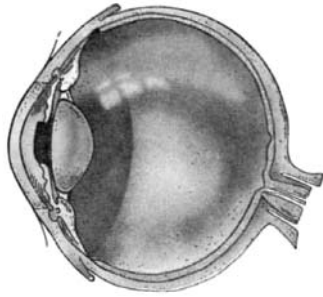
- water
- club soda
- seltzer
- diet soft drinks

#### Fruit/Vegetable Exchange

- fruit juice (1 fruit)
- tomato juice (4 oz = 1 vegetable)
- V8 juice (4 oz = 1 vegetable)
- Avoid sweet wine, liqueurs, and sweetened mixed drinks. Try a wine spritzer made with club soda rather than a wine cooler, which is usually made with a sweetened, fruit-flavored mix.
- Drink with someone who recognizes and knows how to treat a low blood glucose reaction.
- Note the differences in calories and carbohydrates among alcoholic drinks.

Beverage	Amount	Calories	Carbohydrates
Beer:			
regular	12 oz	150	13
light	12 oz	100	5
nonalcoholic	12 oz	7	16
Cocktails			
Distilled spirits (80 proof):	1 1/2 oz	100	trace
Martini	5 oz	310	4
Wines			
Red	4 oz	80	2
White	4 oz	80	1
Hard Lemonade	12 oz	250	37

# HELP YOURSELF PREVENT THE COMPLICATIONS OF DIABETES

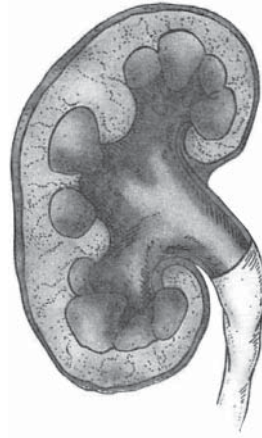


## Eye

Watch for change in vision

### Recommendations:

- See your doctor
- Control your blood sugar
- Control your blood pressure

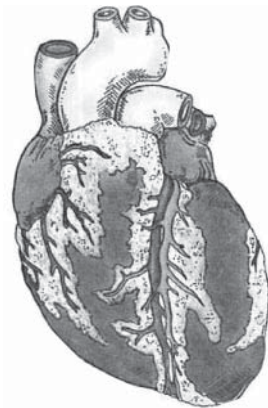


## Kidney

Watch for protein in urine and/or increase in blood pressure

### Recommendations:

- See your doctor
- Control your blood sugar
- Control your blood pressure
- Control your protein intake



## Heart

Watch for chest pain and/or shortness of breath

### Recommendations:

- See your doctor
- Control your blood sugar
- Limit cholesterol
- Control your blood pressure
- Avoid Smoking
- Exercise as directed



