TAKE THE JOURNEY
ACHIEVE HEART & VASCULAR WELLNESS
Know Your Numbers

You Can Learn a Lot About Your Heart with a Few Simple Numbers

When you know what numbers indicate a strong, healthy heart, you can set goals that reduce your risk for heart disease and stroke.

By knowing your numbers, you can:
• Set and reach your goals to prevent cardiovascular disease
• Manage and control risk factors
• Make healthier decisions with your health care provider
• Start your journey to a healthier lifestyle

<table>
<thead>
<tr>
<th>Value:</th>
<th>Goal:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cholesterol</td>
<td>Less than 200 mg/dL</td>
</tr>
<tr>
<td>LDL “bad” cholesterol</td>
<td>Less than 100 mg/dL if at high risk of heart disease</td>
</tr>
<tr>
<td></td>
<td>Less than 70 mg/dL if at VERY high risk of heart disease</td>
</tr>
<tr>
<td>HDL “good” cholesterol</td>
<td>Women: 50 mg/dL or higher</td>
</tr>
<tr>
<td></td>
<td>Men: 40 mg/dL or higher</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>Less than 150 mg/dL</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>Less than 120/80</td>
</tr>
<tr>
<td>Fasting glucose</td>
<td>Less than 100 mg/dL</td>
</tr>
<tr>
<td>Hemoglobin A1C</td>
<td>Less than 7%</td>
</tr>
<tr>
<td>Body mass index (BMI)</td>
<td>Less than 25 kg/m2</td>
</tr>
<tr>
<td>Smoking</td>
<td>Quit for good</td>
</tr>
</tbody>
</table>

List your starting numbers below.

Name: .................................................................

Today’s date: ...........................................................

Total cholesterol: ....................................................

HDL: .................................................................

LDL: .................................................................

Triglycerides: ........................................................

Blood pressure: ......................................................

Fasting glucose: ......................................................

Hemoglobin A1C: ......................................................

Body mass index (BMI): ..............................................

Smoking: ..............................................................

Risk ratio: .............................................................

Know Your Numbers
**Body Mass Index Tracking**

Body mass index (BMI) measures your weight in relation to your height. Use the BMI chart below to track and record your progress every three months for 24 months.

*For more information about BMI, see page 17.*

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### Record your BMI progress below.

<table>
<thead>
<tr>
<th>Date</th>
<th>BMI</th>
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<tbody>
<tr>
<td></td>
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</tbody>
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**BMI Chart**

<table>
<thead>
<tr>
<th>Height in Feet and Inches</th>
<th>Weight in Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>4'6</td>
<td>100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300</td>
</tr>
<tr>
<td>4'8</td>
<td>22 25 27 29 31 34 36 38 40 43 45 47 49 52 54 56 58 60 63 65 68 70 72</td>
</tr>
<tr>
<td>4'10</td>
<td>21 23 25 27 29 31 34 36 38 40 42 44 46 48 50 52 54 56 58 60 63 65 67</td>
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<tr>
<td>5'0</td>
<td>20 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63</td>
</tr>
<tr>
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<td>5'10</td>
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<tr>
<td>6'0</td>
<td>14 15 16 18 19 20 22 23 24 26 27 28 30 31 33 34 35 37 38 39 41 43 45 47 49 51</td>
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<td>6'6</td>
<td>12 13 14 15 16 17 19 20 21 22 23 24 25 26 27 28 29 30 31 32 34 35 37 39 40 42 43 45 47 49 51</td>
</tr>
</tbody>
</table>

- **Underweight**: < 18.5
- **Healthy Weight**: 18.5 – 24.9
- **Overweight**: 25 – 29.9
- **Obese**: 30 – 34.9
- **Severely Obese**: 35 – 39.9
- **Morbidly Obese**: > 40
Metabolic Syndrome

What is the metabolic syndrome?
The metabolic syndrome is characterized by a group of three risk factors. A diagnosis of “metabolic syndrome” is made if at least THREE of the following conditions are present:

- Abdominal obesity (excessive fat tissue in and around the abdomen with waist circumference above 40 inches for men and above 35 inches for women)
- Triglycerides above 150 mg/dL
- Reduced HDL (“good” cholesterol): less than 40 mg/dL for men, less than 50 mg/dL for women
- Elevated blood pressure above 130/85
- Fasting glucose level above 100 mg/dL

People with the metabolic syndrome are at increased risk of coronary heart disease and other disease related to plaque buildup in artery walls, including stroke and peripheral vascular disease. The metabolic syndrome has become more common in the United States and affects over 50 million Americans. Insulin resistance is an important cause of metabolic syndrome. This is why the metabolic syndrome is also called the insulin resistance syndrome.

Managing the Metabolic Syndrome

The primary goal of management of the metabolic syndrome is to reduce the risk for cardiovascular disease and diabetes. This includes stopping smoking, reducing LDL (“bad”) cholesterol, reducing blood pressure, and reducing glucose levels to the recommended levels.

In addition, it is vital to reduce weight to a goal BMI of less than 25 kg/m². Ways to achieve this goal include increased physical activity, with a goal of at least 30 minutes of moderate-intensity activity on most days of the week. In addition, healthy eating habits that include reduced intake of saturated fat, trans fat and cholesterol are recommended.
Uncontrolled risk factors of heart disease:
- Age
- Gender
- Family history

Controlled risk factors:
- High blood cholesterol
- High blood pressure
- Smoking
- Physical inactivity
- Being overweight
- Diabetes
Understanding Heart Disease

The heart is a muscle that pumps blood throughout the body. Like other muscles, the heart needs a steady supply of oxygen to function. Blood carries oxygen to the heart and the rest of the body through blood vessels called arteries. Sometimes a fatty material called plaque builds up in the arteries. This can narrow the arteries and inhibit the flow of blood and oxygen. Plaque buildup in the coronary arteries can lead to a heart attack.

