What are Overweight and Obesity?

What Causes Overweight and Obesity?

Lack of Energy Balance

“A lack of energy balance most often causes overweight and obesity. Energy balance means that your energy IN equals your energy OUT.

Energy IN is the amount of energy or calories you get from food and drinks. Energy OUT is the amount of energy your body uses for things like breathing, digesting, and being physically active.

To maintain a healthy weight, your energy IN and OUT don’t have to balance exactly every day. It’s the balance over time that helps you maintain a healthy weight.

- The same amount of energy IN and energy OUT over time = weight stays the same
- More energy IN than energy OUT over time = weight gain
- More energy OUT than energy IN over time = weight loss

Overweight and obesity happen over time when you take in more calories than you use.

Other Causes

An Inactive Lifestyle

Many Americans aren’t very physically active. One reason for this is that many people spend hours in front of TVs and computers doing work, schoolwork, and leisure activities. In fact, more than 2 hours a day of regular TV viewing time has been linked to overweight and obesity.

Other reasons for not being active include: relying on cars instead of walking, fewer physical demands at work or at home because of modern technology and conveniences, and lack of physical education classes in schools for children.

People who are inactive are more likely to gain weight because they don’t burn up the calories that they take in from food and drinks. An inactive lifestyle also raises your risk of coronary heart disease, high blood pressure, diabetes, colon cancer, and other health problems.

Environment

Our environment doesn’t support healthy lifestyle habits; in fact, it encourages obesity. Some reasons
include:

- Lack of neighborhood sidewalks and safe places for recreation. Not having area parks, trails, sidewalks and affordable gyms makes it hard for people to be physically active.

- Work schedules. People often say that they don’t have time to be physically active because of long work hours and time spent commuting.

- Oversized food portions. Americans are surrounded by huge food portions in restaurants, fast food places, gas stations, movie theaters, supermarkets, and even home. Some of these meals and snacks can feed two or more people. Eating large portions means too much energy IN. Over time, this will cause weight gain if it isn’t balanced with physical activity.

- Lack of access to healthy foods. Some people don’t live in neighborhoods that have supermarkets that sell healthy foods, such as fresh fruits and vegetables. Or, for some people, these healthy foods are too costly.

- Food advertising. Americans are surrounded by ads from food companies. Often children are the targets of advertising for high-calorie, high-fat snacks and sugary drinks. The goal of these ads is to sway people to buy these high-calorie foods, and often they do.

**Genes and Family History**

Studies of identical twins who have been raised apart show that genes have a strong influence on a person’s weight. Overweight and obesity tend to run in families. Your chances of being overweight are greater if one or both of your parents are overweight or obese.

Your genes also may affect the amount of fat you store in your body and where on your body you carry the extra fat. Because families also share food and physical activity habits, a link exists between genes and the environment.

Children adopt the habits of their parents. A child who has overweight parents who eat high-calorie foods and are inactive will likely become overweight too. However, if the family adopts healthy food and physical activity habits, the child’s chance of being overweight or obese is reduced.

**Health Conditions**

Some hormone problems may cause overweight and obesity, such as underactive thyroid (hypothyroidism), Cushing’s syndrome, and polycystic ovarian syndrome (PCOS).

Underactive thyroid is a condition in which the thyroid gland doesn’t make enough thyroid hormone. Lack of thyroid hormone will slow down your metabolism and cause weight gain. You’ll also feel tired and weak.

Cushing’s syndrome is a condition in which the body’s adrenal glands make too much of the hormone cortisol. Cushing’s syndrome also can develop if a person takes high doses of certain medicines, such as prednisone, for long periods.

People who have Cushing’s syndrome gain weight, have upper-body obesity, a rounded face, fat around the neck, and thin arms and legs.

PCOS is a condition that affects about 5–10 percent of women of childbearing age. Women who have PCOS often are obese, have excess hair growth, and have reproductive problems and other health issues due to high levels of hormones called androgens.
Medicines

Certain medicines may cause you to gain weight. These medicines include some corticosteroids, antidepressants, and seizure medicines.

These medicines can slow the rate at which your body burns calories, increase your appetite, or cause your body to hold on to extra water. All of these factors can lead to weight gain.