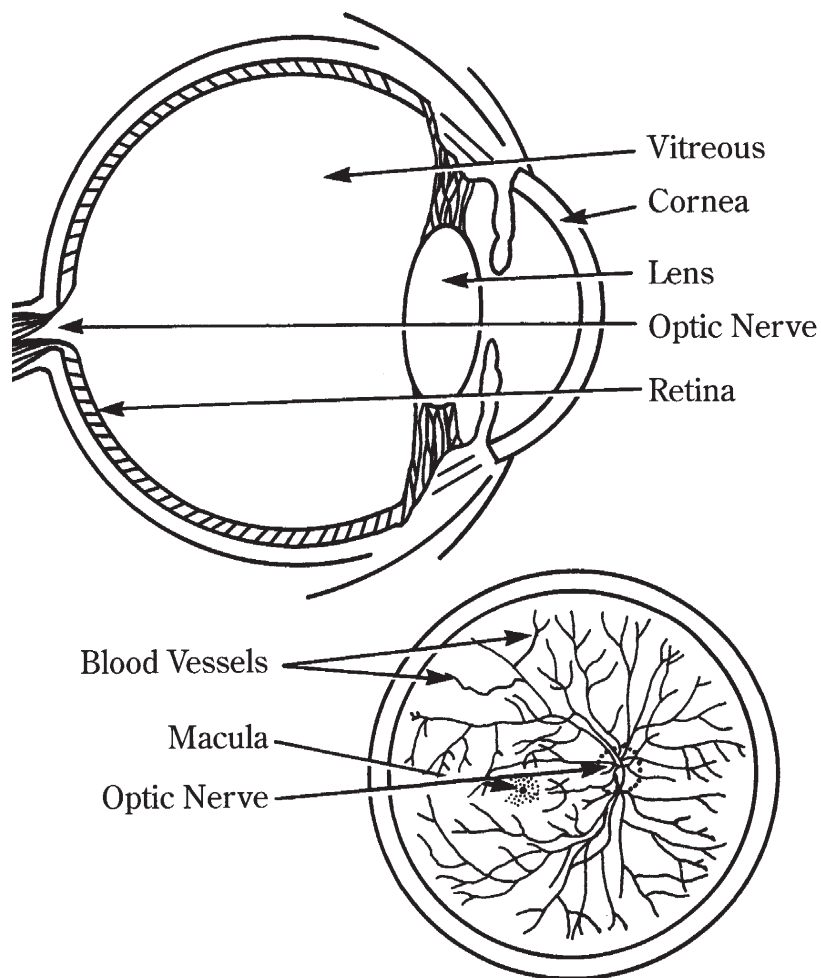
## Foot

Watch for pain, numbness, and/or wounds that won't heal

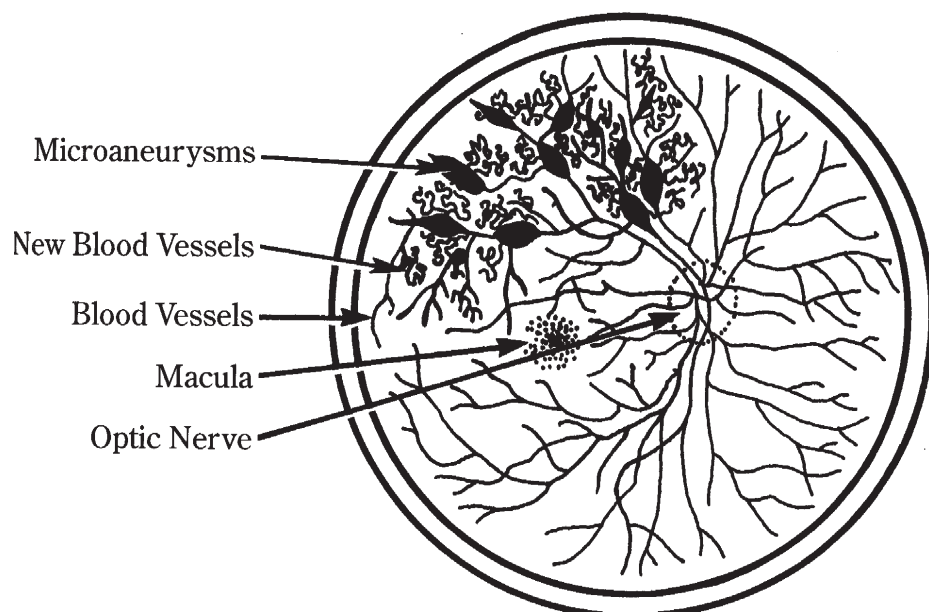
### Recommendations:

- See your doctor
- Control your blood sugar
- Limit cholesterol
- Control your blood pressure
- Avoid Smoking
- Exercise as directed
- Seek proper foot care

