

YOUR GUIDE TO
HEART & VASCULAR HEALTH

FOR PATIENTS AND FAMILIES



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CONTENTS

Welcome to the team	3
What's my risk for heart disease?	5
What are healthy lipid levels?	8
What is healthy blood pressure?	11
What is healthy blood sugar?	12
Smart food choices to protect your arteries	13
Proceed with caution	20
Heart-healthy eating plans	26
The right balance for your heart	28
Nutrition facts label	40
How many calories do you need?	44
Healthy body weight recommendations	46
Everybody needs exercise	54
Frequently asked questions	56
MUSC Health resources: We're here to help you	60
Other resources to help you on your heart-health journey	63



Welcome to the team

Our goal is to work together to reduce your risk of heart and vascular disease – the leading causes of death in the United States. Although you can't change some risk factors such as family history or age, there are many things you can do to dramatically improve your heart health.

We're here to help you manage your cholesterol, triglycerides, blood pressure, blood sugar, and weight by making small, gradual changes that will add up to an overall, heart-healthy lifestyle. Plus, changes you make for your heart health – being more active, avoiding tobacco and nicotine, and making smart food choices – also reduce your risk of other chronic diseases. It's a win-win.

We know that, in our world full of ads and claims, it can be tough to figure out what the best choices really are. Should you eat what your mother and grandmother cooked for you? Is that expensive exercise equipment worth it? How about those products plastered with claims that they'll improve your health and extend your life? What if you're already at high risk for heart disease – what then?

That's why we wrote this book – to help you filter through the confusion and learn what really makes a difference. We'll start by introducing you to the risk factors for heart disease. Then, we'll explain how to build a healthy eating plan with tips for weight management, label reading, dining out, and portion control.

By the end, you'll know how to eat wholesome meals that nourish your body, promote your wellness, and lower your risk for heart disease. So, let's get started!



What's my risk for heart disease?

You can help prevent heart and vascular disease by controlling your risk factors with healthy lifestyle choices. But you have to know the enemies you're up against to begin fighting them. So, the first step to taking charge of your health is to identify your own, unique heart disease risk factors.

There are many factors that increase your risk for developing heart disease. Some can be improved and others cannot. The great news is that you can dramatically reduce your risk by modifying your eating and exercise habits. Developing a healthier lifestyle is the key to lowering your heart disease risk. Just take things one step at a time and start by identifying your own, individual, lifestyle-related risk factors.

Major risk factors

What you can change:

- High blood pressure (see page 11)
- Tobacco and nicotine use
- Abnormal blood lipids (see page 8)
 - High total cholesterol
 - High LDL cholesterol (LDL-C or “bad” cholesterol)
 - Low HDL cholesterol (HDL-C or “good” cholesterol)
 - High triglycerides
- Physical inactivity (see page 54)
- Obesity or overweight - especially for those with excess weight around the waist (see page 48)
- Uncontrolled diabetes mellitus or pre-diabetes

What you cannot change:

- Age: Your risk of heart disease increases with age. Men over 45 years of age and women over age 55 are at higher risk than younger people.
- Sex: Typically, women develop heart disease slightly later in life than men. But after age 55, heart disease risk for men and women is equal.
- Family history of early heart disease: You may be at higher risk if a close biological relative developed heart disease at an early age. For example, if your father developed heart disease before 55 years of age or your mother before age 65.
- Personal history of heart or vascular disease: If you already have cardiovascular disease, you are at higher risk for recurring problems.
- Ancestry: People of south Asian ancestry are at higher risk for heart disease.

Other risk factors

- Metabolic syndrome
- Stress
- Depression

- Obstructive sleep apnea
- Excess alcohol intake (see page 20)
- High inflammatory markers: High-sensitivity C-reactive protein (hs-CRP) and others
- High lipid markers: Lp(a), LDL particle number
- Chronic kidney disease
- In women, history of preeclampsia, gestational diabetes, gestational hypertension, or premature menopause
- Inflammatory diseases, especially rheumatoid arthritis, psoriasis, and HIV

What's metabolic syndrome?

Metabolic syndrome is a group of risk factors (excess belly fat, high blood pressure, high triglycerides, low HDL-C, and elevated blood sugar levels) that tend to cluster together due to underlying resistance to the insulin your body produces. All of these are also related to obesity and are risk factors for heart disease and diabetes. We have an epidemic of obesity and overweight in our nation and around the world, which means more people are developing metabolic syndrome.

If you are diagnosed with any 3 of the following 5 criteria, you have metabolic syndrome and are at a higher risk for heart disease.

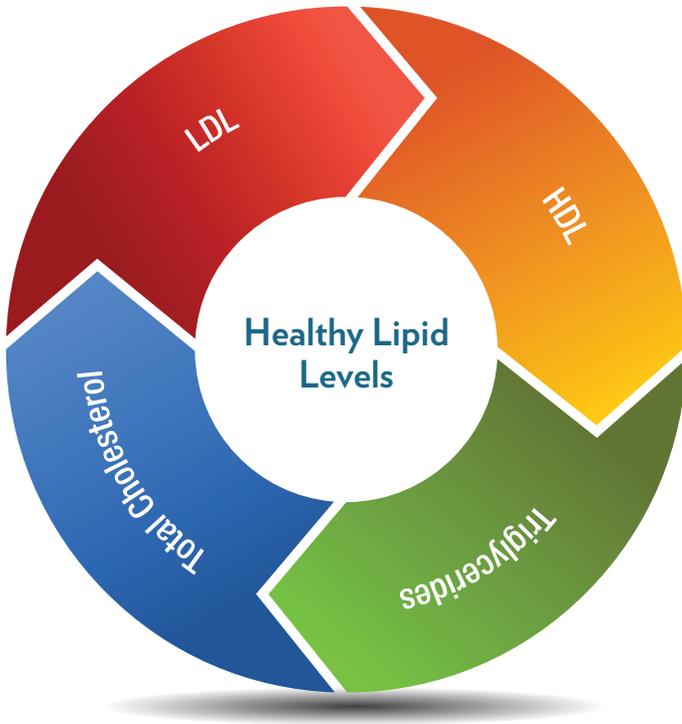


Criteria

Waist circumference	>40 inches for men >35 inches for women
Blood pressure (mm Hg)	≥130/85
Blood glucose (mg/dL)	≥100
HDL (mg/dL)	<40 men, <50 women
Triglycerides (mg/dL)	≥150

What are healthy lipid levels?

Lipoproteins (“lipo” = fats, along with proteins) are fat-carrying particles in the blood stream. The proteins on these fat particles help the liver recognize them for uptake and clearance. Lipids have many important functions in the body, but it’s important for levels to stay within a healthy range. Blood lipids are made by your body and are highly affected by the types of foods you eat. A full lipid profile blood test shows the level of each type of fat in your blood: total cholesterol, LDL cholesterol (LDL-C), HDL cholesterol (HDL-C), triglycerides, and non-HDL-C, which are all measured in milligrams per deciliter (mg/dL).



Total cholesterol

Total cholesterol is a measurement of all the cholesterol molecules that travel in various lipid particles in the bloodstream. In general, for adults without cardiovascular disease, a total cholesterol level less than 200 mg/dL is considered “desirable”, 200-239 mg/dL is considered “borderline high”, and 240 mg/dL or more is considered “high”.



Desirable cholesterol and triglyceride levels

Total Cholesterol:

Less than 200 mg/dL

HDL-C:

At least 40 mg/dL (men); 50 mg/dL (women)

LDL-C:

Less than 100 mg/dL*

Less than 70 mg/dL**

Non-HDL-C:

Less than 130 mg/dL

Triglycerides:

Less than 150 mg/dL

*For adults with no cardiovascular disease

**For adults with cardiovascular disease

LDL-C (low-density lipoprotein cholesterol)

LDL-C or “bad” cholesterol is the amount of cholesterol carried by LDL particles. The optimal LDL-C level is less than 100 mg/dL for individuals with no history of heart or vascular disease, or less than 70 mg/dL for those who already have known disease. LDL-C levels may be elevated by excess intake of foods that are high in saturated fats and, to a lesser extent, by excess dietary cholesterol.

HDL-C (high-density lipoprotein cholesterol)

HDL-C or “good” cholesterol is carried by HDL particles that help remove cholesterol from the blood. Optimal HDL-C levels are at least 40 mg/dL for men and 50 mg/dL for women as lower levels may increase your risk for heart disease. Regular aerobic physical activity and achieving your ideal body weight may improve your HDL-C level. Another good strategy is substituting healthy, unsaturated fats for saturated fats and carbohydrates in your diet (more about that on page 21). Alcohol intake may be associated with higher HDL-C levels, but this is not recommended as a healthy strategy for improving your HDL-C.

Triglycerides

Triglycerides are another type of fat in your bloodstream that are typically used as fuel by the body. Elevated triglycerides are a risk factor for heart and vascular disease and extremely high levels can cause pancreatitis. People with high blood pressure, diabetes, or extra weight around the waist (belly fat) tend to have high triglycerides. The ideal level of triglycerides is less than 150 mg/dL. Triglycerides are very responsive to healthy lifestyle changes, like: reducing how much alcohol, refined sugar, refined starch, and saturated fat you consume; increasing physical activity; and losing weight. Certain medicines and conditions can also raise your triglyceride level. Your healthcare provider will evaluate whether you have any treatable causes of high triglycerides.

Non-HDL-C

Non-HDL-C is a calculation that measures all of the cholesterol in your bloodstream traveling not only in LDL-C, but also in other particles produced during the breakdown of fat-carrying particles. It is calculated by subtracting your HDL-C from your total cholesterol. The cholesterol in all non-HDL-C particles may contribute to plaque development in the blood vessels. Non-HDL-C levels are typically elevated in people with high triglycerides and low HDL-C levels.

What is healthy blood pressure?

Your blood pressure (BP) measurement contains two numbers. The top one, your systolic blood pressure, is the amount of force in your vessels when your heart squeezes to pump blood. The bottom one, your diastolic blood pressure, is the force in your vessels when your heart relaxes between beats. Elevated measurements in one or both of these can mean your blood pressure is considered “elevated”, “stage 1 high BP”, or “stage 2 high BP”.

