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Your BMI and Joint Replacement Surgery

If you're considering joint replacement surgery, your doctor may discuss how your BMI could affect your ability to undergo the operation.

A person's body mass index (BMI) is a measure of body fat, in an adult, as described by the National Institutes of Health. It's calculated using your height and weight, which can easily be obtained during a clinic visit. Your BMI is used to categorize adults in groups; underweight (BMI <18.5), normal weight (BMI 18.5-24.9), overweight (BMI 25-29.9), obese (BMI >30). The obese category has further sub-groups: moderately obese (BMI 30-34.9), severely obese (BMI 35- 39.9), very severely obese (BMI 40-44.9), morbidly obese (BMI 45-49.9), super obese (BMI 50-59.9), and hyper obese (BMI 60 and above).

Your BMI can have a profound impact on your ability to have surgery, as well as your ability to tolerate surgery... especially in the obese category sub-groups. Obesity has been associated with an increased risk of complications during many types of surgery, but the most heavily studied has been in relation to joint replacement surgery.

A review of several papers published on this topic show that obese patients (BMI >30) who underwent joint replacement surgery were 1.7x more likely to have complications than patients with a BMI <30.¹⁻³ This has been looked at further in sub-groups of obesity. Patients with a BMI >35 are 2.2x more likely to have complications.¹⁻³ Patients with a BMI >40 are 3.7x more likely. And, patients with a BMI >50 are 21x more likely to have complications.¹⁻³

Now, you may be wondering what kind of complications we're talking about? These complications can include problems during or after your surgery like infection, wound healing problems, intra-operative fracture, nerve injury, and even an increased risk of developing a blood clot. Complications can continue to occur long after your surgery and might include hip dislocation, late infection, loosening of the prosthesis, and an increased risk of additional surgeries.

This is extremely important as some of these complications may have a tremendous impact on your recovery and success from joint replacement surgery. They can lead to prolonged hospital stays, increased need for additional medications and services, and even the need to return to the operating room. An infection in a total joint replacement will likely require a return to the operating room and, in many cases, may require an additional surgery to take the implant out for a period of time to rid your body of the infection, and then another surgery to put a joint replacement back in. Unfortunately, in an obese patient, it can be more difficult to get rid of the infection and may make the need for additional surgery more likely.

Due to these increased risks of performing joint replacement surgery in obese patients, many surgeons, hospitals, and health systems may have adopted policies concerning the appropriateness of surgery based on BMI. It's important to talk with your surgeon about your BMI and how it may influence your ability to safely undergo joint replacement surgery. Your doctor has your best interest at heart so try not to be discouraged if they suggest addressing your BMI prior to proceeding with joint replacement surgery. They may offer guidance on the best ways for you to reduce your weight. They may also guide you on managing other medical conditions, such as making sure that your diabetes is well controlled, that your anemia is corrected, and that your nutrition is optimized.

BMI can have an impact on your ability to undergo an uncomplicated joint replacement surgery. However, working with your surgeon and his or her team should allow you to reduce these risks and ultimately to achieve the same quality of life benefits that all patients hope to achieve through successful joint replacement surgery.

References

Written by Dr. Brian Lewis who received remuneration as a Zimmer Biomet consultant for writing this article.

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