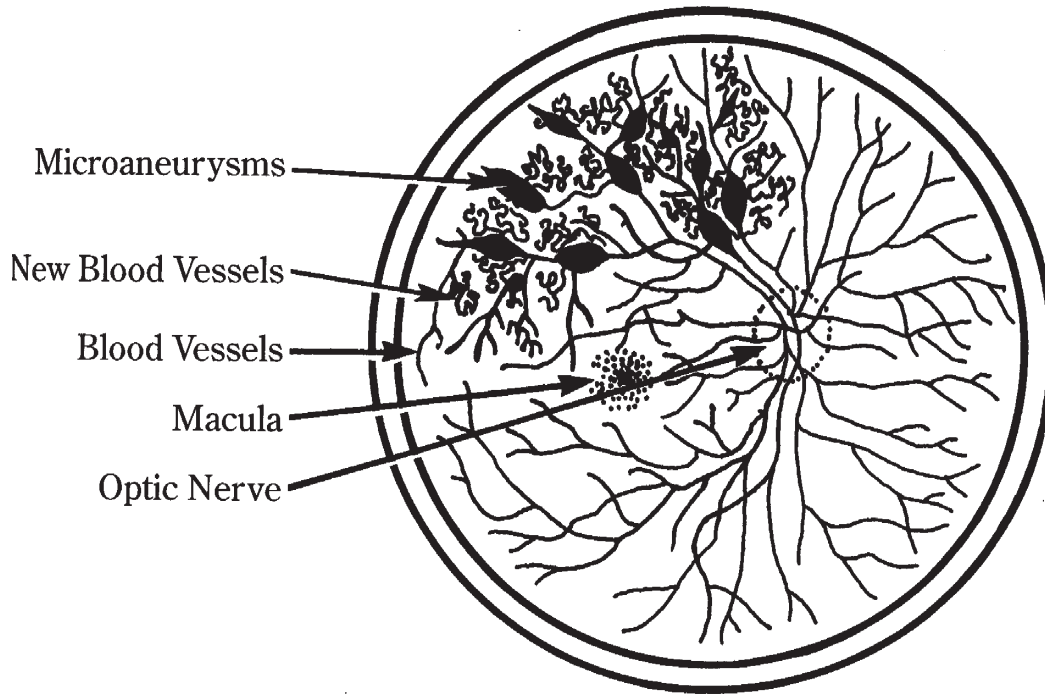
# NORMAL EYE



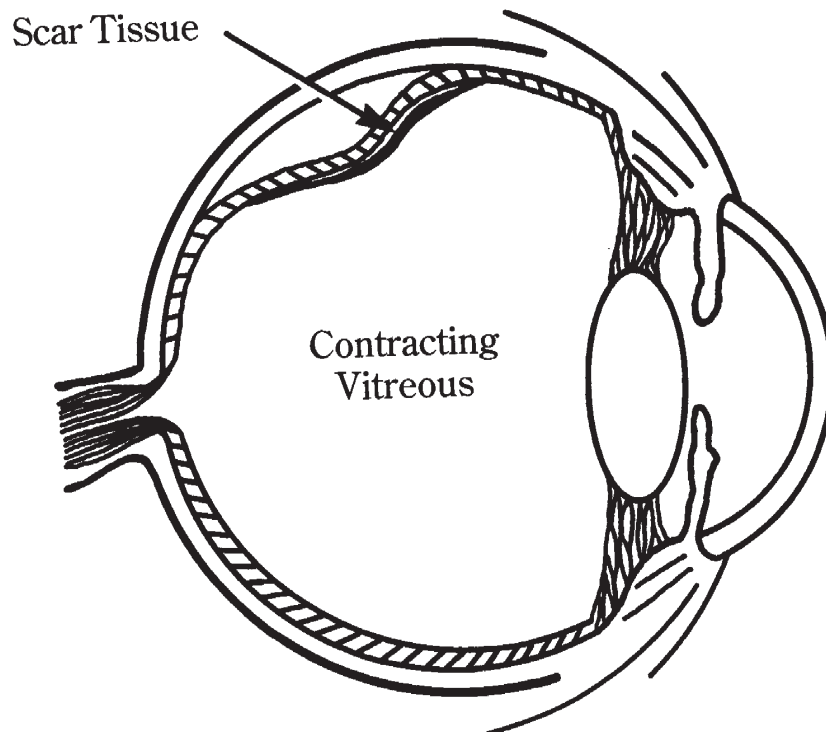
# MICROANEURYSMS



# PROLIFERATIVE RETINOPATHY



# RETINAL DETACHMENT



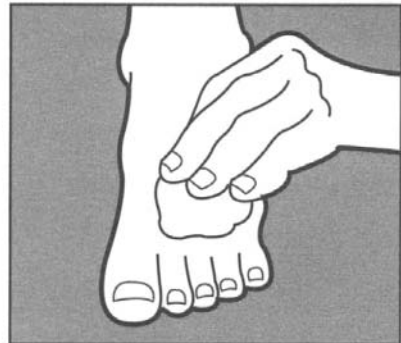
# FOOT CARE FOR PEOPLE WITH DIABETES



**1** Wash your feet daily with lukewarm water and soap



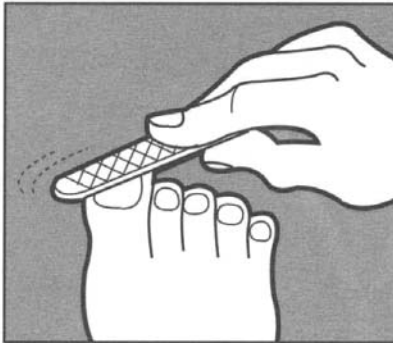
**2** Dry your feet well, especially between the toes.



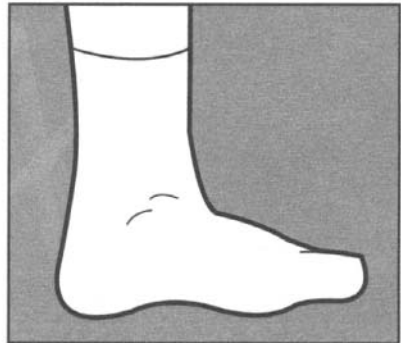
**3** Keep the skin supple, with a moisturizing lotion, but not apply it between the toes.



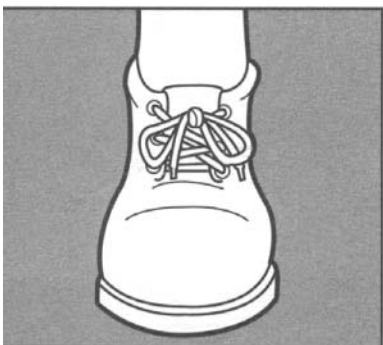
**4** Check your feet for blisters, cuts or sores, redness or swelling. Tell your doctor right away if you find something wrong.



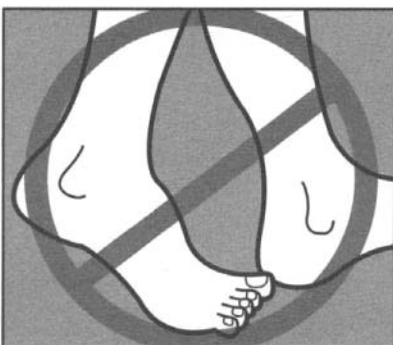
**5** Use emery board gently to shape toenails even with ends of your toes. Do not use a pocketknife or razor blades



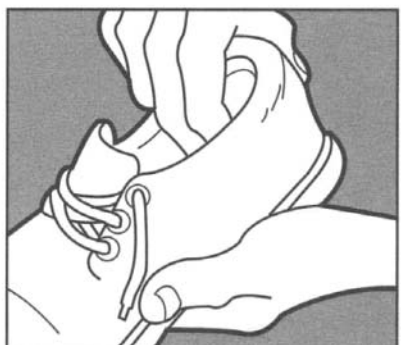
**6** Change daily into clean, soft socks or stockings, not too big or too small.



**7** Keep your feet warm and dry. Preferably wear special padded socks and always wear shoes that fit well.



**8** Never walk barefoot indoors or outdoors.



**9** Examine your shoes every day for cracks, pebbles, nails or anything that could hurt your feet.

# SKIN CARE

High blood sugar levels can impair the body's ability to defend itself against infection. Poor circulation, common in people with poorly controlled diabetes, can impair healing and prevent proper nutrients and oxygen from reaching tissues resulting in slower healing wounds.

