

Total knee replacement cost effective for patients with osteoarthritis and extreme obesity

March 22 2021



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Total knee replacement (TKR) surgery is cost-effective in patients with severe obesity (BMI of 40Kg/m^2 or greater) and end-stage osteoarthritis. Typically, surgeons hesitate to perform TKR in these patients because

they tend to have high rates of complications post-surgery. Findings from a cost-effectiveness analysis are published in *Annals of Internal Medicine*.

Obesity is a major risk factor for knee osteoarthritis, which affects more than 14 million adults in the United States. As such, a growing proportion of patients receiving TKR are obese (BMI of 30 kg/m² or higher). In fact, 45.5% of TKR recipients in 2006 to 2010 had a BMI between 30 and less than 40 kg/m², and 14.8% had a BMI of 40 kg/m² or greater. While TKR has been shown to be very effective and cost-effective in non-obese patients with end-stage knee OA in the US, the question of whether or not TKR is cost-effective in this population has not been addressed.

Researchers from Brigham and Women's Hospital used the Osteoarthritis Policy (OAPoL) model to assess the value of TKR in recipients with extreme obesity across two age strata—younger or older than 65 as well as in the presence and absence of two major comorbidities—cardiovascular disease and diabetes, that has been shown to increase the risk of perioperative complications. The researchers took into consideration higher rates of complications and pain reduction in patients with extreme obesity. They found that TKR was a cost-effective strategy for patients aged 50 to 65 years with [severe obesity](#) and for patients older than 65 years, as well. Similar findings were noted for TKR among patients with extreme obesity and end-stage knee osteoarthritis in the presence of [cardiovascular disease](#) and/or type 2 diabetes. The researchers concluded that from a cost-effectiveness perspective, TKR leads to substantial improvements in quality-adjusted [life expectancy](#) and offers a good value in patients with [extreme obesity](#) and end-stage knee osteoarthritis.

More information: *Annals of Internal Medicine* (2021).
<https://www.acpjournals.org/doi/10.7326/M20-4722>

Provided by American College of Physicians

Citation: Total knee replacement cost effective for patients with osteoarthritis and extreme obesity (2021, March 22) retrieved 23 April 2024 from

<https://medicalxpress.com/news/2021-03-total-knee-effective-patients-osteoarthritis.html>

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