

## MORBID OBESITY

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What is it?

The obesity is the result of a quantitative and qualitative ingestion superior to the individual's needs who ingests more calories than the ones they burn. These ones stock as fat in the body.

The causes of obesity are numerous and imply hereditary origins, an inadequate diet and a sedentary lifestyle.

Obesity has turned into a chronic disease that obviously makes patients' life expectancy shorter.

The problem of obesity

Morbid obesity is not only an esthetic problem but it is also a real chronic disease whose treatments usually fail short or long term.

Besides the physical limitation in daily life, the obesity favours maladaptation and the loss of self-esteem.

In Spain, the obesity affects 30% of the population and among them 15% suffer from morbid obesity that is considered as the pandemic of the XXI century.

What are the complications of obesity?

The obesity might be fatal as it affects the circulatory system with high blood pressure and heart problems. The great presence of fat in the abdomen and thorax makes the lungs work more which causes respiratory fatigue, besides intense snore and sleep apnea.

Most patients suffer from reflux from the stomach to the oesophagus or mouth on the digestive scale and bladder calculi. The women suffer from menstruation absence or alterations and are more likely to develop uterine cancer.

Most of these symptoms disappear when the patient regains his/her normal weight.

How is the level of obesity measured?

In order to find out if the patient have pathologic obesity, the doctor divides his/her weight by his/her height in squared metres and obtains a number named the Body Mass Index:

Weight:

Height:                      BMI

We always refer to the Body Mass Index in order to find out if the patient is obese. The patient is considered to have a normal weight when his/her body mass index is down 25, he/she is considered to be overweight when his/her body mass index is between 25 and 29. If it is between 35 and 39, we deal with serious obesity and up to 40 morbid obesity.

Do I need a surgical treatment?

To think about surgery, you should have a BMI up to 40 or 35 or suffer from diseases related to high blood pressure, diabetes, articulation problems, sleep apnea...

Previously, you should:

- have excluded any disease causing obesity
- have tested a dietary medical treatment without getting the expected result
- be aware that the surgical treatment does not have any esthetic results but will make you healthier

Optional treatments

The first therapeutical options of pathologic obesity are an endocrine-dietetic treatment based on the reduction of ingestion, a hypocaloric diet and changes of habits and behaviour. All the patients who come to the surgery for obesity problems have already been on hypercaloric diets in order to lose weight.

Some medication under or without prescription induces weightloss as it reduces appetite but once it is stopped, weight is regained soon. The major part of the weight lost is regained five years later.

If this dietary treatment and medication fail, surgery is an option.

Surgical techniques

Surgery is a radical solution for obesity. Morbid obesity surgery is named bariatrics. The surgical techniques have evolved and reached greater precision. They do not have so much impact on patients; fewer discomforts, shorter stays at hospital and above all fewer secondary effects after surgery.

However, the operations are serious. Although the death rate in bariatrics is only 1%, some obese patients take a risk if they do not lose weight before surgery.

We will advise the obese patient on the most adequate treatment according to his/her personal features:

The present three techniques are divided up in:

- restrictive: it consists in reducing the stomachal size (gastric banding)
- malabsorption: it causes the malabsorption of foods (biliopancreatic diversion)
- mixed: it combines the previous ones (gastric bypass)

#### Gastric banding

This technique reduces the stomachal size in order to decrease food ingestion. This is a silicon ring with an inflatable camera inside, that is placed around the stomachal upper part and that reduces its capacity. Thus the patient can eat small quantities and the end of the small upper reservoir is limited thanks to the banding.

As a result, the patient has a prompt satiety feeling and loses weight. The internal part of the banding goes through a catheter that is connected to a reservoir implanted under the skin.

The laparoscopic adjustable gastric banding is an easy operation that lasts about 45 minutes. Few hours after the operation, the patient can usually walk and tolerates liquids. He/she returns to his/her usual activity 10 days after the operation. One week later, he/she has his/her stitches out at the surgery and for 2-3 weeks, he/she has a liquid diet in order to get used to their new stomach.

The banding diameter can be adjusted but only by the surgeon until he finds the patient's individual needs.

### Gastric bypass

It consists in cutting out, stapling and sectioning the stomachal highest part (where foods get in initially) which makes the stomach about 20-30 ml small that is called a reservoir.

After that, the intestine is divided and linked to the reservoir so that foods pass farther from the small intestine which avoids the food absorption in 1,5-2 metres.

The patient eats less and gets a satiety feeling sooner. As foods pass farther from the intestine, their absorption is reduced and they lose weight.

## Biliopancreatic diversion

Malabsorption operations such as biliopancreatic diversion reduce as much food ingestion as the quantity of calories and nutrients the body absorbs. In this technique, a stomachal part is excluded and the small pouch is directly connected to the final segment of the small intestine which blocks the way through the duodenum and yeyunum. Most calories and nutrients are led to the colon where they are not absorbed which causes weightloss.