Emotional Factors

Some people eat more than usual when they're bored, angry, or stressed. Over time, overeating will lead to weight gain and may cause overweight or obesity.

Smoking

Some people gain weight when they stop smoking. One reason is that food often tastes and smells better after quitting smoking.

Another reason is because nicotine raises the rate at which your body burns calories, so you burn fewer calories when you stop smoking. However, smoking is a serious health risk, and quitting is more important than possible weight gain.

Age

As you get older, you tend to lose muscle, especially if you’re less active. Muscle loss can slow down the rate at which your body burns calories. If you don’t reduce your calorie intake as you get older, you may gain weight.

Midlife weight gain in women is mainly due to aging and lifestyle, but menopause also plays a role. Many women gain around 5 pounds during menopause and have more fat around the waist than they did before.

Pregnancy

During pregnancy, women gain weight so that their babies get proper nourishment and develop normally. After giving birth, some women find it hard to lose the weight. This may lead to overweight or obesity, especially after a few pregnancies.

Lack of Sleep

Studies find that the less people sleep, the more likely they are to be overweight or obese. People who report sleeping 5 hours a night, for example, are much more likely to become obese compared with people who sleep 7–8 hours a night.

People who sleep fewer hours also seem to prefer eating foods that are higher in calories and carbohydrates, which can lead to overeating, weight gain, and obesity over time.

Hormones that are released during sleep control appetite and the body’s use of energy. For example, insulin controls the rise and fall of blood sugar levels during sleep. People who don’t get enough sleep have insulin and blood sugar levels that are similar to those in people who are likely to have diabetes.

Also, people who don’t get enough sleep regularly seem to have high levels of a hormone called ghrelin (which causes hunger) and low levels of a hormone called leptin (which normally helps curb hunger).
What Are the Health Risks of Overweight and Obesity?

Being overweight or obese isn’t a cosmetic problem. It greatly raises the risk in adults for many diseases and conditions.

Overweight and Obesity-Related Health Problems in Adults

Coronary Heart Disease

Coronary heart disease (CHD) is a condition in which a substance called plaque (plak) builds up inside the coronary arteries. These arteries supply oxygen-rich blood to your heart. Plaque is made up of fat, cholesterol, calcium, and other substances found in the blood.

Plaque can narrow or block the coronary arteries and reduce blood flow to the heart muscle. This can cause angina (an-JI-nuh or AN-juh-nuh) or a heart attack. (Angina is chest pain or discomfort.)

As your body mass index (BMI) increases, so does your risk of having CHD and a heart attack. Obesity also can lead to heart failure. This is a serious condition in which your heart can’t pump enough blood to meet your body’s needs.

High Blood Pressure

Blood pressure is the force of blood pushing against the walls of the arteries as the heart pumps out blood. If this pressure rises and stays high over time, it can damage the body in many ways. Your chances of having high blood pressure are greater if you’re overweight or obese.

Stroke

Being overweight or obese can lead to a buildup of plaque in your arteries. Eventually, an area of plaque can rupture, causing a blood clot to form at the site. If the clot is close to your brain, it can block the flow of blood and oxygen to your brain and cause a stroke. The risk of having a stroke rises as BMI increases.

Type 2 Diabetes

Diabetes is a disease in which the body’s blood glucose, or blood sugar, level is too high. Normally, the body breaks down food into glucose and then carries it to cells throughout the body. The cells use a hormone called insulin to turn the glucose into energy.

In type 2 diabetes, the body’s cells don’t use insulin properly. At first, the body reacts by making more insulin. Over time, however, the body can’t make enough insulin to control its blood sugar level.

Diabetes is a leading cause of early death, CHD, stroke, kidney disease, and blindness. Most people who have type 2 diabetes are overweight.

Abnormal Blood Fats

If you’re overweight or obese, you’re at increased risk of having abnormal levels of blood fats. These include high levels of triglycerides and LDL (‘bad’) cholesterol and low levels of HDL (‘good’) cholesterol.

Abnormal levels of these blood fats are a risk factor for CHD. For more information about triglycerides and LDL and HDL cholesterol, go to the Diseases and Conditions Index High Blood Cholesterol article.