- Healthy BP is <120 systolic / <80 diastolic mm Hg
- Elevated BP is 120-129 systolic / <80 diastolic mm Hg
- High BP Stage 1 is 130-139 systolic or 80-89 diastolic mm Hg
- High BP Stage 2 is \geq 140 systolic or \geq 90 diastolic mm Hg

Home BP monitoring is recommended to confirm your diagnosis of high BP and is used to adjust your BP-lowering medication.

Lifestyle changes to reduce your BP include: losing weight if you have overweight or obesity, eating a heart-healthy diet, reducing intake of salt and added sugars, increasing intake of dietary potassium, and increasing physical activity with a structured exercise program. Excess alcohol intake is associated with elevated BP (see page 20 for alcohol guidelines).

Each lifestyle change can result in a 4-5 mm Hg decrease in systolic BP (top number) and 2-4 mm Hg decrease in diastolic BP (bottom number). A diet that is low in sodium and high in vegetables, fruits, and grains can decrease systolic BP by approximately 11 mm Hg.

What is healthy blood sugar?

We all have a type of sugar in our blood called glucose that helps fuel our cells. Normally, glucose levels rise after a meal but generally stay below 140 mg/dL. A healthy fasting glucose level is less than 100 mg/dL.

Another measure of blood sugar is hemoglobin A1c which reflects your average blood sugar level over the past 2-3 months. A healthy A1c level is below 5.7%.

- A fasting blood sugar level of >100 to 125 mg/dL or an A1c level of 5.7% to 6.4% indicates pre-diabetes. Within the 5.7% to 6.4% pre-diabetes range, the higher your A1c, the greater your risk is for developing type 2 diabetes.
- A fasting blood sugar level of 126 mg/dL or greater, or an A1c level of 6.5% or more, indicates type 2 diabetes.

Lifestyle changes are the most effective ways to prevent pre-diabetes and its progression to type 2 diabetes. In particular, more exercise, weight loss, and reduced consumption of refined grains and sugars have the greatest preventive impact.

Smart food choices to protect your arteries

The research is very clear and hasn't changed for decades – people who eat a diet that is low in saturated and trans fats and rich in vegetables, fruits, and whole grains have better heart and vascular health than people who don't. The food choices we make can have a major impact on our wellness.

It's important to include cardio-protective foods that are rich in vitamins, fiber, and mono- or poly-unsaturated fats while limiting foods high in saturated fat, refined starches, added sugars, and salt (sodium) and eliminating trans fat. Cardio-protective foods help keep your cholesterol and triglycerides, blood pressure, blood sugar, and weight at healthy levels.

Many factors influence our food choices including culture, taste preferences, family habits, finances, and food availability. It is important to remember that using healthy, unprocessed foods to prepare meals in your own kitchen is often more affordable than consuming highly processed foods.

Cardio-protective eating

Produce

Research clearly shows that eating a variety of vegetables and fruits can prevent many chronic conditions, including heart and vascular disease. Vegetables and fruits are also helpful in weight management because they are both filling and low in calories. Multivitamin supplements are not a substitute for eating more vegetables and fruits unless you have known nutritional deficiencies or are pregnant or breastfeeding.

Vegetables and fruits provide valuable fiber and antioxidants which are natural elements that help your body fight everything from aging to



cancer to heart and vascular disease. In general, the darker the color of the produce, the healthier it is. Different colors of vegetables and fruits provide different nutrients, so it's best to eat a variety of colors throughout the week.

Don't wait until dinner time to start eating your produce. Instead, add berries to your breakfast cereal or oatmeal and take raw veggies or a banana to work for a mid-morning snack. Many restaurants will swap out a salad for fries with your sandwich at lunch, or you can order a broth-based soup and salad. At dinner, serve yourself larger portions of vegetables so they take up the most space on your plate (have a goal of filling at least 1/2 your plate with vegetables). Also, look for ways to sneak extra servings into soup, pasta dishes, casseroles, and stews.

Focus on fiber

Dietary fiber is the indigestible part of plant foods such as grains, vegetables, and fruits. Consuming dietary fiber is an important part of taking care of your heart. Research shows that eating foods that are high in fiber can help you lower your LDL-C level, decrease your appetite, lose weight, prevent weight gain, prevent and manage diabetes, and lower your risk for cancer.

Aim to eat at least 20-35 grams of fiber each day. Although many processed foods with added fiber are available these days, the healthiest fiber is found naturally in foods that are not highly processed. To get more natural fiber, choose to make "old-fashioned" oats and "real" mashed potatoes more often than the instant kind which have less fiber due to processing. Be mindful of what you add to these foods while you make them – skip the sugar, salt, butter, and sour cream. Also, add vegetables, fruit, and whole grain to your intake through the day.



Foods that contain a lot of soluble fiber are especially good at lowering cholesterol. Soluble (or viscous) fiber forms a gel in your digestive system that traps cholesterol and keeps it from being absorbed into your bloodstream. Foods with a lot of soluble fiber include oatmeal and oat bran cereal, citrus fruits, okra, beans, peas, apples, and squash. Ideally, your daily intake of 20-35 grams of fiber should include 8-10 grams of soluble fiber each day.

Whole grains and grain products

- Whole grain and whole wheat products contain more fiber than their white or “white wheat” counterparts. This is because they contain all parts of the grain (fiber is found in the bran and germ parts which are stripped away to make “refined” starches such as white bread). Always look for the word “whole” in the ingredient list and check the nutrition facts, looking for at least 3 grams of fiber per serving.
- Choose high fiber breakfast cereals such as oats and oat bran cereals.
- Try a variety of whole grain products like brown rice, plain popcorn, barley, bulgur wheat, and whole wheat pasta, but be sure to watch your portions (no more than $\frac{1}{4}$ of your plate should be grains).

Legumes

- Beans and peas are members of the legume family and are terrific sources of soluble fiber which can help lower LDL-C. Fresh, dried, or low-sodium (low-salt) canned beans provide protein, complex carbohydrates, and fiber.

- Choose soups such as bean, split pea, or lentil, and add beans to soups and stews you make yourself.
- Add beans, such as kidney beans and chickpeas, to salads.
- Combine beans with vegetables or grains in casseroles you make. Puree beans to make sandwich spreads and dips or try ready-made hummus with baby carrots for a snack.

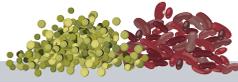
Vegetables and fruit

- As often as you can, choose vegetables and fruits with edible skins and/or seeds, such as eggplant, zucchini or squash, okra, apples, strawberries, blackberries, and figs.
- Eat fresh, dried, or no-sugar-added canned fruit instead of drinking fruit juice. Put fruit on your breakfast cereal and eat fruit for a between-meals snack.
- Snack on crisp, raw vegetables and always load up your plate with extra servings of vegetables.

Note: You might recognize these food choice recommendations because they are similar to a popular heart-healthy eating plan called, *The Mediterranean Diet*. This is a traditional style of eating in countries around the Mediterranean Sea. It focuses on fish, legumes, whole grains, and vegetables. Olive oil is the primary source of fat, and although red meat, dairy, and sweets are not forbidden, they're only eaten a few times a month. Research finds that people who follow these guidelines have significantly lower risks of heart disease, type 2 diabetes, and stroke. People who have metabolic syndrome seem to benefit the most.

If this seems like too much to remember, just start by choosing these five super-food groups whenever you have the chance.

1



Fiber-rich legumes

(eg, beans, peas, lentils, chickpeas)

2



Nutrient-rich, heart disease-preventing vegetables

in all the colors of the rainbow (eg, dark leafy greens, red and yellow peppers, eggplant, broccoli, zucchini, squash)

3



Cholesterol-lowering sources of lean protein

(eg, nuts, seeds, salmon)

4



Heart-healthy whole grains

(eg, oats, bran, quinoa, brown rice)

5



Potassium-rich, BP lowering fruits

of every color (eg, berries, citrus, apples, grapes, kiwi, plums, bananas)



Dietary fats

By now you've probably heard that not all fats are bad for your health. Fat is a source of energy for your body and an important part of a nutritious eating plan. Fat can help your body absorb fat-soluble vitamins, provide flavor to food, and help you feel full. However, not all fats are heart-healthy. The less healthy fats – saturated and trans fats – can raise your LDL-C and increase your risk for heart and vascular disease. Healthier fats are monounsaturated and polyunsaturated fats. Using these fats in place of saturated and trans fats can lower your LDL-C and reduce your risk for heart and vascular disease.

Polyunsaturated and monounsaturated fats

Polyunsaturated and monounsaturated fats are heart-healthy and provide nutrients to help develop and maintain your body's cells. When you substitute polyunsaturated fats for saturated fats, it can lower your LDL-C and reduce your risk for heart and vascular disease. Oils rich in monounsaturated fats also contribute vitamin E to the diet, a vitamin that is lacking in many American's diets.

Most oils that contain healthy polyunsaturated or monounsaturated fats are liquid at room temperature. The best ones are extra virgin olive, canola, corn, safflower, sesame, soybean, sunflower, avocado, rapeseed, grapeseed, and peanut oils.

In addition to cooking oils, healthy unsaturated fats are also found in common foods like avocados, olives, nuts and seeds, and fatty fish. Try some almonds, peanuts, walnuts, or sunflower seeds for a snack or add them to your salad or yogurt. Try to include fish in your meals at least once per week and include avocado on a sandwich or in a salad.



It is important to be aware that even healthy fats are high in calories, so be careful about the portions you eat. Measure the oil you use to sauté and don't overdo it with salad dressings and other condiments. Limit servings of nuts to $\frac{1}{4}$ cup and seeds to 2 tablespoons.

Omega-3 fats

Omega-3 fats are unsaturated fats that are important for your heart health. There are three types of omega-3 fats in food: DHA (docosahexaenoic acid), EPA (eicosapentaenoic acid), and ALA (alpha-linolenic acid.) DHA and EPA are commonly found in fatty fish and seafood, while ALA is plentiful in plant-based foods.

