

# Excess weight predicts younger age at hip and knee replacement

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A 2010 study sought to determine the effect of weight status on the age at which individuals elected to have knee or hip replacement surgery.

In short, Ghandi and colleagues sorted through a list of patients who had been diagnosed with osteoarthritis and who had undergone surgery to replace their knee (n= 804) or hip joints (n= 841) at the Toronto Western Hospital.

Overall, the average age for a [hip replacement surgery](#) was 67.7 years while that for [knee replacement surgery](#) was 70.1 years.

And what was the effect of patients' [weight status](#) on age of surgery?

In contrast to those individuals with a "normal" body mass index (BMI = 18.5-24.9 kg/m<sup>2</sup>) individuals with a BMI >35.0 kg/m<sup>2</sup> were on average 7.1 years younger at hip replacement and 7.9 years younger at knee replacement.

In a regression analysis, the authors showed that as you move from the normal weight BMI category to overweight, and class 1 and 2 obese BMI categories, there is approximately a 2 year decrease in the age at which one receives knee or hip replacement surgery.

Given that joint replacement surgery often needs to be redone throughout life, one of the major implications of earlier [joint replacement surgery](#) in obese patients is the potential for more revision operations over their lifetime.

With regards to the mechanism behind the association, the simple explanation of greater load from the excess weight being carried is the most popular to explain the relationship between [excess weight](#) and joint problems. However, recent evidence suggests a more metabolic/hormonal rather than mechanical influence of obesity. Indeed, some studies have shown greater

osteoarthritis in non-weight-bearing joints of obese individuals, such as the hands.

**More information:** Rajiv Gandhi et al. BMI Independently Predicts Younger Age at Hip and Knee Replacement, *Obesity* (2010). DOI: [10.1038/oby.2010.72](https://doi.org/10.1038/oby.2010.72)

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