



Guide to Managing Type 2 Diabetes

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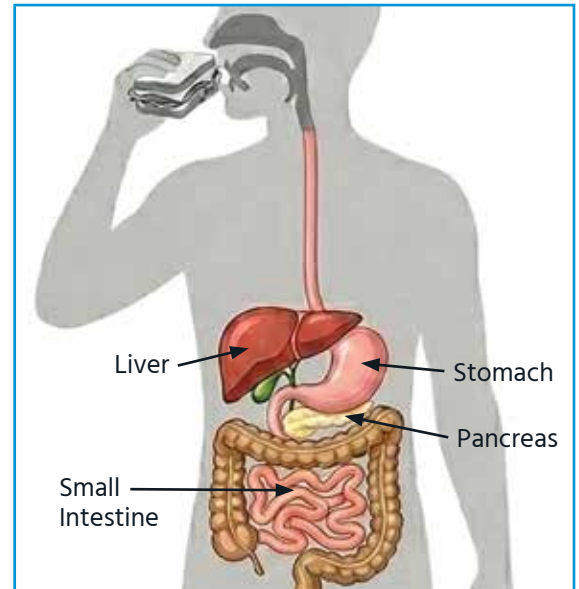
What is Diabetes?

When you have diabetes, the sugar level in your blood is too high. Diabetes does not allow your body to turn food you eat into energy. That is why you may feel tired, especially after eating.

A hemoglobin A1c is a simple blood test used to diagnose diabetes and to detect abnormal blood sugar over a 2-3 month period. The A1c represents the estimated average glucose (eAG).

So what is type 2 diabetes?

Type 2 diabetes is a chronic (lifelong) condition and without proper treatment, may result in serious medical problems in the future. The good news is diabetes can be controlled to help prevent complications.



Type 2 Diabetes Risk Factors

People of all ages and races are at risk for developing diabetes. Some groups have a higher risk than others. There are several risk factors that increase your chance of developing diabetes including:

- Obesity
- Family history of type 2 diabetes
- Personal history of gestational diabetes or delivering a baby over 9 pounds
- Inactive lifestyle
- Over 40 years of age
- Certain ethnicities (African-American, Hispanic, Native American, and Asian American/Pacific Islanders)

A1c and Blood Glucose Goals

Know Your Hemoglobin A1c	
A1c (%)	eAG (mg/dl)
6.0	126
6.5	140
7.0	154
7.5	169
8.0	183
8.5	197
9.0	212
9.5	226
10.0	240
10.5	255
11.0	269
11.5	283
12.0	298
12.5	312
13.0	326
13.5	341
14.0	355

Blood Glucose Goals	
Fasting	80-130
2 Hour Post-Meal Goals	Less than 180
Bedtime	100-150
Continuous Glucose Monitor (CGM) Time in Range	70%



My goal A1c is _____.



Did you know?

Reducing your A1c by just 1% results in a decreased risk of complications by at least 10%.

Managing Your Type 2 Diabetes

Controlling your diabetes means making some changes that may be hard at first. Your healthcare team will help you.

Blood sugar management

To help manage your diabetes, you'll use a meter to check your blood sugar level. There are many different kinds of meters and all require a blood sample. Your diabetes team will instruct you on how and when to check your blood sugar.



I should check my blood sugar _____ times a day.

Keeping a blood sugar log

A blood sugar log is a simple way to see how well YOU are controlling your diabetes. **Remember to use a log to note the important details that might have affected your blood sugar.** Some examples include skipping meals, being sick, being active, or feeling stressed.

Bring your blood sugar log with you to all of your doctor appointments. It can help your doctor and other members of your healthcare team make adjustments to your treatment plan, if needed. This may involve making changes in what you eat, what medications you take, or how much you exercise.



Keep In Mind

There are no “good” or “bad” numbers. They just help you understand how to stay in your target range more often, so that your diabetes remains in control.

Blood sugar log example

DATE	BREAKFAST	LUNCH	DINNER	BEDTIME	NOTES

Hyperglycemia (High Blood Sugar)

High blood sugar happens when there is too much sugar in your blood. Over time, it can cause serious health problems. High blood sugar can happen if you:

- Skip a dose of insulin or diabetes pills
- Eat more than usual
- Are less active than usual
- Are under stress or sick

If you feel any of these symptoms, check your blood sugar.



Very thirsty



Need to urinate a lot



Sleepy



Nauseous (upset stomach)



Dizzy



Blurry vision



Fast breathing



Slow healing



Steps to lower your blood sugar

1. Drink plenty of sugar-free, caffeine-free liquids such as water. Don't drink fruit juice.
2. Check your blood sugar every 4 hours. If you take insulin or diabetes medications, follow your sick-day plan for taking medication. If you are not able to eat, call your healthcare provider.
3. Check your blood or urine for ketones as directed.
4. **If your blood sugar does not return to your target range, call your healthcare provider right away.**

Hypoglycemia (Low Blood Sugar)

Low blood sugar can be caused by missed meals, certain diabetes medicines, or increased activity.