The best way to consume heart-healthy sources of omega-3 fatty acids is through dietary intake. Include fatty fish such as salmon, sardines, mackerel, and tuna in your diet and be sure they're cooked in a healthy way such as by broiling or grilling. If you don't care for the taste of fatty fish, consider eating more plant-based foods that are high in ALA, such as ground flaxseed, walnuts, and canola oil.

Dietary supplement omega-3 fatty acids that you can purchase at a pharmacy or other retail store are no longer recommended for general heart health. Large clinical trials demonstrate no benefit in reducing the risk of heart attack or stroke in people taking these supplements.

However, prescription-grade, purified EPA is demonstrated to reduce heart and vascular events in patients with diabetes or known heart and vascular disease who also have high triglycerides. Prescription-grade, purified EPA and combinations of EPA and DHA can also lower triglycerides in individuals with very high triglyceride levels (greater than 500 mg/dL). These medications are available only by prescription.



Proceed with caution

There are no absolutely “forbidden” foods in a healthy lifestyle, but there are certainly foods that we should eat more often and those we should eat less often or limit to special occasions. If you regularly consume foods that contain the substances mentioned in this section, work on slowly finding healthy alternatives.

Alcohol

Drinking alcohol is not recommended as a strategy to improve your risk of heart and vascular disease. To reduce the risk of alcohol-related diseases, men should have no more than two standard alcohol drinks per day and women no more than one. A standard drink has about 14 grams of alcohol. For example, 12 ounces of regular beer with about 5% alcohol content, 5 ounces of wine with about 12% alcohol content, or 1.5 ounces of spirits with about 40% alcohol content.

Trans fats

Trans fats should be avoided whenever possible. These are a type of man-made fat that is created when liquid oils are “partially hydrogenated” during processing to improve shelf-life. Some examples of foods that may contain trans fats are shortening, doughnuts, fast food, piecrusts, and cookies. Trans fatty acids raise the artery clogging LDL-C levels in your blood and reduce the protective HDL-C.

Research shows that people who consume more trans fats have a higher risk of heart disease, sudden death from heart attack, and possibly diabetes. Since these negative impacts occur after eating even small amounts of trans fats (2-7 grams per day), it is recommended that everyone avoids these fats as much as possible.

Thankfully, through government regulations, trans fats have largely been eliminated from our food supply. It’s still important, however, to check nutrition labels and be absolutely sure that it says “trans fat: 0g”. Also, read the ingredient list to be sure no partially-hydrogenated oils are listed.

Saturated fat

For a heart-healthy, balanced diet, limit your intake of saturated fat to no more than 10% of your calories (less than 7% in some cases). This is a naturally-occurring fat found primarily in foods from animal sources that can increase your risk of heart and vascular disease if consumed in excess. Research clearly shows that reducing the amount of saturated fat you eat by substituting unsaturated fats can lower your LDL-C.

Animal fats (such as high fat and processed meats, lard, bacon grease, and butter), tropical oils (coconut and palm), foods that are deep-fat fried and high-fat dairy products (such as cream, whole milk, and ice cream) are all high in saturated fat. Oils that are high in saturated fat are usually solid at room temperature.

- **Coconut oil** is very high in saturated fats. It may raise total cholesterol and LDL-C, and may also raise HDL-C more than other fats. Virgin coconut oil (VCO) contains more polyphenols

(antioxidants) than other oils and is suggested to have health benefits. However, there is little evidence that consuming VCO carries any heart or vascular protection, and what evidence we have is in early stages and of poor quality. If you consume coconut oil, pay careful attention to your total daily saturated fat intake.

- **Palm oil** is also high in saturated fats. Compared with vegetable oils, palm oil can also increase LDL-C and may be associated with a higher risk for heart and vascular disease. Rapidly rising rates of heart attack and stroke in developing countries may be related, in part, to increased consumption of saturated fats in palm oil.

Read nutrition labels on foods in your pantry and refrigerator to get an idea of how much saturated fat you're eating. Although the numbers might seem small, you need to keep your intake to less than 15-20 grams of saturated fat daily.

Here are a few suggestions to help lower your saturated fat intake:

- Choose skinless chicken or seafood most often or buy very lean cuts of beef, pork, and veal. These protein sources are almost always lower in saturated fat, but remember to always trim away any fat you can see. Fatty fish has the extra benefit of unsaturated fats if it's cooked in a healthy manner (not deep fried).
- If consuming dairy, choose low- or zero-fat dairy products.
- Commit to at least one "meatless" dinner per week (beans, legumes, and minimally processed meat alternatives can be healthy sources of protein).

Dietary cholesterol

It's important to be mindful about the amount of cholesterol in your diet. Cholesterol is produced by all of your body's cells and is also found in foods from animal sources (eggs, meats, and dairy). Although eating saturated fat has a more powerful impact on LDL-C, dietary cholesterol can also increase LDL-C levels. Ideally, it is best to keep your dietary cholesterol intake under 200-300 milligrams a day.

Most foods that are high in saturated fat are also high in cholesterol. When you cut back on saturated fat in your diet, you will also reduce the amount of cholesterol you consume by limiting your intake of animal products.

Consumption of eggs may be an area of misunderstanding. Eggs are packed with nutritional value and contain a healthy balance of unsaturated and saturated fat, but they also contain high amounts of cholesterol (1 large egg has approximately 1.5 grams saturated fat, 3.5 grams unsaturated fat, 200 mg cholesterol). Eggs may be included in a healthy diet but be sure to factor their cholesterol and saturated fat into your daily limit. It's a good idea to have 1 egg yolk with multiple whites per serving.

Starches and Refined Sugars

Sugars and starches are foods that contain carbohydrates, which is the nutrient your body breaks down into blood sugar or glucose. Starches are divided into three general categories with some being healthier than others.

- *Complex starches*, such as oats, beans, or peas, are broken down slowly and provide a sustained source of fuel for your body. These foods also provide more nutrition and fiber, since all of their nutrient-containing components are consumed.
- *Simple or refined starches* include white bread, white rice, white pasta, pretzels, sugary cereals, and soda crackers. The nutrient-containing components in these starches are stripped away in processing.
- *Refined sugar* is what is added to foods such as sodas, sports drinks, other sugar-sweetened beverages, candy, pastries and snack cakes.

Simple starches and refined sugar are broken down rapidly by the body and do not provide sustained energy for the body. Regularly consuming these types of foods can put you at higher risk for diabetes, heart and vascular disease, obesity, high BP, and other health problems.

Therefore, it is important to limit how much added sugar you eat. Limit added sugar to no more than 100-150 calories per day or about 6-9 teaspoons. Try to limit obvious sources, like sweet treats and desserts, to just once or twice per week or less, but also be aware that there may be added sugar in foods you wouldn't expect. Try using zero-calorie sweeteners such as stevia or Splenda®, and drinking unsweetened beverages such as water, seltzer, and unsweetened tea. Read the nutrition label which now lists added sugar as a separate line item.

For starches, choose whole and unprocessed grains when possible. Heart-healthy choices are whole-grain bread, bran cereal, oatmeal, beans and peas, whole grain pasta, and brown rice. In addition to providing important fiber, whole grains are also a good source of other nutrients, such as magnesium, which is important for regulating blood pressure and might improve your risk for other heart conditions. You can look for the word “whole” in the ingredient list and check the dietary fiber content (3 or more grams per serving is good).

Watch portion sizes of starches as well (even for whole grain foods), since they have high calorie counts. A large portion of whole grain pasta can pack more calories than you might expect. Limit starches to no more than ¼ of your plate at meals.

Sodium

Cutting back on sodium will help prevent or lower high blood pressure (BP) which reduces your risk of heart disease and stroke. For individuals without high BP or heart and vascular disease, recommended sodium intake is <2300 mg daily. However, for persons with known disease, high BP, or other risk factors, the optimal goal for sodium intake is <1500 mg per day.

Most of the sodium we consume sneaks into our diet through packaged foods we buy at the grocery store and restaurant meals, but it's also important to avoid adding salt to food while cooking or at the table. A teaspoon of table salt contains more than 2,300 milligrams of sodium, so toss out that saltshaker.

Reading labels is the best way to keep track of how much sodium is in

your diet. You can monitor the percent daily value on the far right of the label and look for items that have 10% or less sodium per serving.

Watch out for the Four Cs:

- **Canned:** soups, vegetables, and meat
- **Cured:** ham, bacon, smoked fish, meat, and poultry; also watch out for processed meats such as bologna, sausages, and hot dogs which usually have a lot of added sodium
- **Condiments:** bottled salad dressing, marinades, soy sauce, and teriyaki sauce
- **Convenience:** pre-seasoned rice mixes and noodles, frozen dinners, seasoning packets (eg, taco and beef stew seasonings), and ready-made spaghetti sauce.

Tips for eating less sodium

- Choose foods in their least-processed state.
- Eat frozen or canned vegetables labeled no-salt-added or low-sodium.
- Rinse canned food with fresh water to reduce the salt content by about a third.
- Buy fresh or frozen fish, poultry, and meat, and buy higher quality lunch meats at the deli counter.
- Compare brands. Sometimes two companies add drastically different amounts of salt to the same product.
- Buy unseasoned dry grains such as brown rice, whole grain pasta, or couscous and add your own low-sodium seasonings to them.
- Keep low-sodium seasonings on hand such as Mrs. Dash®, lemon juice, flavored vinegar, garlic, onions, dry spices, and herbs. They don't taste like salt, but they add more flavor to entertain your taste buds.
- Use table salt sparingly — 1 teaspoon has about 2,300 mg of sodium, a dash has about 125 mg.
- Know your labels: “Reduced sodium” means the product has at least 25% less than the original, but it could still contain more than you want. Look for “low sodium” or “very low sodium” on the label, which means the food can't have more than 140 mg or 35 mg of sodium per serving, respectively.