Metabolic Syndrome
Metabolic syndrome is the name for a group of risk factors linked to overweight and obesity. These risk factors increase your risk of CHD and other health problems, such as diabetes and stroke.

You can develop any one of these risk factors by itself, but they tend to occur together. A diagnosis of metabolic syndrome is made if you have at least three of the following risk factors:

- A large waistline. This also is called abdominal obesity or ‘having an apple shape.’ Having extra fat in the waist area is a greater risk factor for CHD than having extra fat in other parts of the body, such as on the hips.
- A higher than normal triglyceride level (or you’re on medicine to treat high triglycerides).
- A lower than normal HDL cholesterol level (or you’re on medicine to treat low HDL cholesterol).
- Higher than normal blood pressure (or you’re on medicine to treat high blood pressure).
- Higher than normal fasting blood sugar (or you’re on medicine to treat diabetes).

Cancer
Being overweight or obese raises the risk of colon, breast, endometrial, and gallbladder cancers.

Osteoarthritis
Osteoarthritis is a common joint problem of the knees, hips, and lower back. The condition occurs if the tissue that protects the joints wears away. Extra weight can put more pressure and wear on joints, causing pain.

Sleep Apnea
Sleep apnea is a common disorder in which you have one or more pauses in breathing or shallow breaths while you sleep.

A person who has sleep apnea may have more fat stored around the neck. This can narrow the airway, making it hard to breathe.

Reproductive Problems
Obesity can cause menstrual irregularity and infertility in women.

Gallstones
Gallstones are hard pieces of stone-like material that form in the gallbladder. They’re mostly made of cholesterol. Gallstones can cause abdominal or back pain.

People who are overweight or obese are at increased risk of having gallstones. Also, being overweight may result in an enlarged gallbladder that doesn’t work right.

Overweight and Obesity-Related Health Problems in Children and Teens
Overweight and obesity also increase the health risks for children and teens. Type 2 diabetes once was rare in American children, but an increasing number of children are developing the disease.

Also, overweight children are more likely to become overweight or obese as adults, with the same disease risks.
Who Is At Risk for Overweight and Obesity?

Overweight and obesity affect Americans of all ages, sexes, and racial/ethnic groups. This serious health problem has been growing over the last 30 years.

Adults

According to the National Health and Nutrition Examination Survey (NHANES) 2007–2008, about one-third of adults in the United States are overweight and about one-third are obese. The survey also shows differences in overweight and obesity among racial/ethnic groups.

- In women, overweight and obesity are highest for non-Hispanic African American women (about 78 percent), compared with about 76 percent for Hispanic women and 61 percent for non-Hispanic White women.
- In men, overweight and obesity also are higher for minority groups. They’re highest for Hispanic men (about 79 percent), compared with about 73 percent for non-Hispanic White men and about 69 percent for non-Hispanic African American men.

Children and Teens

Children also have become heavier. In the past 30 years, obesity:

- Has more than doubled among children ages 2–5
- Has tripled among children ages 6–11
- Has more than tripled among adolescents ages 12–19

According to NHANES 2007–2008, about 1 in 6 American children ages 2–19 are obese. The survey also suggests that overweight and obesity are having a greater effect on minority groups, including African Americans and Hispanics.

What Are the Signs and Symptoms of Overweight and Obesity?

Weight gain usually happens over time. Most people know when they’ve gained weight. Some of the signs of overweight or obesity include:

- Clothes feeling tight and needing a larger size.
- The scale showing that you’ve gained weight.
- Having extra fat around the waist.
- A higher than normal body mass index and waist circumference.

How Are Overweight and Obesity Treated?

Successful weight-loss treatments include setting goals and making lifestyle changes, such as eating fewer calories and doing physical activity regularly. Medicines and weight-loss surgery also are options for some people if lifestyle changes aren’t enough.

Set Realistic Goals

Setting realistic weight-loss goals is an important first step to losing and maintaining weight.

For Adults

- Lose just 5 to 10 percent of your current weight over 6 months. This will lower your risk of
coronary heart disease (CHD) and other conditions.

