# THE IMPACT OF BARIATRIC SURGERY ON URINARY INCONTINENCE: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**BACKGROUND**

A major risk factor for urinary incontinence (UI) is obesity. The role of sustained weight loss induced by bariatric surgery for the treatment of UI remains unclear.

**METHODS**

We searched Medline, EMBASE, CENTRAL, PubMed, and relevant major conference abstracts up to June 2018, including any observational studies that compared UI status in obese patients before and after bariatric surgery. Primary outcomes were improvement or complete resolution of UI (stress UI (SUI), urgency UI (UUI)) before and after surgery. Secondary outcomes were validated urinary incontinence questionnaire scores (urogenital distress inventory (UDI-6), International Consultation on Incontinence Questionnaire (ICIQ), Incontinence Impact Questionnaire (IIQ)) before and after bariatric surgery.

**RESULTS**

35 cohort studies involving a total of 9,250 patients (90.8% female) met the inclusion criteria with a median follow up of 15 months after surgery (range, 6 to 60 months). Bariatric surgery resulted in improvement or resolution of any UI in 58% (95% CI, 50-65%), SUI in 47% (95% CI, 34% to 60%), and UUI in 37% of patients (95% CI, 15-62%). Moreover, bariatric surgery significantly decreased UDI-6 scores by 14.66 points (95% CI, 9.64-19.69, $P<0.001$), ICIQ score by 4.48 points (95% 2.94-6.02, $P<0.001$), and IIQ scores by 5.28 (95% CI, 3.92-6.64, $P<0.001$) after surgery. 3% of patients experienced worsening or new onset of UI after surgery (95% CI, 0-13%).

**CONCLUSIONS**

Bariatric surgery leads to improvement or resolution of UI in substantial proportion of obese patients. Large scale comparative studies are warranted to further examine the therapeutic role of bariatric surgery for UI.