Healthy vs. Unhealthy Arteries

Healthy arteries have flexible walls and smooth inner linings. Blood flows freely through them to deliver oxygen all over the body. Coronary arteries, which lie on the outside surface of the heart, deliver oxygen-rich blood to the heart muscle.

If an artery’s inner lining is damaged, cholesterol and other harmful fats in the blood can collect in the artery wall. This buildup forms plaque, which narrows the channel where blood flows. As a result, less blood can flow through. If plaque breaks open or a blood clot forms, the artery may be blocked entirely. With heart disease, these problems occur in the coronary arteries. Heart disease is also called coronary artery disease or CAD.

How Heart Disease Develops

Heart disease develops when plaque clogs or blocks one or more coronary arteries. These arteries carry oxygen-rich blood to your heart muscle.

Atherosclerosis develops in stages. First, medical conditions, poor lifestyle habits or other factors damage the walls of the coronary arteries. Cholesterol and other fatty substances in the blood collect on the damaged artery walls. The fatty substances build up, layer upon layer, and form a hard substance called plaque. The plaque buildup narrows the artery, decreasing or blocking the flow of blood.

What’s at Risk

Damage to a coronary artery causes less blood to flow to the heart muscle. The decreased blood flow may lead to chest pain, a common symptom of angina. When a coronary artery is blocked, oxygen-rich blood can’t reach the heart muscle beyond the block, and a heart attack occurs. If the muscle goes without oxygen for too long, that part of the heart muscle dies.

Arteries to the brain can become blocked. When this happens, part of the brain can’t get oxygen and is damaged, causing a stroke. Stroke can result in speech and memory problems, paralysis and even death.

If an artery that carries blood to the kidneys is blocked, the kidneys may be damaged.

The aorta is the body’s main artery. If this artery is damaged, the affected section can weaken and balloon out, which is called an aortic aneurysm.

If the arteries in the leg are clogged with plaque, you may have cramping or aching in your thighs, calves or buttocks when you walk. This is known as peripheral artery disease or PAD.
Initially, heart disease develops silently. You can’t see or feel plaque build up on the walls of your arteries. When the plaque buildup begins to affect the flow of blood to your body, the results can be serious.

The Effects of Heart and Vascular Disease
Symptoms of Angina and Heart Attack

Angina occurs when your coronary arteries are severely blocked. Although scary, angina does not cause permanent damage. A heart attack occurs when one or more coronary arteries are completely blocked. A heart attack causes permanent damage to the heart muscle and can be fatal.

How to know if it’s Angina or a Heart Attack

Angina Symptoms:
• Go away with rest
• Do not last more than 20 minutes
• Occur with exertion or excitement

Inform your physician if you have signs of angina.

Heart Attack Symptoms:
• Do not go away with rest
• Last more than 20 minutes
• May occur without activity or excitement

If a Heart Attack Has Occurred:
• An electrocardiogram (ECG), a medical device that graphically depicts the heart’s electrical activity history, will reveal abnormalities caused by damage to the heart
• A blood test will show abnormal levels of certain enzymes in the bloodstream
• A person with diabetes typically does not have the same chest pain symptoms as a non-diabetic

What is a Stroke?

A stroke occurs when a blood vessel carrying oxygen and nutrients to the brain becomes blocked or bursts. This prevents the brain from getting needed nutrients and oxygen.

Stroke Warning Signs:
• Numbness of the face, arm or leg; especially on one side of the body
• Difficulty seeing in one or both eyes
• Sudden confusion, trouble speaking or understanding
• Trouble walking, dizziness, loss of balance or coordination
• Severe headache with no known cause

Behavioral Effects:
• Depression
• Difficulty in problem-solving
• Personality changes

Call 911 immediately if you have symptoms of a heart attack or stroke.
To protect your heart, you must reduce the amount of saturated fat and cholesterol in your diet. Choose low-fat, low-cholesterol foods whenever possible.
Healthy Choices:

- Canola oil, olive oil, olives, avocado, nuts
- Non-fat or 1% milk; non-fat or low-fat yogurt
- Fresh fruits and vegetables, plain frozen vegetables
- Whole-grain bread, cereal, pasta, pretzels
- Fish*, white-meat chicken and turkey, dried beans, tofu, lean cuts of meat

*Children and pregnant women should avoid eating fish with the highest level of mercury contamination.

Low-Fat Cooking

- Broil, roast, bake, steam or microwave fish, chicken, turkey and lean cuts of red meat
- Remove the skin of chicken and cut the extra fat off meat before you cook it
- Brown meat under the broiler
- Use broth instead of fat
- Use nonstick pans or cooking sprays
- Steam or microwave vegetables, and serve with herbs or non-fat, butter-flavored seasoning

Eat Less Sugar

Research indicates that a diet high in sugar can increase your risk of heart disease. For a healthier heart, reduce the amount of sweets in your daily diet.

Choose:

- Fresh fruit
- Homemade dessert breads such as pumpkin, zucchini and cranberry
- Club soda, seltzer water or mineral water

Avoid:

- Sweet snacks and candy
- Store-bought pies, cookies and other packaged baked goods

Decrease Sodium and Salt

Sodium is in salt. It is used to flavor and preserve foods. In some people, sodium can contribute to high blood pressure. Choose and prepare foods with little or no salt. Aim to eat less than 2,300 milligrams of sodium per day.