If you feel any of these symptoms, check your blood sugar.



Dizzy



**Nauseous
(upset stomach)**



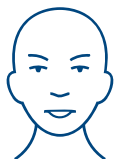
**Nervous
or anxious**



Confused



Sleepy



Grouchy



Hungry



Sweaty



Shaky



Fast heartbeat



Steps to raise your blood sugar

1. If your blood sugar is 70 mg/dl or lower, follow one of the quick treatments below. A quick treatment has 15 grams of concentrated carbohydrate designed to raise your blood sugar.
 - 4 glucose tablets
 - 1 tube of glucose gel
 - ½ can of regular soda (not diet)
 - ½ cup of fruit juice
 - 5-6 pieces of hard candy
 - 1 tablespoon of sugar or honey
2. After a quick treatment, wait about 15 minutes and check your blood sugar again.
3. If your blood sugar is still below 70 mg/dl, repeat step 2. Check again after another 15 minutes.
If it's still too low, call your healthcare provider right away.
4. Once your blood sugar is above 70 mg/dl, eat a small snack if your next planned meal is over an hour away.

Taking Medication for Diabetes

Some people can control type 2 diabetes with lifestyle changes such as diet and exercise, however most people with type 2 diabetes take at least 1 oral medication.

Medications can't cure diabetes. But they can delay or prevent health complications by helping you manage your blood sugar. There are medications you take by mouth and others that are injected. They work on different parts of the body that use insulin (liver, intestines, muscles, brain).

Some medications help with insulin resistance, and other medications cause the pancreas to make more insulin. Some people need to take insulin injections when the pancreas cannot produce enough insulin.



It is important to learn the names of your medications, the doses, when to take them, and their side effects. Discuss your medications with your provider and let them know if you have side effects such as low blood glucose.

What are my diabetes medications?	How often do i take them?

Diabetes Medications

Oral (by mouth) Medications	Purpose
Metformin, Actos®	• Helps to lower the amount of sugar (glucose) made by the liver • Helps muscle cells make better use of the body's insulin
Januvia®, Tradgenta®	• Helps the pancreas produce more insulin • Helps lower the amount of sugar made by the liver
Glimepiride, glyburide, glipizide	• Helps the pancreas produce more insulin
Farxiga®, Invokana®, Jardiance®	• Lowers the amount of sugar the kidneys keep in the body

Injected Medications	Purpose
Victoza®, Trulicity®, Ozempic®, Mounjaro® **Oral GLP-1: Rybelsus®, Wegovy®	• Helps your body produce more insulin when it is needed • Reduces the amount of sugar being produced by the liver when it is not needed • Slows down the speed your stomach digests food and empties, which slows the release of glucose into your blood • Reduces appetite and the amount of food you eat
Insulins (Novolog®, Humalog®, Apidra®, Fiasp®, Admelog®, Lyumjev®, Lantus®, Basaglar®, Tresiba®, Toujeo®, regular, NPH, Novolog® 70/30, Novolin® 70/30)	• Replaces the insulin made naturally by your body in your pancreas • Helps to decrease the amount of sugar made by your liver • Helps to move glucose from the bloodstream into your muscles and fat where glucose is used for energy

Eating Right with Diabetes

Following the right meal plan can help control the amount of sugar in your blood. It can also help you control your weight.



Quick Tips for Eating Right

1. You don't have to give up all the foods you like, but you may need to eat smaller amounts of some foods.
2. Eating balanced meals with vegetables, fruits, lean meats, and whole grains will help control your blood sugar.
3. Eat your meals and snacks at about the same time each day.
4. Try not to skip meals.

Learn About Carbohydrate, Protein and Fat

Foods usually fit into one of three main nutrient categories: carbohydrate, protein, or fat. Carbohydrates turn to sugar within 2 hours of eating. In small portions, protein and fat have little impact.

1

Carbohydrate

Carbohydrate foods include starch like breads and pastas, sugar, fruit, juice, milk and yogurt. All carbohydrates turn into sugar. Carbohydrates are our bodies preferred fuel source for energy.

2

Protein

Protein foods include meat, poultry, fish, eggs, cheese and soy. Protein is important for building and repairing muscles and bones. Choose lean protein sources, such as fish, egg whites, and skinless chicken.

3

Fat

Fat foods include oil, butter or margarine, mayo, salad dressing, and nuts. When you have diabetes, it's important to control your weight and protect your heart. One way to do this is to control your intake of high fat foods.

