

**- Bones—diseases**

## Increasing obesity rates linked to need for knee surgery earlier in life, study finds

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A rise in the number of people undergoing knee replacement surgery earlier in life has been linked to increasing rates of obesity, new research reveals.



A study, led by orthopaedic surgeons, examined patients who required knee replacement surgery for osteoarthritis, the most common form of arthritis and which affects the joints. The study used the latest available data from the Australian Bureau of Statistics' National Health Survey and the Australian Orthopaedic Association's National Joint Replacement Registry. The researchers sorted the patients by their body mass index (BMI) and age and examined how the distribution of age and weight among patients compared with the general population. They found the probability of undergoing knee replacement increased with increasing BMI. During the period the study occurred – 2017 to 2018 – 35.6% of Australian adults were overweight and 31.3% were obese.

Of the 56,217 patients who underwent knee replacement surgery for osteoarthritis in the same period, 31.9% were overweight and 57.7% were obese.

Body mass index is a value calculated from a person's weight and height. While BMI is a flawed value especially for measuring obesity in women, and is not always an accurate measure of health and body fatness, a healthy BMI for an adult is generally considered to be between 20 and 25.

Those with a BMI of 30 or above were considered "Class 1" obese, those with a BMI 35 or above "Class 2" obese, and those with a BMI of 40 or above "Class 3" obese.

Class 1, 2 and 3 obese women aged between 55 and 64 years were 5, 8 and 17 times more likely to undergo knee replacement than their normal weight counterparts respectively, the paper found. Males in the same age and BMI categories were 3, 4.5 and 6 times more likely to undergo knee replacement respectively.

Class 3 obese patients underwent knee replacement seven years younger, on average, than those with a BMI in the range considered healthy.

The average age at which normal weight women undergo knee replacement in Australia is 71, whereas Class 3 obese women undergo the procedure on average at the age of 64. For men, this

is 71 and 64 years respectively.

Australia has one of the highest rates of obesity in the world, and in 2017-19, Australia ranked fifth among OECD countries for obesity.

“Over 57, 000 knee replacement procedures were performed in Australia in 2019, representing an increase of 161% since 2003,” the paper said.

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“The annual incidence of knee replacement is projected to exceed 161, 000 procedures by 2030.”

Dr Chris Wall, the lead author of the study and senior lecturer at the University of Queensland Rural Clinical School, said modest weight loss has been found to reduce knee osteoarthritis symptoms and obese patients who maintained a 10% bodyweight loss experienced significant improvement in pain and function. “Urgent action is needed at a national level to change our approach towards reducing obesity, or

Australia may face a growing burden of revision knee replacement in the future,” he said.

The paper adds to existing research about weight and knee surgery. A separate paper published in 2021 and led by the Centre for Translational Orthopaedic Research in Perth found obesity resulted in a significant increase in the incidence of total knee replacement in those aged between 18 and 54.

Guardian Australia has contacted the Australian Orthopaedic Association for comment.

Dr Omar Khorshid, an orthopaedic surgeon from Perth, said obesity was more complex than telling people to diet and exercise. People need specialist, multidisciplinary support to lose weight, he said.

“There is such a lack of public health services aimed at prevention for us to refer patients to,” he said.

“At my public hospital I can’t refer an obese patient to a dietician, they won’t accept a hospital referral.

“There’s not really anything available outside of private care for them, which is expensive. So all we can suggest for many patients is lifestyle changes to help them lose weight, or some physiotherapy to build muscle strength, but we can’t easily refer them for expert help.

“Instead they end up having a joint replacement,” Khorshid said, “at ages where perhaps that could have been avoided if we had access to those kind of preventive, accessible services and treatments for obesity.”