Read Food Labels

On food labels, the section labeled Nutrition Facts will tell you how much sodium is in a product. Also, check the list of ingredients. Look for the words “salt” or “sodium.” If either word is listed at the beginning of the list or more than once, the food probably has a lot of sodium.

On a food label:

| Sodium free | Less than 5 mg of sodium per serving |
| Very low sodium | 35 mg or less of sodium per serving |
| Low sodium | 140 mg or less of sodium per serving |
| Reduced sodium | At least 25 percent less sodium per serving than the regular product |
| Light or lite | At least 50 percent less sodium per serving than the regular product |
| No salt added | No salt is added to a product that normally has salt added |

Eat More Fiber

A diet high in fiber can help lower your cholesterol. Adults need about 25 grams of fiber each day. Check the chart below to see how much fiber you’re getting in your diet.

Food:

<table>
<thead>
<tr>
<th>Fiber content: (in grams)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Food</th>
<th>Serving size:</th>
<th>Fiber content: (in grams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>1 small</td>
<td>3.1</td>
</tr>
<tr>
<td>Banana</td>
<td>1 medium</td>
<td>1.8</td>
</tr>
<tr>
<td>Raw carrot</td>
<td>1 medium</td>
<td>3.7</td>
</tr>
<tr>
<td>Green beans</td>
<td>1/2 cup</td>
<td>1.2</td>
</tr>
<tr>
<td>Orange</td>
<td>1 small</td>
<td>1.8</td>
</tr>
<tr>
<td>Shredded wheat</td>
<td>2 biscuits</td>
<td>6.1</td>
</tr>
<tr>
<td>Whole-wheat bread</td>
<td>1 slice</td>
<td>2.4</td>
</tr>
</tbody>
</table>
**Cholesterol** is a waxy substance in the blood made by the liver. Some cholesterol is needed for you to stay healthy, but when there’s too much in the blood, it can build up on the walls of blood vessels.

You may feel fine, even if you have high cholesterol. Over time, high cholesterol puts you at risk for heart disease, heart attack and stroke.

### Managing Cholesterol

**Cholesterol Testing**

Cholesterol can be checked with a simple blood test at your physician’s office, health fair, pharmacy or other location. A small blood sample is taken from your finger or arm. Depending on the type of test, you may need to avoid eating for several hours beforehand.

You should have your cholesterol checked as often as your physician or health care provider recommends. This may be every five years or more often, depending on your overall health.

**Healthy Targets:**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cholesterol</td>
<td>200 or lower</td>
</tr>
<tr>
<td>HDL</td>
<td>40 or higher</td>
</tr>
<tr>
<td>LDL</td>
<td>Lower than 100</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>Lower than 150</td>
</tr>
</tbody>
</table>

**Your Cholesterol Test Results**

- **Total Cholesterol:** This number is the total amount of cholesterol in your blood. The higher the number, the more likely it is that cholesterol is affecting your health.
  - **HDL:** Known as the “good” cholesterol, HDL carries excess cholesterol out of the blood.
  - **LDL:** Known as the “bad” cholesterol, it can stick to blood vessel walls, reducing or blocking blood flow.
  - **Triglycerides:** These are a type of fat in the blood. When needed, your body uses triglycerides for energy.
Choosing Between Fats

Healthier Fats
Monounsaturated fats lower LDL (bad) cholesterol. Mostly found in vegetable oils such as olive, canola and peanut oils, monounsaturated fats are also in avocados and some nuts.

Polyunsaturated fats lower total and LDL (bad) cholesterol. They are mostly found in vegetable oils such as corn, safflower and soybean oils. These fats are also found in some seeds, nuts and fish.

Unhealthy Fats
Saturated fats raise total and LDL (bad) cholesterol. These fats are in animal products such as meat, poultry, milk, lard and butter. They’re also found in coconut and palm oils.

Trans fats raise LDL (bad) cholesterol. Trans fats are in hydrogenated oils and are found in processed foods such as cookies, crackers and some types of margarine. Note: No trans fat means less than 0.5 grams trans fat per serving, even though hydrogenated oil is listed in the ingredients.

Start Eating Healthier
When shopping, compare food labels for low-fat, low-cholesterol choices. Buy fresh foods when you can. When eating out, check the menu for low-fat or heart-healthy options. Ask for dishes to be made with less fat. Order salad dressings on the side.

Choose:
• White-meat chicken and turkey without the skin
• Egg whites or egg substitutes
• Fat-free or low-fat milk and dairy products
• Whole-grain oatmeal flavored with fresh fruit
• Fresh fruit and veggies with low-fat dressing or hummus

Avoid:
• Red meats, especially high-fat cuts and organ meats
• Whole eggs with yolks
• Whole milk
• Packaged oatmeal flavored with sugar and salt
• Potato chips and dip

Cook in Healthier Ways
• Steam, microwave, broil, grill or bake food. Avoid frying
• Use nonstick sprays or cookware instead of butter or margarine
• Choose skinless chicken, turkey and fish. Trim extra fat before cooking
• Use olive or canola oil instead of lard, butter, margarine or shortening
• Replace each egg in a recipe with two egg whites
• Try fat-free, butter-flavored powders instead of butter
• Use reduced-fat salad dressings and mayonnaise

Medication for High Cholesterol
Healthy eating and exercising are excellent ways to lower cholesterol. However, you may need something more. Your physician may describe medication, which you should take just as prescribed.