## SKIN PRINCIPLES

1. Intact skin is the body's first line of defense against germs.
2. Excessive skin dryness contributes to breakdown of the skin.
3. Poor circulation leads to poor skin nutrition.
4. Some bacteria are necessary to maintain normal skin surface environment.
5. The greater the number of organisms, the greater the possibility of infection.
6. Germs and infections grow readily in warm, moist places such as skin folds. Dry these areas well after bathing or swimming.



## GOALS FOR YOUR SKIN

1. Skin should
  - a. be warm and supple
  - b. be free of redness, abrasions, and lumps
  - c. not be too dry or too oily
  - d. be free of irritations and free of any disease
  - e. be able to feel a pinprick, cold, heat, and touch

## CARING FOR YOUR SKIN

Keeping your skin clean and your blood sugar levels under control (near normal) are essential to help prevent skin problems.

1. Wash any cut or scraped skin with warm water and mild soap (e.g. Ivory) right away.
2. Contact a physician if, after 3 days, there is increased pain, swelling, or heat, but call right away if the cut or burn is severe.
3. Keep your skin moist by using lanolin-based moisturizing lotions (like Eucerin, Keri, Lubriderm or Nivea) with no alcohol or perfume/fragrance. This will help prevent skin from over-drying, cracking or becoming more susceptible to infection.
4. Drink lots of water to keep your skin healthy, unless your doctor tells you otherwise.

## DIABETES AND GUM DISEASE

While regular dental checkups are recommended for everyone, they are especially important in people with diabetes. After the age of 40, the risk of gum (periodontal) disease increases.

With diabetes, the risk of gum disease is even higher. Diabetes makes the blood vessels in gums narrower. Plaque builds up more readily since there may be

less saliva to wash plaque away. In addition, there may be less collagen to support the structures of your mouth which can speed gum break down. This means that your teeth can get loose, and gums can become infected more easily.

If your diabetes is not under control, high levels of sugar in your saliva may increase the bacteria that cause cavities.

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### CARING FOR YOUR TEETH

In addition to visiting your dentist every 6 months, daily brushing and flossing are the first steps to keeping your gums and teeth healthy.

1. Brush at least twice a day. Use toothpaste with fluoride. Hold a soft nylon brush at a 45-degree angle, and brush where your teeth meet your gums. Then brush all the surfaces of your teeth, using back-and-forth strokes. Brushing your tongue lightly will also help remove bacteria.
2. Use dental floss once a day to get rid of bacteria between teeth. Your dentist or dental hygienist can show you the best way to floss.
3. Get a new toothbrush at least every 3 months.

### CONTACT YOUR DENTIST IF:

1. Your gums start to bleed when you brush. This may mean that your gums are inflamed and open to infection.
2. Your teeth have shifted or if your dentures no longer fit.
3. You have soreness, tenderness or red spots on your tongue.
4. You have white patches on your gums, which may indicate thrush (a fungal infection).
5. There are changes in texture or color to your gums, teeth or mouth.
6. You often have bad breath. You may have a gum infection or a cavity.

If you need surgery on your gums, be sure to tell your dentist that you have diabetes, since you may be slow to heal and quick to develop an infection.

# SICK DAY MANAGEMENT

## GUIDELINES FOR PATIENTS WITH TYPE 2 DIABETES

### Should I keep taking my diabetes medication if I'm sick?

1. MOST IMPORTANT: Even if you are sick and not eating regularly, you still need to take your insulin and diabetes pills the way you always do unless your doctor tells you to stop.
2. Everyone with diabetes should have the following on hand:
  - a. An extra week's supply of insulin or diabetes pill
  - b. Sugar-free cough medicine
  - c. Aspirin and non-aspirin pain relievers
  - d. Antacids
  - e. Medicine for diarrhea and vomiting
  - f. Thermometer

### How often should I test my blood sugars and temperature?

1. Check and record blood sugar levels more frequently, every 2–4 hours, and write down in the log book.
2. Check and record your temperature every 4 hours and write it down in your log book.
3. Record any pain, lack of appetite, nausea, vomiting, medicines taken, and food eaten in your log book.

### When do I call my doctor?

1. If you have blood sugar levels greater than 240 mg/dl for 24 hours or under 60 mg/dl for 3 readings in a row.
2. If you have an upset stomach, vomiting, or diarrhea for over 4–6 hours.
3. If you are sick to your stomach and cannot keep fluids down.
4. If you have fever of 101°+ for over 24 hours.
5. If you have a dry mouth, thirst, decreased urination, and dry flushed skin.
6. If you have pain that does not go away.
7. If you are not too sure about something.
8. If you are ill for more than 1 or 2 days.

Have your log book handy when you call the doctor.

### What should I eat when I'm sick?

If you CAN eat/drink, eat your usual meals and snacks. You also need to drink plenty of fluids by drinking 1/2–1 cup sugar-free liquids every 1–2 hours. These would include:

- water, sugar-free popsicles
- tea, sugar-free Jell-O
- instant broth soups
- diet sodas

If you CANNOT eat/drink your usual meals or snacks, eat or sip about 15 grams of carbohydrates per hour. These would include:

- 1/2 cup low-fat ice cream, 1/2 cup soft pudding
  - 1/2 cup soft yogurt, 1/2 cup cooked cereal
  - 1/4 cup sherbet, 1 tbsp. honey
  - 1/2 cup Jell-O, 1/2 cup regular soda
  - 1 cup of cream soup (thinned), 1/2 cup grape juice
  - 1 cup milk, 1/2 twin popsicle
1. It is easier for your body to digest carbohydrates than proteins and fats.
  2. Small frequent feedings are quickly absorbed and quickly changed to blood glucose.
  3. Keep a record of how much you eat and drink.
  4. Ask someone to check in on you.