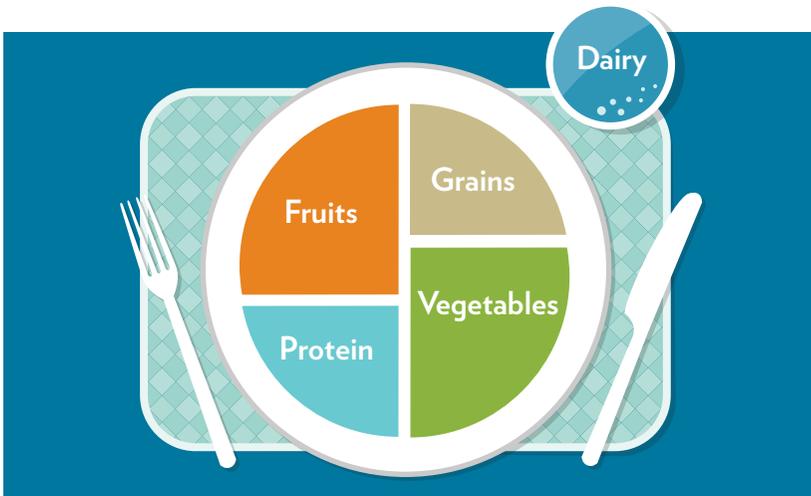
Heart-healthy eating plans

Many organizations have developed eating plans to help you improve your heart and vascular health. The upside is that you've never had more options when you're looking for guidance on what to eat for a healthy heart. The downside is that, with so many different recommendations, it can be hard to know which one is best for you. Don't worry – the most important thing to know is that the underlying recommendations for all heart-healthy eating plans *are the same*, so you can't really go wrong. It's also important to remember that these plans do not encourage “dieting” in the popular sense of the word. Use them as guides to assist you in making long-term healthy choices and habits.

The science shows that some of the best eating plans for a healthy heart and vascular system are the:

- DASH (Dietary Approaches to Stop Hypertension) eating plan
 - DASH is lower in sodium than a typical American diet. The standard DASH plan limits sodium to 2,300 mg a day (roughly the amount in 1 teaspoon of table salt). A lower sodium version of DASH limits sodium to 1,500 mg a day. If you aren't sure what sodium level is right for you, talk to your doctor.
 - DASH is high in vegetables, fruits, and whole grains. It includes fat-free or low-fat dairy products, fish, poultry, beans, and nuts and limits foods that are high in saturated fat, such as fatty meats and full-fat dairy products. This eating plan is high in potassium, calcium, magnesium, fiber, and protein, and low in saturated fat and sodium.
- Healthy Mediterranean-Style eating plan
 - The Mediterranean plan emphasizes fruits, vegetables, whole grains, beans, nuts, and seeds, and includes less dairy and meat than a typical American diet. Olive oil is a primary source of fat and low to moderate amounts of dairy, eggs, fish, and poultry may be included.

- USDA Healthy Vegetarian eating plan
 - The vegetarian eating plan was developed by the US Department of Agriculture (USDA) and includes proteins from plant sources. It is high in soy products (particularly tofu and other processed soy products); beans, peas, and lentils; nuts and seeds; and whole grains. Dairy and eggs may be included in a lacto-ovo vegetarian eating plan but meats including poultry and seafood are not included.
- USDA My Plate plan
 - My Plate was also developed by the USDA as a guide to planning healthy, balanced meals. Because it is easy to visualize a plate when you're trying to decide how much of each food group to eat, many people find the My Plate method is easy to remember. In general, at least $\frac{1}{2}$ of your plate should be filled with heart-healthy, nutrient and fiber rich vegetables and fruits, $\frac{1}{4}$ should be a lean protein, and a $\frac{1}{4}$ or less should be a whole grain.



All of these eating plans are flexible, so you don't have to give up everything you like to eat to improve your heart and vascular health. They all include trade-offs so you can plan for special occasions and treat yourself every now and then. Website links where you can find more details about each plan are in the "Other Resources" section at the end of this book. Next, we'll discuss general food group recommendations that are consistent with each of these eating plans.

The right balance for your heart



In general, the USDA's nutrition recommendations for ideal heart and vascular health are the same for all adults, even those who don't have elevated cholesterol, triglycerides, or heart disorders. Everyone can benefit from a diet that includes whole grains and plenty of colorful produce. However, people with elevated LDL-C or high triglycerides may need to tailor their fat and carbohydrate intakes to reach their heart health goals. Some people with extremely high triglyceride levels may even need a very low saturated-fat diet to prevent a complication called pancreatitis.

The following table tells you roughly how many servings from each food group you need each day for your calorie level (to calculate your daily calorie needs, see page 40). It also tells you the total number of fat and saturated fat grams that correspond with your calorie level.

How many servings do you need for your calorie and fat level?

Food Groups	Moderate Fat (30-35%)		Low Fat (20-25%)	
	1600	2000	1600	2000
Calories	1600	2000	1600	2000
Grains (ounces per day)	5-6	7-8	7	11
Vegetables (servings per day)	3-4	5-6	3-4	5-6
Fruits (servings per day)	3	4	4	5
Fat-free or low-fat milk (cups per day)	2-3	3-4	2-3	3-4
Lean meat, poultry, seafood, low fat cheese (ounces)	6-7	8-9	4-5	6
Total fat grams per day	62	78	44	56
Saturated fat grams per day (prevention <10%)	18	22	—	—
Saturated fat grams (treatment <7%)*	12	16	12	16

*Suggested for persons with a history of heart disease and/or high LDL cholesterol.

Vegetables

Any vegetable or 100% vegetable juice is in this group. Vegetables are packed with nutritional value and may be purchased raw or cooked, fresh, frozen, canned, or dried/dehydrated, and may be eaten whole, cut-up, or mashed. Based on the different nutrients in various types of vegetables, they're classified into 5 subgroups: dark green; red and orange; beans, peas, and lentils; starchy vegetables; and other vegetables. The healthiest choices are fresh or frozen vegetables without added butter or sauce, and canned vegetables with no salt added.



How many vegetables should I eat each day?

According to the USDA, adults in general should get 2-3 cups of vegetables each day.

Examples of 1-cup equivalents of vegetables:	
Dark Green	<ul style="list-style-type: none"> - 1 cup of broccoli florets (chopped, fresh or frozen) - 2 cups of dark, raw leafy greens such as mesclun, arugula, endive, or romaine - 1 cup of cooked greens such as bok choy, broccoli rabe, turnip, chard, collards, or kale - 2 cups of fresh greens such as dandelion, watercress, amaranth, or spinach
Red and Orange	<ul style="list-style-type: none"> - 1 cup of red or orange bell pepper (chopped) - 1 large sweet potato (baked) - 1 cup of tomatoes (chopped, sliced, fresh, canned, or cooked) - $\frac{3}{4}$ cup of red chili peppers (chopped) - 1 cup of vegetable juice
Beans, Peas, and Lentils	<ul style="list-style-type: none"> - 1 cup of dried or canned black beans, fava beans, garbanzo beans, kidney beans, lima beans, mung beans, navy beans, pigeon peas, pinto beans, soybeans, black-eyed peas (cow peas), or red, brown, or green lentils (whole, mashed, or cooked)
Starchy Vegetables	<ul style="list-style-type: none"> - 1 large ear of corn - 1 cup of corn kernels (fresh, frozen, or canned) - 1 medium white potato (boiled or baked) - $\frac{3}{4}$ cup of plantain (cooked) - 1 cup of green peas (fresh, frozen, or canned)
Other Vegetables	<ul style="list-style-type: none"> - 5 cactus pads - 1 avocado - 1 large green bell pepper - 2 cups of raw iceberg lettuce (shredded or chopped) - 2 large stalks of celery

Fruit

Fruits are naturally high in vitamins, minerals, and fiber, and low in fat, calories, and sodium. Plus, they don't contain any saturated fat or cholesterol. Any fruit or 100% fruit juice counts as a fruit and they may be fresh, frozen, canned, or dried/dehydrated, and eaten whole, cut-up, pureed, or cooked. At least half of your recommended amount of fruit should come from whole fruit, rather than 100% fruit juice.



How much fruit should I eat each day?

The amount of fruit you should eat varies by age, sex, height, weight, and how physically active you are. Pregnant or breastfeeding women may also need to eat more fruit than others. According to the USDA, adults in general should get 1 ½ to 2 cups of fruit daily.

Examples of 1-cup equivalents of fruit:	
Fresh	- 1 small or ½ of a large apple - 1 large banana - 1 large orange
Dried	- ½ cup of dried fruit (raisins, prunes, apricots, figs)
Juice	- 1 cup of 100% fruit juice

For optimal heart health, try to eat a variety of colors and types of fruit each day. The healthiest choices are whole fresh fruits and frozen fruit without added sugar. It's best to limit fruit juice (even 100% juice) and eat the fruit instead, especially if you have obesity or diabetes.



Grains

Grains include any food made from wheat, rice, oats, corn meal, barley, or cereal grain. Foods in this group supply fuel to our cells and are high in vitamins (especially B vitamins), minerals, iron, and fiber (particularly whole grains). Examples of grain foods are bread, pasta, breakfast cereal, grits, popcorn, tortillas, rice, and oatmeal.

Grains fall into two categories: whole grains and refined grains. Whole grains are always your best choice for a healthy heart because they contain the entire grain kernel with the bran, germ, and endosperm intact. These are foods like whole-wheat flour, bulgur (cracked wheat), oatmeal, whole grain cornmeal, and brown rice. On the other hand, refined grains are milled to remove the bran and germ, giving the food a finer texture and longer shelf life. Unfortunately, milling also removes dietary fiber, iron, some of the healthy fat, and many of the B vitamins that are so good for you. Refined grains are in foods like white flour, quick/instant grits, white bread, and white rice.

If you choose to eat refined grain foods, make sure they are enriched which means that certain B vitamins (thiamin, riboflavin, niacin, folic acid) and iron have been added back in. Be aware that fiber is not added back into enriched grain foods. Check refined foods to make sure that "enriched" is in the name. Lastly, some foods use a mixture of whole and refined grain. It's important to know that only foods that have 100% whole grain are really considered a whole grain food. Be sure that at least half of the grains you eat each day are whole grain foods.

