









Basics of Diabetes

Welcome to Scripps Whittier Diabetes Institute

Scripps Whittier Diabetes Institute provides a complete set of diabetes services for Scripps Health. You – our patient – are front and center. Since our founding in 1981, we have helped patients and their families with the prevention, care and treatment of diabetes. Diabetes can be a serious disease, but you can control it by taking care of yourself and preventing some of the problems diabetes can cause.

You have taken your first step toward living a healthy life with prediabetes or diabetes by coming to Scripps, and we are here to help you. We prepared this guide with you in mind to provide information and answer any questions you may have. In these pages, you will find the tools you need for complete care of your condition, from monitoring your blood sugar level to making lifestyle changes.

If you need more answers, you will find experts in diabetes care and education at our five Scripps hospital campuses and more than 30 outpatient sites. We also offer numerous free support groups at a location in your neighborhood. Day in and day out, everyone at Scripps is dedicated to helping you make important decisions about your health.

Pioneering research by Scripps Whittier Diabetes Institute and experts around the world has led to many new discoveries about the disease and how to manage diabetes. Living with diabetes is still a challenge, but what has been learned offers hope to people living with the disease.

There is a lot of information to learn, but we are here for you as you embark on a journey to health and wellness. We hope this book will help you achieve a high quality of life with diabetes.

Sincerely,

Athena Philis-Tsimikas, MD

Corporate Vice President, Scripps Whittier Diabetes Institute



Services at Scripps Whittier Diabetes Institute

Scripps Whittier Diabetes Institute offers a wide range of diabetes services, from inpatient to wellness programs. As more and more is understood about diabetes it can be challenging to sift through all of the available and new information. Scripps Whittier Diabetes Institute has a dedicated staff of physicians, dietitians, nurses and support staff to help.

Patient Education Programs

Scripps provides patient education programs – recognized by the American Diabetes Association – at locations throughout San Diego County, from Chula Vista to Oceanside. Health care teams provide information and tools for individuals to manage their diabetes and make the best day-to-day decisions about their health and well-being. Options vary, from individual consultations and training to group classes.

Individual Consultations

Appointments are available for individuals with diabetes and gestational diabetes. Certified diabetes educators will go over all aspects of patient care, from how to monitor blood glucose levels at home to heart risk factors and other complications that diabetes may cause.

Group Classes

Group classes are available for those with type 1 and type 2 diabetes. Nurses, dietitians and diabetes health care providers share their expertise on managing diabetes. Individual questions are addressed in an open discussion format.

Insulin Training and Continuous Glucose Monitoring

Individualized training for optimizing insulin management and continuous glucose monitoring is provided by certified diabetes educators.

Diet and Nutrition

A healthy diet plays an important role in managing diabetes. Scripps Whittier offers nutritional counseling by registered dieticians. A variety of medical nutrition therapy services are offered, including meal planning and exercise strategies.



Hospital Diabetes Services

If you are hospitalized at a Scripps facility and diagnosed with diabetes, Scripps Whittier Diabetes Institute is there to help. We provide diabetes education to assist patients diagnosed with diabetes and help them manage and monitor their diabetes. Expert nurses are available to assist with optimizing blood sugar values during the hospitalization.

Support Groups

Monthly free support groups are ongoing to help you stay on track and live well with diabetes. For more information about patient education programs, call 858-626-5672.

Clinical Research

Clinical research offers people living with diabetes the opportunity to try new therapies and resources for treatment through clinical trials. Scripps Whittier Diabetes Institute participates in nearly 15 clinical research trials each year.

For example, the STAR 3 clinical trial studied the effectiveness of an integrated glucose management system that combined an insulin pump, continuous glucose monitoring and therapy management software. It was the only integrated system to receive FDA approval.

For more information on current clinical trials, call **858-626-5678** or visit scripps.org/services/diabetes/clinical-trials.

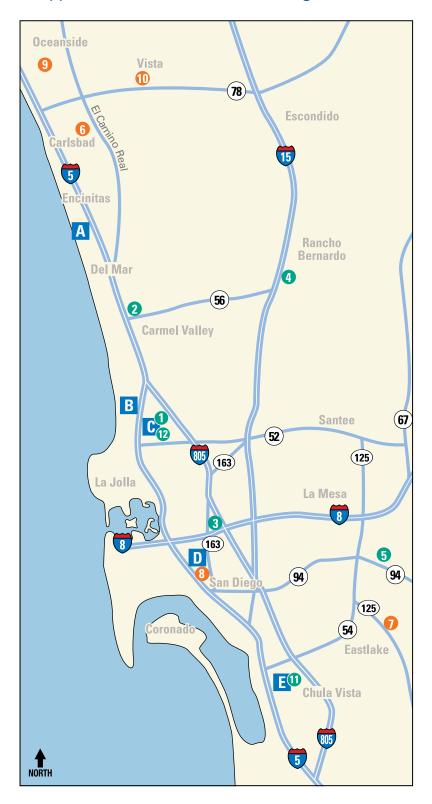
Community Programs and Support

Scripps Whittier Diabetes Institute is dedicated to caring for and educating people with diabetes through diabetes management and support programs throughout the San Diego community. For more than 15 years, Project Dulce, a nationally recognized program, has been highlighted as one of the most effective approaches to addressing diabetes to low-income and diverse populations. Project Dulce provides diabetes care at community health centers, community clinics, churches, senior housing facilities and other community locations. With innovative programs like Project Dulce, Scripps Whittier Diabetes Institute provides expertise in community-based diabetes education and health care delivery, while pioneering new approaches to diabetes care and management with the most vulnerable populations.

For more information on Project Dulce, call 1-866-791-8154.

Scripps Diabetes Resources

Scripps Whittier Diabetes Institute Program Locations



Call 1-877-944-8843 or visit scripps.org for more information.

Locations current as of 7/31/13

Full Service Locations

- 1 Scripps Whittier Diabetes Institute 10140 Campus Point Drive, Suite 100 San Diego, CA 92121
- 2 Scripps Clinic, Carmel Valley 3811 Valley Centre Drive San Diego, CA 92130
- 3 Scripps Clinic, Mission Valley 7565 Mission Valley Road San Diego, CA 92108
- 4 Scripps Clinic, Rancho Bernardo 15004 Innovation Drive San Diego, CA 92128
- Scripps Clinic, Rancho San Diego 10862 Calle Verde La Mesa, CA 91941
- 6 Scripps Coastal Medical Center, Carlsbad 2176 Salk Ave. Carlsbad, CA 92008
- 7 Scripps Coastal Medical Center, Eastlake 971 Lane Ave. Chula Vista, CA 91914
- 8 Scripps Coastal Medical Center, Hillcrest 501 Washington St. San Diego, CA 92103
- 9 Scripps Coastal Medical Center, Oceanside 4318 Mission Ave. Oceanside, CA 92057
- 10 Scripps Coastal Medical Center, Vista 130 Cedar Road Vista, CA 92083
- 11 Scripps Diabetes Center, Chula Vista 450 4th Avenue, Suite 407 Chula Vista, CA 91910
- **Scripps Clinic, La Jolla** 9834 Genesee Ave La Jolla, CA 92037

Hospital Inpatient Services

- A Scripps Memorial Hospital Encinitas 354 Santa Fe Drive Encinitas, CA 92024
- B Scripps Green Hospital 10666 North Torrey Pines Road La Jolla, CA 92037
- Scripps Memorial Hospital, La Jolla 9888 Genesee Ave. La Jolla, CA 92037
- D Scripps Mercy Hospital, San Diego 4077 Fifth Ave. San Diego, CA 92103
- E Scripps Mercy Hospital, Chula Vista 435 H St. Chula Vista, CA 91910

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Section I: Types of Diabetes and Monitoring



Living with Diabetes

What is Diabetes?

Diabetes is a lifelong disease. It affects how your blood sugar level is controlled in your body. If your blood sugar stays too high it can affect your health. Eat healthy foods, exercise and take your medications to help your blood sugar level stay healthy. Walking, swimming, strength training and riding a bike are examples of exercise.

How Do I Know I Have Diabetes?

Blood Test	Without Diabetes	With Prediabetes (increased risk)	With Diabetes	
Fasting Blood Sugar	Below 100mg/dl	100-125mg/dl	126mg/dl or above	
Random Blood Sugar	Random Blood Sugar Below 140mg/dl		200mg/dl or above	
A1c Below 5.7 percent		5.7 to 6.4 percent	6.5 percent or above	



Types of Diabetes

Type 1

Who?	Why?	Treatment	Precautions
 Children or young people, but it can occur at any age Family history of diabetes Family history of autoimmune diseases like lupus, celiac disease or rheumatoid arthritis 	The pancreas, which makes insulin, stops making any insulin. Insulin helps to control the blood sugar levels.	 Healthy eating Exercise Medication: insulin 	 Your body needs insulin all the time. You must take insulin every day. Anyone taking insulin has a chance of getting low blood sugar (hypoglycemia). If you are thinking of becoming pregnant, you should have a diabetes checkup. High blood sugars may hurt the baby.