*Warning: You may be at risk of severe dehydration and hypoglycemia if you do not replace carbohydrates and fluids. Dehydration is defined as not being able to take in enough fluids to replace those lost through vomiting or diarrhea. Signs and Symptoms of Dehydration: Dry mouth, thirst, decreased urination, dry flushed skin, and dry lips.*

*If you have been very sick to your stomach, start drinking clear liquids like broth, tea, apple or grape juice or eating Jell-O or popsicles. When you can keep these down, move on to full liquids like tomato or orange juice, ice cream and cream soups. Add soft foods like oatmeal, applesauce, noodles, rice, and cooked vegetables as your appetite increases.*

### What should I do in the meantime?

1. Stay in bed, keep warm, and get lots of rest.
2. Drink lots of liquids.
3. Do some reading or watch your favorite TV shows.

Discuss these and any other Sick Day Rules with your doctor. Also check with your doctor before taking any other medications.

**GET WELL SOON!**

# DIABETES AND STRESS MANAGEMENT

Stress is natural and experienced by everyone. Stress can be good by adding energy, motivation, and enthusiasm to your day-to-day activities. However, too much can be bad. Normally, stress causes changes to emotions and physical condition.

## Stress causes the following:

- increases blood pressure and heart rate
- increases respiratory rate
- increases in blood sugar

These changes will cause the body to use more oxygen at faster rates. This may be harmful if your vessels are already narrowed with plaque deposits and stressed from high blood pressure. Organs such as the brain, heart, and kidneys, will get less blood with the oxygen and nutrients they need.

## Other indicators of stress are:

- suppressed immune system, so you get colds or other infections more easily
- increased fat around the abdomen
- weaker muscles
- bone loss
- increased cholesterol levels
- increased levels of potent natural steroid hormones such as cortisol.

## Ways To Manage Your Stress

1. Practice relaxation exercises – stretch and breathe deeply.
2. Learn positive self-talk.
3. Try imagery.
4. Confront stress.
5. Find someone to share your thoughts with and talk to – this may be your pet.
6. Listen to music. Dance.
7. Read a good book, such as a romantic or joke book.
8. Frame pictures, paint some furniture, draw pictures – be creative.
9. Write your thoughts and feelings down on paper.
10. Write a letter.
11. Work on your favorite hobby.
12. Do volunteer work. Take care of a pet or help others.
13. Knit or crochet.
14. Learn a new skill. Teach someone else.



15. See a positive uplifting movie.
16. Plan a trip or vacation – even if you don't go, it can be fun to plan.
17. Walk and increase your exercise.
18. Decrease caffeine intake.
19. Avoid individuals or situations that are negative or make you feel bad.

## Ideas To Prevent Too Much Stress

1. Set realistic goals to help you get control of your life.
2. Prioritize the parts of your life to find out what is truly important.
3. Maintain and/or seek spiritual guidance as appropriate.
4. Take time for yourself, away from what has to be done, and do what you want.
5. Think positive thoughts.
6. Develop and use a sense of humor.
7. Communicate your feelings to friends and family or seek professional help as needed.
8. Develop a strong support system around you.
9. Teach others about diabetes, such as how to identify and treat hypoglycemia.
10. Join a support group. Attend education classes.
11. Maintain proper nutrition and hydration, including a daily activity plan.

Stress is a part of our daily lives. If you cannot seem to handle it on your own, talk to your doctor or diabetes educator about getting help. There are new medications you may try, or perhaps you will need to see a specialist in that area.

You do not have to handle this problem alone.

## COPING WITH DIABETES

Finding out that you have diabetes can be a big shock. In addition to feeling unwell and having to deal with the fact that you have a chronic disease, you have to learn about taking care of yourself. Unlike other diseases where your involvement may be limited to taking your medication on time, you play an active part in controlling your diabetes. Your doctor or diabetes educator may be telling you to change the way you eat, lose weight and exercise – all at the same time! It may sound overwhelming, but keeping a few thoughts in mind will help you cope and get through this adjustment period.



1. Let your friends and family help you. They are probably anxious, scared, and willing to help.
2. Set reasonable goals (such as losing 5 pounds or walking around the block three times a week) and try to work toward them. Start by taking small steps to build your confidence.
3. Don't feel guilty if you slip up. You're only human. The important thing is to keep trying.
4. When you reach a goal, congratulate yourself on doing a good job. You should be in control of your diabetes – don't let it control you!
5. Don't look at all the things you "should" do. If you try to do everything at once, you'll feel overwhelmed and never do anything.
6. If you are having a problem keeping up with your program, let your doctor know. That's what he or she is there for. Together, you can set goals that are more reasonable.
7. Think positively, and don't feel sorry for yourself. You can overcome this. The worst thing you can do is deny there is a problem because there is so much you can be doing to prevent problems. As they say, "Just do it!"
8. Don't worry about what people will think. This is your chance to teach them that diabetes can be controlled.

**Having diabetes isn't the end of the world. It's up to you to take charge.**

**You can make a difference**

# CHANGING BEHAVIOR

Changing the way you do things can be very difficult. If you understand the stages that a person goes through in making a change, it may help you. Think about what it is that you need to do to better control your diabetes. See what stage you are presently in and work on ideas to help you to move on to the next stage.