• Follow the directions on when and how often to take the medication
• Tell your physician about any other medications, herbs or supplements you are taking now
• Remember to take your medication. Don’t skip a dose, even if your cholesterol goes down
• Take your medication with a glass of water. Ask if your medication needs to be taken with food
• Call your physician if you have side effects. You should never stop taking your medication without your physician’s approval
High blood pressure has no symptoms, but it can cause serious, often dangerous, health problems. By learning how to manage high blood pressure, you can protect your health.

**Blood pressure** is the force of blood against the artery walls. High blood pressure means the force is too strong, also meaning the heart is working extra hard to move blood. Over time, high blood pressure can damage the heart, blood vessels, eyes and other organs. Controlling your blood pressure can help prevent this damage.

**Healthy Targets:**
- Systolic pressure less than 120
- Diastolic pressure less than 80
Checking Your Blood Pressure

You can have your blood pressure checked at your physician’s office or at a health fair or you can even check it yourself at home. As a cuff is inflated around your arm, your blood pressure is measured as your heart pumps and between beats.

What the Numbers Mean

A blood pressure check gives two numbers, one over the other. If either the top or bottom number is consistently about what is considered normal, you may have high blood pressure.

The top number is pressure when the heart beats (systolic). The bottom number is the pressure when the heart is at rest (diastolic). Ask your physician or health care provider what blood pressure numbers are healthy for you.

Lifestyle Factors for High Blood Pressure

Certain lifestyle factors can increase the risk of high blood pressure and heart problems. The key to a healthier you is to change as many of these risk factors as you can.

• Choose foods that are low in salt and saturated (animal) fat
• Get plenty of exercise. Make your goal 30 minutes of activity every day
• Maintain a healthy weight
• Don’t smoke. Limit alcohol to two drinks per day

Risk Factors for High Blood Pressure

If you have any of these risk factors, you should make extra efforts to lower your blood pressure:

• Your parent, brother or sister has high blood pressure or heart disease
• You have diabetes, heart disease or kidney disease

Medication for High Blood Pressure

Your physician may prescribe medication to help lower your blood pressure. Some types of blood pressure medications act on the heart and blood vessels; others remove excess fluid or salt from the body. Your physician will choose the best medication(s) for you. Be sure to continue with all parts of your treatment plan while taking the medication.

Taking Medication Properly

• Be sure to take your medication at the same time each day
• Write yourself notes, use an alarm or keep your pills by your toothbrush to remember to take them
• Ask your physician what you should do if you miss a pill
• Never stop taking your medication unless your physician tells you to stop. Stopping on your own could be harmful

Checking Your Blood Pressure at Home

You can check your own blood pressure with an in-home blood pressure monitor.

• Read and follow the blood pressure monitor instructions carefully
• Sit and relax for a few minutes
• Take your blood pressure. Wait five minutes, then take it again on the same arm
• Keep a log of your results
The Risks of Being Overweight

Extra pounds can put you at higher risk of many health problems. These include:

- Type 2 diabetes
- High blood pressure
- Some types of cancer
- Liver disease
- Heart disease and stroke
- Gallbladder disease
- Sleep apnea (breathing stops for short periods during sleep)
- Osteoarthritis (wearing away of the joints)

Determining Your Weight

Two simple methods are often used to measure the exact amount of a person's body fat.

Waist Circumference

If you carry fat primarily around your waist, you are more likely to develop health problems than if you carry fat mainly in your hips and thighs. Women with a waist measurement of more than 35 inches, or men with a waist of more than 40 inches, may have a higher disease risk than people with smaller waist measurements.

To measure your waist circumference, place a tape measure around your bare abdomen, just above your hipbone. Be sure that the tape is snug but does not compress your skin and is parallel to the floor. Relax, exhale and note the number.
Body Mass Index (BMI)

Body mass index or BMI measures your weight in relation to your height. It is a reliable indicator of total body fat for both men and women, but it does have some limits. It may overestimate body fat in athletes and others who have a muscular build. It may underestimate body fat in older persons and others who have lost muscle mass.

**Calculate your BMI using the chart above**

Find your height on the vertical scale and your weight on the horizontal scale. Your BMI range is where these lines cross. The higher your BMI is above 25, the greater chance you may have of developing health problems.

If your BMI is 25 or above, you should lose some weight. Even losing 10 pounds can make a difference in your health. Talk with your physician about weight loss goals that are safe and realistic for you. Losing as little as 5 to 15 percent of your body weight over a six-month period or more can go far in improving your health. For example, if you weigh 200 pounds, losing 5 percent means losing 10 pounds.

Avoid Fad Diets

With strict dieting, you may take weight off fast, but you’ll likely put the pounds back on. This is the healthy way to reduce your weight:

**Change What You Eat**
- Eat fewer calories
- Eat as little fat as possible, especially saturated fats

**Change How You Eat**
- Eat when you’re hungry, not when you’re tired, stressed, lonely or bored
- Don’t skip meals. If you’re not hungry, eat less, but eat something
- Make breakfast or lunch your main meal and eat a light dinner

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Underweight

Healthy Weight

Overweight

Obese

Severely Obese

Morbidly Obese

<table>
<thead>
<tr>
<th>Weight in Pounds</th>
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<td>6'6 12 13 14 15 16 17 19 20 21 22 23 24 25 27 28 29 30 31 32 34 35</td>
</tr>
</tbody>
</table>
Exercise may be the most important risk factor to consider in the promotion of cardiovascular health. People who exercise regularly are better able to control other risk factors including diabetes, blood pressure, cholesterol, obesity, and stress.
Exercise Regularly

Less than 60% of Americans are not regularly active and 25% report they are not active at all. Lack of knowledge about the benefits of exercise and perceived shortage of time are two of the many reasons why some choose not to exercise and, as a result, significantly increase their risk of cardiovascular disease.

