

Gastric band surgery has big impact on heart disease and stroke risk factors

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Bariatric surgery—restrictive gastric banding and other types of gastric bypass—can radically reduce risk factors for heart disease and stroke, and within a short period of time, indicates an analysis of the available evidence, published online in *Heart*.

The impact is much greater and faster than drug treatments for weight management or diabetes, say the authors, and in some cases, could be life-saving.

Being obese or overweight kills more than 2.6 million people every year. And the evidence shows that excess body fat produces [harmful chemicals](#) and skews gut hormones in favour of inflammation and [insulin resistance](#)—the precursor to diabetes.

The authors trawled the major databases of research, published between 1950 and June 2012, on the impact of bariatric surgery on cardiovascular risks and on [heart failure](#) and structural changes to the heart.

They found 73 relevant studies, involving almost 20,000 people, which matched their criteria on the impact of the procedure on [risk factors for heart disease](#) and stroke.

The average age of the study participants was 42, and three out of four were women.

The pooled data indicated that the prevalence of [high blood pressure](#),

diabetes, and high levels of harmful [blood fats](#) (dyslipidaemia) before surgery was 44, 24, and 44 per cent, respectively. Patients were monitored for an average of just over 4.5 years after their surgery.

On average, [study participants](#) halved (54%) the amount of excess weight they were carrying, but the amount of excess weight dropped ranged from 16 to 87 per cent.

[Cardiovascular risk factors](#) for stroke, heart attack, and heart failure either significantly improved or resolved completely after the procedure: high blood pressure in 63 per cent; diabetes in 73 per cent; and unfavourable blood fats in 65 per cent.

The authors found a further 18 studies, involving 713 people, which matched the criteria on the impact of gastric bypass surgery on heart failure and structural changes to the heart.

Analysis of these data showed that the procedure significantly improved left ventricular mass (enlargement of the muscle tissue that makes up the heart's main pumping chamber), the E/A ratio (the proportion of blood the heart pumps out in one beat) and pump filling action (isovolumic relaxation time or the ability of the heart to relax after a contraction).

The authors say that the findings back those of previous research and raise bariatric surgery "beyond the realms of a cosmetic procedure and into the realms of interventions demonstrating efficacy in preventing cardiovascular events."

They continue: "The magnitude of effect on [cardiovascular] risk factors is impressive, and to date no pharmacological therapy for weight management or diabetes has shown a comparable effect over these short time periods."

They acknowledge that bariatric surgery is not without its risks, but emphasise that it not only reduces the risk of heart disease and stroke, but also seems to improve the health of the heart itself.

If performed on appropriately selected obese patients, it "could be life-saving," they conclude.

More information: Bariatric surgery and cardiovascular outcomes: a systematic review, Online First, [doi 10.1136/heartjnl-2012-301778](https://doi.org/10.1136/heartjnl-2012-301778)

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