

TREATMENT

Obesity, Weight Loss, and Joint Replacement Surgery

If you need [total knee replacement](#) or [total hip replacement](#) surgery and your weight is significantly higher than it should be, your doctor may advise you to lose weight before your procedure.

While sometimes embarrassing or uncomfortable to discuss, and even though you may feel fit and healthy at your current weight, studies show that a patient with a body mass index, or BMI, above 40 is more likely to experience serious complications both during and after surgery than a patient with a BMI lower than 40. Your doctor wants you to be aware of these risks so that you can take steps to minimize them before your procedure.

What is obesity?

Obesity is the excess accumulation (build-up) of fat at a level that poses a risk to a person's health. Obesity is increasing both worldwide and across the U.S. in both the general population and people undergoing total hip and knee replacement. In fact, studies show that obesity increases the likelihood of total hip and knee replacement in adults ages 18 to 59.

What is BMI?

Body mass index, or BMI, is a ratio that compares a person's weight to their height. BMI is calculated as:

$$BMI = \frac{\text{Weight (pounds)}}{(\text{Height (inches)})^2} \times 703$$

How to calculate body mass index (BMI)

BMI's are sorted into the following ranges:

BMI	World Health Organization (WHO) Classification
Below 18.5	Underweight
18.5 to 24.9	Normal weight
25 to 29.9	Overweight
30 to 34.9	Class I obesity
35 to 39.9	Class II obesity
40 and above	Class III obesity

A person's BMI is simply a way to compare a patient's weight to other people of the same height; it cannot reveal everything about that person. BMI does not directly indicate the person's body fat percentage, muscle mass, or other health problems.

How do weight, obesity, and BMI affect the hips and knees?

The joints in our legs carry the weight of our bodies every day when we do our normal activities, such as walking, standing, running, and climbing. Because of our anatomy, the forces experienced across the joint surfaces inside our hips and knees can be more than 7 times our body weight.

The more weight we carry around, whether it is muscle or fat, the greater the load on our hips and knees. This is one reason why heavier people are more likely to require total hip and knee replacements than patients with normal BMIs, and why the risk increases as your BMI increases. Losing weight, or keeping your weight at a healthy level, can help improve hip and knee pain symptoms, as well as help prevent or delay a hip or knee replacement.

How do weight, obesity, and BMI affect hip or knee replacement surgery?

Post-operative outcomes

- If you are obese and are scheduled for an [outpatient surgery](#), you are more likely to need to stay at the hospital overnight for additional care and monitoring.
- On average, obese patients stay in the hospital longer after surgery than non-obese patients and are more likely to go to a rehabilitation center instead of home after surgery.
- Obese patients are also more likely to go back to the hospital for an emergency room visit or to be readmitted after surgery.
- Finally, if you are obese, you may need to be prescribed different or additional medications compared to someone who is not obese.

Complications

Obesity has been shown to increase a person's risk of having a medical or surgical complication after joint replacement, such as wound healing problems and [infection](#). Treatment of some of these complications can include one or more additional surgeries and are potentially limb or life-threatening issues. Therefore, it is essential for your BMI to be at an optimal level before having a hip or knee replacement.

Additionally, people who are obese are more likely to have medical comorbidities (more than one health condition at a time), including diabetes, cardiovascular disease, metabolic syndrome, malnutrition, and/or obstructive sleep apnea. Because each of these conditions on its own makes surgery riskier, an obese person who has one or more additional medical conditions has an even greater chance of experiencing complications.

Because of these increased risks, some surgeons, hospitals, and insurance companies have adopted BMI cutoffs above which they recommend against joint replacement surgery to limit the risk of complications in patients with higher BMIs. These cutoffs often match obesity classifications at BMIs between 35 and 40.

Some surgeons and hospitals have developed programs aimed at reducing the risk of medical or surgical complications in high-risk patients, including those with obesity. These programs have shown promise in reducing the impact of increasing BMI on the risk of medical and surgical complications. Surgeons and hospital systems that perform more joint replacements on obese patients may have a lower risk of complications related to obesity.

Is there a BMI at which surgery is unsafe?

The risk of most complications increases with BMI. However, there is no BMI at which there is a sudden increase in the risk of complications, and there is no BMI under which surgery is guaranteed to be complication-free.

Keep in mind that obesity is only one risk factor for medical or surgical complications and needs to be considered along with the rest of each patient's medical conditions. You should speak with your surgeon about your individual risks based on your BMI and other health issues.

How can I reduce my risk of having a complication from hip or knee replacement?

Weight Loss

Healthy weight loss, while not easy, has many health benefits in addition to making surgery less risky – including possibly preventing or delaying the need for joint replacement.

Weight loss strategies include:

- **Lifestyle modifications**, including nutritional counseling, weight loss programs, and [exercise](#). (Note: Do not start any type of exercise program without first talking to your doctor.)
- **Weight loss medications**, supervised by a physician or health care provider.
- **Bariatric surgery**. Bariatric surgery is effective for reduction in weight, though it has not been shown to reduce the risk of complications after surgery. If you have had bariatric surgery or are planning to have bariatric surgery, you should inform your surgeon before having hip or knee replacement, and plan to allow 6 to 12 months between your bariatric surgery and your joint replacement surgery.

Your doctor can give you individualized advice about each of these options, as there may be potential risks depending on your health and situation.

Most important, try not to *gain* weight, as additional weight often worsens arthritis pain and symptoms.

Improving Your Overall Health

Addressing other risk factors and improving your overall health will make it more likely that you will have a successful joint replacement with fewer complications:

- If you smoke, it is recommended that you stop smoking at least 4 weeks prior to surgery to decrease your risk of complications, such as problems healing your incision or an infection. Learn more: [Surgery and Smoking](#)
- If you have diabetes, improving your blood sugar control can also help decrease your risk of an infection after surgery.
- Improving the fitness of your heart and lungs and keeping your blood pressure under control can help reduce your risk of medical complications. Cycling, swimming, water exercises, or using an elliptical machine are excellent low-impact activities that minimize the loads placed on the hip and knee joints.
- Ensure that your diet has enough healthy nutrients, including vitamins, minerals, and protein to promote healing after surgery.

Some risk factors, such as age and family history, are beyond your control. But there are many things you can do – including and beyond losing weight – to improve your health, reduce arthritis symptoms, and, if you do need joint replacement, help make your surgery a success.

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