

Over View of Weight Loss Surgery

Apichai Chaiyaroj MD., FRCST.

Many of our readers may have heard of weight loss surgery, or Bariatric surgery, or Metabolic surgery, while others may not have any idea of what weight loss surgery is all about. But there is one most important thing about these procedures, that they are not procedures for cosmetically oriented weight loss. The aim of weight loss surgery is for those morbidly obese patients. The questions around the terminations mentioned above will be answered by the end of this short article explaining about weight loss surgery.

What is obesity?

There are times when we might consider ourselves fat, but when and how do we determine the degree of fatness, or obesity? Scientific research have come to methods of measurement of obesity, which may include ratio between your abdominal circumference to waist circumference, fat composition in your body, etc. But one of the most commonly used, and simple enough to calculate is Body Mass Index (BMI), which is calculated from your weight in Kilogram, and height in Meter, as the following formula.

$$\text{BMI} = \text{Weight (Kg.)} / \text{Height}^2 \text{ (Meter)}$$

For example, if you weigh 80 Kg. and 175 cm. tall, your BMI would be calculated as
as $\text{BMI} = 80 / (1.75)^2$
Or $= 26.12 \text{ Kg./M}^2$

Now, after we have our BMI, what do we do with this number. There are, again, a standard or average table for BMI in different nutritional stage as follow.

BMI	Obesity grading	In Asian people
< 20	Underweight	< 18.5
20-25	Healthy	18.5-23
25-30	Over weight	23-27.5
30-35	Obese	27.5-33
>35	Morbidly obese	
> 40	Super obese	

Please note that the last column is the number which may be used in Asian people who are smaller built than most Caucasians. These numbers, however, will need to be further adjusted in the future.

Who are weight loss surgeries for?

Weight loss surgeries are procedures designed for those who are morbidly obese and super obese patients, which most of the time, have associated medical illnesses such as diabetes, high blood pressure, knee and spine problems. So the suitable candidates for such operations are those who have BMI of 35 or more. But there are also new findings from medical researches that, this type of surgery can help a lot of obese patients who suffers uncontrolled diabetes. So the operation is sometimes done for ones with BMI less than 35 (mostly 30-35) who has high risk from other medical illnesses (diabetes, high blood pressure, etc.).

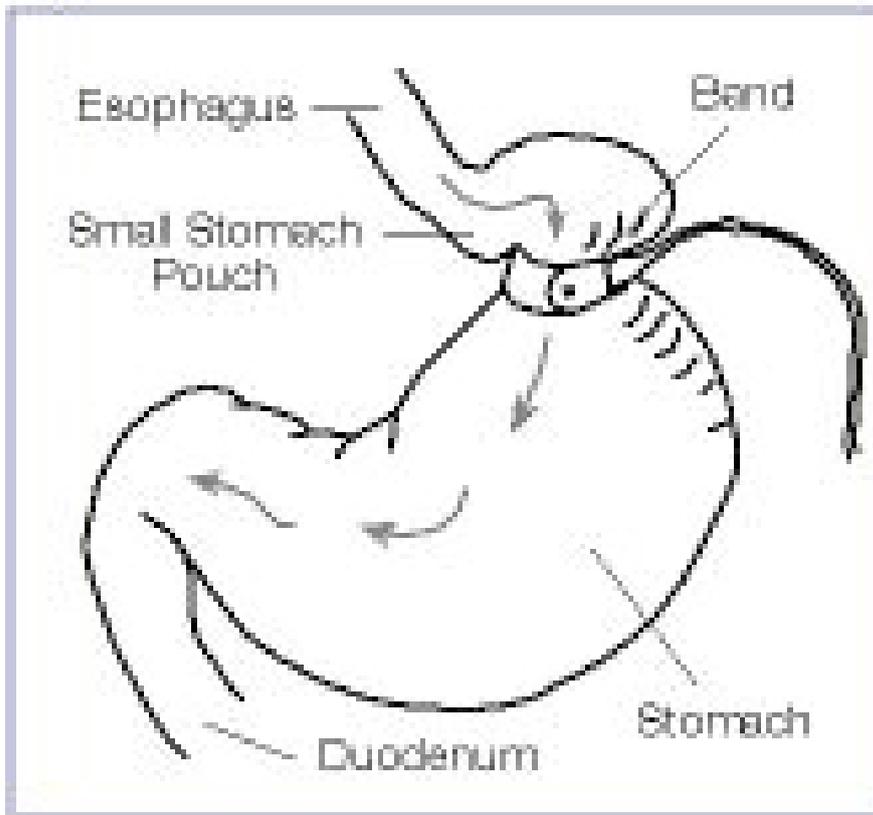
How many types of these surgeries are available? And which ones are medically acceptable?

