What Are the Health Consequences of Weight Gain?

Excess weight contributes to a wide range of health problems ranging from cardiovascular disease to COVID-19.

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Overweight and obesity are a growing concern in the United States and worldwide. Excess weight can contribute to a host of health conditions, including cardiovascular disease, cancer, COVID-19 and cognitive decline. Maintaining a healthy weight can help minimize these health problems and maximize overall quality of life at any age.

A healthy weight can vary widely from person to person based on factors such as bone structure and muscle mass. The real concern is not weight per se but rather excess fat accumulation. Body mass index (BMI), or the ratio of weight to height, is often used as an indicator of overweight and obesity, but it is not the most accurate way to estimate body fat or predict health risk. Athletes, for example, typically have more heavy muscle tissue that contributes to a higher BMI.

Fat can build up either under the skin, especially around the belly, hips and thighs (known as subcutaneous fat) or deep within the abdomen around the internal organs (known as visceral abdominal fat). Subcutaneous fat is soft and pinchable, and people with more of this type of fat have a pear-shaped body. People with more visceral fat may have a hard belly and an apple-shaped body with a large waist circumference. Visceral fat is more strongly associated with health problems than subcutaneous fat.

Fat doesn't just take up space. It is metabolically active tissue that produces its own hormones, immune-regulating cytokines and chemical messengers known as adipokines. These chemicals play a role in regulating appetite and energy expenditure and contribute to chronic inflammation, which underlies a wide range of health conditions.

Weight gain often goes hand in hand with metabolic abnormalities. Metabolic syndrome—a cluster of conditions including excess abdominal fat, high blood sugar, abnormal cholesterol and triglyceride levels and high blood pressure (hypertension)—raises the risk for type 2 diabetes, heart disease and strokes.

Visceral fat can accumulate around the heart and inside the liver and other organs. Some studies

have shown that fat surrounding the heart can contribute to coronary artery disease. Over time, fat buildup in the liver—non-alcoholic fatty liver disease (NAFLD) or its more severe form, non-alcoholic steatohepatitis (NASH)—can lead to cirrhosis, liver cancer and the need for a liver transplant.

Overweight and obesity contribute to other types of cancer as well. According to the Centers for Disease Control and Prevention (CDC), excess fat raises the risk for at least 13 different malignancies, including breast, colon, kidney, ovarian, pancreatic and stomach cancers. These malignancies account for about 40% of all cancer diagnoses in the United States.

Carrying excess weight puts increased pressure on the hip and knee joints and the lower back, which can lead to pain and impaired mobility. Studies have found that people with overweight and obesity are at greater risk for osteoarthritis. Because excess fat can obstruct the upper airway, people with obesity are more likely to experience sleep apnea, which can lead to insomnia and excessive daytime sleepiness.

Obesity can contribute to cognitive problems, such as forgetfulness or difficulty concentrating and learning. Some studies have found that obesity during middle age is associated with increased risk for Alzheimer's disease. The reasons are not clear, but it may be related to metabolic abnormalities, chronic inflammation or reduced blood flow to the brain.

Obesity is also implicated in pregnancy complications, including gestational diabetes, pregnancy-related hypertension, preeclampsia, stillbirth and birth defects. What's more, women with overweight or obesity may have more trouble getting pregnant.

A growing body of research suggests that excess weight has a detrimental effect on immune function, which may help explain why people with obesity are at greater risk for certain infections. Most recently, overweight and obesity have been linked to worse severity and greater risk of death from COVID-19. One CDC study found that more than three quarters of people hospitalized with COVID-19 in the United States had overweight or obesity; the association was especially strong for people under age 65.

Finally, excess fat can have a negative effect on self-esteem, worsen depression and make people with HIV less willing to start or stay on treatment because of concern that antiretroviral drugs will cause weight gain.

Eating a healthy, balanced diet, limiting alcohol consumption, increasing physical activity and getting enough sleep can help you shed unwanted weight and excess fat. But even with these steps, weight loss can be difficult—more so for some people than others. Ask your health care provider for advice about the best ways to maintain a healthy weight. A registered dietitian can devise a healthy eating plan that's right for you, and a personal trainer can help come up with a fitness plan that fits your lifestyle.

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