Counting Carbohydrates

A serving of carbohydrate (carbs) contains 15 grams. For example:



1 slice of whole grain bread = 1 serving = 15 grams of carbohydrate



1 small apple = 1 serving = 15 grams of carbohydrate



1 cup milk = 1 serving = 15 grams of carbohydrate

- 1 serving of carbohydrate = 15 grams
- 2 servings of carbohydrate = 30 grams
- 3 servings of carbohydrate = 45 grams
- 4 servings of carbohydrate = 60 grams

Carb Goals:

_____ grams of carbs for each meal

_____ grams of carbs for each snack

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 240mg	6%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

Source: FDA



Carbohydrate Serving Size Guide

Starch Serving: 15 grams	Fruit Serving: 15 grams
Bagel, 1 oz (1/4 of a large) Baked beans, 1/3 cup Bean, split pea or lentil soup, 1/2 cup Biscuit, 2" small Bread, 1 slice (1 oz) Broth, cream or tomato-based soup, 1 cup Bun, hot dog or hamburger, 1/2 (1 oz) Cereal, bran or shredded wheat, 1/2 cup Cereal, granola, 1/4 cup Chips, large restaurant tortilla, 7 chips Chips, regular, 9-13 chips Corn, 1/2 cup or 1/2 5-6" cob Cornbread, about 2" square Couscous cooked, 1/3 cup Crackers, 6 saltine type Dried beans, peas and lentils cooked, 1/2 cup English muffin, 1/2 French bread, sub roll, 2 inches Graham crackers, 1 1/2 sheet or 3 squares Green peas, 1/2 cup Grits cooked, 1/2 cup Gumbo, 1 cup Oatmeal cooked, 1/2 cup Pancake or waffle, 4" across, 1 Pasta, whole wheat or white, cooked, 1/3 cup Pasta sauce, 1/2 cup Pita bread (6 inch), 1/2 Popcorn, 3 cups Potatoes, 1/2 cup (mashed) or 3 oz (baked) Pretzels, 3/4 oz (12 small or 6 large) Pumpkin, no added sugar, 1 cup Rice, white or brown, cooked, 1/3 cup Roll, 1 oz (1 plain, small) Taco shell (5 inch), 2 Tortilla (6 inch), 1 Winter squash cooked (acorn or butternut), 1 cup Yam, sweet potato cooked, 1/2 cup	Apple, 1 (4 oz) Applesauce, unsweetened, 1/2 cup Banana, 4 oz (1/2 large or 4 inches) Blackberries or blueberries, 3/4 cup Canned fruit, unsweetened, 1/2 cup Cantaloupe, 1 cup cubed (11 oz) Cherries, 12 (3 oz) Dried fruits, 2 Tbsp Figs, 2 (3 1/2 oz) Fresh fruit (round), 1 hand-sized or tennis ball size Fresh fruit (diced or cut up), 1/2 cup Fruit juice, 3-4 oz Grapes, 17 (3 oz) Grapefruit, 1/2 (11 oz) Honeydew melon, 1 cup cubed (10 oz) Kiwi, 3 1/2 oz Mango, 1/2 cup (5 1/2 oz) Nectarine, 1 (5 oz) Orange, 1 (6 1/2 oz) Peach, 1 (6 oz) Pear, 1 (4 oz) Pineapple, 3/4 cup Plum, 2 (5 oz) Raspberries, 1 cup Strawberries, whole berries, 1 1/4 cup Watermelon, 1 1/4 cups cubed (13 1/2 oz)
	Milk Serving: 12 grams
	Chocolate milk, 1/2 cup Dry milk, 1/3 cup Eggnog, 1/2 cup Evaporated milk, 1/2 cup Milk, buttermilk, or soy milk, 1 cup (8 oz) Yogurt, plain, unsweetened, 1 cup (8 oz)

Non-Carbohydrate Serving Size Guide

Non-starchy Vegetables	Meat/Protein
Artichoke Asparagus Baby corn Bamboo shoots Beans (green, wax, Italian) Bean sprouts Beets Broccoli Brussels sprouts Cabbage Carrots Cauliflower Celery Cucumber Eggplant Green onions or scallions Greens (collard, kale, mustard, turnip) Hearts of palm Leeks Mirliton Mushrooms Okra Onions Pea pods Peppers Radishes Rutabaga Salad greens Sauerkraut Spinach Squash (summer/yellow) Sugar snap peas Tomato Tomato sauce Turnips Water chestnuts Zucchini	Bacon (center cut) Beef (90-95% lean, choice, select, ground round, round, sirloin, tenderloin) Beef jerky Cottage cheese Cheese (feta, mozzarella, reduced-fat cheeses, string) Chicken (skinless, boneless) Egg, egg substitutes, egg whites Fish Game (buffalo, ostrich, rabbit, venison/deer) Hot dog (3 grams of fat or less per oz) Lamb (chop, leg, or roast) Luncheon meats (deli thin-sliced meats, turkey ham) Pork (Canadian bacon, rib or loin chop/roast, ham, tenderloin) Roast (chuck, loin, rib, round, rump) Sausage (5 grams of fat or less per oz) Shellfish Steak (cubed, filet, flank, porterhouse, sirloin, T-bone) Tofu (light) Veal (loin chop, roast)
	Fats
	Avocado Butter* Cream* Coconut* Cream cheese* Lard* Margarine Mayonnaise Nuts, nut butters† Oil (canola, olive, peanut)† Olives† Salad dressing Seeds† Shortening, solid* Sour cream*

***Limit eating these foods that are high in saturated fat.**

†These foods are considered "good" or monosaturated fats.

