

# SURGERY FOR MORBID OBESITY

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## Introduction

Surgical treatment for obesity has not been widely used in Ireland although it has been widely applied in other countries, particularly the US. In 2002, 63,000 surgical procedures were performed in the US for morbid obesity. As the rates of obesity and morbid obesity slowly rise towards North American levels in this country, it is inevitable that demand for this form of surgery will increase.

## Treatment

Surgical treatment for obesity should only be offered as part of a multidisciplinary approach to the management of obesity. The team comprises a physician with a special interest in weight management, a surgeon with experience in obesity surgery, a dietician, a physiotherapist and a psychologist. Surgery is indicated for patients with a body mass index (BMI) of 40, or a BMI of 35 in the presence of established obesity-related medical complications (see Table 1). The patients need to be well-informed and motivated and capable of understanding the nature of the planned surgery and its associated complications. Both the patient and the medical team must commit to long-term follow up.

Table 1. Obesity-related complications

Type II diabetes
Hypertension
Left ventricular hypertrophy
Respiratory problems
Sleep apnoea syndrome
Arthritis
Increased incidence of certain cancers
Psychosocial morbidity

Before undergoing surgery, patients should be evaluated and treated by the multidisciplinary team. A structured dietary regime and exercise programme should be followed and a trial of pharmacotherapy with orlistat and/or sibutramine should be undertaken. It usually takes 6-12

months from first presentation before it is clear that the patient has failed to achieve sufficient weight loss and at this point surgery should be considered.

## Malabsorptive and restrictive categories

Two broad categories of operation have been developed — malabsorptive and restrictive. The earliest operations induced weight loss by causing malabsorption and the most widely practised procedure was the jejuno-ileal bypass, which was developed in the mid-1950s. Although spectacularly successful at inducing sustained weight loss, this operation has fallen out of favour because of the disastrous long-term metabolic consequences that were associated with it, including severe protein malnutrition, bone disease and, most significantly, cirrhosis.

Disillusionment with the malabsorptive procedures led to increasing use of restrictive procedures. These operations involve partitioning of the proximal stomach, creating a small pouch with a capacity of 20-30ml. Mechanical distension of the pouch causes a feeling of satiety, limiting further food intake. Two main varieties of restrictive operation have been used — the vertical banded gastroplasty (see Figure 1) and the Roux-en-Y gastric bypass (see Figure 2).

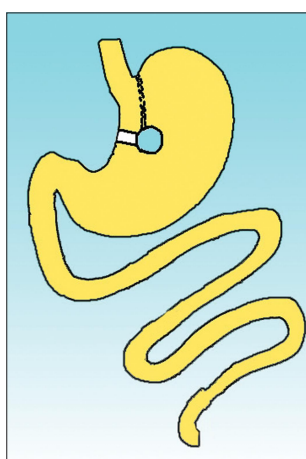


Figure 1

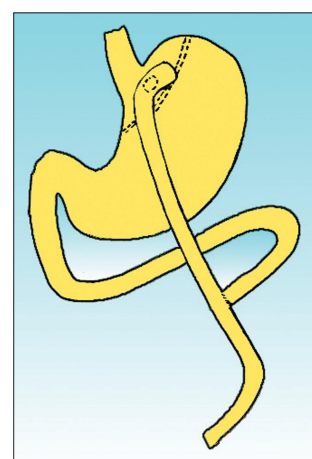


Figure 2

In the last decade, laparoscopic versions of both procedures have evolved. The laparoscopic approach shortens hospital stay and avoids wound complications,

which are the most common postoperative problems associated with open obesity surgery. Laparoscopic gastric banding involves placement of a silicone band just below the oesophagogastric junction around the upper stomach. An inflatable balloon connected to a subcutaneous port allows adjustment of the size of the outlet that drains the gastric pouch created by the band. Laparoscopic gastric banding has been widely used in Europe and Australia. Development of a laparoscopic technique for Roux-en-Y gastric bypass has been slower to emerge but has gained acceptance and is rapidly becoming the operation of choice in North America.

### Dietary supervision

Careful dietary supervision is required, especially during the first three to six months after the operation when the patient is in a state of controlled malnutrition and weight loss is most rapid. Oral intake immediately after surgery starts with liquid feeds for the first two weeks, following which semi-solid and soft foods are reintroduced. At approximately six weeks, normal solid food is added. Pouch capacity increases by a factor of 2-4 over 18 months so by this time the patient is able to eat normal meals (though still in markedly reduced amounts).

Following Roux-en-Y gastric bypass, patients should take multivitamin, iron and calcium supplements. Monthly vitamin B12 injections are necessary because food is excluded from the distal stomach. Postoperative dietary advice is combined with a graduated exercise programme to help maximise weight loss and health gain.

### Psychological support

Surgery produces a life-long change in the patient's relationship with food. Preoperative psychological assessment aims to avoid inappropriate surgical intervention by identifying patients who will not cope with

this transition. Postoperative psychological support is important in helping to establish coping mechanisms that may previously have relied heavily on food. Dietary advice includes a major component of behaviour modification. Restrictive surgery encourages adoption of proper eating behaviours — only small amounts can be eaten and food must be chewed and eaten slowly.

### Benefits of surgery

The benefits of surgery have been well established. Long-term follow up studies from the US demonstrate better long-term weight loss with the Roux-en-Y gastric bypass. Banding procedures are associated with 45-50% excess weight loss and Roux-en-Y gastric bypass produces approximately 65-70% of excess weight loss. Type II diabetes is usually fully corrected and hypertension resolves in about 60% of patients. There are similar improvements in respiratory function and in the other medical comorbidities associated with obesity.

Surgery is a valuable and effective tool for weight loss in morbid obesity. It should be offered only as part of a multidisciplinary programme for weight reduction. It appears likely that surgeons in Ireland are going to have to become involved in providing this type of surgery to meet the inevitable increase in demand.

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