## STAGES OF CHANGE

### Pre-contemplation stage

1. You may not even be aware that there is a problem.
2. If you know there is a problem, you may have no intention of changing in the near future – within the next 6 months.
3. You may even deny the need for change.

You might say, “I have always been overweight. Everyone in our family is heavy.”

What you can do –

1. Become more aware of the need for change.
2. Get more information on problems that may occur if you do not change.
3. Get more information on how making the change can help you.

### Contemplation stage

1. You may be thinking about making a change in the near future.
2. You know there is a problem but you are not ready to change.
3. You are thinking about making a change in the next 6 months.

You might say, “I’ve heard that being overweight can lead to diabetes. But, I don’t think I can handle going on a diet.”

What you can do –

1. Decide why you want to change.
2. What is your end goal? What do you want to accomplish?
3. Get more information on what you want to change.
4. Make specific plans on how you are going to accomplish your goal.
5. Get help from your health care provider if necessary.

### Preparation stage

1. You are making a plan to change.
2. You know what you want to do.
3. You get more information, start planning, and even start to change.
4. You may tell your family and friends.
5. You are serious about making a change in the near future.

You might say, “I am going to lose some weight. I learned that I may be able to take less insulin.”

What you can do-

1. Make specific action plans. What is it that you are going to do to accomplish your goal? Write them out with a date for when you are going to start.
2. Decide on small goals that you know you can do. Small steps can lead to larger ones.

### Action stage

1. Start working on your specific plans.
2. Make changes in your lifestyle to accomplish your goals.
3. Relapse is normal. You may have a hard time getting started and maintain the changes you made.
4. This stage may last as long as six months.

You might say, "I'm walking three times a week for half an hour. I've quit drinking sodas."

What you can do-

1. Get help from your health care provider with how you are doing.
2. Get ideas on how you can overcome barriers.
3. If needed, join a support group. Get help from your family and friends.
4. Celebrate your successes as you accomplish your goals. Buy that item you have always wanted, take a vacation, take your family to their favorite park, etc.

### Maintenance stage

1. Continue working on your goals.
2. You may have setbacks but get back on track as soon as possible.
3. Do NOT give up!!
4. This stage may last six months to five years.

You might say, "I lost 10 pounds. My doctor took me off my insulin, and now I am taking pills to control my diabetes. I am going to keep on walking and eating better."

What you can do-

1. Remind yourself of your accomplishments and how much better you feel.
2. If you are faced with barriers or things that seem to make it harder for you to stay on course, look for help from family and friends.
3. If you "blow" your meal plan or stop exercising for any reason, don't waste time worrying about it. Remind yourself of your goals and get back on track.
4. Make a list of all that you have accomplished, e.g. how far you have walked, how many dress/pant sizes you have lost, how much you have been able to decrease your medications, how many fewer sick days you have had, how much more energy you have, etc.

# GETTING THE VERY BEST CARE FOR YOUR DIABETES

Following guidelines from the American Diabetes Association (ADA) can help people with diabetes live longer, healthier lives. Called the Standards of Care, these guidelines describe basic care for people with diabetes. Getting up-to-date care for diabetes can help you prevent long-term problems such as heart disease, stroke, and eye, foot, or kidney problems.

Most of the day-to-day care of diabetes is up to you. You can make choices that will have a positive effect on your diabetes. You choose what, when, and how much to eat. You decide whether to be physically active. You take your medications and keep track of your blood glucose (sugar) levels on your own. Your health care team helps by providing information, teaching you about diabetes care, and checking on your A-1-C, blood pressure, cholesterol, and other measures.

## What should happen during visits to my health care provider?

The Standards of Care describe what should happen at your health care provider visits throughout the year. You can use the following sections to make sure your health care team is up-to-date on what you need for good diabetes care.

## CHECK AT EVERY OFFICE VISIT

### Blood Pressure

Your blood pressure numbers tell you the force of blood flow inside your vessels. When your blood pressure is high, your heart has to work harder. If your blood pressure is not on target, meal planning, physical activity, and medications can help. Work with your health care team to plan your strategy.

### Weight

Preventing weight gain or losing weight may be part of your diabetes care plan. If you need to lose weight, a 10- to 15-pound loss can help you reach your blood pressure, blood glucose, and cholesterol goals. Work with your health care team to plan your strategy.

### Smoking

If you smoke, ask your health care provider about a plan to help you quit.



## CHECK AT LEAST EVERY 3-6 MONTHS

### A-1-C

The A-1-C is the blood glucose check “with a memory.” It tells you your average blood glucose for the past 2 to 3 months. If your A-1-C is not on target, meal planning, physical activity, and medications can help. Work with your health care team to plan your strategy.

## CHECK AT LEAST ONCE A YEAR

### Cholesterol

Your cholesterol numbers tell you the amount of fat in your blood. Some kinds, like HDL cholesterol, help protect your heart. Others, like LDL cholesterol, can clog your blood vessels and lead to heart disease. Triglycerides are another kind of blood fat that raises your risk for a heart attack or a stroke. If your cholesterol levels are not on target, meal planning, physical activity, and medications can help. Work with your health care team to plan your strategy.

### Microalbumin

The microalbumin test is a check for small amounts of protein in the urine. The results will tell you how well your kidneys function. Your health care team can teach you about diabetes care.