Type 2

Who?	Why?	Treatment	Precautions
 Adults, but it can occur in children who weigh too much Family history of diabetes 	 Some organs in the body do not work right. Your pancreas may not make enough insulin. Your body may not use your insulin correctly (insulin resistance). Your liver, which is like a "gas tank for sugar," leaks sugar. 	 Healthy eating Exercise Medication Pills Insulin Other injectable diabetes medications 	 Talk with your doctor before you stop taking any medication. Some medications may cause your blood sugar to go too low. If you are thinking of becoming pregnant, you should have a diabetes checkup.

Types of Diabetes

Gestational Diabetes

Who?	Why?	Treatment	Precautions
Women who have high blood sugar in the last few months of pregnancy and have a family history of type 2 diabetes	Pregnancy hormones increase insulin resistance and block your own insulin from working well.	 Healthy eating Exercise Medications 	 Go to all of your doctor visits during and after pregnancy. Six weeks after you have your baby, ask your doctor to check your blood sugar (two-hour glucose tolerance test). You have a high chance of getting type 2 diabetes in the future, so make sure to have a yearly blood sugar check. Before you become pregnant again, see your doctor to have your blood sugar checked. High blood sugar may hurt the baby.

Prediabetes

Who?	Why?	Treatment	Precautions
 Inactive adults Overweight adults Family history of diabetes 	 The insulin in your body does not work the right way (insulin resistance). Your blood sugar starts to go higher than normal, but not high enough to be called diabetes. 	Healthy eatingExerciseMedication	 Prediabetes can turn into diabetes. If you are thinking of becoming pregnant, you should have a diabetes checkup. High blood sugar may hurt the baby.



Testing Your Blood Sugar

Testing Your Blood Sugar

Why should I test my blood sugar?

- To know if your blood sugar is too high or too low.
- So your doctor will be able to help control your diabetes. Bring your logbook or meter to every appointment.

When to test your blood sugar:

- If you are not on insulin: Test blood sugar before and two hours after the start of a meal. You should alternate testing between meals. Example: Test blood sugar before and two hours after the first bite of breakfast on Monday, before and two hours after the first bite of lunch on Tuesday, before and two hours after the first bite of dinner on Wednesday, etc.
- If you are on insulin: Test blood sugar before each meal and at bedtime.

Your individualized testing schedule:

NOT ON INSULIN

	BREAKFAST		LUNCH		DIN	NER	BEDTIME
	Before	After	Before	After	Before	After	
Day 1							
Day 2							
Day 3							

ON INSULIN

	BREAK	(FAST	LUNCH		DINNER		BEDTIME
	Before	After	Before	After	Before	After	
Day 1							
Day 2							
Day 3							



What do My Numbers Mean?

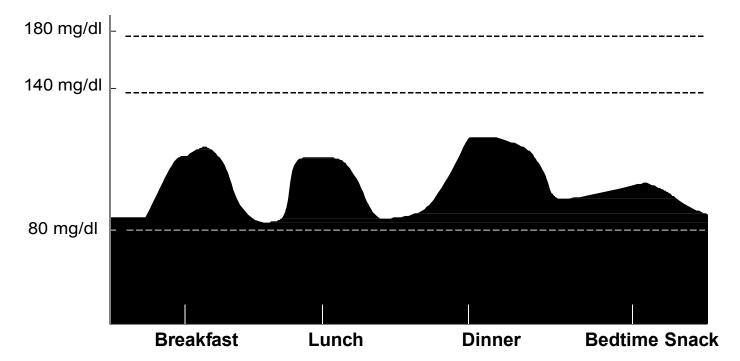
Blood Sugar (glucose)

Normally, blood glucose levels will vary throughout the day from 80 to 180 mg/dl. Blood glucose rises following meals and then returns to premeal levels about three hours after the meal.

To prevent high blood glucose following meals, people with diabetes should:

- Eat well-balanced meals.
- Get regular exercise.

- Take medication on time.
- Maintain a reasonable weight.



Blood Sugar Levels

American Diabetes Association Target Ranges as follows:

- Before Meals 80 to less than 130
- After Meals Less than 180
- Bedtime 100 to 140

Blood sugar targets vary for many reasons, so check with your healthcare provider for your specific goals.

My Blood Su	ugar targe	t range is:	

Hemoglobin A1c

The Hemoglobin A1c blood sugar test indicates how well diabetes has been controlled over the past two to three months. This test is done with your lab work.

What the Numbers Mean

A1c (in percentages)	4-5.6	5.7-6.4 (prediabetes)	6.5	7	8	9	10	11	12
Average Blood Sugar	68-116	117-137	140	154	183	212	240	269	298

The American Diabetes Association (ADA) recommends an A1c of less than 7 percent. Your doctor may have a different goal for you.

My	A1c	on	(date	e)	

Symptoms of High Blood Sugar (hyperglycemia)

Causes: Too much food, not enough medication, illness, surgery, stress, pain, infection or steroids

Onset: Gradual. May progress to diabetic coma.

Blood Sugar: Above 180 mg/dl

Symptoms







Drowsiness



Blurred Vision



Dry Skin



Hunger



Extreme Thirst



Frequent Urination

Recommended Action



Check your blood sugar.



If your blood sugar is above 250 mg/dl for two days, call your doctor.

Symptoms of Low Blood Sugar (hypoglycemia)

Causes: Too little food, more than five hours from last meal, too much insulin or diabetes

medicine, too much physical activity or alcohol

Onset: Sudden. May pass out if untreated.

Blood sugar: Below 70 mg/dl

Symptoms



Shaking



Sweating



Rapid Heartbeat



Headache



Hunger



Weakness, Fatigue Impaired Vision



Anxious



Irritable



Dizziness

Recommended Action



Check your blood sugar.



If it is below 70 drink one-half to one cup juice, skim milk or regular soda, or chew five to six hard candies or four glucose tablets, or swallow one tube of glucose gel.



Check your blood sugar in 15 minutes. If still below 70, take more sugar. If symptoms don't stop, call your doctor.



Eat a snack or meal within 30 minutes.



If you have two lows on the same day or three lows in one week, call your doctor.

How to Check Your Blood Sugar

To test your blood sugar . . .

START



Wash your hands with soap and water.



Make sure your fingers are very dry.



Are your hands cold?



NO



Prick the side of your finger (it is not as tender as the tip). You can use any finger.



Squeeze out a big, fat hanging drop of blood.

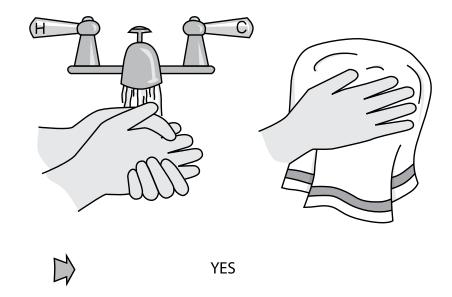


Follow the directions for your method of testing EXACTLY.



Write your blood sugar on your record sheet.

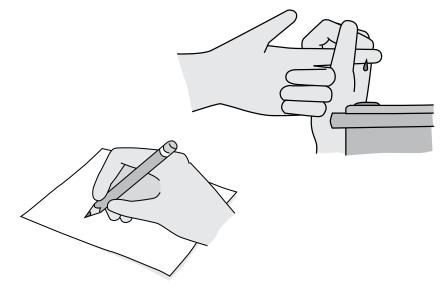
HOORAY!!
You did it!





Place hands under warm, running water and rub your fingers, or shake them while hanging your hands at your side.

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Protect Yourself, Protect Others

Sharps are syringes, needles and lancets. They must be disposed of properly to prevent injury to people and the spread of germs.



Contact the County of San Diego Household Hazardous Waste at 1-877-713-2784 for information for disposal locations in your area.

Sharps should not be:

- Thrown in the garbage
- Flushed down the toilet
- Placed in recycling containers
- Brought to the hospital

Put sharps waste in its place.

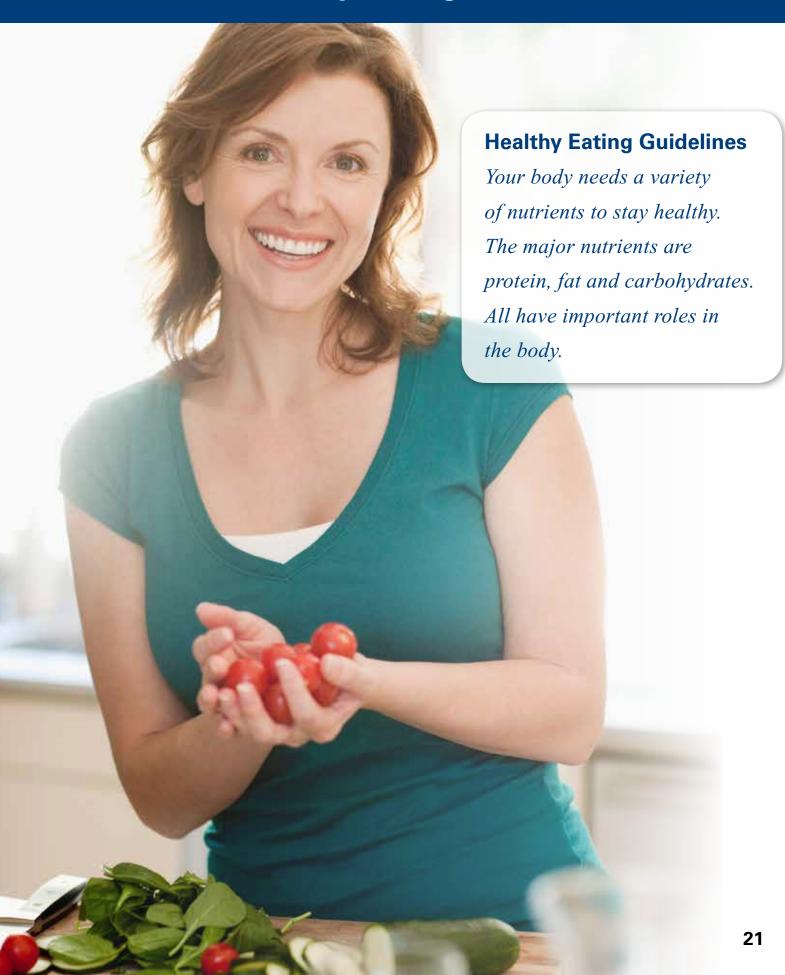
- Sharps should be placed in a hard plastic or metal container with a tight cap or lid.
- Ask your local pharmacy if they take back used sharps.
- Take your used sharps to drop-off collection sites.
- Consider using a "mail back" service (fees apply).