Sensible Snacking

Snacks can be an important part of a balanced, healthy meal plan. They allow you to eat more frequently, feeling full and satisfied throughout the day. Also, they allow you to spread carbohydrates evenly, which may stabilize blood sugars. Plus, snacks are enjoyable!

Snack amounts and timing of snacks can be individualized. Talk to your diabetes educator for recommendations.



Snacks with 0-5 grams carbs	Snacks with 15 grams carbs
Hard boiled egg Crystal Light®, Vitamin Water®, Powerade Zero® Herbal tea, unsweetened 8 oz unsweetened almond milk 2 tsp peanut butter on celery 1/2 cup sugar-free Jell-O 1 sugar-free ice pop Non starchy vegetables such as carrots or celery sticks with low-fat dressing 1/2 oz low-fat cheese or string cheese 1 closed handful of nuts or tbsps of seeds, unsalted	1 small piece of fruit or 1/2 banana or 1/2 cup light canned fruit 3 graham cracker squares 3 cups popcorn 5 vanilla wafers 1/2 cup low fat, no added sugar ice cream or frozen yogurt 1/2 turkey, ham, or chicken sandwich 1/2 cup fruit with 1/2 cup of cottage cheese 4-6 unsalted wheat crackers with 1 oz low fat cheese or 1 tbsp peanut butter 30 Goldfish® crackers 7-8 mini rice cakes 1/3 cup hummus dip with raw vegetables 1/2 whole wheat pita, 1 tbsp hummus Mini pizza (1/2 whole wheat English muffin, low-fat cheese, tomato sauce) 100 calorie snack pack 4-6 oz light yogurt 1/2 cup sugar-free pudding



Create Your Plate with The Plate Method

Choose the foods you want but change the portion sizes.

The Plate Method is an easy and effective way to change the amount of food you are already eating. Begin with filling half your plate with non-starchy vegetables. Then add smaller portions of starchy foods and meats. Once you've changed your portion sizes, you can work on making healthier food choices from each food group.



**Carbs raise
blood sugar.**

**Protein slightly raises
blood sugar when eaten
in large amounts.**

**Non-starchy
vegetables have little
effect on blood sugar.**



See the next page for sample meal plans!

Sample Meal Plan #1: Carbohydrate Counting: 30-45 grams PER MEAL **Snacks:** 15-20 grams PER SNACK (no more than 3 per day)

BREAKFAST <i>Carb: 2-3 servings Protein: 1-2 oz Fat: 1-2 servings</i>	LUNCH <i>Carb: 2-3 servings Protein: 3-4 oz Vegetable: 1-2 servings Fat: 1-2 servings</i>	DINNER <i>Carb: 2-3 servings Protein: 3-4 oz Vegetable: 1-2 servings Fat: 1-2 servings</i>
1 slice wheat toast 1/2 banana 1 cup skim milk 1 egg coffee/tea + artificial sweetener	1/2 cup light canned fruit 12 saltine crackers 1/2 cup low-fat cottage cheese 1 cup salad + low-fat dressing sugar-free drink or water	1/2 cup corn 1 small roll + light margarine 1 cup green beans 3 oz skinless chicken breast sugar-free drink or water
1 cup oatmeal 1 cup skim milk 1 boiled egg coffee/tea + artificial sweetener	tuna salad sandwich (2 slices bread , lettuce, tomato) 1 small orange sugar-free drink or water	1 cup mashed potatoes 1/2 cup light canned fruit 1 cup steamed asparagus 3 oz grilled sirloin steak sugar-free drink or water
1/2 cup grits 1 cup cantaloupe cubed 1 cup skim milk coffee/tea + artificial sweetener	1 medium baked potato + margarine 3/4 cup fresh pineapple 3-4 oz chicken breast 1 cup steamed vegetables sugar-free drink or water	1 cup spaghetti noodles 1/2 cup lean ground beef + tomato sauce 2 tbsp Parmesan cheese 1 cup tossed salad + light dressing sugar-free drink or water
2 slices toast + sugar-free jelly 1/2 cup orange juice 1 scrambled egg coffee/tea + artificial sweetener	3 oz hamburger (lean ground meat, small hamburger bun , lettuce, tomato, light mayo) 15-20 baked chips sugar-free drink or water	3 oz broiled center-cut pork chop 1/2 cup black eyed peas 1/3 cup rice 1 cup unsweetened fruit salad sugar-free drink or water
1 English muffin 1 scrambled egg 1 cup skim milk 2 slices lean ham coffee/tea + artificial sweetener	turkey sandwich (2 slices bread , lettuce, tomato) 1/2 banana tomato and cucumber salad + 1 tbsp fat-free dressing sugar-free drink or water	3 oz grilled fish 1 medium baked potato 1 cup steamed broccoli 1 sugar-free pudding cup sugar-free drink or water
3/4 cup corn flakes 1 cup skim milk 1/2 banana coffee/tea + artificial sweetener	beef and broccoli stir fry 1 cup steamed brown rice sugar-free drink or water	meat loaf 1/2 cup mashed potatoes 1/2 cup green beans green salad + fat-free dressing sugar-free drink or water