### Foot Exam

Your health care provider can check your feet for signs of nerve damage or other problems. Foot problems can be avoided if detected and treated early. One of the most important foot tests is to see whether you can feel the vibration of a tuning fork or the light touch of a thin wire called a monofilament.

## Eye Exam

Your health care provider can refer you to an eye doctor to check the blood vessels in your eyes for early warning signs of damage. The eye doctor must put drops in your eyes that dilate your pupils in order to do a thorough exam. Treatment can help slow eye disease if it's found early.

## Flu Shot and Pneumonia Vaccine

Every year, ask for a flu shot to keep from getting sick. You should get the pneumonia vaccine at least once. When you turn 65, you should get another pneumonia vaccine, unless you have had one within the past 5 years.

## Diabetes Education and Nutrition Counseling

If you need a change in your diabetes management plan, your health care provider should refer you for diabetes education and nutrition counseling.

## How can I take charge of my diabetes care?

Review the following list and place a check mark next to the things you'd like to talk about with your health care team. Take this list with you to your next checkup.

What are the best targets for my A-1-C, blood pressure, and cholesterol?

What can help me reach my A-1-C target?

When is my next A-1-C check?

What can help me reach my blood pressure target?

What can help me reach my cholesterol targets?

How can I learn more about taking care of my diabetes?

## Tracking Your Targets

The ADA suggests these targets for most people with diabetes. You may have different targets. You can record your targets and your results in the spaces provided here.

What to Do	ADA Targets	My Targets	My Results	
			Date	Date
<b>At Every Office Visit</b>				
Review blood glucose numbers				
Before meals	90–130 mg/dl			
2 hours after the start of a meal	Below 180 mg/dl			
Check blood pressure	Below 130/80 mmHg			
Review meal plan				
Review activity level				
Check weight				
Discuss questions or concerns				
<b>At Least Every 3–6 Months</b>				
A-1-C	Below 7%			
<b>At Least Once a Year</b>				
Physical exam				
Cholesterol				
LDL cholesterol	Below 100 mg/dl			
HDL cholesterol	Above 40 mg/dl (for men)			
	Above 50 mg/dl (for women)			
Triglycerides	Below 150 mg/dl			
Dilated eye exam				
Microalbumin	Below 30 µg/mg creatinine			
Flu shot				
<b>Once</b>				
Pneumonia vaccine				

## RESOURCES FOR PEOPLE WITH DIABETES

**Diabetes Control Network**—Mail program for education about diabetes. Free from Pfizer Pharmaceuticals. Call 1-800-DCN-5554 to enroll.

**Case Management at Austin Regional Clinic**—Tell your doctor, if you are having special needs, such as social services, or any difficulties accessing care.

**Texas Diabetes Council**—[www.tdh.state.tx.us/diabetes/healthcare](http://www.tdh.state.tx.us/diabetes/healthcare). Has information about controlling diabetes and statistics for Texas.

**National Diabetes Education Program**—[www.ndep.nih.gov](http://www.ndep.nih.gov). Administers Small Steps/Big Rewards program to encourage behavior change.

**State Department of Insurance**—Inquire about your rights if your insurance carrier denies coverage for diabetes supplies. 463-6169.

**National Library of Medicine**—Find out about your medications and their interactions at [nlm.nih.gov/medlineplus](http://nlm.nih.gov/medlineplus).

**Support Group**—Organized by Seton Hospital Diabetes Education Program. Call 324-4000 for information.

**Take Charge of Your Diabetes**—A free 135 page book from the US Department of Health and Human Services at [cdc.gov/diabetes](http://cdc.gov/diabetes), or by calling 1-877-CDC-DIAB (232-3422).

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### Diabetes Organizations

#### American Diabetes Association

1701 N. Beauregard Street  
Alexandria, Virginia 22311  
800-232-3472 (membership information)  
800-232-6733 (to order publications)  
703-549-1500 (National Center)

For information on local chapters and their activities, consult your local white pages.

For information about diabetes, call  
D.I.A.L. (Diabetes Information and Action Line)  
800-DIABETES (342-2383)

dLife TV - on Cable channel CNBC Sundays at 6:00. Show features interesting people who have diabetes and experts in treating diabetes. The show is dedicated to empowering Americans living with diabetes

### Journals for People with Diabetes

*Diabetes Forecast* (monthly magazine)  
American Diabetes Association; subscription included with ADA membership 800-806-7801  
<http://www.diabetes.org>