First, we may have to understand the terminology of Bariatric surgery. Bariatric is a combination of a Greek word "*Baros*" which means weight, and a suffix "*-iatic*" which is basically a branch of medicine (such as *Pediatric*). So, the word Bariatric would mean "A branch of medicine that deals with weight, or weight control", which, in turns, makes Bariatric Surgery "the surgery to control the weight". As for Metabolic surgery, which is a new term used in this field, we can say that it helps the body to deal with metabolism problem. Metabolism means the hormonal and physiological means of human body to control the energy burning function of oneself. So Metabolic Surgery is the surgery to help the body to control the above-mentioned function.

Principally, there are three basic concepts of bariatric surgery. One is to restrict the amount of food intake you can eat. And the other one is to create a malabsorption of nutrients that you eat. And the last, is the combination of the previous two.

The most common restrictive procedure is the Adjustable Gastric Banding, which is simply a laparoscopic procedure to put a band around the very beginning part of the stomach, creating a small pouch in which limits the ability to eat. The band also has a balloon which is connected to a small port buried underneath the skin, so that we can inject some fluid in to inflate the balloon to tighten up the band, or deflating it to loosen it.

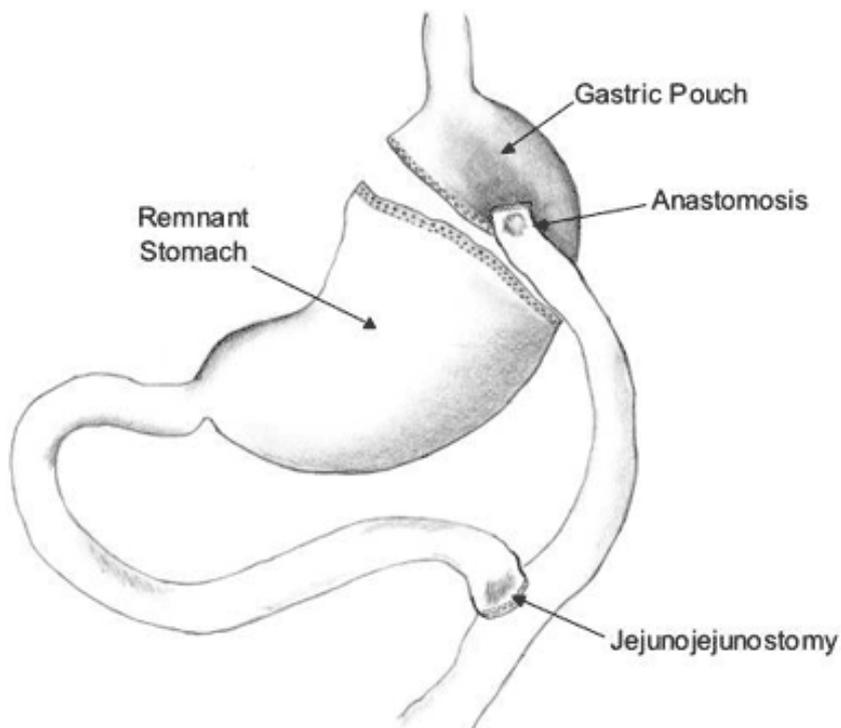
Figure 2



Adjustable Gastric Banding

Medscape®

www.medscape.com



Roux-En-Y Gastric Bypass

The second type of procedure is no further popular, as it's been associated with malnutrition, and complications of it. They are, for example, Bilopancreatic Diversion, and Duodenal Switch.

The most commonly performed bariatric procedure up to now is called "Roux-En-Y Gastric Bypass" which is also done by laparoscopic technique. In this procedure, the stomach is divided at just below the junction between the esophagus and stomach to create a small pouch, which is the restrictive part. Then the small intestine is divided further down and the distal part is joined to the small stomach pouch, and the proximal part joined to the small intestine even further down. This part of procedure is considered the malabsorbative part. The diagram may be the best explanation for understanding the procedure.

How effective are these procedures?

Most patients lose 40-60% of excess weight in 2 years and maintain at that weight or lower. The rate of weight reduction is slightly faster in gastric bypass patients than in gastric banding patients.

There is a theoretically higher risks involved with gastric bypass, as there are 2 anastomosis in the procedure, which has a less than 1 % chance of leakage. But the follow-up after the procedure is not necessarily per scheduled.

Gastric banding is a more simple procedure, and theoretically reversible. But it also requires a more strictly scheduled follow-ups and further adjustments.

Conclusion

Bariatric surgery is weight reduction surgery, aiming to treat morbidly obese patients to give them better livings with improved quality of lives. Up to now, there have been enough positive evidences to support these procedures especially Adjustable gastric Banding, and Roux-En-Y Gastric Bypass.

Patients who are considered morbidly obese, or obese with medical illnesses are candidates for these operations. Please contact your physicians or bariatric surgeons for more information.