

What is obesity?

Obesity is a more severe form of being overweight. Doctors use a scale called the body mass index (BMI) to evaluate your body weight in relation to your height and determine your ideal weight. Your BMI is calculated by taking your weight in kilograms and dividing it by your height in meters squared. [Calculate your own BMI here](#). An adult with a BMI between 25 and 29 is considered overweight, and an adult with a BMI of 30 or more is considered obese.

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A woman with a BMI of 30 is about 30 pounds overweight.

Obesity is broken down into 3 categories: Class I, Class II, and Class III. The table below shows the BMI cutoff points for underweight, normal weight, overweight, and the 3 classes of obesity.

Cutoffs for Overweight and

Obesity by BMI	
Category	BMI
Underweight	Less than 18.5
Normal weight	18.5 to 24.9
Overweight	25 to 29.9
Class I obesity	30 to 34.9
Class II obesity	35 to 39.9
Class III (extreme) obesity	More than 40

The main causes of being overweight or obese are eating too many calories and not being physically active enough. If you eat more calories than your body burns up, the extra calories are stored as fat. Other factors that may affect your weight include your genes (obesity tends to run in families), your metabolism (how your body processes food), and your age (your metabolism slows down as you get older).²⁻⁴ Sometimes an illness or medication can contribute to weight gain. However, total caloric intake and physical activity remain the keys to weight control.

How does obesity affect my risk of heart failure?

Women who are overweight or obese are more likely to develop heart failure than women who are not overweight. A study that followed 5881 participants (54% were women) in the Framingham Heart Study found that excess weight increased a person's risk of developing heart failure:⁵

- Overweight (BMI 25 to 29.9) = 34% increased risk
- Obesity (BMI 30 or higher) = 104% increased risk

The study found that for each one-point increase in BMI, there was a 7% increase in the risk of heart failure in women (5% increase in men).⁵ Another study, of more than 2400 adults in their 70s (56% were women) found that a waist of more than 35 inches nearly doubled the risk of heart failure in women.

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Obesity has a direct effect on your risk of developing heart failure because the extra weight makes your heart work harder to supply blood to the added fatty tissue.^{7, 8} The more fatty tissue you carry, the more blood your heart has to pump. As the heart works harder to pump blood, the main pumping chamber becomes thicker and can eventually expand.⁷⁻¹¹ Over time, this limits your heart's ability to fill with and pump out blood, setting the stage for heart failure. The longer you are overweight or obese, the longer your heart is exposed to the extra strain and subsequent damage.

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Obesity also increases your risk of heart failure by making you more likely to develop other risk factors that can damage your heart and lead to heart failure:⁵

- **High blood pressure**: Obese women are nearly 3 times as likely to have

high blood pressure as women who are at a healthy weight. Overweight women are nearly twice as likely. Women who are obese and have high blood pressure develop thicker heart muscle walls than women who are only obese or only have high blood pressure.

¹² Weight loss—even modest weight loss—can lower your blood pressure if you are overweight or obese.

- **Diabetes:** Overweight women are more than twice as likely to develop type 2 diabetes as women who are not overweight. Weight loss can lower your risk of developing diabetes if you are overweight or obese.

- **High cholesterol:** Excess fat sends chemical signals that affect how we digest our food. It raises our LDL (bad) cholesterol and lowers our HDL (good) cholesterol, causing fatty plaque to build up along the walls of blood vessels. When this happens in the blood vessels of the heart, it can damage your heart muscle. Weight loss can improve your cholesterol levels if you are overweight or obese.

- **Obstructive Sleep Apnea:** Obesity is the main cause of obstructive sleep apnea, a condition in which you repeatedly stop breathing for at least 10 seconds during sleep. Tissue in the throat or mouth (in the soft palate or the tongue) causes it to narrow and block the airway when the muscles relax during sleep. This can stress the heart because of the fluctuating blood pressure levels and the reduced amount of oxygen supplied to the heart muscle. Being obese (BMI of 30 or higher) increases your risk of developing obstructive sleep apnea by up to 40%.

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Obesity can also trigger the body's defensive response to injury—called the inflammatory response—by increasing blood levels of key immune system proteins such as [C-reactive protein \(CRP\)](#), interleukin 6, and fibrinogen.¹⁴⁻¹⁶ The prolonged inflammation of heart tissue can damage cells and cause the buildup of scar tissue, increasing the risk of heart failure. A study of nearly 7000 racially diverse adults (53% were women) found that obese participants with elevated levels of these proteins had an increased risk of heart failure that ranged from 36% to 84%.

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A recently published results of a major trial of nearly 18,000 (38% were women) adults with low cholesterol but high C-reactive protein levels showed that

[statin](#) treatment significantly reduced their risk of heart attack and stroke.

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Being overweight is also one step towards developing the [metabolic syndrome](#) , which is also characterized by increased inflammatory markers.

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Metabolic syndrome is a group of risk factors for heart disease—including heart failure—that tend to occur together.

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These include a large waistline, low HDL (good) cholesterol, and higher than normal blood sugar, blood pressure, and triglyceride levels.

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Having 3 of these 5 risk factors means you have metabolic syndrome. Metabolic syndrome may increase your risk of heart failure if you have the following 3 from its group of 5 risk factors: high blood pressure, high blood sugar, and a large waistline.

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How common is obesity?

The National Center for Health Statistics estimates that nearly 62% of American women over 20 years old are overweight or obese.²¹ The prevalence of obesity tends to vary between racial and ethnic groups, being the most common in African Americans, followed by Hispanics and whites. It is also a growing problem among children.

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2005 Rates of Obesity Among US Women Age 20 and Older ²³

	% of Women Who are Overweight (BMI 25 to 29.9)	% of Women Who are Obese (BMI 30 or higher)
ALL WOMEN	27	31
African American	29	51
Hispanic	34	39
White	27	31
Native American/Alaskan 1*		38*
Asian American	19*	9*

both men and women 18 years of age and older

[Next: BMI and other ways of defining healthy weight](#)

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