How much grain should I eat each day?

The USDA recommends that adults in general should get 5-8 ounces of grains each day.

Examples of 1-ounce equivalents of grain:	
Bread and tortillas	<ul style="list-style-type: none"> - 1 2-inch whole wheat mini bagel - 1 regular slice of whole wheat bread - ½ of a whole wheat English muffin - 1 6-inch flour or corn tortilla
Chips, crackers, and snacks	<ul style="list-style-type: none"> - ⅓ cup of bagel or pita chips - 5 whole wheat crackers - 3 cups of popcorn (air-popped)
Intact grains	<ul style="list-style-type: none"> - ½ cup of quinoa (cooked) - ½ cup of brown rice (cooked) - ½ cup of stone ground grits (cooked)



Dairy

The dairy food group includes milk, yogurt, cheese, lactose-free milk, and calcium-fortified soy milk and yogurt. However, it does not include foods made from milk that have low calcium and high fat such as cream cheese, sour cream, and butter. It's important to note that beverages and yogurt made from soy are included in the dairy food group because these foods have calcium, vitamin A, and vitamin D added to them, so their nutritional content is similar to dairy milk and yogurt. Other, *unfortified* beverages or yogurts sold in the dairy case that are made

from plants (such as almond, rice, coconut, oat, and hemp milks) are not considered dairy foods for purposes of meal planning because their nutritional content is not similar to dairy milk and fortified soy milk. If you do not eat dairy products, you can meet your body’s calcium needs with *calcium-fortified* juices and *calcium-fortified* plant-based milk alternatives (oat, rice, and almond milks), canned fish (sardines and salmon with bones), tofu with calcium sulfate, tahini (sesame butter or paste), and leafy greens (collards, turnip greens, spinach, kale, bok choy, and almonds).

Dairy foods are an excellent source of protein, calcium, phosphorous, niacin, riboflavin, and vitamins A and D. But some, such as whole milk and cheese, are high in saturated fat. It is important to choose non-fat and low-fat varieties. The healthiest choices for your heart are dairy products with low fat content including skim or fat-free milk, 1% milk, evaporated skim milk, and fat-free or low-fat yogurt. Non-dairy milks, such as fortified and unsweetened soy, almond, and oat milk, are also good choices.

How much dairy should I eat each day?

According to the USDA, adults in general should get 3 cups of low-fat or fat-free dairy each day.

Examples of 1-cup equivalents of dairy:	
Milk	- 1 cup or 8 ounces of fat-free or low-fat milk - ½ cup of evaporated milk
Cheese	- 1 ½ ounces of block cheese (cheddar, mozzarella, Swiss, parmesan) - ⅓ cup of shredded cheese - 1 ounce of processed cheese (American) - 1 ¼ cup of cottage cheese - 2 ounces of queso fresco - 2 slices of queso blanco
Yogurt	- 1 cup of fat-free or low-fat yogurt (dairy or fortified soy)

Tip: If you're used to whole milk (3.5% fat), you might find tapering down the fat content slowly is easier than making a sudden change. Try shifting to 2% milk or mix whole milk with 2% milk to start. Then, gradually increase the amount of 2% and reduce the amount of whole milk. Next, try mixing 2% milk and 1% milk. Again, gradually increase the amount of 1% milk and reduce the amount of 2%. The last step is to mix skim and 1% milk, slowly reducing the amount of 1% milk until you can switch to skim milk completely.

Lean protein from animal or plant sources

Protein sources include seafood, meat, poultry, eggs, beans, peas, lentils, nuts, seeds, and soy products. As you know, beans, peas, and lentils are considered vegetable foods, but they are also an excellent, plant-based source of protein.

Choosing a variety of protein foods, including from plant sources, is a good way to get the wide range of nutrients your body needs and the most health benefits. Any meat or poultry should be lean or low-fat (for example, 93% lean ground beef, pork loin, or skinless chicken breast) and any visible fat and skin should be removed before cooking. When buying beef, look for cuts that have “round”, “chuck”, or “loin” in the name, and buy “choice” or “select” grades of beef rather than “prime.” Choose seafood that is high in beneficial fatty acids (omega-3s) and low in methylmercury such as salmon, mackerel, anchovies, and trout.

Try some of the new types of meat that are becoming more widely available such as buffalo, emu, and ostrich which are very low in fat, saturated fat, cholesterol, and sodium. Also, choose lean sandwich meats such as turkey, chicken, turkey ham, turkey pastrami, or lean boiled ham. Check the labels to find brands with less sodium. Vegetarians can meet their protein needs with beans, peas, lentils, nuts, seeds, and plant-based meat alternatives. Take care to check labels on meat alternatives for sodium and saturated fat (usually from coconut or palm oil).

As you've already learned, eggs are packed with nutritional value and contain a healthy balance of unsaturated and saturated fat, but they also contain high amounts of cholesterol (1 large egg has approximately 1.5 grams saturated fat, 3.5 grams unsaturated fat, 200 mg cholesterol). Eggs can be included in a healthy diet but be mindful of your total cholesterol and saturated fat intake on the days that you have eggs. It's a good idea to have 1 egg yolk with multiple whites per servings. Other options are to replace 1 whole egg with 2 egg whites, or buy a cholesterol-free egg substitute.

How much protein should I eat each day?

According to the USDA, adults in general should get 5 to 6 ½ ounces of lean protein each day.

Examples of 1-ounce equivalents of lean protein:	
Meat	<ul style="list-style-type: none"> - 1 ounce of cooked lean beef, goat, ham, lamb, pork, lean ground beef, or ground pork - 1 slice of lean, low-sodium lunch or deli meat (beef, chicken, ham, pork, turkey) - 1 ounce of cooked skinless chicken, ostrich, or turkey - 2 ounces of cooked Cornish hen, duck, goose, pheasant, or quail
Seafood	<ul style="list-style-type: none"> - 1 ounce of cooked sea bass, catfish, cod, flounder, freshwater trout, haddock, hake, halibut, herring, light tuna, mackerel, mullet, perch, pollock, salmon, snapper, sole, tilapia, or whiting - 1 ounce of cooked clams, crab, crayfish, lobster, mussels, octopus, oysters, scallops, shrimp, or squid - 1 ounce of canned anchovies, freshwater trout, herring, light tuna, salmon, sardines
Dairy	<ul style="list-style-type: none"> - 1 egg - 1 ½ egg whites - 3 tablespoons of liquid egg white product

Nuts and Seeds	<ul style="list-style-type: none"> - ½ ounce of nuts such as 12 almonds, 24 pistachios, or 7 walnut halves - ½ ounce of seeds such as chia, flax, pumpkin, sesame, sunflower, or squash (hulled, roasted) - 1 tablespoon of almond, cashew, peanut, or sunflower butter, or sesame paste (tahini)
Beans	<ul style="list-style-type: none"> - ¼ cup of dried or canned beans (black, fava, garbanzo, kidney, lima, mung, navy, pinto, soy, black-eyed or cow peas, or red, brown, or green lentils). May be whole, mashed, or cooked. - ¼ cup of baked beans or refried beans - ¼ cup of tofu - 6 tablespoons of hummus
Grains	<ul style="list-style-type: none"> - 1 ounce of tempeh (cooked) - 1 4-ounce falafel patty (about 2 ¼ inches in diameter)



Important note: Organ meats are very high in cholesterol. A small serving (3 ounces) about once a month is okay.

Meat shopping and preparation tips:

- Choose meats with very little visible fat and trim off as much as possible before cooking.
- Bake, broil, roast, microwave, or stir fry meat and pour off the fat after browning.
- Remove skin and fat under the skin before cooking poultry except when roasting a whole chicken or turkey. Then, remove the skin before carving.
- Choose whole turkeys that are not injected with fat or broth.
- Chill juices from cooked meat to easily skim off the hardened fat. After skimming, add the juices to stew, soup, and gravy for flavor.

Tips on using fats and oils

As we've discussed, the oils you cook with can provide vitamins A and E, and unsaturated fatty acids that keep your heart healthy. However, all fats and oils are high in calories, so it's important to monitor how much you use.

Healthy oil and fat choices:

- Vegetable oils: Canola, olive, peanut, avocado, rapeseed, grapeseed, safflower, and sesame.
- Reduced- and low-fat salad dressings and mayonnaise: No more than 2 grams of saturated fat per tablespoon. You can use avocado or hummus as healthy alternatives.
- Plant-based "buttery" spreads in liquid spray, squeeze, or tub: Make sure liquid vegetable oil or water is the first ingredient listed and that there's no more than 1.5 grams of saturated fat per tablespoon. Check the ingredient list and avoid those with partially hydrogenated oils.

Tips on desserts

Try to limit how often you have sweets and desserts, but it's not necessary to give them up forever to have a healthier heart. When you do choose to have sweets, look for those that are low in saturated fat, cholesterol, and calories.

If you buy store-bought desserts, be sure to read the ingredient list carefully and avoid partially hydrogenated oils. For homemade desserts, use liquid oil or a plant-based tub spread instead of butter, if possible. Also, try using 1% or fat-free evaporated milk instead of cream, and egg whites or egg substitute instead of whole eggs.

Healthy dessert choices:

- Fruit: Fresh, frozen, dried, or canned in natural juice
- Yogurt: Light, fat-free, or low fat with fruit or frozen
- Low fat cookies: Gingersnaps, graham crackers, vanilla wafers, fig bars, or angel food cake
- Ice cream: Light ice cream with no more than 3 grams of saturated fat per serving, fruit ice, sherbet, or sorbet
- Sugar-free gelatin

Tips on beverages

The best thing you can drink is water. Drink at least 8 cups of water every day. Try to eliminate sugar-sweetened beverages such as soda, sweet tea, and juice. Limit 100% fruit juice to no more than 6 ounces daily. If you drink alcoholic beverages such as wine, beer, or liquor, do so in moderation. That means no more than 1 drink per day for women or 2 drinks a day for men.