Activity vs. Exercise

Many people think that walking around the grocery store or shopping at the mall is “exercise”. Because of this misconception, it is important for us to define the difference between activity and exercise. Activity is defined as the state of being active, and exercise is defined as activity that requires physical exertion especially when performed to develop or maintain fitness.

Starting an Exercise Program

MD approval

- Talk to your physician if a maximal stress test is appropriate for you
- After a heart attack or stroke, physical therapy or cardiac rehab is recommended. Talk to your physician for more information.

Four components of exercise

- Cardiovascular and pulmonary fitness – large muscle group activities (walking, swimming, bicycling) that require your heart, vessels, and lungs to work together to deliver oxygen to your body
- Flexibility – range of motion of a joint
- Muscular endurance – ability to lift light loads many times
- Muscular strength – ability to lift a heavy load one time

Benefits of Exercise

- Prevent and manage cardiovascular disease
- Prevent plaque build-up in the arteries
- Improve circulation
- Reduce blood clot formation
- Control blood pressure
- Manage angina and claudication
- Improve breathing and oxygen use
- Decrease shortness of breath
- Deliver more oxygen to the heart and muscles
- Strengthen muscles
- Make daily activities easier
- Strengthen the heart muscle
- Improve flexibility, balance, and general coordination
- Strengthen bones
- Increase bone density and strength
- Decrease chances of breaking bones
- Help prevent osteoporosis
- Decrease anxiety and depression
- Increase feelings of control
- Increase release of endorphins, which may improve your mood
- Promote relaxation and sleep
- Decrease fats in the blood and body
- Improve appetite control and weight
- Decrease overall body fat
- Help control lipid levels
- Boost immune system
- Promote the healing process
- Strengthen ability to recover from illness
- Increase resistance to illness
Creating Your Exercise Program

There are four components of an exercise program: mode, frequency, duration and intensity.

- **Mode** – type of exercise you choose to do. Examples of different modes of exercise are walking, cycling, swimming, baseball, weight lifting, calisthenics, and gymnastics.

- **Frequency** – how many days per week you exercise. It is recommended that you exercise 3 to 5 days per week.

- **Duration** – how long you should exercise. It is recommended that you exercise a total of 150 minutes per week.

- **Intensity** – how hard you need to exercise. The most ideal way to determine your exercise intensity is by using the Rating of Perceived Exertion (RPE) scale (to the right). This scale was developed so people can rate how hard they work during exercise.

Don’t Forget

- Warming up and cooling down are vital parts of every exercise session. **Warming up** is a gradual increase in intensity to prevent injury during exercise. **Cooling down** is a gradual decrease in intensity for slowing heart rate and breathing frequency to reduce the risk of dizziness and fainting.

- Chest pain – if you are experiencing chest pain, do not exercise without your physician’s approval.

- Weather – use good judgement by never exercising in extreme hot or cold weather.

- Water – drink water before, during and after every exercise session.

### The Borg-RPE-Scale®

While exercising, rate your perception of exertion; i.e., how heavy and strenuous the exercise feels to you. The perception of exertion depends mainly on the strain and fatigue in your muscles and on your feeling of breathlessness or aches in the chest. Look at this rating scale; use this scale from 6-20, where 6 means “no exertion at all” and 20 means “maximal exertion”. The optimal range is 11 “light” to 13 “somewhat hard”.

<table>
<thead>
<tr>
<th>Number</th>
<th>Perception of Exertion</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>No exertion at all</td>
</tr>
<tr>
<td>7</td>
<td>Extremely light</td>
</tr>
<tr>
<td>8</td>
<td>Light</td>
</tr>
<tr>
<td>9</td>
<td>Somewhat hard</td>
</tr>
<tr>
<td>10</td>
<td>Hard (heavy)</td>
</tr>
<tr>
<td>11</td>
<td>Very hard</td>
</tr>
<tr>
<td>12</td>
<td>Extremely hard</td>
</tr>
<tr>
<td>13</td>
<td>Maximal exertion</td>
</tr>
</tbody>
</table>

- 9 corresponds to “very light” exercise. For a normal, healthy person it is like walking slowly at his or her own pace.

- 13 on the scale is “somewhat hard” exercise, but it still feels OK to continue.

- 17 “very hard” is very strenuous. A healthy person can still go on, but he or she really has to push him or herself. It feels very heavy and the person is very tired.

- 19 on the scale is an extremely strenuous exercise level. For most people this is the most strenuous exercise they have ever experienced.

Try to appraise your feeling of exertion as honestly as possible, without thinking about what the actual physical load is. Don’t underestimate it, but don’t overestimate it either. It’s your own feeling of effort and exertion that’s important, not how it compares to other people’s. What other people think is not important either. Look at the scale and the expressions and give a number.
Stress is how your body and your mind react to change. Stress can help you energize and focus. However, if you have too much stress or don’t deal well with it, stress can lead to unwanted symptoms and may negatively impact your heart. Both minor and major issues can trigger stress including oversleeping, running late, moving, getting married, getting divorced or losing your job.

