

Bariatric surgery does not increase risk of broken bones

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An international study, led by researchers at the Medical Research Council Lifecourse Epidemiology Unit (MRC LEU) at the University of Southampton, has found that obese patients who undergo bariatric surgery are not at an increased risk of broken bones in the first few years after the operation.

However, the study, published in the [British Medical Journal](#) today (DATE) has shown that there is a possibility of an increase in fracture risk after three to five years.

Generally, a higher [Body Mass](#) Index (BMI) protects the bone against most types of fracture because a higher BMI is associated with increased [bone density](#). Additionally there is more protection around the bones.

Studies have shown that weight loss can lead to a reduction of bone density and specifically studies have suggested that bone density is lost after bariatric surgery; however no previous work has been able to investigate whether such changes might result in an increased risk of fracture relative to a control population.

Bariatric surgery, or weight-loss surgery, is used to treat people with potentially life-threatening [obesity](#) and that will not respond to non-surgical treatments. The most widely used forms of weight-loss surgery are gastric bypass or gastric band. Weight-loss surgery rates have been increasing over the years with the number of hospital procedures for weight-loss stomach surgery rising to 8,087 in 2010/11 – 12 per cent

higher than in 2009/10 when there were 7,214.

During the study, Southampton researchers, together with colleagues at the University of Utrecht, Netherlands, and the Medicines and Healthcare products Regulatory Agency, London, compared the fracture rates of people who had had bariatric surgery between 1987 and 2010, with people who had not had the surgery but were matched by age, sex, body mass index, practice, and calendar year.

Results showed that compared to the control group, the overall risk of fracture was not significantly increased in bariatric surgery patients in the first few years post-operation, but there was a slight trend towards an increased fracture risk after three to five years. The researchers also found a slight tendency for fracture risk to increase with greater post-operative decrease in [body mass index](#).

Dr Nicholas Harvey, Senior Lecturer at the MRC LEU at the University of Southampton comments: "Obesity is an increasing public health problem worldwide, which affects between 15 and 20 per cent of Europeans; it has been recognised that surgical treatment is the most effective route to weight loss for many with morbid obesity. Overall, for the first few post-operative years, these results are reassuring for patients undergoing bariatric surgery, but do not exclude a more protracted adverse influence on skeletal health."

Professor Cyrus Cooper, Director and Professor of Rheumatology, at the MRC LEU, adds: "With increasing numbers of obese individuals in the UK, bariatric surgery is becoming more common and has been associated with a reduction in bone density after the operation. This is the first time that we have been able to investigate risk of fracture following bariatric [surgery](#) by comparing patients with non-surgical controls. The results suggest that, at least in the short term, such changes in bone density are unlikely to lead to increased [fracture risk](#)."

More information: In this retrospective cohort study, the 2,079 bariatric surgery patients with a body mass index of at least 30 kg/m² before surgery between 1987 and 2010 within the UK Clinical Practice Research Datalink were selected. A total of 10,442 control subjects without bariatric surgery were matched by age, sex, body mass index, practice, and calendar year. All patients were followed up for fracture with an average follow-up time of 2.2 years.

Provided by University of Southampton

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