Nutrition facts label

The nutrition facts label is a valuable tool for making heart-healthy food choices. Look for them on each item you buy to find out what you’re really eating. However, fresh produce and meat or seafood typically

do not have a nutrition facts label. Comparing labels can help you cut down on saturated fat, cholesterol, sodium, and added sugar.

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.

Food manufacturers use words, pictures, and graphics on packaging to get your attention. Although the FDA regulates direct nutritional claims such as “low fat” and “fat free,” they do not ban other claims that simply suggest benefits. For example: “Helps support healthy arteries” is not the same as “helps lower cholesterol.” Be a little skeptical and spend time reading the nutrition facts panel and the ingredients list.

Get familiar with nutrition facts label information

Serving size: Serving size is a standardized amount that represents a common portion of a particular food. Values for all items listed on the label are based on this amount. Similar products will have similar serving sizes, so it’s easy to compare products. If you’re planning to eat more or less than the serving size listed, you’ll have to do some math to determine how much of the listed nutrients you are actually consuming.

Calories: If you’re trying to maintain or reach a healthy weight, you should learn what a good calorie goal is for you and then monitor your

calorie intake. A guide for determining your daily calorie needs is on page 44, but it's best to consult a registered dietitian nutritionist (RDN) for your personal needs.

Total fat: This number includes all the healthy and less healthy fats in one. Aim to stay within the amounts recommended on page 29.

Trans fat, saturated fat, and cholesterol: Saturated and trans fats are listed in grams. Everything you buy should have “0” grams of trans fat. It's okay to have some saturated fat but choose products with the lowest amounts (a good rule of thumb is to look for 3 grams or less per serving). Daily cholesterol intake should not exceed 200-300 mg. Use the percent daily value to determine how much of your daily limit a serving contains.

Sodium: The less sodium, the better. Processed and packaged foods are usually high in sodium. In general, the more processed a food is, the more sodium it contains. For example, 3 ounces of processed ham has 1,080 mg of sodium, while a 3-ounce lean pork chop has only 47 mg.



Total carbohydrates, dietary fiber, total sugars, and added sugars: Total sugar includes natural sources like those in milk and fruit which are not unhealthy, but it also includes “added” sugar like in candy and soda, which we should limit. Nutrition labels list added sugars as a separate line item so you can easily see how much of the total sugars are added. It's best to consume as little added sugar as possible. For starches, try to choose those with more dietary fiber (2 grams or more per serving is good).

Protein: Each of us has different protein needs, but most Americans greatly exceed their daily required amount. Most adults need about 0.8 grams of protein per kilogram of body weight per day. That means that someone who weighs 175 pounds only needs about 64 grams daily. For some perspective, a 3-ounce cooked chicken breast contains 26 grams of protein. A common misconception is that, just because a food contains

protein, it's healthy. As you've learned, that's not always true. There are other important factors to consider as well, so, more protein is not always better. Once your body's needs are met, consuming more protein provides no additional benefits. It's best to meet your protein needs with lean meats (low in saturated fat), fish, poultry, nuts, seeds, legumes, and other non-animal protein foods.

Percent daily value: This column tells you what percent of your total recommended daily intake of nutrients one serving of that food provides. These percentages are based on a 2,000 calorie per day diet. Be aware that your own optimal calorie intake may be higher or lower, but you can use these numbers to compare products. A good rule of thumb is 5% or less daily value is low and 20% or more is high.

Vitamins and minerals: Most foods will not provide all that you need of any one vitamin or mineral, so it's important to eat a variety of foods every day. The ones chosen for listing on the label are those that are a primary public health concern.

Ingredients: Ingredients are listed by weight, from most to least. If a source of saturated fat or added sugar is listed within the first few ingredients, a different choice might be healthier. Look for products with short ingredient lists as they are usually less processed.

Tips for using food labels

Food labels are a valuable tool, but all those numbers can be confusing at first. These tips will help you get started and avoid confusion:

- Compare how much you really eat to the serving size on the label. If you eat more, multiply the numbers on the label by the number of servings you actually eat.
- Compare labels on different brands of foods you normally buy. Focus on one thing at a time. If you want to eat less saturated fat, compare saturated fat. If you want to eat less sodium, compare sodium. Then select the food that fits your needs the best.

You can use words like “lite” and “low-fat” on packaging to help you make healthier choices but be sure to read the nutrition facts label for more detailed information.

Food label terms

Food labels that use the terms below must meet specific requirements.

- Calorie Free: Less than 5 calories per serving
- Low Calorie: 40 calories or less per serving
- Sodium Free: Less than 5 mg of sodium per serving
- Very Low Sodium: 35 mg of sodium or less per serving
- Low Sodium: 140 mg of sodium or less per serving
- Light Sodium: 50% less sodium per serving than the regular product
- Fat Free: Less than 0.5 g of fat per serving
- Low Fat: 3 g of fat or less per serving
- Extra Lean: Less than 5 g of fat, 2 g of saturated fat, and 95 mg of cholesterol per serving
- Lean: Less than 10 g of fat, 4.5 g of saturated fat, and 95 mg of cholesterol per serving
- Cholesterol Free: Less than 2 mg cholesterol per serving and 2 g or less saturated fat per serving
- Low Cholesterol: 20 mg of cholesterol or less per serving and 2 g or less saturated fat per serving
- Light or Lite: $\frac{1}{2}$ or $\frac{1}{3}$ fewer calories, or 50% less fat per serving than the regular product
- Reduced Fat, Sodium, Sugar, or Calories: 25% less fat, sodium, sugar, or calories than the regular product
- High Fiber: 5 g of fiber or more per serving

How many calories do you need?

Daily calorie needs to maintain your weight

Use the chart below to find a calorie needs range for maintaining your current weight. When deciding which activity level applies to you, consider your current activity level and it's usually best to underestimate. The table shows a range of calories to allow for the needs of people of different ages within an age group. Older adults usually need fewer calories. For example, an active 31-year-old man needs about 3,000 daily calories to maintain his weight, but an active 50-year-old man only needs about 2,800 calories.

Activity Level and Estimated Calories Burned				
Gender	Age (years)	Sedentary ¹	Moderately Active ²	Active ³
Female	19-30	2,000	2,000-2,200	2,400
	31-50	1,800	2,000	2,200
	51+	1,600	1,800	2,000-2,200
Male	19-30	2,400	2,600-2,800	3,000
	31-50	2,200	2,400-2,600	2,800-3,000
	51+	2,000	2,200-2,400	2,400-2,800

- Sedentary* means your lifestyle includes only the light physical activity of typical day-to-day life.
- Moderately Active* means your lifestyle includes physical activity equivalent to walking 1.5 to 3 miles per day at 3-4 miles per hour, in addition to the light physical activity of typical day-to-day life.
- Active* means your lifestyle includes physical activity equivalent to walking more than 3 miles per day at 3-4 miles per hour, in addition to the light physical activity of typical day-to-day life.



Fill in how many calories you need each day: _____

Daily calorie needs for losing weight

Find your weight on the BMI chart on page 46. If your BMI is in the healthy range, between 18.5 and 25, aim for the calorie level recommended on the chart above. If your BMI is over 25, subtract 500 calories from the number on the chart above to lose about 1 pound a week. For example, a 50-year-old, sedentary man needs about 2,200 calories a day to maintain his weight. To lose weight, he should subtract 500 calories, making his new goal 1,700 calories a day. He could also lose weight by starting to walk daily at a fairly fast pace, which moves him into the Moderately Active category.



Please note: Never go below 1,200 calories per day. Calorie levels below this are not adequate to meet nutrient needs. Medical monitoring is necessary for anyone planning to undertake a very low-calorie diet (under 1,200 calories per day).

Healthy body weight recommendations

The table below will help you find your body mass index (BMI) number which is a great tool to help you figure out your healthiest weight range. Locate your height in the left-most column and read across the row to find your weight. Follow that column up to the top row to see your BMI number.

		HEALTHY BMI					OVERWEIGHT BMI					OBESITY BMI						
BMI		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
HEIGHT	4' 10"	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167
	4' 11"	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173
	5'	97	102	107	112	118	123	128	133	138	143	148	153	158	163	169	173	179
	5' 1"	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185
	5' 2"	104	109	115	120	126	131	136	142	147	153	158	164	169	174	180	185	191
	5' 3"	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	192	197
	5' 4"	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204
	5' 5"	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210
	5' 6"	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216
	5' 7"	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223
	5' 8"	125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230
	5' 9"	128	135	142	149	155	162	169	176	182	189	196	203	209	219	223	230	236
	5' 10"	132	139	146	153	160	167	174	181	188	195	202	209	216	222	229	236	243
	5' 11"	136	143	150	157	165	172	179	186	193	200	208	215	222	229	236	243	250
	6'	140	147	154	162	169	177	184	191	199	206	213	221	228	235	243	250	258
	6' 1"	144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265
	6' 2"	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272
	6' 3"	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279
6' 4"	156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287	



Source: The Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 2005.

What does my BMI range mean?

- BMI values lower than 18.5 are considered underweight.
- BMI values from 18.5 to 25 are in the healthy range meaning your risk for developing disease is low.
- BMI values from 25 to 30 are in the overweight range. A BMI of 25 is about 10% over the ideal body weight, indicating a moderate risk for heart disease and other health concerns.
- BMI values of 30 or higher are in the obese range, indicating a high risk for heart disease, diabetes, certain cancers and other health concerns.
- BMI values of 40 or more are in the extreme obesity range, indicating a very high risk for heart disease and other serious health problems.

If your BMI is above the healthy range (over 25), you will benefit from losing some weight, especially if you have other risk factors for heart disease. If your BMI is in the obese range (over 30), please consult with your physician.



Please note: Different methods should be used to determine healthy weights for children. Children and teenagers have special needs. They must get enough calories and nutrients each day to support growth and development and should not be placed on a weight-loss diet unless it is deemed medically necessary. If you have a concern about your child's weight, talk with your healthcare provider.