This is the most effective technique for overweight loss but it is complex as it requires compulsory analytic checkups for years as it affects the absorption of certain vitamins and proteins and most patients have malodorous stool.

We only use this technique in very specific cases.

## Advantages of laparoscopic surgery for obesity

Some of the advantages of laparoscopic surgery are:

- the reduction of the postoperative pain
  - a shorter stay at hospital
  - a return to your daily activity sooner
  - fewer complications in lung infections
  - fewer complications in the abdomen wall
  - same results in weightloss and healing of comorbidities as open surgery
- a more esthetic result

Usual questions

### Preoperative preparation

At the nutrition surgery, the patient is interviewed with a special interest on his/her personal obesity's story and dietary habits. Also, he/she is explored. If the patient is a good candidate for surgery, there might be a psychological assessment to determine his/her capacity to adapt to the changes after the operation.

The patient is explored by the anaesthetist to see the neck's mobility and the mouth's opening to see how difficult the intubation will be. Moreover, a radiography of the thorax and an ECG are carried out. If the patient is old, suffers from cardiopathy or respiratory alterations, a cardiological and respiratory checkup might be necessary. Once all medical contra-indications are set aside for surgery, the patient is assessed by the surgeon who makes a clinical interview, physical and different complementary explorations such as an endoscopy, an echographia, stomachal radiographies...

After being explained the surgery technique, the likely short and long term complications and the results, the patient signs the consent form.

The patient goes into hospital the day before surgery. As a treatment prior to surgery, he/she is administered an antiemetic, antibiotic and antithrombotic therapy in order to avoid the risk of thrombosis and intubation problems. Before surgery, the patient has to have a shower or a bath and wash specially the abdomen and abdominal folds.

### Postoperative

After the operation, the surgeon informs the patient's family about the operation and tells them the patient will be led to the postsurgical re-animation unit where his/her wakening, signs and draining (if he/she has one) will be watched over. This is a safety measure before bringing the patient to their bedroom.

The patient does not have a probe in the nose when he/she goes out of the operation room but a probe in the bladder and some pneumatic compression stockings on the legs to prevent vein thrombosis.

When the patient is in the bedroom, he/she will have to sit for a while before standing up. When he/she is in the bed, he/she will have the intermittent pneumatic compression device connected and so that he/she will be able to move his/her legs (bend and stretch them out).

After the laparoscopic operation, in the first hours, the patient might feel pain in his/her left shoulder and discomforts in the abdominal wall. If the pain is too strong, he/she will be administered painkillings.

At the beginning of liquid feeding, (24-48 hours after surgery), he/she will have a plenitude and fullness feeling as the stomachal capacity has been reduced. In order to avoid discomforts, he/she should drink with a straw or a teaspoon slowly and stop when

he/she feels full. If there is good tolerance and no complication, the patient is discharged on the 1<sup>st</sup>-3<sup>rd</sup> day after the postoperative.

He/she is given a series of advice and treatments:

- an information leaflet
- bariatric diet by stages
- subcutaneous heparin for up to 25-30 days after surgery
- omeprazol 1 pill / day (for a long period of time)
- Vitamin complex

What complications can occur?

As in any operation, there may be some complications. However, they are not as dangerous as obesity itself.

Although the operation is considered to be safe, there might be complications. The postsurgical death rate for obesity in any laparoscopic procedure is relatively low. (down to 1%).

But complications such as leaks in the suture lines, intestinal perforation, intestinal obstruction, lung problems and the appearance of blood clots in the legs can reach a 10-15%.

Biliary calculi are likely to be found years or months after surgery due to weightloss. Moreover, the patient might suffer from nutritional deficiencies of certain vitamins or iron. If he/she takes the necessary vitamin and nutritional complements, it does not usually happen.

Diarrhea or light stool is usually common after malabsorption surgery. It depends on the fat consumption.

What results do I have to expect?

In the case of the gastric banding, weightloss up to 50% of the overweight, in the case of the gastric bypass, 65-70% and in the case of malabsorption surgery 70-80%. Weightloss is maintained on the long term though some patients regain a little weight 2-5 years later-

It improves or heals the diseases related to obesity such as: diabetes, high blood pressure, high fat level in blood and sleep apnea. Moreover, patients feel cheerer and improve other aspects of their social, personal and work lives.

When should I phone my doctor?

Phone or go to hospital if you have one of the following symptoms:

- high temperature over 38° and that does not go down
- bleeding
- increasing abdomen swelling
- nausea or constant vomit

- shivers
- constant cough and difficulty in breathing properly
- suppuration of any wound
- calves swelling and pain in the legs

