Bariatric Surgical Procedures for Obese and Morbidly Obese Patients: A Review

**Context**
Approximately 18% of Canadian adults are obese and, therefore, are at a higher risk for comorbid conditions such as hypertension, dyslipidemia, type 2 diabetes, cardiovascular disease, cancer, and osteoarthritis. Not surprisingly, these comorbidities lead to a reduction in life expectancy.

**Technology**
Found to be more effective for weight loss than medications and lifestyle interventions, bariatric surgery reduces the size of the stomach to limit the volume of food a patient can consume, connects the stomach to the small intestine so food is diverted and fewer calories are absorbed, or both. The most common procedures are Roux-en-Y gastric bypass, sleeve gastrectomy, and laparoscopic adjustable gastric banding.

**Issue**
Each bariatric surgical procedure has benefits and risks. A review of the comparative clinical effectiveness, safety, and cost-effectiveness of Roux-en-Y gastric bypass, sleeve gastrectomy, and laparoscopic adjustable gastric banding in obese and morbidly obese patients, and of the evidence-based guidelines, will help inform decisions on the use of these procedures.

**Methods**
A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

**Key Messages**
- Roux-en-Y gastric bypass is more effective for weight loss than laparoscopic adjustable gastric banding, but has a higher risk of complications.
- Sleeve gastrectomy appears to be
  - more effective for weight loss than laparoscopic adjustable gastric banding, but has a higher risk of complications.
  - less effective for weight loss than Roux-en-Y gastric bypass, but has a lower risk of complications.
- Not enough information was found to compare the cost-effectiveness of bariatric surgical procedures.
- No guidelines recommending specific bariatric surgical procedures were found.

**Results**
The literature search identified 468 citations, with 21 additional articles identified from other sources. After screening the abstracts, 68 were deemed potentially relevant and 21 met the criteria for inclusion in this review — 1 health technology assessment, 10 meta-analyses, 3 systematic reviews, 5 randomized controlled trials, and 2 economic analyses.