- The best way to lose weight is slowly. A weight loss of 1 to 2 pounds a week is do-able, safe, and will help you keep off the weight. It also will give you the time to make new, healthy lifestyle changes.

- If you’ve lost 10 percent of your body weight, have kept it off for 6 months, and are still overweight or obese, you may want to consider further weight loss.

For Children and Teens

- If your child is overweight or at risk of overweight, the goal is to maintain his or her current weight and to focus on eating healthy and being physically active. This should be part of a family effort to make lifestyle changes.

- If your child is overweight and has a health condition related to overweight or obesity, your doctor may refer you to a pediatric obesity treatment center.

Lifestyle Changes

For long-term weight-loss success, it’s important for you and your family to make lifestyle changes:

- Focus on balancing energy IN (calories from food and drinks) and energy OUT (physical activity).

- Follow a healthy eating plan.

- Learn how to adopt healthy lifestyle habits.

Over time, these changes will become part of your everyday life.

Calories

Cutting back on calories (energy IN) will help you lose weight. To lose 1 to 2 pounds a week, adults should cut back their calorie intake by 500 to 1,000 calories a day.

- In general, having 1,000 to 1,200 calories a day will help most women lose weight safely.

- In general, having 1,200 to 1,600 calories a day will help most men lose weight safely. This calorie range also is suitable for women who weigh 165 pounds or more or who exercise routinely.

These calorie levels are a guide and may need to be adjusted. If you eat 1,600 calories a day but don’t lose weight, then you may want to cut back to 1,200 calories. If you’re hungry on either diet, then you may want to add 100 to 200 calories a day.

Very low-calorie diets with fewer than 800 calories a day shouldn’t be used unless your doctor is monitoring you.

For overweight children or teens, it’s important to slow the rate of weight gain. However, reduced-calorie diets aren’t advised unless you talk with a health care provider.

Healthy Eating Plan

A healthy eating plan gives your body the nutrients it needs every day. It has enough calories for good health, but not so many that you gain weight.

A healthy eating plan also will lower your risk of heart disease and other conditions. A healthy eating plan is low in saturated fat, trans fat, cholesterol, sodium (salt), and added sugar.

Healthy foods include:
• Fat-free and low-fat milk and milk products, such as low-fat yogurt, cheese, and milk.
• Lean meat, fish, poultry, cooked beans, and peas.
• Whole-grain foods, such as whole-wheat bread, oatmeal, and brown rice. Other grain foods include pasta, cereal, bagels, bread, tortillas, couscous, and crackers.
• Fruits, which can be canned (in juice or water), fresh, frozen, or dried.
• Vegetables, which can be canned (without salt), fresh, frozen, or dried.
• Canola and olive oils, and soft margarines made from these oils, are heart healthy. However, you should use them in small amounts because they're high in calories.

You also can include unsalted nuts, like walnuts and almonds, in your diet as long as you limit the amount you eat (nuts also are high in calories).

The National Heart, Lung, and Blood Institute’s ‘Aim for a Healthy Weight’ patient booklet provides more information about following a healthy eating plan.

**Foods to limit.** Foods that are high in saturated and trans fats and cholesterol raise blood cholesterol levels and also may be high in calories. These fats raise the risk of heart disease, so they should be limited.

**Saturated fat mainly is found in:**

• Fatty cuts of meat, such as ground beef, sausage, and processed meats (for example, bologna, hot dogs, and deli meats)
• Poultry with the skin
• High-fat milk and milk products like whole-milk cheeses, whole milk, cream, butter, and ice cream
• Lard, coconut, and palm oils, which are found in many processed foods

**Trans fat mainly is found in:**

• Foods with partially hydrogenated oils, such as many hard margarines and shortening
• Baked products and snack foods, such as crackers, cookies, doughnuts, and breads
• Foods fried in hydrogenated shortening, such as French fries and chicken

**Cholesterol mainly is found in:**

• Egg yolks
• Organ meats, such as liver
• Shrimp
• Whole milk or whole-milk products, such as butter, cream, and cheese

Limiting foods and drinks with added sugars, like high-fructose corn syrup, is important. Added sugars will give you extra calories without nutrients like vitamins and minerals. Added sugars are found in many desserts, canned fruit packed in syrup, fruit drinks, and nondiet drinks.