For more information, visit: http://safeneedledisposal.org/ or http://safeneedledisposal.org/ or http://safeneedledisposal.org/ or

Look in the government section of your local white pages for a household hazardous waste listing for your city or county.

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Section II: Healthy Eating



Healthy Eating

Carbohydrates provide much-needed fuel and energy. They are broken down into glucose to provide this energy. Even though carbohydrates raise blood glucose, it is best to have some in every meal. When planning meals, a balance of foods containing protein, fats and carbohydrates is best.

Food is not only a source of fuel and nourishment, food is also a source of pleasure. Having diabetes does not mean you have to eat special foods or never have dessert. Meal planning for diabetes includes the same guidelines used by anyone who wants to stay healthy.

Make Your Plate Look Like This!



Carbohydrates

Fruit, milk, plain or light yogurt, pasta/noodles, corn, peas/lentils, sweet potato, waffles/pancakes, sweets, lima beans, kidney beans, soy beans, potatoes, rice, couscous, whole grain bread, tortillas, pita bread, English muffins, bagels, winter squash, crackers, hamburger buns, hot dog buns



Vegetables

Artichokes, asparagus, bean sprouts, beets, broccoli, brussel sprouts, cabbage, carrots, cauliflower, eggplant, greens, green beans, okra, onions, parsnips, pea pods, peppers, spinach, summer squash, tomatoes, water chestnuts, zucchini (Celery, cucumbers, green onions, mushrooms, radishes and salad greens can be eaten in unlimited quantities.)



Protein

Chicken, turkey, fish, lean beef, lean pork, lean lamb, veal, low-fat cheese, egg/egg substitute, peanut butter, tofu, edamame



Weight Control

For weight control, fats should be used sparingly (e.g., salad dressings, avocado, seeds, nuts, butter, pesto, sour cream, cream cheese).

Carb Foods

Below are some important facts about carbohydrates (carbs).

- Carbs raise your blood sugar.
- It is still important to eat some carbs at every meal.
- Carb foods such as grains, fruit and milk are healthy.
- Eating the right amount of carbs will help keep your blood sugar from going too high.

A carb serving is an amount of food that has 15 grams of carbohydrate.

(One carb serving = 15 grams carbohydrate)



One ounce slice of bread



Eight ounces of milk



One small apple



One-half cup corn



Two cookies, such as Oreos



One-third cup rice/noodles

How Many Carb Servings Can I Eat?

Answer: The number of carbohydrate servings you need is based on your body size, age and weight-loss goals.

- Most women need about 3 to 4 carb servings (45-60 grams) at each meal.
- Most men need 4 to 5 carb servings (60-75 grams) at each meal.
- If you eat snacks, choose 1 to 2 carb servings (15-30 grams).

What is a Carb Serving?

Use this chart to look up serving sizes of many common foods. Some foods, such as fresh fruit, don't have labels. Also, when you eat away from home, food may be removed from its packaging. Remember: One carb serving = 15 grams of carbohydrate

FRUIT	
Apple 1 small, 4 oz.	Kiwi 1 large
Apricots 4 fresh	Mango½ large or ½ cup
Applesauce	Melon 1 cup
unsweetened $1/2$ cup	Mixed fresh fruit 1 cup
Banana 1 small, 4 oz., or ½ large	Nectarine1 medium
Berries 1 cup	Orange 1 small, 6 ½ oz.
Cantaloupe 1/3 small	Papaya cubes 1 cup
Canned fruit in	Peach 1 medium
own juice drained½ cup	Pear½ large
Dried Fruit (check label)	Pineapple, fresh¾ cup
Figs, fresh 2 medium	Pineapple, canned½ cup
Grapefruit1⁄2 large	Plums2 small
Grapes or Cherries 6-10 large or	Prunes dried 3
12-18 small	Raisins 2 Tbsp.
Juice	Tangerine 2 small
(100% fruit, check label) 3-4 oz	

STARCHES/BREAD	
Bagel (check label)	¼ of lg., ½ med
Barley	½ cup
Beans, peas, lentils, corn	
(cooked)	½ cup
Biscuit*	2½" dia.
Bread (check label)	1 oz. slice
Bun, hot dog or hamburger	½ (1 oz.)
Cereal, cold flaked or	
Cereal, cooked (check label)	½ cup
Couscous	½ cup
Crackers	4-5
English muffin	1/2
Graham crackers	
Melba toast	5 slices

Pancake* 1, 4" across
Pasta, cooked½ cup
Pita bread
Popcorn, no added fat 3 cups
Potato, 1 small 3 oz.
Potato, mashed½ cup
Pretzels34 oz.
Rice, brown, wild
or white (cooked) ½ cup
Squash (winter) 1 cup
Sweet potato or yam ½ cup
Tortilla6" across
Waffle4" square
Whole grain bread
(check label) 1 slice (1 oz.)
*Includes 1 fat serving











What is a Carb Serving?

Use this chart to look up serving sizes of many common foods. Some foods, such as fresh fruit, don't have labels. Also, when you eat away from home, food may be removed from its packaging. Remember: One carb serving = 15 grams of carbohydrate

MILK PRODUCTS

Buttermilk, low fat or nonfat 1 cup
Evaporated or skim milk
Nonfat yogurt, plain or light6 oz. (cup)
Nonfat milk 1 cup
1% Milk Soy milk, low fat
or fat free 1 cup
1 cun = 8 oz

OTHER CARBOHYDRATES

Sugar, honey, syrup	1Tbsp.
Ice cream, light or	
no sugar added	½ cup
Pudding, sugar-free	½ cup
Soup, cream type	.1 cup



Examples of 3- to 5-Carb Servings per Meal

3-CARB-SERVING MEALS

1 whole wheat English muffin = 2 carb servings (serv.)
1 cup cubed cantaloupe = 1 carb serv.

1 ½ cups Cherrios = 2 carb serv. 8 ounces 1% milk = 1 carb serv.

Meat sandwich: 2 slices whole wheat bread = 2 carb serv. (lean meat, mayo, mustard, lettuce) 1 small apple = 1 carb serv.

2 cups bean (lentil, pinto) soup = 2 carb serv. 6 triscuits/saltines = 1 carb serv.

Chicken/fish 3 oz.

1 cup rice (brown better) = 3 carb serv.

1 cup cooked broccoli

4-CARB-SERVING MEALS

1 whole grain English muffin = 2 carb serv. ½ medium banana = 1 carb serv. 1 cup (8 oz.) fat free/1% milk = 1 carb serv.

6" Subway sandwich = 3 carb serv. 1 (4 oz.) apple = 1 carb serv.

2 Vans/Eggo Toaster waffles = 2 carb serv. 1 ¼ cup strawberries = 1 carb serv.

8 ounces 1% milk = 1 carb serv.

1 cup Kashi Go Lean Crunch = 2 carb serv. 34 cup blueberries = 1 carb serv. 8 ounces 1% milk = 1 carb serv.

2 chicken tacos (2 tortillas) = 2 carb serv. ½ cup refried beans = 1 carb serv. ⅓ cup rice = 1 carb serv.

3 oz. sirloin steak
½ large baked potato = 2 carb serv.
1 cup green beans
1 small (1 oz.) dinner roll = 1 carb serv.
8 oz. 1% milk = 1 carb serv.

5-CARB-SERVING MEALS

2-egg veggie omelet
2 slices of toast = 2 carb serv.
1 Tablespoon regular jam = 1 carb serv.
1 teaspoon butter
1 medium banana = 2 carb serv.

3 slices of medium pizza Pizza Hut, Thin & Crispy Pizza = 5 carb serv. Tossed salad w/ light dressing

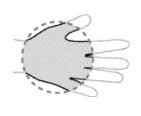
3-4 ounces fish
½ cup corn = 1 carb serv.
½ cup peas = 1 carb serv.
1 cup cooked zucchini
½ cup canned fruit drained = 1 carb serv,
8 oz. 1% milk = 1 carb serv.
1 piece cake, 2 in. square, no icing = 1 carb serv.

