

Publication

Bariatric surgery versus non-surgical treatment for obesity: a systematic review and meta-analysis of randomised controlled trials

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)**ID** 2289705**Author(s)** Gloy, V. L.; Briel, M.; Bhatt, D. L.; Kashyap, S. R.; Schauer, P. R.; Mingrone, G.; Bucher, H. C.; Nordmann, A. J.**Author(s) at UniBasel** [Bucher, Heiner](#) ;**Year** 2013**Title** Bariatric surgery versus non-surgical treatment for obesity: a systematic review and meta-analysis of randomised controlled trials**Journal** BMJ**Volume** 347**Pages / Article-Number** f5934**Keywords** *Bariatric Surgery; Body Mass Index; Humans; Obesity/complications/metabolism/*therapy; Randomized Controlled Trials as Topic; Recurrence; Weight Loss

OBJECTIVE: To quantify the overall effects of bariatric surgery compared with non-surgical treatment for obesity. **DESIGN:** Systematic review and meta-analysis based on a random effects model. **DATA SOURCES:** Searches of Medline, Embase, and the Cochrane Library from their inception to December 2012 regardless of language or publication status. **ELIGIBILITY CRITERIA:** Eligible studies were randomised controlled trials with ≤ 6 months of follow-up that included individuals with a body mass index ≤ 30 , compared current bariatric surgery techniques with non-surgical treatment, and reported on body weight, cardiovascular risk factors, quality of life, or adverse events. **RESULTS:** The meta-analysis included 11 studies with 796 individuals (range of mean body mass index at baseline 30-52). Individuals allocated to bariatric surgery lost more body weight (mean difference -26 kg (95% confidence interval -31 to -21)) compared with non-surgical treatment, had a higher remission rate of type 2 diabetes (relative risk 22.1 (3.2 to 154.3) in a complete case analysis; 5.3 (1.8 to 15.8) in a conservative analysis assuming diabetes remission in all non-surgically treated individuals with missing data) and metabolic syndrome (relative risk 2.4 (1.6 to 3.6) in complete case analysis; 1.5 (0.9 to 2.3) in conservative analysis), greater improvements in quality of life and reductions in medicine use (no pooled data). Plasma triglyceride concentrations decreased more (mean difference -0.7 mmol/L (-1.0 to -0.4) and high density lipoprotein cholesterol concentrations increased more (mean difference 0.21 mmol/L (0.1 to 0.3)). Changes in blood pressure and total or low density lipoprotein cholesterol concentrations were not significantly different. There were no cardiovascular events or deaths reported after bariatric surgery. The most common adverse events after bariatric surgery were iron deficiency anaemia (15% of individuals undergoing malabsorptive bariatric surgery) and reoperations (8%). **CONCLUSIONS:** Compared with non-surgical treatment of obesity, bariatric surgery leads to greater body weight loss and higher remission rates of type 2 diabetes and metabolic syndrome. However, results are limited to two years of follow-up and based on a small number of studies and individuals. **SYSTEMATIC REVIEW REGISTRATION:** PROSPERO CRD42012003317 (www.crd.york.ac.uk/PROSPERO).

Publisher BMJ Publishing Group**ISSN/ISBN** 0959-8138 ; 1756-1833**URL** <http://www.ncbi.nlm.nih.gov/pubmed/24149519>**edoc-URL** <http://edoc.unibas.ch/52602/>**Full Text on edoc** No;

Digital Object Identifier DOI 10.1136/bmj.f5934

PubMed ID <http://www.ncbi.nlm.nih.gov/pubmed/24149519>

ISI-Number WOS:000326293800002

Document type (ISI) Journal Article, Review