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### A meta-analysis on the impact of bariatric surgery on lower urinary tract symptoms in men

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**Background:** Obesity is a chronic disease with multisystem morbidity. There are multiple studies reporting the effect of bariatric surgery on cardiovascular and metabolic disease but only few examine its impact on lower urinary tract symptoms. This article aims to perform a systematic review with meta-analysis in order to determine the effects of bariatric surgery on lower urinary tract symptoms in male patients.

**Methods:** Medline, Embase, conference proceeding and reference lists were searched for studies reporting the quantitative measurement of lower urinary tract symptoms score pre- and post-weight loss surgery. The primary outcome was International Prostate Symptom Score (IPSS) before and after bariatric surgery. Secondary outcomes were change in Body Mass Index (BMI) and Total Body Weight (TBW). Weighted mean differences (MD) were calculated for continuous outcomes.

**Results:** Seven studies were included in the analysis of 334 patients undergoing bariatric surgery. Mean study follow-up was between 3 and 36 months. There was a statistically significant improvement in the IPSS score following bariatric surgery (MD 2.82, 95% CI 0.96 to 4.69,  $p = 0.003$ ).

Bariatric surgery also resulted in statistically significant reduction of BMI and TBW.

**Conclusion:** Bariatric surgery produces a significant improvement on lower urinary tract symptoms in men with obesity. This may be due to improvement of insulin sensitivity, testosterone levels or lipid profile associated with weight loss. Further studies are necessary to investigate in detail the pathophysiological mechanisms through which lower urinary tract symptoms develop in obese patients, and their improvement following weight loss surgery.