2 cups lasagna = 4 carb serv. 1 (1 oz.) garlic bread = 1 carb serv. Salad with light salad dressing

Estimating Portion Sizes



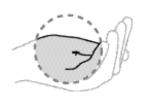
Fist = 1 cup
Example: three
servings of
pasta or two
servings
oatmeal
(one cup pasta
= three servings)



Palm or deck of cards = 3 oz. Example: a cooked serving of meat



ThumbTip = 1 teaspoon Example: a serving of mayonnaise or margarine



Handful =
1 or 2 oz.
snack food
Example: One
ounce nuts=
one handful
Two ounces
pretzels
= two handfuls



Thumb = 1 oz. Example: a piece of cheese

Carbs on a Food Label

Nutrition Facts

Serving Size 1 cup (8 oz) Servings per container 3

from fat 27
% Daily Value
4%
0%
3%
12%
10%
20%

Step 1

Look at the serving size.

Step 2

Look at the total grams (g) of carbohydrate only. Sugars are already counted in the total carbohydrate.

Step 3

Use scale below to know how many carb servings you're eating.

Close to 15g	1 carb serving
Close to 30g	2 carb servings
Close to 45g	3 carb servings
Close to 60g	4 carb servings
Close to 75 g	5 carb servings



What About Sugar?

Sugars are found naturally in many foods. Sugar, honey, fructose, dextrose, molasses and corn syrup are examples. They are not healthier for you because they are "natural."

Sugar alcohols are sorbitol, mannitol, maltitol and xylitol. They are used in many foods advertised as sugar-free or no-sugar-added. These sugar alcohols digest more slowly, but can still raise your blood sugar levels. When used in excess, they can cause gas, cramps, bloating and/or diarrhea.

Artificial sweeteners are Equal and NutraSweet (aspartame), Splenda (sucralose), Sweet'N Low (saccharin) and Truvia (stevia). They are found in products such as diet soda. These products do not affect your blood sugar.

Important: Do not assume that sugar-free or fat-free foods are carbohydrate-free.

Heart-Healthy Eating

Preventing heart disease and stroke in people with diabetes is crucial. If you have diabetes or prediabetes, you are at much higher risk of having heart disease or stroke.

Fats

Our bodies do need some fat and cholesterol, but too much can clog your arteries. To help control cholesterol levels, it is important to decrease the amount of total fat and saturated fat in the foods that you eat. Choose unsaturated fats as healthier choices. See next page for types of healthy and unhealthy fats.

Tips to decrease fat in your daily diet:

- Bake, broil, grill or steam instead of frying foods.
- Choose fruits, vegetables, whole grains and fat-free or low-fat dairy products.
- Cook with olive oil and margarine instead of butter.
- Limit store-bought or ready-made baked goods.
- Remove skin from poultry.
- Purchase lean-cut meats and trim off visible fat.

Salt

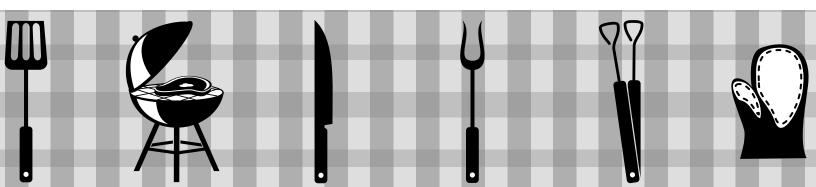
The body needs sodium (salt) to work right, but too much sodium can cause high blood pressure, fluid retention and weight gain.

Tips to decrease salt in your daily diet:

- Eat plenty of fresh fruits and vegetables.
- Use salt-free herbs and spices instead of adding extra salt to your food.
- Avoid fast food.
- Eat fewer processed foods. Examples: soups, lunch meats, frozen meals and instant mashed potatoes

Other ways to keep your heart healthy:

- Be more active.
- Move toward a healthy weight.
- Limit alcohol.



Types of Fat

Unsaturated Fats (choose more often)

Typically liquid at room temperature

Monounsaturated

Olives/Olive oil

Canola oil

Nuts and oil from nuts

Peanuts/Peanut oil/Peanut butter

Polyunsaturated

Safflower oil Sesame oil Soybean oil Fish/Fish oil

Corn oil Walnut//Walnut oil

Sunflower oil Seeds

Saturated Fats (choose less often)

Typically solid at room temperature

Meat Coconut oil

Cheese/Cream cheese Palm/Palm kernel oil

Egg yolk Butter

Whole and 2% Milk Organ meats

Ice Cream Bacon

Cream/Sour cream Poultry with skin

Trans Fat

Hydrogenated vegetable oil

Stick margarine



Alcohol and Diabetes

Caution:

- Be aware that alcohol can cause hypoglycemia (low blood sugar).
- If you choose to drink, be sure you eat.
- Do not drink on an empty stomach.
- Alcohol adds calories.

Tips:

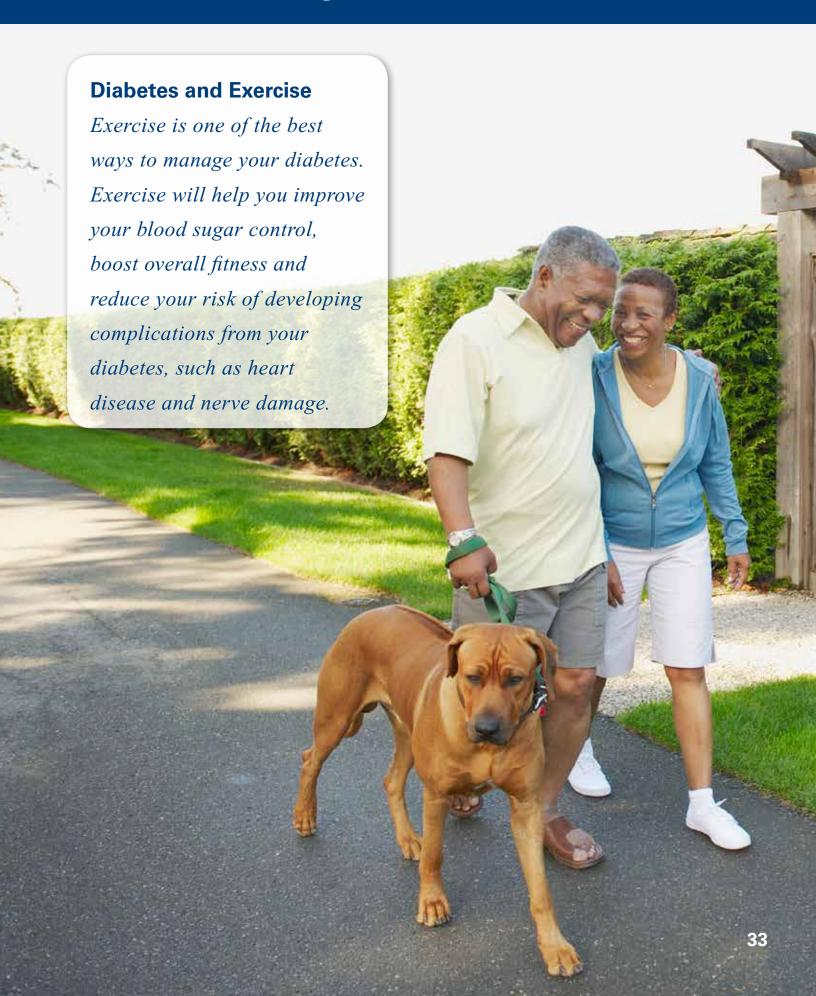
- Avoid sweet wines, liqueurs and sweetened mixed drinks because of high sugar content.
- Acceptable mixers are diet carbonated beverages, club soda, mineral water or diet tonic.



Check with your doctor prior to drinking alcohol.

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Section III: Being Active



My Exercise Plan

Why Should I Exercise?

- Exercise will help lower my blood sugar, blood pressure and cholesterol.
- Exercise will make me feel better.
- Exercise will help me sleep better.
- Exercise will help my heart and body.

What Can I Do?











Walk

Bike

Chair Exercises

Dance

Other

Days I Will Exercise

S	F	Th	W	T	M	Su



Talk with your doctor to see if it is OK for you to begin to exercise.

- Check your blood sugar before and after exercise.
- Your blood sugar may go too low if you have not eaten for a while.
- Carry something that has sugar in it, like glucose tablets or hard candies, in case your blood sugar goes low.
- Warm up before you exercise and cool down after you exercise.
- Work up to 30 minutes of exercise every day.
- Carry identification that says you have diabetes.
- Do not exercise if you are sick or not feeling well.
- Exercise indoors if it is very hot or cold outside.
- Wear comfortable shoes and clothes.
- Drink plenty of water.



Chair Exercises



Arm Circles: Sit up straight in a chair. Keep your feet flat on the floor. Tuck in your tummy. Extend arms out to the sides at shoulder level. Make sure the elbows are straight. Circle the arms to the front 4 times.



Lateral Stretch: Sit in a chair. Lift your right arm over your head and lean to the left. At the same time, make a C shape with your left arm (as if you were holding a baby). Gently stretch to the left. Change sides and repeat the exercise. Slowly build up to 8 repetitions on each side.