Check the list of ingredients on food packages for added sugars like high-fructose corn syrup. Drinks that contain alcohol also will add calories, so it’s a good idea to limit your alcohol intake.
Portion size. A portion is the amount of food that you choose to eat for a meal or snack. It’s different from a serving, which is a measured amount of food and is noted on the Nutrition Facts label on food packages.

Anyone who has eaten out lately is likely to notice how big the portions are. In fact, they’re oversize. These growing portion sizes have changed what we think of as a normal portion.

Cutting back on portion size is a good way to help you eat fewer calories and balance your energy IN. To learn how today’s portions compare with those from 20 years ago, visit the National Heart, Lung, and Blood Institute’s Portion Distortion Web pages.

Food weight. Studies have shown that we all tend to eat a constant “weight” of food. Ounce for ounce, our food intake is fairly consistent. Knowing this, you can lose weight if you eat foods that are lower in calories and fat for a given amount of food.

For example, replacing a full-fat food product that weighs 2 ounces with a low-fat product that weighs the same helps you cut back on calories. Another helpful practice is to eat foods that contain a lot of water, such as vegetables, fruits, and soups.

Physical Activity

Being physically active and eating fewer calories will help you lose weight and keep weight off over time. Physical activity also will benefit you in other ways. It will:

- Lower your risk of heart disease, heart attack, diabetes, and cancers (such as breast, uterine, and colon cancers)
- Strengthen your heart and help your lungs work better
- Strengthen your muscles and keep your joints in good condition
- Slow bone loss
- Give you more energy
- Help you to relax and cope better with stress
- Allow you to fall asleep more quickly and sleep more soundly
- Give you an enjoyable way to share time with friends and family

The four main types of physical activity are aerobic, muscle-strengthening, bone strengthening, and stretching. You can do physical activity with light, moderate, or vigorous intensity. The level of intensity depends on how hard you have to work to do the activity.

People vary in the amount of physical activity they need to control their weight. Many people can maintain their weight by doing 150 to 300 minutes (2 hours and 30 minutes to 5 hours) of moderate-intensity activity per week, such as brisk walking.

People who want to lose a large amount of weight (more than 5 percent of their body weight) may need to do more than 300 minutes of moderate-intensity activity per week. This also may be true for people who want to keep off weight that they’ve lost.

You don’t have to do the activity all at once. You can break it up into short periods of at least 10 minutes each.

If you have a heart problem or chronic disease, such as heart disease, diabetes, or high blood pressure, talk with your doctor about what types of physical activity are safe for you. You also should talk with your doctor about safe physical activities if you have symptoms such as chest pain or dizziness.
Children should get at least 60 minutes or more of physical activity every day. Most physical activity should be moderate-intensity aerobic activity. Activity should vary and be a good fit for the child’s age and physical development.

Many people lead inactive lives and may not be motivated to do more physical activity. When starting a physical activity program, some people may need help and supervision to avoid injury.

If you’re obese, or if you haven’t been active in the past, start physical activity slowly and build up the intensity a little at a time.

When starting out, one way to be active is to do more everyday activities, such as taking the stairs instead of the elevator and doing household chores and yard work. The next step is to start walking, biking, or swimming at a slow pace, and then build up the amount of time you exercise or the intensity level of the activity.

To lose weight and gain better health, it’s important to get moderate-intensity physical activity. Choose activities that you enjoy and that fit into your daily life.

A daily, brisk walk is an easy way to be more active and improve your health. Use a pedometer to count your daily steps and keep track of how much you're walking. Try to increase the number of steps you take each day. Other examples of moderate-intensity physical activity include dancing, gardening, and water aerobics.

For greater health benefits, try to step up your level of activity or the length of time you’re active. For example, start walking for 10 to 15 minutes three times a week, and then build up to brisk walking for 60 minutes, 5 days a week.

For more information about physical activity, see the Department of Health and Human Services ‘2008 Physical Activity Guidelines for Americans’ and the Diseases and Conditions Index Physical Activity and Your Heart article.

**Behavioral Changes**

Changing your behaviors or habits related to food and physical activity is important for losing weight. The first step is to understand which habits lead you to overeat or have an inactive lifestyle. The next step is to change these habits.