Bold blue = Carb item

Sample Meal Plan #2: Carbohydrate Counting: 45-60 grams PER MEAL **Snacks:** 15-20 grams PER SNACK (no more than 3 per day)

BREAKFAST <i>Carb: 3-4 servings Protein: 1-2 oz Fat: 1-2 servings</i>	LUNCH <i>Carb: 3-4 servings Protein: 3-4 oz Vegetable: 1-2 servings Fat: 1-2 servings</i>	DINNER <i>Carb: 3-4 servings Protein: 3-4 oz Vegetable: 1-2 servings Fat: 1-2 servings</i>
2 slices wheat toast 1/2 banana 1 cup skim milk 1 egg coffee/tea + artificial sweetener	1/2 cup light canned fruit 12 saltine crackers 1/2 cup low-fat cottage cheese 1 cup salad + low-fat dressing sugar-free drink or water	1 cup corn 1 small roll + light margarine 1 cup green beans 3 oz skinless chicken breast sugar-free drink or water
1 cup oatmeal 1 cup skim milk 1 slice toast 1 boiled egg coffee/tea + artificial sweetener	tuna salad sandwich (2 slices bread , lettuce, tomato) 15-20 baked chips 1 small orange sugar-free drink or water	1 cup mashed potatoes 2 inch square cornbread 1/2 cup light canned fruit 1 cup steamed asparagus 3 oz grilled sirloin steak sugar-free drink or water
1 cup grits 1 cup cantaloupe cubed 1 cup skim milk coffee/tea + artificial sweetener	1 medium baked potato + margarine 1 small corn on the cob 3/4 cup fresh pineapple 3-4 oz chicken breast 1 cup steamed vegetables sugar-free drink or water	1 cup spaghetti noodles 1/2 cup lean ground beef + tomato sauce 1 slice bread 2 tbsp Parmesan cheese 1 cup tossed salad + light dressing sugar-free drink or water
2 slices toast + sugar-free jelly 1/2 cup grits 1/2 cup orange juice 1 scrambled egg coffee/tea + artificial sweetener	3 oz hamburger (lean ground meat, small hamburger bun , lettuce, tomato, light mayo) 15-20 baked chips 1 small orange sugar-free drink or water	3 oz broiled center-cut pork chop 1 cup black eyed peas 1/3 cup rice 1 cup unsweetened fruit salad sugar-free drink or water
1 English muffin 1 scrambled egg 1 cup skim milk 1 cup cubed melon 2 slices lean ham coffee/tea + artificial sweetener	turkey sandwich (2 slices bread , lettuce, tomato) 15-20 baked chips 1/2 banana tomato and cucumber salad + 1 tbsp fat-free dressing sugar-free drink or water	3 oz grilled fish 1 medium baked potato 1 small corn on the cob 1 cup steamed broccoli 1 sugar-free pudding cup sugar-free drink or water
1 1/2 cup corn flakes 1 cup skim milk 1/2 banana coffee/tea + artificial sweetener	beef and broccoli stir fry 1 cup steamed brown rice sugar-free drink or water	meat loaf 1 cup mashed potatoes 1 cup green beans green salad + fat-free dressing sugar-free drink or water

Bold blue = Carb item

Physical Activity

Being active helps lower your blood sugar. It does this by helping your body use insulin to turn food into energy.

Activity also helps you manage your weight. Current American Diabetes Association recommendations are to participate in 150 minutes of physical activity per week. For example, 30 minutes of exercise 5 days per week would meet these recommendations.

- Your healthcare team will work with you to create an activity program that's right for you.
- Your activity program will be based on your age, general health, and what type of activity you like to do.



Getting More Activity Into Your Day

Being more active doesn't have to be hard work. Try these to get more activity into your day:

- Take a 10-minute walk around the block at lunch.
- Walk the dog after dinner.
- Walk to a bus stop a little farther from your home or office.
- Walk to talk to a co-worker instead of calling.
- Walk with a partner or friend.
- Take the stairs instead of the elevator.
- Garden, do housework, and yard work.
- Choose a parking space farther from the store.
- Do armchair exercises.



The Importance of Diabetes Care

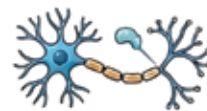
If not managed properly, diabetes can have long-term complications.



Stroke



Vision loss



Nerve pain



Kidney failure



Heart attack



Foot infections

Blood Pressure and Cholesterol Goals

Keeping your blood pressure in a healthy range does more than protect your heart. It also helps control your blood sugar and protects your kidneys.