Ankle Circles: Sit in a chair. Extend the right foot out in front. Circle the right ankle in 4 times. Circle the right ankle out 4 times. Repeat with the left foot.



Hand Reaches: Sit in a chair. Place both hands on your shoulders. Extend your arm and reach toward the ceiling with your right hand. Return your right hand to your shoulder and repeat with your left hand. Gradually build up to 8 repetitions with each hand.



Marching in Place: Sit in a chair. Lift your left knee so that the foot is 6 inches off the floor. Lower your left knee. Lift your right knee so that the foot is 6 inches off the floor. Continue marching, lifting knees up and down.



Knee Pull: Sit in a chair. Pull your right knee into your chest. Hold the knee in for 4 seconds. Lower the leg. Repeat with the other knee.

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To Be Successful in an Exercise Plan:
1. Team up
2. Commit to it
3. Schedule it
Exercise Philosophy:
More is better. Any is better than none. You don't have to do it all at
once. You don't have to exhaust yourself. Everyone can find some exercise
that'll benefit them.

Section IV: Taking Medications



Learning About Diabetes Medications



It is important for you to know the name and dosage of the medication you are taking. You should not increase, skip or change your dosage unless you are told to do so by your physician.

Pills

Classification	Generic Name	Brand Name	How it works	My Dose
	Tolazamide	Tolinase		
	Tolbutamide	Orinase		
	Chlorpropamide	Diabinese		
Sulfonylureas	Glyburide	Diabeta Micronase Glynase PresTab	Helps your pancreas make more insulin.	
	Glipizide	Glucotrol Glucotrol XL		
	Glimepiride	Amaryl		
		↑	Important: Take with food/meals to a sugar	avoid low blood
	Repaglinide	Prandin	Helps your pancreas make more insulin.	
Meglitinides	Nateglinide	Starlix	Helps improve your after meal blood sugar	
		↑	Important: Take with food/meals to a sugar	avoid low blood
Biguanides	Metformin	Glucophage	Helps decrease the amount of sugar	
	Metformin ER	Glucophage XR	made by the liver.	
		↑	Important: Take with meals.	
Alpha-	Acarbose	Precose	Slows the digestion of starches in the gut.	
Glucosidase	Miglitol	Glyset		
	1	<u> </u>	Important: Take with first bite of food.	
Thiazolidinediones	Pioglitazone	Actos	Helps improve the way insulin works in muscle and fat cells. Help decrease the	
(TZDs)	Rosiglitozone	Avandia	amount of sugar made by the liver.	
			Important: Report any ankle/feet swell shortness of breath	ing or
	Sitagliptin	Januvia		
DPP 4 Inhibitors	Saxagliptin	Onglyza	Allows insulin to work longer and	
DPP 4 Inhibitors	Linagliptin	Trajenta	decreases the amount of sugar made by the liver.	
	Alogliptin	Nesina		
1			Important: Take with or without food.	
00: 7.0	Canagliflozin	Invokana		
SGLT 2 Inhibitors	Dapagliflozin	Farxiga	Helps the kidneys clear excess glucose.	
	Empaglifozin	Jardiance		
		↑	Important: Drink plenty of water to sta	y hydrated.

Injectable Medications for Diabetes

Insulin

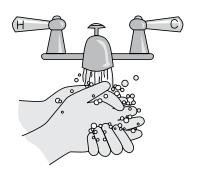
DRUG TYPE/NAME	HOW IT WORKS	STARTS WORKING	WORKS STRONGEST	ENDS	INSTRUCTIONS
RAPID ACTING					
APIDRA (Glulisine) HUMALOG (Lispro) NOVOLOG (Aspart)	Bolus	5-15 Minutes	1-2 Hours	4-6 Hours	Looks clear. Take with meals.
SHORT ACTING				,	
Regular	Bolus	30-60 Minutes	2-3 Hours	6-8 Hours	Looks clear. Take 30 minutes before meals.
INTERMEIDATE ACT	ING				
NPH	Basal	2-4 Hours	6-10 Hours	10-18 Hours	Looks Cloudy. Roll to mix. Take as ordered.
LONG ACTING					
LANTUS (Glargine) LEVEMIR (Detemir) TOUJEO (U300 Glargine)	Basal	1-2 Hours	No peak	Approximately 24 Hours	Looks clear. Take at same time every day. Do not mix with other insulins.
PRE-MIXED					
70/30 Humulin/Novolin	Combined Pre–Mix Basal and Bolus	30-60	Varies	10-16 Hours	Looks cloudy. Roll to mix. Take as ordered.
50/50 Humalog/Novolog 75/25 Humalog 70/30 Humalog/Novolog	Combined Pre-Mix Basal and Bolus	5-15 Minutes	Varies	10-16 Hours	Looks cloudy. Roll to mix. Take with meal.

Others

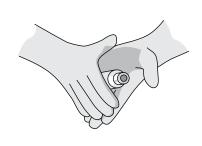
DRUGTYPE AND NAME	HOW IT WORKS	POSSIBLE SIDE EFFECTS		
BYETTA/BYDUREON (Exenatide) TANZEUM (Albiglutide) TRULICITY (Dulaglutide) VICTOZA (Liraglutide)	Replaces naturally occurring GLP1 hormones. Helps to release insulin from the pancreas. Prevents liver from releasing too much sugar.	Nausea, vomiting Decreased appetite Constipation		
SYMLIN (Pramlintide)	Helps lower after-meal blood sugar levels. Used with insulin at mealtime.	Nausea, vomiting Decreased appetite		

Giving Yourself Insulin

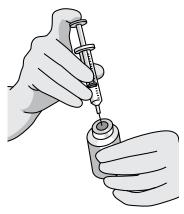
Insulin Syringe Instructions



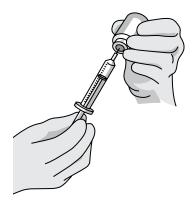
1. Wash your hands.



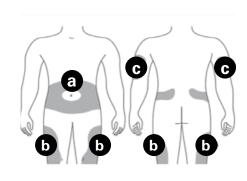
2. Mixing Insulin: If you have cloudy insulin, you must gently roll bottle between hands to mix.



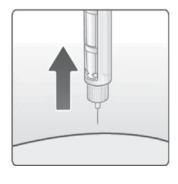
3. Place needle into vial.



4. Draw up dose.



5. Select injection site and clean area.Recommended sites: A, B and C.



6. Inject insulin.
Count to 10 before removing.

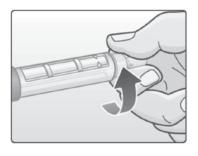


7. Place used syringe in sharps container.

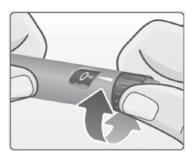
Insulin Pen Instructions



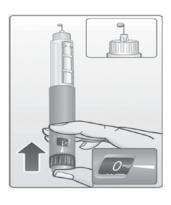
1. Wash your hands.



2. Attach pen needle.



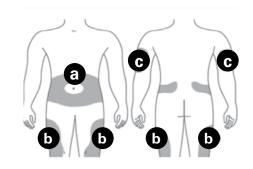
3. Dial 2 units of insulin.



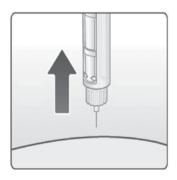
4. Waste 2 units of insulin.



5. Dial ordered insulin dose.



6. Select injection site and clean area.Recommended sites:A, B and C.



7. Inject insulin: count to 10 before removing.



8. Place used needle in sharps container.



Storage of Insulin and Other Injectables

Insulin must be stored properly to work best at controlling blood sugar.

Unopened insulin bottles or pens:

- Best stored in the refrigerator until expiration date.
- Be careful not to freeze insulin.

Opened insulin bottles or pens:

- May be stored at room temperature (59 to 86 degrees) for 28 to 30 days.
- Keep away from heat and light.



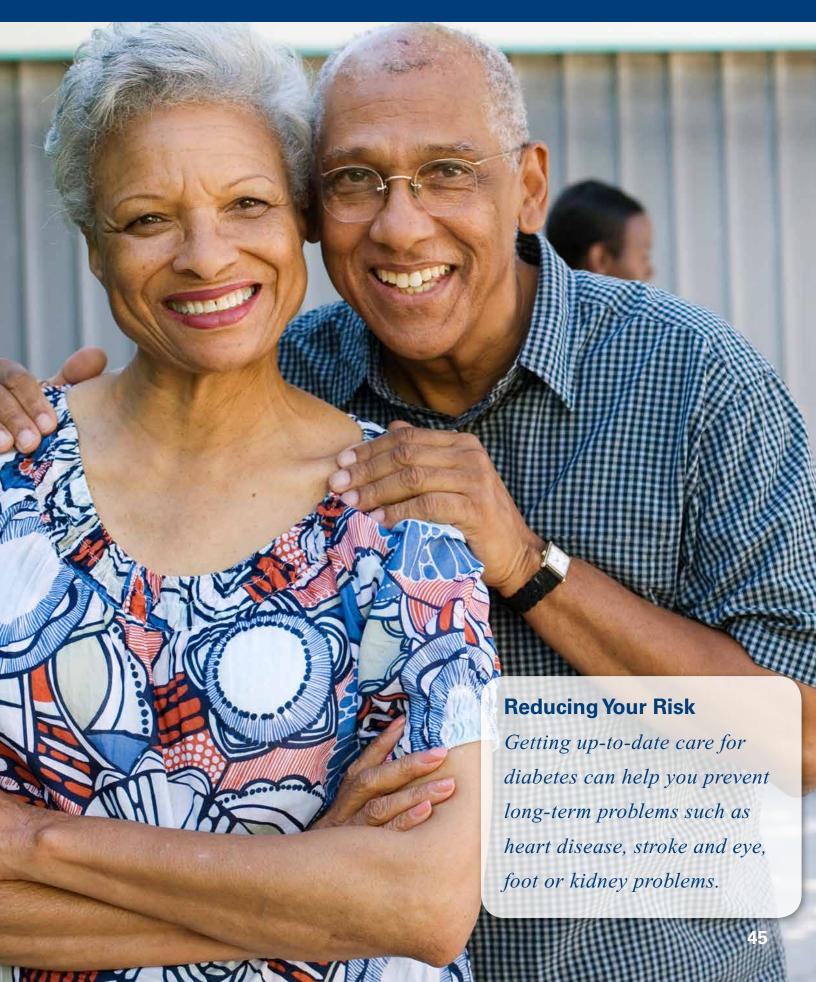
Remember to:

