Bariatric surgery: an evidence-based analysis
Ministry of Health and Long-Term Care. Medical Advisory Secretariat

Record Status
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Authors' objectives
This study reviews the literature to assess the effectiveness, safety, and cost-effectiveness of bariatric surgery to treat morbid obesity.

Authors' conclusions
Bariatric surgery generally is effective for sustained weight loss of about 16 per cent for people with BMIs of at least 40 kg/m2 or at least 35 kg/m2 with comorbid conditions (including diabetes, high lipid levels, and hypertension). It also is effective at resolving the associated comorbid conditions. This conclusion is largely based on level 3a evidence from the prospectively designed Swedish Obese Subjects study, which recently published 10-year outcomes for patients who had bariatric surgery compared with patients who received nonsurgical treatment. Regarding specific procedures, there is evidence that malabsorptive techniques are better than other banding techniques for weight loss and resolution of comorbid illnesses. However, there are no published prospective, long-term, direct comparisons of these techniques available. Surgery for morbid obesity is considered an intervention of last resort for patients who have attempted first-line forms of medical management, such as diet, increased physical activity, behavioural modification, and drugs. In the absence of direct comparisons of active nonsurgical intervention via caloric restriction with bariatric techniques, the following observations were made: - A recent systematic review examining the efficacy of major commercial and organized self-help weight loss programs in the United States concluded that the evidence to support the use of such programs was suboptimal, except for one trial on Weight Watchers. Furthermore, the programs were associated with high costs, attrition rates, and probability of regaining at least 50 per cent of the lost weight in one to two years. - A recent randomized controlled trial reported 1-year outcomes comparing weight loss and metabolic changes in severely obese patients assigned to either a low-carbohydrate diet or a conventional weight loss diet. At one year, weight loss was similar for patients in each group (mean, 2-5 kg). There was a favourable effect on triglyceride levels and glycemic control in the low-carbohydrate diet group. - A decision-analysis model showed bariatric surgery results in increased life expectancy in morbidly obese patients when compared to diet and exercise. - A cost-effectiveness model showed bariatric surgery is cost-effective relative to nonsurgical management.

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