Most doctors recommend these blood pressure goals:

- Most adults: below 130/80 mmHg
- Adults with high heart or kidney risk: below 120 mmHg
- Adults with complex health needs: below 140/90 mmHg

Understanding Your Lipid Panel

A lipid panel checks the fats in your blood. Some fats protect your body's cells. Other fats can build up and cause health problems. **Keeping the right balance lowers your risk of complications.**

Fats to keep low

LDL cholesterol

- Average risk: below 100 mg/dL
- High risk: below 70 mg/dL
- Very high risk or a past heart problem: below 55 mg/dL

Triglycerides

- Below 150 mg/dL

Fats that help your heart

HDL cholesterol

- Men: above 45 mg/dL
- Women: above 55 mg/dL



Smart Food Choices Can Help Your Heart

In addition to medication, smart food choices can help balance the fats in your blood and support your heart health.



Eliminate Trans Fats



Reduce Saturated Fats



Increase Unsaturated & Monounsaturated Fats

- Reduce fried foods and fatty processed meats like salami, sausage and bacon.
- Trim excess fats from roasts, pork chops and steak before cooking.
- Limit chicken skin.
- Use cooking sprays for quick meals.
- Choose healthier oils like avocado oil and olive oil.
- Eat at least 1 serving of nuts per day.
- Increase omega-3 fatty acids by eating tuna, salmon, cod, mackerel, sardines and anchovies. Flaxseed, chia seeds, hemp seeds and walnuts are also good sources of omega-3 fatty acid.



Cardiovascular Disease

Cardiovascular disease (CVD) affects the heart and blood vessels and is the leading cause of death in people with diabetes. A big misunderstanding about CVD is that it's just about the heart. Your vascular system includes your heart and all the blood vessels that carry blood through your body.

In severe cases, blocked blood vessels can cause a heart attack or stroke. Other vascular diseases affect the arteries or veins in your legs.



What to Watch For

- Shortness of breath
- Fatigue or tiredness
- Pain in your chest, neck, throat, jaw, back, upper belly, arms or legs
- Weakness, numbness or pain in your legs

Heart Failure

Heart failure is a type of cardiovascular disease that happens when changes in the heart muscle weaken the heart's ability to pump blood. This means the heart can't pump enough blood to the rest of the body. In addition to diabetes, coronary heart disease and high blood pressure can lead to heart failure.

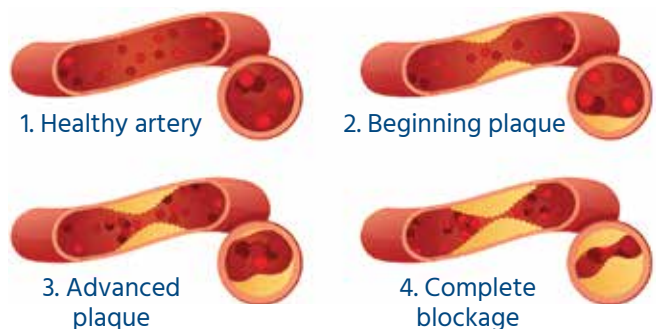
Arrhythmias

Changes or damage to the heart's structure can disrupt the electrical signals that keep it beating. This disruption causes arrhythmia, or an irregular heartbeat. Severe arrhythmias can lead to cardiac arrest, a sudden stop in effective blood flow that can cause sudden death.

Atherosclerosis

Blood vessel walls can thicken over time. When this happens, the once-flexible tubes narrow and blood flow slows down. Fatty plaques build up inside the vessels and can eventually block them completely, causing a heart attack or stroke.

Atherosclerosis Stages



Diabetic Retinopathy

Early screening is key to saving your eyesight.

Diabetic retinopathy is the leading cause of blindness in working-age Americans. If you have diabetes, you are at risk for this condition. This is because the excessive amount of sugar in your blood stream can damage the small blood vessels in the retina.

Often there are no signs of retinopathy until the eye damage is severe. In the early stages of the condition, there may be no effect on your sight. However, if the changes get worse and are not treated, eventually your sight will be affected and the damage cannot be repaired. This is why a screening every year is very important.

How is the retina examined?

Your diabetes care team recommends a yearly screening of your eyes to prevent retinopathy. Screening means examining your eyes regularly to detect the specific changes that could soon affect your sight. Ochsner has a special camera capable of taking photographs of your retina. The camera allows for quick screening images of the retina without having to dilate the eyes.

What happens during the screening test?

You will be seated in a dark room and given a few minutes for your eyes to adjust. Then you will look into the camera for the test. It takes about 15 minutes for the camera to take a picture of your retina. The entire process lasts up to 30 minutes. Once complete, the picture is read by an eye doctor, and the eye care team will set a follow-up appointment.

How often is the screening test needed?