Symptoms of stress may include:
- Clammy hands, dry mouth, headaches, tight muscles, skin rash or sleep problems
- Anger, confusion, sadness, fear or forgetfulness
- Alcohol or drug abuse
- Avoiding loved ones, disrupted eating habits or depression

Be sure to call your physician or a mental health professional if you:
- Rely on alcohol, drugs or overeating
- Feel depressed, out of control or hopeless
- Have missed a lot of work
- Have gained or lost a lot of weight
- Can’t control your spending habits

Ways You Can Manage Stress

Try deep breathing
- Choose a quiet spot
- Sit or stand in a comfortable position
- Slowly breathe in through your nose
- Pucker your lips (like you are whistling) so you can control how fast the air comes out of your mouth
- Breathe in for 3 seconds and out for 3 seconds. Repeat for 5 minutes

Change your lifestyle
- Boost your self-esteem with positive talk. Tell yourself that you can meet your goals and that you are in control
- Prepare yourself for stressful events. Rehearse an event before it occurs and imagine it ending well
- Learn how your body feels when it relaxes. One at a time, tense and relax each muscle in your body. Notice how it feels to be relaxed instead of tense
- Exercise 3-5 days per week. Besides making you stronger and healthier, exercise helps to reduce the symptoms of stress

Get a good night’s sleep
- Sleep on a comfortable mattress
- Turn off the ringer on your phone
- Keep your room dark or wear a sleep mask
- Only go to bed when you are sleepy. If you are wide awake, do something relaxing such as reading a book or listening to soothing music
- Avoid caffeine or alcohol before bedtime
- If you are having difficulty going to sleep, take a warm bath or drink a glass of milk
With proper management, it is possible to lead a healthy life with diabetes. Self-care gives you the power to manage diabetes and feel your best.
Diabetes affects the ability to lower blood sugar (glucose). In turn, this can lead to damage in many parts of the body, including the blood vessels, kidneys, eyes and digestive system. It also increases the risk of heart disease, heart attack, stroke, and blindness.

Proper self-care, combined with your personal physician’s treatment program, is the best way to protect your health. With self-care, you can manage your condition and improve your health; recognize symptoms and know when to get help; and limit the risk of future health problems.

**Monitoring Your Blood Sugar**

Because you can’t always feel if your blood sugar is too high or too low, daily monitoring is critical. Long-range monitoring will tell you how well your treatment plan is working in the long term.

**Daily Monitoring**

- Your physician or other health care provider can show you how and when to check your blood sugar
- Make checking your blood sugar a part of your daily routine
- Record the results in a log
- Share the log with your health care provider

**Long-range Monitoring**

- Make appointments for an A1c (also called HbA1c) test at least twice a year
- The A1c shows what your average blood sugar levels have been for the past two to three months
- In general, the goal is to have an A1c of less than 7 percent. If your result is greater, your treatment plan may be changed for better blood sugar control
- An A1c of 7 percent corresponds to an average daily blood sugar level of about 155 mg/dL

**Treating the Highs**

Your health care provider will help you understand your target ranges or healthy blood sugar goals. If your blood sugar gets too high, you can take steps to get it back into a healthy range.

**Treating High Blood Sugar (Hyperglycemia)**

- Check your blood sugar level, as well as ketones if directed
- Drink plenty of sugar-free, caffeine-free liquids
- Take extra insulin or medication if directed
- Call your health care provider if your blood sugar and ketones don’t return to the target range

**Hypoglycemia vs. Hyperglycemia**

**Signs of Hypoglycemia**

- Shakiness
- Dizziness
- Sweating
- Difficulty paying attention
- Confusion
- Headache
- Hunger

**Signs of Hyperglycemia**

- High levels of sugar in the urine
- Frequent urination
- Increased thirst
- Fatigue
- Vision problems
- Difficulty concentrating
- Headache
- Hunger
Medication for Diabetes
Insulin is a hormone that helps regulate blood sugar. When the body can’t make insulin or use the insulin it has, your blood sugar can get too high. Medication or insulin injections may be prescribed to help lower blood sugar.

Taking Pills
Some pills help your body make more insulin. Other pills make the insulin in your body work better.

Taking Insulin
- If your body can’t make insulin, it can be injected. Insulin can’t be taken in pill form
- Insulin injections can be made with a needle and syringe or with an insulin pen
- Your health care provider will recommend the best method for you

Eating Healthy with Diabetes
Certain foods affect blood sugar. Just because you have diabetes doesn’t mean you have to diet or give up tasty foods. It does mean learning how to balance food and blood sugar.

Carbohydrates (Carbs)
- Although carbs are part of a healthy diet, carbs also can raise your blood sugar
- Carbs include sugars, starches and fiber
- Sugars are in fruit, milk and honey. They are also added to foods like cereal, yogurt and desserts
- Starches are in bread, cereals, pasta and dried beans. Corn, peas, potatoes, yams, acorn and butternut squash also are considered starchy vegetables

Fat and Protein
- Fat and protein don’t have a significant effect on blood sugar, but they do affect your overall health
- Choose heart-healthy unsaturated fats like fish, vegetable oil, avocados and some nuts, like walnuts and almonds
- Limit unhealthy saturated fats like red meat, whole milk and palm oil
- Choose lean, low-fat protein sources like dried beans and peas, nuts, tofu, fish, egg whites, skinless poultry and nonfat milk

Exam and Test Checklist:
- Maintain a record to keep track of the medical appointments you need each year
- Have an A1c test at least twice a year or as recommended by your physician
- Have your cholesterol checked yearly (HDL, LDL and triglycerides)
- Have your blood pressure checked at each visit with your physician
- Have a dilated eye exam every year or as your physician recommends
- Ask your physician about foot exams, kidney screenings and other appointments you may need
- Have your teeth cleaned and checked by a dentist two or more times a year
Caring for Your Feet
Diabetes can change the nerves in your feet, so it can be difficult to feel injuries or sore spots. Diabetes also affects blood flow, making it harder for cuts and sores to heal.

Make a point to check your feet every day, so you can catch problems before they get worse. If you have trouble seeing the bottoms of your feet, use a mirror or have someone help you. Examine the top, bottom and nails of each foot. Look for changes in color. Look for any red spots or streaks. Look for skin changes, such as blisters, corns or calluses. Check for dry, cracked or scaly skin. Check for changes in feeling, such as numbness, tingling, coldness or burning.