*Mission Control* (online journal)  
Diabetes Control Network  
800-326-5554

*Diabetes Self-Management* (bimonthly magazine)  
800-234-0923

*Voice of the Diabetic* (magazine)  
573-875-8911

### Information about Educational Materials

**American Diabetes Association**  
(to order publications)  
800-232-6733

**National Diabetes Information Clearinghouse**  
(NDIC)  
1 Information Way  
Bethesda, MD 20892  
301-654-3327

**Diabetes Identification****Medic Alert Foundation U.S.**

PO. Box 1009  
Turlock, CA 95381-9009  
800-432-5378

**Goldware**

P.O. Box 22335  
San Diego, CA 92192  
800-669-7311

**Identifind**

(iron-on labels for clothing)  
Rt 4, Box 420A  
Canton, NC 28716  
704-648-6768

**Life Alert**

P.O. Box 386  
Lynden, WA 98264  
888-243-3253

**Medic ID's**

800-926-3342

**Insulin Supplies****Chronimed**

(diabetes supplies, pumps, and medications)  
800-888-5957

**Medicool**

(manufactures and sells insulin cases)  
800-433-2469

**Medi-ject Corporation**

(manufacturer of a needle-free insulin injector)  
800-328-3074

**MH Medical Technologies**

(Freedom Jet needle-free insulin system)  
800-662-2471

**Senior Citizens****American Association of Retired Persons**

National Headquarters  
601 E Street, NW  
Washington, DC 20049  
800-424-3410

**National Association of Meal Programs**

206 E Street, NE  
Washington, DC 20002  
202-547-6157

**Children of Aging Parents**

1609 Woodburn, Suite 302  
Levittown, PA 19056  
215-945-6900

**National Council of Senior Citizens**

1331 F Street, NW  
Washington, DC 20005  
202-347-8800

**National Association of Area Agencies on Aging**

1112 16th Street, NW, Suite 100  
Washington, DC 20036  
202-296-8130

**National Institute on Aging**

Resource Directory for Older People  
National Institute on Aging  
9000 Rockville Pike  
Bethesda, MD 20898  
301-496-1752

**National Association for Home Care**

519 C Street, NE  
Washington, DC 20002  
202-547-7424

# EQUIPMENT, SUPPLIES, MEDICATION, AND SELF-MANAGEMENT TRAINING: WHAT'S COVERED?

*Editor's Note: Susan Young, RN, of the Diabetes Program, Department of State Health Service, prepared the following "Frequently Asked Questions" document. The information is offered to help patients determine whether their health benefit plan covers diabetes equipment, supplies, medication, and/or self-management training.*

## Will my insurance cover what I need to take care of my diabetes at home?

If you have a health benefit plan that is defined and regulated by the Department of Insurance, then the plan must cover equipment, supplies, medication, and self-management training.

## What types of health benefit plans are not required to cover equipment, supplies, medication, and self-management training?

Self-funded plans are not governed by the Department of Insurance; they are not required to cover these items, although they could, depending on the terms of the policy.

## How do I find out if my health benefit plan is a self-funded plan?

You may contact your employer's human resources department or you may call the health plan directly.

## What specific equipment is covered?

All equipment is covered, such as a glucose meter, an insulin pump, and batteries for the pump. Equipment is listed in the Texas Administrative Code, §21.2605(a) (b) (c).

### Equipment and supplies include:

- Blood glucose monitors (meters), including those designed to be used by or adapted for the legally blind
- Test strips specified for use with a corresponding glucose monitor
- Lancets and lancet devices
- Visual reading strips and urine testing strips and tablets
- Insulin and insulin analog preparations
- Injection aids, including devices used to assist with insulin injection and needleless systems
- Insulin syringes

- Biohazard disposal containers
- Insulin pumps, both external and implantable, and other supplies, which may include:
  - a) Insulin infusion devices
  - b) Batteries
  - c) Skin preparation items
  - d) Adhesive supplies
  - e) Infusion sets
  - f) Insulin cartridges
  - g) Durable and disposable devices to assist in the injection of insulin
  - h) Other required disposable supplies
- Podiatric appliances, including up to two pairs of therapeutic shoes per year
- Glucagon emergency kits

Prescription medications are also considered part of equipment and supplies. Repairs for the above-mentioned items also are required to be covered.

## Where will I go for equipment and supplies?

That depends on what contractual arrangements a health benefit plan has made.

In some communities, members may be directed to a durable medical equipment (DME) vendor. In other communities, members may be directed to a pharmacy. In some situations, the members may be required to use a mail order service or vendor.

This information should be disclosed in the member handbook.

### **Will I always get the medication that is prescribed, or will I have to use a generic drug?**

All medications, as well as equipment and supplies, must be dispensed as written, including brand name products. A substitution may be made if the substitution is approved by the physician or practitioner who issues the written order for the supplies or equipment, including medication.

### **What will I have to pay for my diabetes equipment and supplies?**

Your health benefit plan can only apply a co-pay or deductible as for a similar condition. Your co-pay will be for a 30-day supply of diabetes supplies listed in the Texas Administrative Code §21.2605.

For example, if you inject insulin twice a day, you will get as much insulin as is necessary for two injections a day. If you inject up to six times per day, then you would get enough insulin to cover up to six injections per day.

### **Where do I go for diabetes self-management training?**

Your health benefit plan may arrange this in a number of ways. You may be directed to a local hospital or community agency that teaches group classes.

Or, you may be able to select a single individual for one-to-one training who is a Certified Diabetes Educator (CDH), who may be a nurse, registered dietitian, or other healthcare professional. These individuals, if contracted with the health plan, would be listed in a provider directory.

Where you will get self-management training depends on the contractual relationships that the health benefit plan has established. This information should be disclosed in the member materials received upon enrollment.

### **If I have a problem with my health benefit plan, what do I do?**

You may file a complaint with the carrier (either your HMO or your insurance company), or you may file a complaint at the Department of Insurance.

A complaint form may be accessed electronically at [www.tdi.state.tx.us](http://www.tdi.state.tx.us), by calling 1-800-252-3439, or by writing to Texas Department of Insurance, PO Box 149091, Austin, TX 78714-9091.

### **Do all states have this coverage?**

Only four states do not require coverage for diabetes equipment, supplies, medication, and self management: Alabama, Idaho, Ohio, and North Dakota.