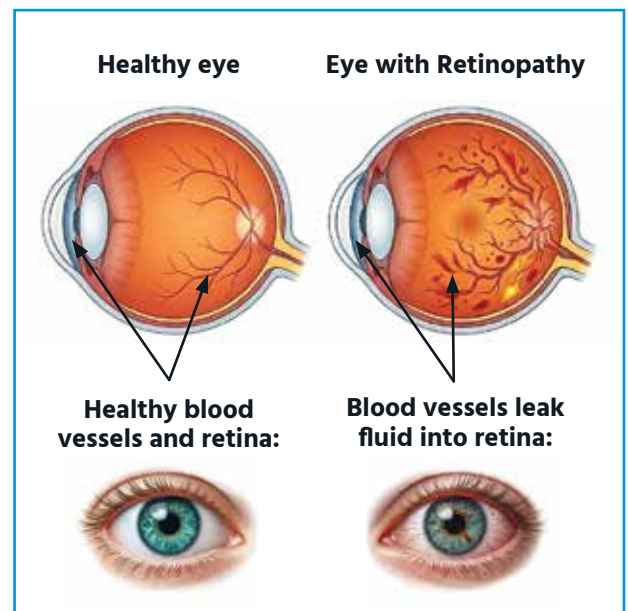
After first examination, screenings are done each year. If there is need for further treatment, your doctor will discuss those options with you.

Eye camera screenings are accepted by insurance companies. Please contact your insurance provider about coverage and co-payment information.



Did You Know?

Your retina is located in the back part of the eye. It changes light and images that enter your eye into nerve signals that are sent to the brain. This allows you to "see" things.



Chronic Kidney Disease

Chronic kidney disease (CKD) is a lifelong illness. It means your kidneys are damaged and cannot do their many jobs well. **It gets worse over time and cannot be reversed.**

What causes CKD?

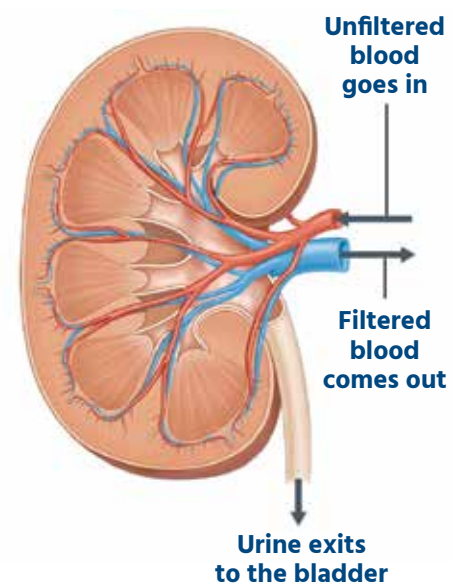
The most common risk factors for CKD in the United States are **diabetes** and **high blood pressure** (hypertension).



How does diabetes cause kidney damage?

When someone has diabetes, they may have really high blood sugar for a very long time. This really high blood sugar has to pass through the small kidney filters, which can hurt those filters over time.

For example, imagine what would happen if you tried to pour pancake syrup through a coffee filter. It would damage the filter and the syrup wouldn't flow properly. When you have high blood sugar, your blood becomes too sweet like syrup. This causes damage to your tiny kidney filters.



How is CKD diagnosed?

Two simple tests can tell if you have CKD. Your provider needs both to get a clear picture of how well your kidneys are working.

- **Blood test** – A small sample of blood is drawn from your arm and analyzed in a lab. (Your provider may order a comprehensive metabolic panel, a basic metabolic panel, or a renal function panel.)
- **Urine test** – After you provide a urine sample, a lab will analyze it to look for the amounts of certain proteins.



Did You Know?

90% of people with CKD do not know they have it! This is because most people don't have any symptoms.



Both the blood test and urine test are important. These two tests are the only way to really tell if you have early-stage kidney disease. Most people with early chronic kidney disease don't have symptoms. **Be sure to get your lab work done on time!**

What does the urine test show?

Your blood contains many proteins that have important jobs in the body. One blood protein is called albumin. Healthy kidneys do not allow proteins, like albumin, to pass into the urine. When kidneys are damaged, albumin and other blood proteins can start to leak through the small filters in the kidneys.

Protein in the urine is a sign of a damaged kidney. A lot of protein in the urine is a sign that your kidneys may get worse, faster. It also puts you at a higher risk of having issues with your heart and blood vessels (cardiovascular issues).

A few different tests can check for protein in your urine. Your provider might order one of these to check for protein in your urine

- Urinalysis
- Urine albumin-creatinine ratio (uACR)
- Urine protein-creatinine ratio (uPCR)

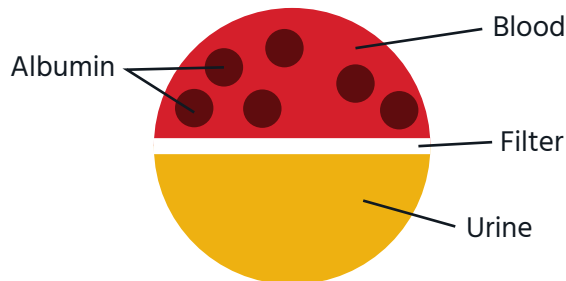


Did You Know?