If you find a problem during a self-exam, call your physician immediately.

To help protect your feet:
Don’t trim your corns, calluses, toenails. See a podiatrist (foot specialist) for regular foot care. Wash your feet with soap and water and dry them carefully, especially between your toes. Don’t walk barefoot. Wear comfortable shoes. Avoid high heels, tight work boots or shoes that are too tight and need to be broken in.

Staying Active
Activity or exercise is an important part of managing your diabetes. If you’re overweight, exercise can help you lose extra pounds, which helps the body use its own insulin better. Activity also can relieve stress and contribute to your well-being.

Exercise Checklist:
If your health care provider clears you to start an exercise program:
- Check your blood sugar before you exercise
- Choose shoes that are right for the activity
- Wear a medical ID that says you have diabetes
- Be sure to stretch and warm up
- Carry fast-acting glucose tablets
- Exercise with a partner
- Drink plenty of water
- Be sure to cool down afterward
There’s no question that you will improve your health by quitting smoking.
**When you stop smoking, you:**

- Reduce your risk of cancer, lung disease, heart disease, stroke, emphysema and other smoking-related diseases
- Help prevent pneumonia and bronchitis
- Lose your smoker's cough
- Stop smoking-related headaches
- Enjoy better overall health

**You also help others stay healthy by:**

- Reducing your family’s risk of lung cancer, heart disease, respiratory infection and other health problems caused by secondhand smoke
- Increasing your chance of having a healthy baby if you become pregnant

**Finally, you will enjoy life more by:**

- Having a smoke-free home
- Having more spending money
- Increasing your energy level
- Getting rid of cigarette breath, yellow teeth and fingers
- Improving your sense of taste and your sense of smell

**Overcome Your Excuses**

Instead of smoking to cope with stress, try exercise, meditation and deep breathing.

Accept that you might gain a little weight. A few extra pounds are better than the damage smoking does to your body. Limit weight gain by choosing healthy snacks and the right portion sizes.

You’re never too old to quit. Your body will benefit from stopping smoking no matter what your age.

Don’t be afraid of withdrawal. Symptoms of withdrawal from nicotine last only a few weeks but the benefits of quitting last a lifetime.

**Getting Help to Quit**

Quit-smoking products lessen your urge to smoke. Most replace nicotine for a while, and all help ease you off your addiction, increasing your chances for quitting for good. New treatments and products are available for smoking; please consult with your physician for more information.

These products are not for everyone. Never smoke and use a nicotine substitute at the same time because you could overdose on nicotine.

You also may find it helpful to interact with other people who are trying to quit smoking. Phone counseling is available from a quit line. Or ask your hospital, public health department or health care provider to connect you with local resources to help you quit. Contact the National Cancer Institute at 877-448-7848 or at www.smokefree.gov.
Women and Heart Disease
Heart disease is the leading cause of death in women, even ahead of breast cancer. About one out of seven women will be diagnosed with breast cancer in her lifetime, but one of every two women will die of heart disease.

Some women think heart disease is just a man’s disease, but the risk factors are the same for men and women. Heart disease can develop over many years without symptoms. And when women have heart attacks, they often have other symptoms besides chest pain.

If you don’t have heart disease, there are ways to prevent it. If you already have heart disease, there are ways to keep it from getting worse.

### Signs of a Heart Attack

#### Differences Between Men and Women

Approximately 500,000 women die of heart disease each year in the United States. More than twice the number of women die from cardiovascular disease than from all types of cancer, including breast cancer. In fact, the number of deaths from heart disease is more than 10 times higher than from breast cancer. Despite this, many people do not understand how heart disease affects women. The symptoms of a heart attack in women are sometimes different than in men. This chart highlights these differences.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest Pain</td>
<td>Discomfort in center of chest, often described as “crushing”</td>
<td>Pain may be mild or absent, often described as “pressure”, “dullness” or “ache”.</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>May occur at the same time or before chest pain</td>
<td>May occur at the same time or before chest pain.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>More common in women.</strong></td>
</tr>
<tr>
<td>Sweating</td>
<td>May break into a sweat with cold, clammy skin.</td>
<td>May break into a sweat with cold, clammy skin.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>More common in men.</strong></td>
</tr>
<tr>
<td>Throat, neck, back or jaw pain</td>
<td>Discomfort may be felt in other areas of the upper body.</td>
<td>Discomfort may be felt in other areas of the upper body. <strong>More common in women.</strong></td>
</tr>
<tr>
<td>Nausea, vomiting or indigestion</td>
<td>May feel nauseated and vomit.</td>
<td>May feel nauseated and vomit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Much more common in women.</strong></td>
</tr>
<tr>
<td>Anxiety</td>
<td>May feel a sense of doom.</td>
<td>Heart disease in women may be mistaken for a panic attack with shortness of breath, anxiety and indigestion.</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Fatigue less common in men.</td>
<td>Many women report sudden onset of unusual fatigue, as their only warning sign of a heart attack.</td>
</tr>
</tbody>
</table>
Understanding Heart Failure

How the Cardiovascular System Works:

• Oxygen-poor blood is pumped from the rest of the body to the heart
• Your heart pumps the oxygen-poor blood to your lungs where it picks up oxygen. The oxygen-rich blood then returns to your heart
• Your heart pumps oxygen-rich blood to your body through blood vessels

When you have heart failure, it does not mean your heart has stopped working. It does mean your heart is not pumping as well as it should.