Where you carry your weight is important

In addition to knowing your BMI, it is also important to consider where you carry your body weight. Carrying excess weight around your waist (belly fat) can put you at higher risk for several health problems, even if your BMI is in a healthy range. Excess belly fat is one of the criteria for determining if you have metabolic syndrome (see page 7). Measure your waist while standing by placing a flexible tape measure just above your hipbones, about an inch above your belly button (try to relax your stomach and not “suck it in”). Your heart-health risk rises as your waist measurement increases, particularly if your waist measurement is more than 35 inches for women or 40 inches for men.



Benefits of weight loss

The higher your BMI and waist measurement, and the more risk factors you have, the more likely you are to benefit from weight loss. A weight loss goal of 10% can significantly lower your blood pressure, triglyceride levels, and risk for developing diabetes.

The way you eat makes a difference

It's important to understand that controlling the amount and type of food you eat is only one part of weight management. The way we eat is connected to our culture and lifestyle, influenced by our family and friends, and often dictated by our finances. Food is not only essential for survival, it's also how we celebrate special occasions, comfort each other during hard times, and treat our loved ones. Food can make us feel better.

If you want to change how much and what you eat, focus on making small, gradual changes. Drastic, sudden changes can be unrealistic. That's why fad diets usually don't work over the long term. Even worse,

they set you up for failure and deplete your self-confidence about taking control of your health. A better plan is to set specific and measurable goals for improvements that you are confident you can reach and break them down into manageable steps. Set short-term goals and reward yourself for reaching each one. Your goals should be SMART (specific, measurable, attainable, rewarding, and timely). Also, be realistic — don't throw in the towel just because you occasionally get off track.

Rewards should be tangible things like indulging in a favorite activity or taking some time off just for yourself. And, of course, your rewards should not be food.

Write down 2-3 simple behavior-change goals and a reward for each one. It's best not to set too many goals so you don't feel overwhelmed. Be sure each one has become a habit before making it more difficult or moving on to changing a different behavior.

When it comes to the financial component, there is a common perception that eating healthfully is more expensive. As a matter of fact, the more a food is processed or changed, the more expensive (and usually less healthy) it becomes. A few studies have shown that eating food that is closer to its natural state is not only healthier, but less expensive, as well.

Tips to control food intake

Step 1. Reduce triggers that prompt you to eat when you're not hungry. Many things stimulate eating besides physical hunger. Certain places, activities, emotions, and just the sight or smell of food can trigger us to eat even when we're not hungry.

Try these tips to avoid reactionary eating:

- Eat only when you're sitting down. Don't eat while you're standing, walking, or driving.
- Eliminate all other activities, except talking, while you're eating.
- Keep tempting foods out of sight.

Step 2. Learn to eat more slowly. Eating slower gives us time to feel that we're full before we're overstuffed. It takes at least 20 minutes for the "fullness" signal from your stomach to reach your brain. You'll get more satisfaction from less food when you eat slowly. Try putting your eating utensils down after each bite and picking them up only after swallowing. Maybe try counting the number of times you chew or setting a timer for how long your meal should take.

Step 3. Balance your diet. Remember, you don't have to be perfect all the time – it's what you do most of the time that makes a difference. If you sometimes have a high-fat, high-calorie main course at dinner, balance it out with lower-fat side dishes such as steamed vegetables or have fruit for dessert. Many people find the 80/20 rule is easy to remember – eat healthy food 80% of the time and slightly less healthy food 20% of the time. Another strategy is to choose one day a month for some "intentional indiscretion" when you enjoy a favorite food that you've limited to reach your heart health goals.

Step 4. Start keeping a food diary. When you write down the foods you eat, you'll become more focused on what you're really eating and tend to do better with weight control. There are many mobile apps to help you with this and that can greatly simplify the process.



How a dietitian nutritionist can help

Keeping your weight in a heart-healthy range calls on you to make a continuous, steady effort to balance your nutrition, physical activity, and other lifestyle choices.

Many people find they need some support and guidance to help them manage their weight over the long term. Consult with your doctor or a registered dietitian nutritionist (RDN) to get the resources you need. Registered dietitian nutritionists are healthcare professionals with expertise in food and nutrition, behavior change, and lifestyle and wellness practices. They use the latest research to help you make a plan to meet your health goals. Some of them have specific training or credentials, such as Clinical Lipid Specialist (CLS). Lipid management refers to managing and treating lipid disorders (as you've learned, lipids are the fats in your blood like cholesterol and triglycerides).

Your clinician may refer you to the MUSC Health Seinsheimer Cardiovascular Health Program to consult with our registered dietitian nutritionist.

If you would like to benefit from the expertise of a dietitian in your area, you can ask your healthcare provider or search for a dietitian at: <https://www.eatright.org/find-a-nutrition-expert>. If you'd like to work specifically with a dietitian who specializes in lipid management (a CLS certified healthcare provider), search here: <https://www.learnyourlipids.com/find-a-clinician/>.

The MUSC Health Weight Management Center can also help you reach your healthy weight loss goals. See page 60 for helpful resources at MUSC Health.

Dining away from home

Most American families spend about half of their food budget on meals prepared away from home. Because you're not preparing these foods yourself, it's important to know how to eat wisely when you dine out or get delivery. You might still splurge on special occasions but try to stick with heart-healthy choices most of the time, especially if you eat 3 or more meals per week that are from outside your home (though we recommend cutting back on dining out). Here are some tips for dining out to help keep you on track:

- Go easy on the bread and butter or olive oil or chips and salsa before your main dish is served. It's easy to load up on calories and fat without realizing it. You can even ask your server to leave these temptations in the kitchen.
- Ask your server how the food is prepared. Specify, when possible, how you'd like your meal prepared. For example, in ordering a stir-fry dish, ask that oil and soy sauce be used sparingly.
- Start your meal with a veggies-only salad to help satisfy your appetite and make sure you get those valuable nutrients.
- Substitute steamed vegetables or a salad for high-fat side items.
- Ask for sauces and dressings to be put on the side so you can control the amount of those high-fat add-ons you eat.
- Taste your food before adding salt. Use a splash of vinegar or a squeeze of lemon juice for extra flavor.
- When you're full, stop eating and ask the server to remove your plate to prevent nibbling. Ask for your leftovers in a to-go box to take home for tomorrow. You can also divide your meal as soon as it arrives at the table and put half in a to-go box before you start to eat. This helps you avoid the temptation to finish the entire meal.
- If the portions are large, consider ordering an appetizer as your main course or sharing an entrée with someone else. Please note that appetizers are sometimes the highest fat and calorie items on the menu.

Reading menu descriptions is a great way to uncover clues about the nutritional value in each dish.

Healthy, “green light” words:	Grilled, broiled, boiled, roasted, baked, steamed, poached, fresh
Less healthy, “red light” words:	Crispy, fried, creamy, buttery, au gratin, light cream sauce, alfredo, king-sized, hearty, country-style, breaded

Portion distortion: Enjoy all foods just don't overdo it

Although it's important to choose food that's healthy for your heart, it's also important to eat the right amount. Pay special attention to your portion sizes, especially if you want to reach or maintain a healthy weight. You might even occasionally use measuring cups and spoons or a food scale to check yourself.

Here are some easy-to-remember guides for when you don't have measuring tools (such as when you're dining out).

Portion Size Tips:		
1 cup	Size of baseball	1 serving fresh fruit
½ cup	Size of lightbulb	1 serving cooked cereal
⅓ cup	Size of egg	1 serving cooked rice
2 Tbsp	Size of golf ball	Small scoop of peanut butter
1 Tbsp	Size of thumb	Dollop of mayonnaise
1 tsp	Size of penny	1 serving of olive oil
3 ounces	Size & thickness of a deck of cards	1 serving of meat, poultry, or fish
1 ounce	Size of 4 dice	1 serving of cheese

Everybody needs exercise



A century ago, physical activity was an unavoidable part of everyday life. Walking was a primary means of transportation and work typically involved more physical activity than it does today. Since then, inventions such as cars, computers, televisions, and microwaves have made our lifestyle more sedentary. All of these wonderful conveniences have made us a less fit, heavier, and less healthy society.

To improve our health, we need to integrate formal exercise and informal physical activity into our daily lives. Formal daily exercise is rhythmic sustained activity such as walking, jogging, biking, rowing, dancing, or swimming. Guidelines recommend that adults exercise at moderate intensity for at least 150 to 300 minutes per week or vigorous intensity for at least 75 to 150 minutes per week.

To start doing more formal exercise, try adding a 10- to 15-minute weekly exercise session and gradually increase the time and intensity over several weeks. To help you determine the intensity level, use a scale of 1 to 10, with 1 being the lowest intensity (no effort, basically sitting) and

10 being the highest intensity (maximum effort). Moderate-intensity exercise should rate from 4 to 6 and vigorous-intensity exercise should rate from 7 to 8.

Informal activity, also known as activities of daily life, involves moving your body but without reaching an intensity level or duration that would be considered exercise. To increase the amount of informal activity you do each day, choose to take the stairs instead of the elevator, park farther from your destination, walk over to talk to a co-worker instead of e-mailing or calling, or walk the dog. Just try to keep moving and sit as little as possible.

Exercise decreases your risk for heart problems and improves a lot of health indicators such as blood pressure, cholesterol, and blood glucose levels. People who are habitual exercisers report having less fatigue, more self-confidence, better ability to perform daily activities, and lower stress and anxiety.

We know it can be difficult to incorporate exercise into an already busy day. That's why it's essential to find activities that you enjoy. The more enjoyment you discover in exercise, the more likely it will become a habit or even something you look forward to.

Here are a few tips to increase your chances of sticking with your commitment to get more exercise:

- Make a weekly plan and include a variety of exercise options
- Designate a time and place to exercise
- Schedule it on your calendar but have a back-up plan
- Make it convenient
- Set specific, attainable goals
- Reward yourself for reaching your goals

Frequently asked questions

What is the ketogenic diet and is it good for my heart?