Below are some simple tips to help you adopt healthier habits.

**Change your surroundings.** You may be more likely to overeat when watching TV, when treats are available at work, or when you’re with a certain friend. You also may find it hard to motivate yourself to do physical activity regularly. However, you can change these habits.

- Instead of watching TV, dance to music in your living room or go for a walk.
- Leave the office break room right after you get a cup of coffee.
- Bring a change of clothes to work. Head straight to an exercise class on the way home from work.
- Put a note on your calendar to remind yourself to take a walk or go to your exercise class.

**Keep a record.** A record of your food intake and the amount of physical activity that you do each day will help inspire you. You also can keep track of your weight. For example, when the record shows that you’ve been meeting your physical activity goals, you’ll want to keep it up. A record also is an easy way to track how you’re doing, especially if you’re working with a registered dietitian or nutritionist.

**Seek support.** Ask for help or encouragement from your friends, family, and health care provider. You
can get support in person, through e-mail, or by talking on the phone. You also can join a support group.

**Reward success.** Reward your success for meeting your weight-loss goals or other achievements with something you would like to do, not with food. Choose rewards that you’ll enjoy, such as a movie, music CD, an afternoon off from work, a massage, or personal time.

**How Can Overweight and Obesity Be Prevented?**

Following a healthy lifestyle can help you prevent overweight and obesity. Many lifestyle habits begin during childhood. Thus, parents and families should encourage their children to make healthy choices, such as following a healthy diet and doing enough physical activity.

Make following a healthy lifestyle a family goal. For example:

- Follow a healthy eating plan. Make healthy food choices, keep your calorie needs and your family’s calorie needs in mind, and focus on the balance of energy IN and energy OUT.

- Focus on portion size. Watch the portion sizes in fast food and other restaurants. The portions served often are enough for two or three people. Children’s portion sizes should be smaller than those for adults. Cutting back on portion size will help you balance energy IN and energy OUT.

- Be active. Make personal and family time active. Find activities that everyone will enjoy. For example, go for a brisk walk, bike or rollerblade, or train together for a walk or run.

- Reduce screen time. Limit the use of TVs, computers, DVDs, and videogames because they limit time for physical activity. Health experts recommend 2 hours or less a day of screen time that’s not work- or homework-related.

- Keep track of your weight, body mass index, and waist circumference. Also, keep track of your children’s growth.

**Key Points**

- The terms ‘overweight’ and ‘obesity’ refer to a person’s overall body weight and whether it’s too high. Overweight is having extra body weight from muscle, bone, fat, and/or water. Obesity is having a high amount of extra body fat.

- Millions of Americans and people worldwide are overweight or obese. Being overweight or obese puts you at risk for many diseases and conditions, including coronary heart disease, high blood pressure, type 2 diabetes, gallstones, breathing problems, and certain cancers.

- Your weight is the result of many factors. These factors include environment, family history and genetics, metabolism (the way your body changes food and oxygen into energy), behavior or habits, and more.

- A lack of energy balance most often causes overweight and obesity. Energy balance means that your energy IN equals your energy OUT. Energy IN is the amount of energy you get from food and drinks. Energy OUT is the amount of energy your body uses for things like breathing, digesting, and being physically active. To maintain a healthy weight, energy IN and energy OUT should balance over time.

- The most useful measure of overweight and obesity is body mass index (BMI). BMI is an estimate of body fat, and it’s a good gauge of your risk of diseases that occur with more body fat. You can calculate your BMI using the National Heart, Lung, and Blood Institute’s online calculator, or your health care provider can calculate your BMI.

- Treatment for overweight and obesity includes lifestyle changes. These changes mean cutting back on calories, following a healthy eating plan, being physically active, and making behavioral changes.
• Following a healthy lifestyle can help you prevent overweight and obesity. Many lifestyle habits begin during childhood. Thus, parents and families should encourage their children to make healthy choices.

• Healthy choices include following a healthy eating plan, watching food portion sizes, being active, reducing screen time (TVs, computers, DVDs, and videogames), and keeping track of your weight.”

National Heart, Lung, and Blood Institute, 2010.