There are two main types of heart failure: systolic and diastolic. Systolic heart failure occurs when the heart pumps with less force. Diastolic heart failure occurs when the heart becomes stiff and can't fill with blood.

Conditions that cause heart failure include:

• Coronary artery disease (narrowing of the blood vessels that supply blood to the heart)
• Past heart attack
• High blood pressure
• Heart valve disease
• Cardiomyopathy (primary disease of the heart muscle)
• Congenital heart disease (defects in the heart present at birth)
• Infection of the heart valves and/or the heart muscle

Effects of Heart Failure

Lung Congestion

When your heart is not pumping well, blood can back up in your lungs and force fluid into the breathing spaces. The fluid then builds up, causing congestion in the lungs.

Symptoms of lung congestion may include:

• Shortness of breath, wheezing or coughing when you exert yourself
• Problems breathing when lying flat
• Waking up at night coughing or short of breath
• Coughing up sputum (a thick liquid) colored with blood
Fluid Buildup
When your heart is not pumping well, blood can back up in your blood vessels and force fluid into your body tissue. The fluid then builds up, causing congestion throughout the body.

Symptoms of fluid buildup include:
- Rapid weight gain
- Swelling (called edema) in the feet, ankles, legs and abdomen, as well as other parts of the body
- The need to urinate many times during the night

Decreased Blood Flow
If your heart is not pumping well, less blood moves through your body and your tissues and organs don't get the oxygen they need.

Symptoms include:
- Trouble exerting yourself
- Feeling weak, tired, dizzy
- Confusion and trouble thinking clearly

Kidney Problems
Your kidneys help rid your body of salt (sodium) and excess water. When your heart is not pumping well, your kidneys do not get the blood they need to do their work. Salt and excess water build up and make your body even more congested.

Changes in Your Heart
When your heart is not pumping well, it tries to make up for its loss of power. Your heart may get bigger so it can hold and pump more blood. Your heart may build more muscle mass to increase its pumping power, and it may beat faster. At first, these changes help your heart work normally. In the end, they only make your heart more tired.

Diagnosing Heart Failure
A medical exam and consultation helps your physician diagnose heart failure and develop the best treatment plan for you.

During the exam, your physician may:
- Ask about your medical history
- Look for signs of heart failure, such as shortness of breath, weakness, swollen ankles and feet
- Check for possible causes such as high blood pressure
- Listen to you breathe with a stethoscope

Your physician may also recommend medical tests such as:
- Echocardiograms, which use sound waves to produce images of your heart
- Electrocardiograms, which use a recording device to measure the electrical activity of your heart
- Chest X-rays

Living with Heart Failure
Your heart failure treatment plan may include medications for heart failure and/or for the conditions that may have weakened your heart in the first place. Be sure to take the medication as prescribed. Call your physician if you have any side effects, but keep taking your medication unless your physician tells you to stop. Your physician also may recommend a lifestyle plan that can help you live with heart failure.

This plan may include:
- Eating less salt
- Drinking less fluid
- Exercising moderately
- Keeping track of your weight
- Getting enough rest and relaxation
- Taking care of yourself
Cancer Information

Baylor Cancer Centers treat all forms of cancer. For information, referrals or services, please call 1-800-4BAYLOR or talk with your healthcare provider. You may access the American Cancer Society on the internet at www.cancer.org.*

Breast Cancer

Baylor follows the American Cancer Society (ACS) guidelines** for breast cancer screening of women without symptoms:
• A mammogram every year for all women age 40 or older (screening may begin earlier if clinically indicated).
• Clinical breast exam by a health care professional every 3 years for women age 20 to 39, and annually for women age 40 and older.
• Breast self-exam monthly for all women age 20 and older.

Colorectal Cancer

Baylor follows the American Cancer Society guidelines for early detection of colorectal cancer. Beginning at age 50, men and women should have a fecal occult blood test and flexible sigmoidoscopy. Repeat the fecal occult blood test annually and the sigmoidoscopy every 5 years, or have a colonoscopy at 10-year intervals, or have a double-contrast barium enema every 5 to 10 years. You may ask your healthcare provider for further information.

Pap Test

The Pap test can detect early, “pre-cancerous” cell changes in the cervix. Baylor follows the American Cancer Society recommendations that all women who have reached the age of 18 or have been sexually active have a Pap test and pelvic exam every year. Please discuss any questions with your healthcare provider.

Prostate Cancer

Baylor follows the American Cancer Society guidelines for early detection of prostate cancer. Men should have a prostate-specific antigen (PSA) blood test and digital rectal exam (DRE) every year, starting at age 50. African-American men and men who have two or more close relatives (father or brothers) with prostate cancer should begin screenings at age 45.

Skin Cancer

Baylor recommends avoiding prolonged exposure to the sun, especially during the midday. These actions can help prevent most skin cancers. Wear protective clothing—hats with brims, long-sleeved shirts—and use sunscreen on all exposed parts of the skin. If you have children, protect them from the sun and don’t allow them to become sunburned. Examine your skin regularly for irregular moles, and have a skin exam during your regular health checkups.

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** Guidelines for screening without symptoms of breast disease and with normal risk for cancer. The presence of a strong family history of breast cancer or other factors may alter these recommendations. Please check with your healthcare provider if you need direction to the most convenient Baylor Cancer Center.
Information provided in this brochure is intended for general informational and educational purposes only, and should not be construed as medical advice. You should NOT rely on the information for purposes of self-diagnosis, or to make any medical or other decisions for treatment. You should NOT disregard any advice or treatment from your health care provider based on your interpretation of the information provided in this brochure. Any medical or other decisions should be made in consultation with your physician.