A diet that is low or very low in carbohydrates (CHOs), also known as a ketogenic diet, is popular for weight loss. However, evidence shows that reducing or increasing one macronutrient or food group over another is not better for weight loss or managing other health risk factors. While low-CHO and very-low-CHO diets may improve triglycerides, raise HDL-C, improve blood sugar control, and possibly help reduce diabetes medications over the short term, these diets can also raise your LDL-C levels. In the long run, after 2 years on any diet there are generally no differences for weight loss.

Studies show that it's difficult to stick with severe CHO restriction and the ketogenic diet can be challenging. Also, ketogenic diets restrict or eliminate some foods with cardioprotective benefits and may encourage eating foods that increase your risk for heart and vascular disease (eg, processed meats and other foods high in saturated fats). Some people with high triglycerides or genetic LDL-C disorders should not follow a ketogenic diet because of the risk of acute pancreatitis or worsening cholesterol levels.

There are no long-term studies on whether a ketogenic diet affects your risk for heart attack and stroke. Decide whether following a low-CHO or very-low-CHO diet is right for you after discussing the risks and benefits with your healthcare provider. If you decide to follow a ketogenic diet:

- Have medical supervision, especially if you have heart disease, heart failure, diabetes, kidney disease, or liver disease.
- Consider consulting an RDN to learn how to replace CHO with healthier unsaturated fatty acids and avoid consuming too much saturated fat and cholesterol.
- Your healthcare provider should assess your lipids/lipoproteins regularly and adjust your diabetes and hypertension medications as needed.

My friend lost a lot of weight with intermittent fasting. What is it and is it healthy for my heart?

Intermittent fasting (also called time restricted eating) is when you limit your daily intake of calories to a specific window of time of about 6 to 12 hours each day. The most popular method is to have only 2 meals during this time instead of 3 meals. There is not yet good evidence to tell us what the best time window is, but the most popular strategy is to fast for 16 hours and eat over a period of 8 hours.



Intermittent fasting is based on the concept that our ancient ancestors did not have access to an unlimited supply of food and did not routinely eat 3 large meals plus snacks every day. They hunted daily and gathered food, sometimes under harsh conditions with limited resources. It is possible that this lifestyle might have helped them be less affected by stress and to have high insulin sensitivity and blood sugar control, less inflammation, and a lower risk of diabetes, cardiovascular disease, cancer, and brain diseases.

Intermittent fasting is not more effective for weight loss than standard calorie-restriction diets, but it may improve cardiovascular health. There is some evidence that regular intermittent fasting can reduce belly fat and may be anti-inflammatory. Fasting may also help lower your BP and resting heart rate. It's important to remember, however, that evidence supporting the cardiovascular benefits of intermittent fasting is very limited and most research to date has been based on animal studies and observations.

What are plant sterols and stanols and can they help lower my cholesterol?

Plant sterols and stanols are substances found in plant-derived foods that are very effective at lowering LDL-C. The structure of plant sterols and stanols is similar to that of cholesterol from animal-derived foods, but they can block cholesterol from being absorbed in your gut. Unfortunately, only very small amounts of these substances naturally occur in plant-based foods. So, if you have elevated LDL-C levels, it may be helpful to use a fortified food product (such as the buttery spread called Benecol[®]) or take a supplement (such as Cholestoff[®]). Note that the sterols and stanols in supplements are absorbed better when you take them with meals or snacks. Taking 2 grams (2,000 mg) of plant sterols and stanols each day can lower your LDL-C by 7 to 10%.

Can a gluten-free diet improve my heart and vascular health?

There is no evidence that a gluten-free diet provides cardiovascular benefits. There are 3 gluten-related conditions: celiac disease, wheat allergy, and nonceliac gluten sensitivity. For the 1% to 2% of the population with celiac disease, a gluten-free diet reduces health complications.

Although individuals with gluten-related conditions must avoid gluten, many other people follow a gluten-free diet for weight loss or other suggested health benefits. There is no evidence that avoiding gluten results in weight loss or that consuming gluten leads to weight gain in healthy people.

Do any dietary supplements have proven heart health benefits?

There are many large, high-quality studies showing no heart health benefits from taking dietary supplements such as vitamins A, C, E, beta carotene, folic acid, and non-prescription fish oils. Vitamin D supplements do not provide cardiovascular benefits but may help relieve symptoms of vitamin D deficiency. There are no large, high-quality studies of most other dietary supplements, meaning that their proposed benefits are just theoretical. To ensure you get the optimal amount of all heart-healthy vitamins and minerals, consume a diet high in vegetables, fruits, whole grains, beans and legumes, healthy fats, and lean proteins.

What are the pros and cons of meal delivery services? Are they heart-healthy?

Meal delivery services can be a convenient option for a busy lifestyle. They may help decrease the number of fast food or restaurant meals you eat, which tend to be less healthy. Another benefit is that the amount of food you receive is limited, which may help with portion control. A disadvantage is that these services can be expensive. You also have to be diligent in using the information you have learned here when setting the parameters in your delivery request to ensure you get the healthiest options. For example, choose the “vegetarian” meal option for a better chance of receiving healthier items. There is little research on the healthfulness of meal delivery services, but some studies find they are “less healthy”. That doesn’t mean delivery service meals can’t fit into your healthy eating plan, but you’ll need to choose your options wisely to be sure they do.

MUSC Health resources: We're here to help you

The Seinsheimer Cardiovascular Health Program

Located in MUSC Health's Ashley River Tower and outreach cardiology clinics, the Seinsheimer Cardiovascular Health Program is dedicated to improving cardiovascular health by offering one-stop access to a full range of preventive cardiology services. The program brings together comprehensive cardiovascular exams, nutrition counseling, weight management, exercise prescription, diabetes management, tobacco treatment, and vascular services, as well as early detection and diagnostic imaging.

You're never too young — or too old — to begin taking preventive measures. More than 78% of U.S. adults between the ages of 20 and 80 have one or more risk factors for cardiovascular disease. The good news is that prevention works — since 1968, deaths from heart attack and stroke have been reduced by almost 50% largely by addressing the most serious risk factors. Seinsheimer program services are often covered by insurance plans. Visit <https://muschealth.org/medical-services/heart/cardiology-services/heart-health> to learn more or to make an appointment.

MUSC Health Cardiac Rehabilitation Program

The MUSC Health Cardiac Rehabilitation Program is individualized for each patient and draws on the expertise of cardiologists, nurses, an exercise physiologist, a registered dietitian, and a vocational counselor. This four-phase program begins during hospitalization and continues after discharge.

This program teaches patients and their families how to modify lifestyles to reduce their risk for coronary heart disease. Because there are also inherited risk factors, everyone in the family can benefit.

Patients receive an individualized exercise program based on their medical history and personal goals, and gain confidence by starting in a medically supervised setting where their heart rate, blood pressure, and electrocardiogram can be monitored as they exercise.

The MUSC Health Cardiac Rehabilitation Program also links patients and their families with others going through the same experience so they can support and encourage one another.

MUSC Health Nutrition Counseling

MUSC Health Dietary Services and the Seinsheimer Cardiovascular Health Program provide nutrition counseling for those who need individualized assistance with heart-healthy meal planning and weight management.

A registered dietitian can provide counseling according to your physician's medical recommendations. Contact the Seinsheimer Cardiovascular Health Program at 843-792-1616 or visit us online at www.MUSChealth.com/hearthealth.

MUSC Health Tobacco Treatment Program

The MUSC Health Tobacco Treatment Program provides a full range of support services to help you stop using tobacco and nicotine products. The program offers individual and group counseling, help recognizing and overcoming triggers and cravings, and medication support. You can reach us through the MUSC Tobacco treatment Program at <https://muschealth.org/medical-services/tobacco-treatment-program> or by calling (843) 792-9101.

MUSC Health Weight Management Programs for Adults and Children

The MUSC Health Weight Management Center has been helping people manage their weight since 1974. Extra weight is a complex problem that can harm your health and quality of life. Our team of psychologists, physicians, dietitians, and exercise physiologists understand the challenges of weight loss, and work together to help you reduce excess weight. Patients and their families benefit from the most current and safe weight management strategies through a full range of programs designed to serve the different needs of different people. All of our programs focus on helping you make long-term lifestyle changes that will lead to success in the long run. Please call us at (843) 792-2273 or visit: <https://muschealth.org/medical-services/weight-management>.

MUSC's Children's Heart Health is a special weight management and lipid disorder treatment program just for kids. This family-centered program helps children make heart-healthy lifestyle changes and is appropriate for any child or adolescent with abnormal weight gain or a lipid disorder (high cholesterol, high triglycerides, familial hypercholesterolemia) regardless of their weight. To find out if the program is a good fit for your child, please call us at (843) 792-4717 or visit: <https://musckids.org/our-services/heart-center/heart-health-program>.

Other resources to help you on your heart-health journey

United States Department of Agriculture (USDA)

Dietary Guidelines for Americans 2020-2025

https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary_Guidelines_for_Americans_2020-2025.pdf

2021 Dietary Guidance to Improve Cardiovascular Health:

A Scientific Statement From the American Heart Association

<https://www.ahajournals.org/doi/pdf/10.1161/CIR.0000000000001031>

My Plate

<https://www.myplate.gov/eat-healthy/what-is-myplate>

Healthy Mediterranean Diet

<https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/nutrition-basics/mediterranean-diet>

Healthy Vegetarian Diet

<https://www.nal.usda.gov/fnic/vegetarian-nutrition>

DASH Diet (Dietary Approaches to Stop Hypertension)

<https://www.nhlbi.nih.gov/health-topics/dash-eating-plan>

Cardiosmart—American College of Cardiology Patient Education

<https://www.cardiosmart.org/topics/healthy-living>

National Heart Lung and Blood Institute

<https://www.nhlbi.nih.gov/health/educational/wecan/tools-resources/nutrition.htm>

American Heart Association

<https://www.heart.org/en/healthy-living/healthy-eating>

<https://www.heart.org/en/healthy-living/fitness>

<https://www.heart.org/en/healthy-living/healthy-lifestyle>

National Lipid Association

<https://www.learnyourlipids.com/>



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