- Rotate your injection sites and avoid areas that feel hard or tender, or look red.
- Eat regular meals four to five hours apart. Do not skip meals. If a meal is delayed, you may need a snack.
- Always carry a fast-acting sugar (glucose tabs or hard candy) and a wallet card with instructions on low blood sugar.
- Wear a medical alert bracelet or necklace, or carry an ID card that states you have diabetes.

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Section V: Reducing Risk



Diabetes Can Affect the Entire Body

Heart: Watch for chest pain and/or shortness of breath.

To reduce risk:

- Control your blood sugar.
- Control your blood pressure.
- Stop smoking.
- Eat less fat.
- Reduce salt intake.
- Be more active.
- Maintain a healthy weight.
- Take medications as prescribed.

Feet: Watch for pain, numbness or wounds.

To reduce risk:

- Control your blood sugar.
- Stop smoking.
- Check your feet every day for redness, blisters or injuries.
- Exercise as directed.
- Have a doctor or nurse check your feet at every doctor visit.

Kidneys: There may be no signs or symptoms.

To reduce risk:

- Control your blood sugar.
- Control your blood pressure.
- Stop smoking.
- Get a urine microalbumin test once a year.
- Have regular check-ups with your doctor.

Eyes: Watch for changes in vision.

To reduce risk:

- Control your blood sugar.
- Control your blood pressure.
- Stop smoking.
- Have a dilated eye exam every year.

Teeth and Gums

To reduce risk:

- Control your blood sugar.
- Stop smoking.
- Visit the dentist at least twice a year.
- Brush twice daily and floss daily.
- Use soft toothbrush.
- Denture-wearers: clean and rinse dentures daily.

Sexual Health

Women:

- High blood sugar levels may lead to yeast infections.
- If you are thinking of becoming pregnant, you will want to have a diabetes check up first. High blood sugar levels when you become pregnant can be very harmful for the baby.

Men:

• High blood sugar levels can contribute to erectile dysfunction (ED). If you are experiencing ED, talk to your doctor.

Depression

Depression and diabetes is common. If you are experiencing any of the following symptoms, please talk to your doctor.

- Tiredness, problems sleeping, restlessness.
- Headaches, pain, confusion, poor memory.
- Loss of interest, hopelessness, isolation, guilt, anger.

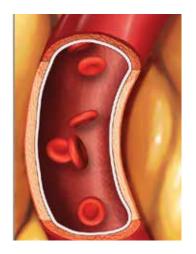
Standards of Care

Standards of Care are guidelines that can help people with diabetes live longer, healthier lives.

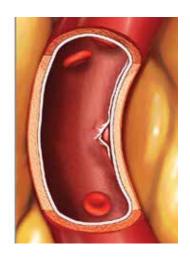
Tests	Monitors	Test Frequency	ADA Targets	Your Last Test Result(s)	Test Date
A1c	2 to 3 month blood sugar average	Every 3 to 6 months	Less than 7 percent (or as advised by your doctor)		
Blood Pressure	Checks the force of blood flow through vessels	Every doctor visit	Less than 140/90 mm Hg (Consider medications if out of target.)		
LDL (bad cholesterol)	Risk of heart disease	Yearly	LDL below 100 mg/dl (Consider medications if out of target.)		
Microalbumin (urine test)	Kidney function	Yearly	Less than 30 mcg/dl		
Eye Exam (dilated)	Eye disease	Yearly	Normal		
Foot Exam	Foot problems	Every doctor visit	Normal		
Flu Shot		Yearly			
Pneumonia Vaccine		At diagnosis (Repeat after 65 years old)			

Heart and Blood Vessel Disease

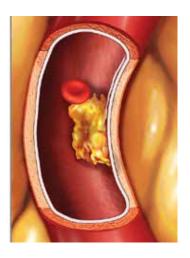
Over time, high blood sugar can increase your risk for heart and blood vessel disease. Two out of three people with diabetes die from stroke or heart disease. Know the warning signs.



Normal Artery: Blood flows easily through smooth arteries.



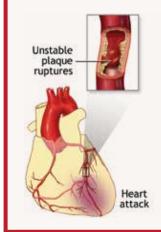
Damaged Artery: High blood sugar damages the artery lining.



Artery at Risk: Plaque builds up in damaged artery lining, and the blood flow is blocked.

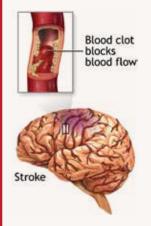
Warning signs of a heart attack

- Chest pain or discomfort
- Pain or discomfort in your arms, back, jaw, neck or stomach
- Shortness of breath
- Sweating
- Light-headedness
- Indigestion or nausea
- Tiredness
- Weakness



Warning signs of a stroke

- Weakness or numbness on one side of your body
- Sudden confusion or trouble understanding
- Difficulty talking
- Dizziness, loss of balance or trouble walking
- Trouble seeing out of one or both eyes
- Double vision
- Severe headache





Foot Care



People with diabetes need to take special care of their feet. See your doctor right away if you notice sores, cuts, calluses or any changes. Consult your doctor before self-treating.



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



Dry your feet well, especially between the toes.



Keep the skin supple with a moisturizing lotion (do not apply lotion between toes).



Check often for blisters, cuts or sores. Tell your doctor if you find something wrong.



Use an emery board to shape toenails even with the ends of your toes.



Change daily into clean, soft socks or stockings. Make sure you wear the correct size.



Keep your feet warm and dry. Always wear shoes that fit well and, if possible, wear special padded socks.



Never go barefoot – inside or outdoors.



Examine your shoes every day for damage or debris (pebbles, nails, etc.) that could injure your feet.

Take good care of your feet – and use them! A brisk walk every day stimulates circulation.

Smoking

Diabetes, Smoking, and Your Health

Smoking has severe effects on your diabetes and your health. You can help to prevent and reduce the serious problems of diabetes by quitting.

Call the California Smokers' Helpline – It's Fast, it's Free, and it's Easy: 1-800-NO-BUTTS.

Eyes

Smoking can make vision problems worse which can lead to blindness.

Nerves

Smoking raises your risk of nerve damage. This can cause numbness, pain and problems with digestion.

Feet & Legs

Smoking can lead to serious foot and leg problems like infections, ulcers, and poor blood flow. Smoking raises your risk of amputation. Of people with diabetes who need amputations, 95% are smokers.

Kidneys

Smoking triples your risk of getting kidney disease. Drugs that help prevent kidney failure don't work as well for smokers.

Teeth

Smoking raises your risk of getting gum disease and losing your teeth.

Heart

Smokers with diabetes are 11 times more likely to have a heart attack or stroke than people who don't have diabetes and don't smoke.

Blood Sugar

Smoking raises your blood glucose (sugar) and reduces your body's ability to use insulin, making it more difficult to control your diabetes. In fact, smoking one cigarette can cut your body's ability to use insulin by 15%.