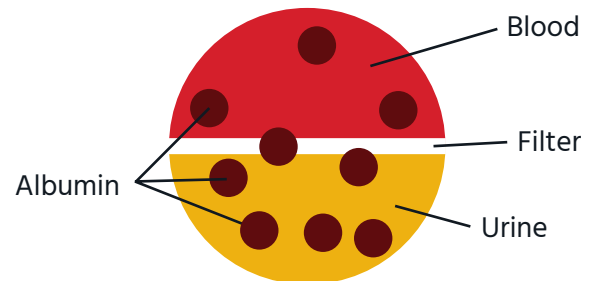
Protein in your urine does not come from protein you eat. No matter which test you have, protein in the urine is a sign of kidney damage.

A healthy kidney filters protein out so it doesn't end up in the urine. A damaged kidney leaks protein into the urine. Protein in the urine is a sign of kidney damage.

Inside a HEALTHY kidney



Inside a DAMAGED kidney



Urine may appear foamy.



The good news is that protein in the urine can be lowered using medications and by slowing down kidney damage.

Nerve Damage and Diabetes

High blood sugar over a long time can damage your nerves. This is called nerve damage, and it often affects your feet first. You may feel numbness, tingling or a burning feeling.

Nerve damage can be hard to diagnose because symptoms vary from person to person. It can also be hard to manage once it starts. **The best way to protect your nerves is to keep your blood sugar under control.**

Foot Care Guidelines



Check Your Feet DAILY!

Use good lighting and a mirror to see all parts of your foot including between the toes. Ask someone else to help if you cannot see clearly. Check closely for:

- cracks, blisters or sores
- corns or calluses
- swelling, redness, warmth
- thick, long nails
- drainage
- changes in skin color



Skin Care

- Use warm water, not hot.
- Test the temperature of your bath water before you get in with your hands or elbow, not your feet!
- Use mild, unscented soap.
- Pat dry and take time to dry very well between your toes.
- Apply unscented lotion on your feet—don't apply lotion between your toes.
- Don't soak your feet for prolonged periods of time.
- Don't use heating pads, hot water bottles or blow dryers on or around your feet.
- If you have loss of sensation, don't trim your own calluses or corns.

Nail Care

We recommend that people who have diabetes with loss of sensation (neuropathy) do not clip their own toenails. You may use a nail file or emery board to keep nail length under control, if needed, in between routine visits to your podiatrist.

Footwear

- Try on shoes later in the day. Always have a protective sole to the footwear.
- Wear clean cotton socks, change them daily, smooth out wrinkles or wear “inside out.”
- Make sure nothing is in your shoe before you put it on.
- Wear new shoes 1-2 hours then switch to an old pair— increase wear time 1 hour each day.
- Don’t ever walk barefoot, indoors or out, day or night. Socks are NOT footwear.
- Don’t wear open toed, pointed, narrow toed or high heeled shoes if you have been diagnosed with loss of protective sensation.



Tell Your Team

If you have poor circulation or decreased sensation, you are at greater risk for foot problems. Report any new sensation of tingling, burning or numbness in your legs or feet. You should also report any pain, blisters, sores or changes in skin color.

REMEMBER to see your doctor and podiatrist regularly.

Diabetes Care Schedule

Every 3 Months	Date
Regular doctor’s office visit	
Hemoglobin A1c (HbA1c)	
Blood pressure check	
Weight check	
Foot check	
Every 6 Months	Date
Dental exam	
Every Year	Date
Physical check-up (exam) by your doctor	
Complete foot exam	
Check cholesterol and other body fats (lipid profile test)	
Complete (dilated) eye exam	
Flu shot	
Ask your doctor if you need a pneumonia vaccine	
Urine Micro Albumin	

Resources and Support

Websites for diabetes-specific information

- Ochsner Diabetes Management Program ochsner.org/diabetes
- Ochsner's "To Your Health" blog blog.ochsner.org
- Diabetes Self-Management diabetesselfmanagement.com
- American Diabetes Association diabetes.org

Recipes/Cookbooks

- eatingwell.com/recipes/17899/health-condition/diabetic
- *Trim and Terrific Diabetic Cooking* by Holly Clegg
- *The Diabetes Cookbook* by Gretchen Scalpi

Apps

- Ochsner Eat Fit
- Lose It! Calorie counter
- CalorieKing Food Search
- MyFitnessPal
- Calm



Exercise

- Ask about employee discounts at your local gym or discounts through your health insurance.

Stress Relief Ideas

- Journaling
- Painting or coloring
- Dancing
- Yoga
- Meditation



Call for Support

Diabetes Care & Education

504-842-0075 or 1-844-988-0075



1-866-OCHSNER | ochsner.org