

Weight-loss surgery cuts risk of developing serious heart problems

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Credit: Lynn Greyling/public domain

Bariatric (weight-loss) surgery can reduce the risk of developing serious health conditions such as heart attacks and type 2 diabetes, as well improve existing conditions, according to a new study published in *PLOS Medicine*.

The project is the largest comprehensive study of longer-term outcomes post [bariatric surgery](#) in the UK. It suggests that widening the availability of bariatric surgery could boost the health prospects for thousands of people who are very obese (body mass index/BMI of 40 kg/m² or more).

The research was led by the London School of Hygiene & Tropical Medicine in partnership with UCL and the UCLH Bariatric Centre for Weight Management and Metabolic Surgery.

Using primary care records, the researchers compared weight, BMI, and obesity-related illnesses between 3,882 bariatric surgery patients and similar control patients who did not have surgery, over an average period of three and a half

years. They found that [weight-loss](#) surgery can significantly improve existing type 2 [diabetes](#) and reduce abnormally high blood pressure.

They also applied the findings to estimate that if the 1.4 million people believed to be morbidly obese in the UK had bariatric surgery, it could prevent 80,000 cases of hypertension, 40,000 cases of type 2 diabetes, and 5,000 heart attacks over a four year period. Furthermore, 110,000 people with type 2 diabetes and 13,000 people with hypertension could significantly improve their condition.

Additionally, the study confirmed that the procedures stimulate dramatic and substantial weight loss which is sustained for at least four years, and suggested that gastric bypass and sleeve gastrectomy promote the most weight loss out of the different types of surgery.

Bariatric surgery is used to treat people who are very obese¹, for example, a woman of average height (162cm, 5 feet 5 inches), with type-2 diabetes and weighing 96 kg/15 stone, which equates to a BMI of 35. It is available on the NHS to treat people when other options, such as lifestyle changes, have not been successful.

Lead author Dr Ian Douglas, from the London School of Hygiene & Tropical Medicine, said: "Obesity is one of the biggest health problems of our generation. Rates of cardiovascular disease, although slowly declining, are still alarmingly high while type 2 diabetes is on the rise, affecting 3.5 million people in Britain. Finding effective ways to tackle the obesity crisis is therefore a key public health strategy.

"Whilst effective prevention is clearly needed, our findings show that as well as helping patients substantially lose weight, bariatric surgery improves serious obesity-related illnesses as well as reducing the risk of developing them. People having weight-loss surgery were 70% less likely to

have a [heart attack](#), and those with type 2 diabetes were nine times more likely to see major improvements in their diabetes. We also found positive effects on angina and the debilitating condition obstructive sleep apnoea."

The study also indicated which type of surgery might be most effective for losing weight. Estimated average four year weight loss was 38 kg/six stone for gastric bypass, 31 kg/five stone for sleeve gastrectomy, and 20 kg/three stone for gastric band.

Study co-author Professor Rachel Batterham, Head of the UCLH Bariatric Centre for Weight Management and Metabolic Surgery and the UCL Centre for Obesity Research, said: "Bariatric surgery is safe and produces unrivalled health benefits that are life-changing for patients and cost-saving for the NHS. Unfortunately, less than 1% of the patients who could benefit from this surgery currently receive surgery. This represents a major missed opportunity in terms of improving health and economic savings. Action is now needed to remedy this situation."

The researchers note that the accuracy of these findings may be limited by the incomplete recording of some outcomes in primary care patient management records. They were also unable to look in detail at short-term adverse outcomes associated with bariatric [surgery](#), but noted that nationally collected data suggests such complications are rare.

More information: Ian J. Douglas, Krishnan Bhaskaran, Rachel L. Batterham, Liam Smeeth. Bariatric Surgery in the United Kingdom: A Cohort Study of Weight Loss and Clinical Outcomes in Routine Clinical Care. *PLOS Medicine*. DOI: [10.1371/journal.pmed.1001925](https://doi.org/10.1371/journal.pmed.1001925)

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