Quit Smoking Today Call the California Smokers' Helpline at 1-800-NO-BUTTS

Chewing Tobacco: 1-800-844-CHEW

For more information about diabetes:

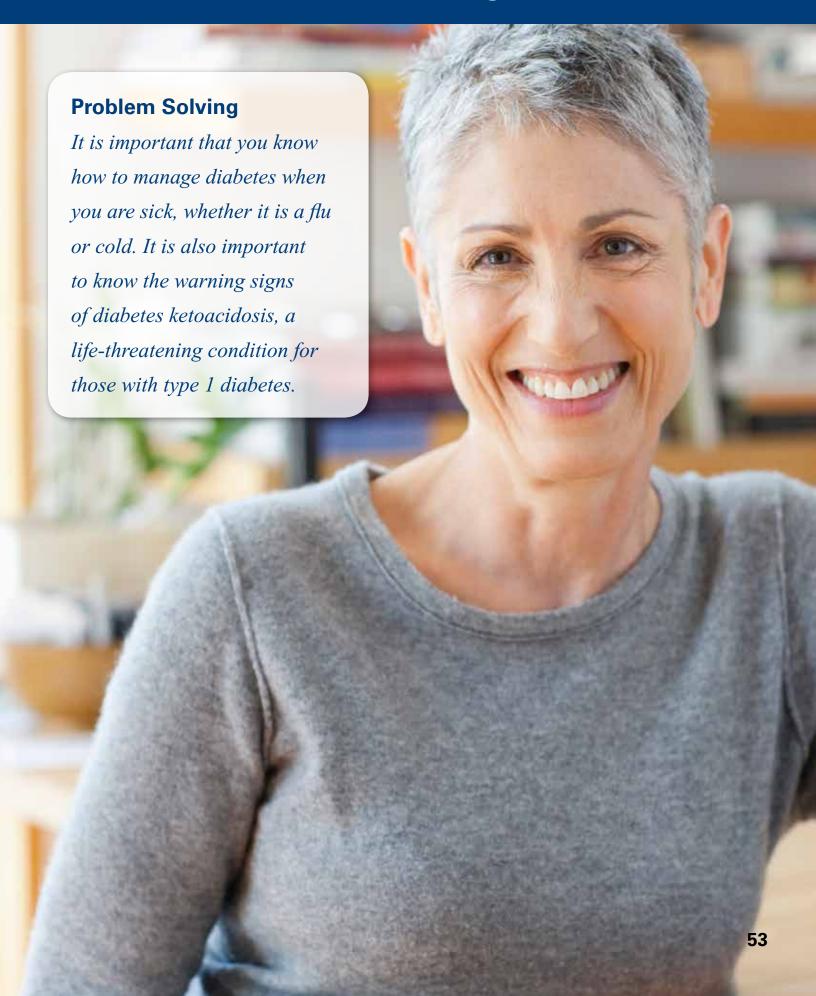
California Diabetes Program at (916) 552-9888 or www.caldiabetes.org American Diabetes Association at 1-800-DIABETES (1-800-342-2383) or www.diabetes.org

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Section VI: Problem Solving





What To Do If You Are Sick

If you are sick, you need to be extra careful.

- 1) Do not stop taking your diabetes medications, including your insulin or pills.
- 2) Call your doctor and ask if your doses need to be changed.
- 3) Check your blood sugar more often every four hours. If you have type 1 diabetes, also test your urine for ketones.

What to Eat or Drink

Drink plenty of liquids, particularly if you have fever, vomiting or diarrhea. Eat your regular meals as you are able. If you are unable to eat solid foods, eat at least 15 grams of carbs every hour while you are awake.

Examples of a carb serving of 15 grams:

- One cup of soup
- Six saltine crackers
- One slice of dry toast
- One popsicle
- One-half cup of ice cream or frozen yogurt
- One-half cup cooked cereal
- One-half cup of soda or fruit juice
- Eight ounces of an energy drink, such as Gatorade

Call your doctor if you have any of the following:

- Vomiting or diarrhea
- Inability to keep liquids down
- A blood sugar level above 250 mg/dL for more than 4 hours
- Temperature of 101° F or higher
- Trouble breathing
- Ketones in your urine (for people with type 1 diabetes)

Diabetic Ketoacidosis (DKA)

Diabetic Ketoacidosis (DKA) most often occurs in type 1 diabetes.

Ketones are produced when your body starts burning fat for energy instead of sugar. Dangerously high levels of ketones can lead to diabetic coma or death. Know the warning signs and check urine for ketones, especially when sick.

Warning signs:

- Blood sugar above 250
- Nausea, vomiting and/or abdominal pain
- High levels of ketones in urine
- Frequent urination
- Thirst or a very dry mouth
- Muscle pain
- Fruity odor on breath
- Difficulty breathing (short, deep breaths)
- Hard time paying attention or confusion

If you don't feel well and have one or more of the above symptoms, contact your doctor immediately or go to the nearest emergency room.

What causes ketoacidosis?

- **Not enough insulin.** Do not skip your insulin, even if you are unable to eat. You may need more insulin because you are sick.
- Not enough food. When you cannot eat, your body makes ketones. This causes nausea and vomiting.



DKA IS LIFETHREATENING

Notes	

Section VII: Healthy Coping



Emotions and Diabetes

Having fears about diabetes is normal. You can't change the fact that you have been diagnosed with diabetes, but you can choose to make your emotional health a priority. Living well with diabetes takes time and effort. Diabetes can be tough to handle.

Do you feel any of the following about the daily hassles of managing your health?

- Overwhelmed
- Angry
- Unmotivated
- Scared

- Sad
- Frustrated
- Burned Out

Addressing these emotional aspects of your diabetes is important for long-term success. Think about ways you can take care of your whole self (mind, body and spirit). Some suggestions include talking to your doctor about your feelings, taking your medications every day and attending a support group (see resource page or contact Scripps Whittier Diabetes Institute (1-858-626-5672) or Behavioral Diabetes Institute (1-858-336-8693) for additional information). In addition, avoid alcohol and drugs.

Take time to relax by:

- Walking
- Dancing

- Yoga
- Deep breathing
- Daily sunlight



You Are Not Alone

Many patients newly diagnosed with diabetes feel alone and unable to connect with those around them. Social media — websites you can interact with and that allow you to interact with other visitors — can help. A two-way street, social media gives you the ability to connect with others who have diabetes to share stories and ask questions. Learn how to control your diabetes with others.

Social Media for Patients with Diabetes

• Diabetes Mine

This site was created by and for patients as a "diabetes newspaper with a personal twist." diabetesmine.com/category/essential-diabetes/emotions

• Diabetes Advocates

A collective of individuals and organizations that offers expertise, resources and support to those touched by diabetes. We believe that connecting with others living with and caring for diabetes, and providing emotional and anecdotal support, goes hand-in-hand with the support of a health care provider. diabetesadvocates.org

Tu Diabetes

A community of people touched by diabetes, run by the Diabetes Hands Foundation. tudiabetes.org

• Es Tu Diabetes.org

Una comunidad de personas afectadas por la diabetes, un programa de la Diabetes Hands Foundation. estudiabetes.org

• You Can Do This Project

Collects personal powerful videos of patients affected by diabetes. Share your diabetes story. Be a light in someone else's darkness. youcandothisproject.com

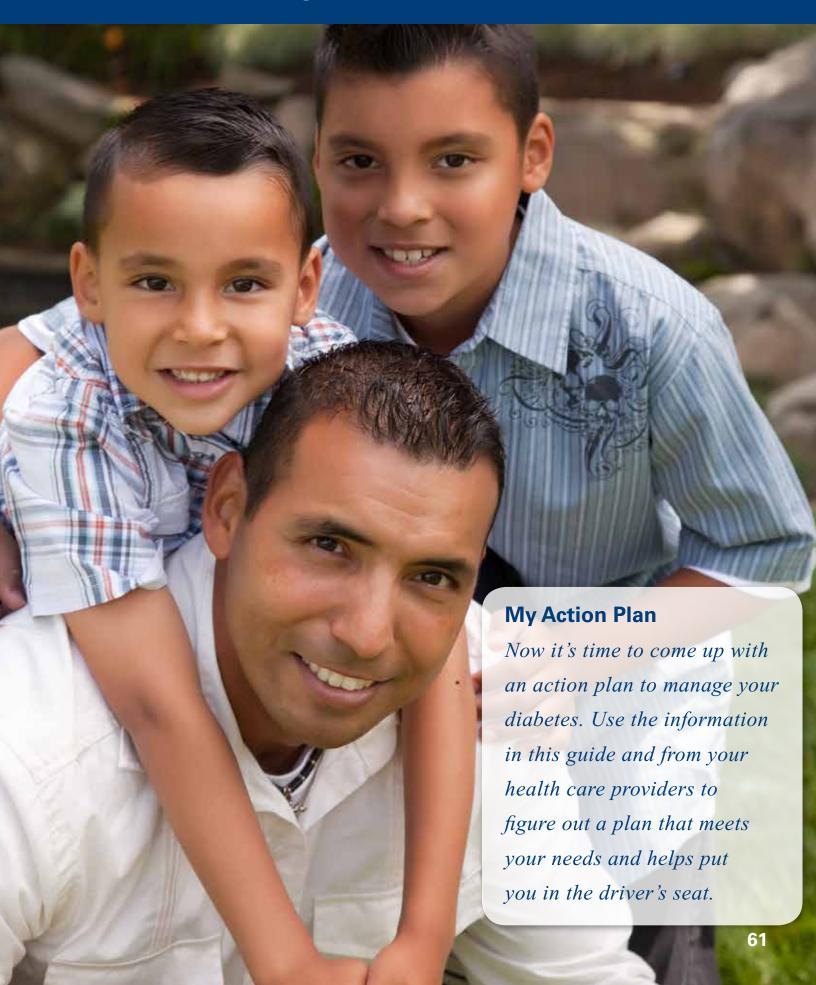
• dLife

Makes diabetes applications that you can use to log glucose levels, find recipes and nutrition information. Watch dLife videos and connect with the dLife community and experts to get answers to diabetes related questions. You can graph weekly or monthly levels and track trends, which you can email to yourself or your health care provider. dlife.com

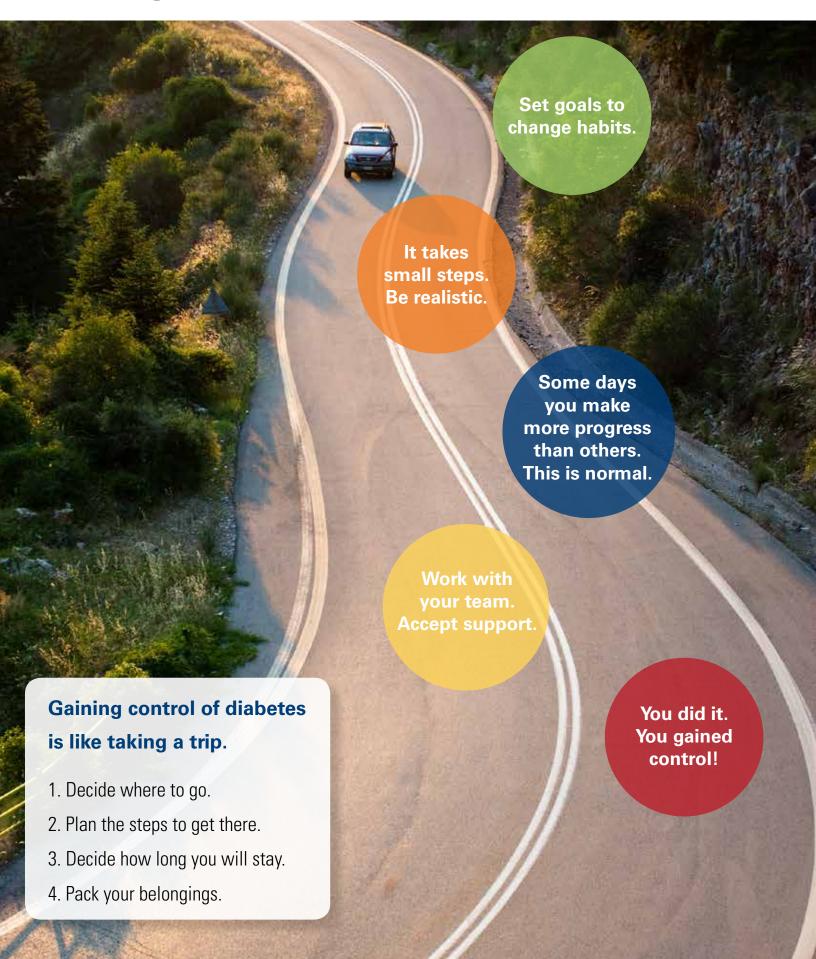
Scripps Health does not control, endorse or guarantee the accuracy of information contained on the above websites. Please consult your health care provider with any questions or concerns regarding your health.

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Section VIII: My Action Plan



Gaining Control of Your Diabetes



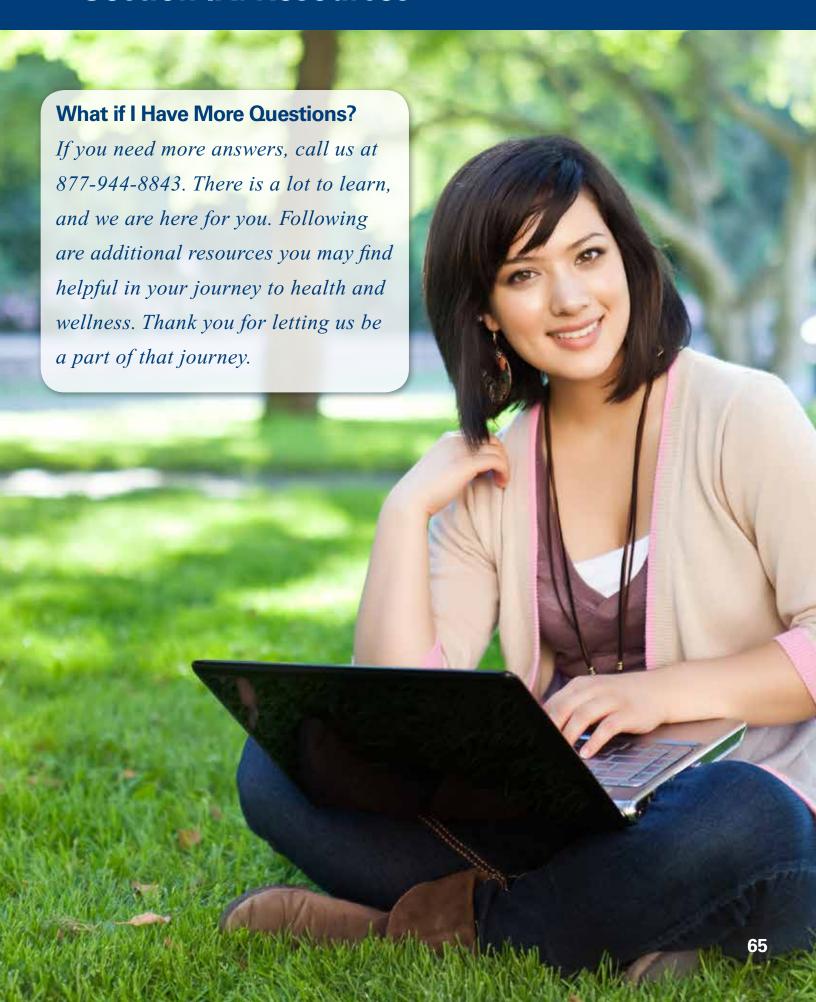


Setting goals and changing habits will help you improve your diabetes, as well as your general health.

Choose one goal from the list below:	
☐ Healthy Eating	
☐ Being Active	
☐ Monitoring (Blood Sugars)	
☐ Taking Medication	
□ Problem Solving	
☐ Healthy Coping (depression, denial, anger)	
☐ Reducing Risks (prevention care, complications, foot/dental care, eye exam)	
In order to meet this goal I will:	
Patient Signature	Date
Educator Signature	Date

Notes	

Section IX: Resources





Scripps Health Resources

Scripps provides a free physician referral helpline. 1-800-SCRIPPS (727-4777) scripps.org

Scripps Whittier Diabetes Institute Project Dulce

Diabetes management programs are available for the uninsured and underserved. Diabetes education is available in different languages. 1-866-791-8154 • scripps.org/diabetes

Academy of Nutrition and Dietetics

1-800-877-1600 • eatright.org

American Diabetes Association

1-800-Diabetes/342-2383 • diabetes.org

American Heart Association

1-800-242-8721 • 858-410-3850 americanheart.org • heartsource.org

Becton, Dickinson and Company (BD)

1-201-847-6800 • 1-888-232-2737 bd.com/diabetes

Behavioral Diabetes Institute

858-336-8693 • behavioraldiabetes.org

Costco: Prescription program is available to all. Affordable meters, lancets, testing strips and glucose tablets are available. 1-800-806-0129 • costco.com

Scripps Whittier Diabetes Institute

Provides classes on diabetes care, eating smart, weight loss, exercise; and help individuals newlydiagnosed with diabetes find support groups 858-678-7050 • 877-Whittier (944-8843) Scripps.org/diabetes

Scripps Whittier Diabetes Institute Clinical Trials

Qualified participants receive investigational medications or devices, study-related physical exams and blood tests, and compensation for time and travel. 858-626-5678 • scripps.org/diabetes

Juvenile Diabetes Research Foundation (JDRF) San Diego Chapter • 858-597-0240 sandiego@jdrf.org • jdrfsd.org

National Diabetes Information Clearinghouse 1-800-860-8747 • diabetes.niddk.nih.gov

Taking Control of Your Diabetes 858-755-5683 • 1-800-998-2693 • tcoyd.com

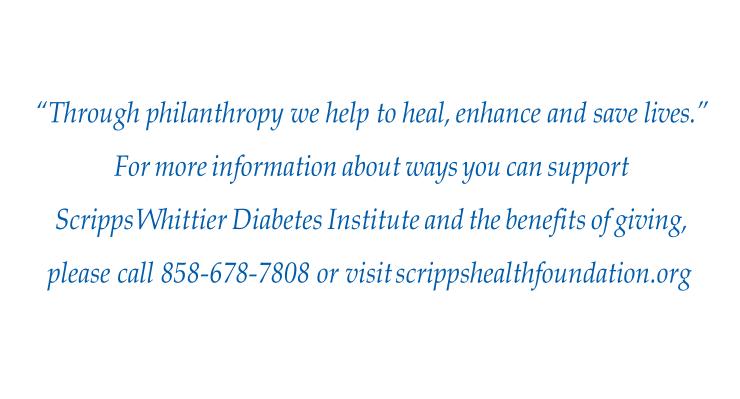
United States Department of Agriculture Food Guidelines • choosemyplate.gov USDA Diet Supertracker • 1-888-779-7264

Ventanilla de Salud at Mexican Consulate:

Provides information and enrollment into health insurance plans, accessing local health services/education & screenings 619-308-9964 • http://ventanillas.org/

Project Concern International works in partnership with the Mexican Consulate 858-279-9690 • projectconcern.org

Walmart: Affordable meters and test strips, less expensive insulin and syringes. 619-336-0395 • walmart.com





Scripps Whittier Diabetes Institute

1-877-Whittier or 1-877-944-8843 858-626-5672 scripps.org/diabetes