

WHAT IS OBESITY?

Obesity results from the excessive accumulation of fat that exceeds the body's skeletal and physical standards. According to the United States National Institute of Health (NIH), an increase in 20% or more above your ideal body weight is the point at which excess weight becomes a health risk.

Obesity becomes morbid when it reaches the point of significantly increasing the risk of one or more obesity-related health conditions (also known as co-morbidities). This results either in significant physical disability or even death. **Morbid obesity is a serious and chronic disease, and its symptoms build slowly over an extended period of time.**

Obesity is a risk factor for life-threatening diseases, including:

- Diabetes
- High Blood Pressure (hypertension)
- Dyslipidemia (Raised Cholesterol)
- Heart Disease
- Obstructive Sleep Apnea
- Stroke
- Heartburn or Acid Reflux Disease (GERD)
- Cancer (in women: endometrial, gallbladder, cervical and uterine; in men: colorectal and prostate)

Studies show that the risk of death from these conditions drops significantly after weight loss.

For every 10 extra kilograms above the ideal body weight, life expectancy of a person reduces by three years.

Compared to a normal-weight person, a 25-year-old morbidly obese man has a **22% reduction in expected remaining lifespan**. This is an approximate loss of **12 YEARS!** This number will also likely grow if the ever-expanding numbers of currently obese children continue as obese adults.



WHAT IS BARIATRIC SURGERY?

Bariatric Surgery, or weight loss surgery, is the most scientific way of losing a significant amount of weight. An expanding waistline comes with multiple diseases, and losing weight helps you get rid of all these illnesses.

If you are someone for whom non-surgical procedures have failed to provide sustained weight loss, you can be evaluated for, and if appropriate, undergo lifesaving weight loss surgery. This surgery is known as Bariatric Surgery (also known as metabolic surgery).

After any type of Bariatric Surgery, the amount of food you can eat in one sitting is reduced. Because of this, the brain utilises the fat stored in your body for its energy needs. This burns the excess fat in your body, thus helping you lose weight.

Also, the fundus of the stomach is cut. This is the area of the stomach which produces the hunger hormone Ghrelin. Since the source of your hunger hormone is removed, you do not feel hungry all the time, and are satisfied with the small amount of food you eat without feeling tired or weak.

The malabsorptive effect because of the bypass of the small intestine in any type of Bypass causes markedly reduced absorption of fats from your intestine. This further adds to the weight loss effect.

Another great beneficial effect of any Bypass of the small intestine is that it causes major changes in the hormonal axis of the body for better control of blood sugar levels. This means, that almost 95% of patients who were diabetic can STOP all medications (including insulin) for Diabetes after undergoing a Gastric Bypass.

Bariatric surgery is a major operation, and if you're considering it, **you must make a serious, lifelong commitment to lifestyle changes.**

Our program follows the WHO guidelines for Asian patients for selection. These guidelines have also been endorsed by the Ministry of Health, Government of India. If you have a BMI (Body Mass Index) of 37.5 kg/m² or more, or a BMI of 32 kg/m² or more with illness related to excess weight, and have not been able to sustain weight loss through diet and exercise, you probably are a candidate for weight-loss surgery.

If you do not meet these guidelines, or we find that you are not eligible for surgery for health reasons, don't despair. Through our intensive non-surgical weight management program, we can help you lose weight by helping you change your eating habits, modify your behaviour and increase your physical activity.

Bariatric Surgery is done by minimally invasive methods – Laparoscopically or Robotically. This means, there will be 4 or 5 small cuts on your tummy, and no large ugly looking scars. In some cases, there may be only 1 scar inside your belly button (SILS).

Recovery is rapid, and patients can return to work within a week.

Bariatric Surgery is not a quick fix weight loss treatment. This is not a cosmetic procedure, because this surgery is done for your health and not for your looks. It helps you lose weight naturally over a period of 8 – 10 months.

TYPES OF BARIATRIC SURGERY

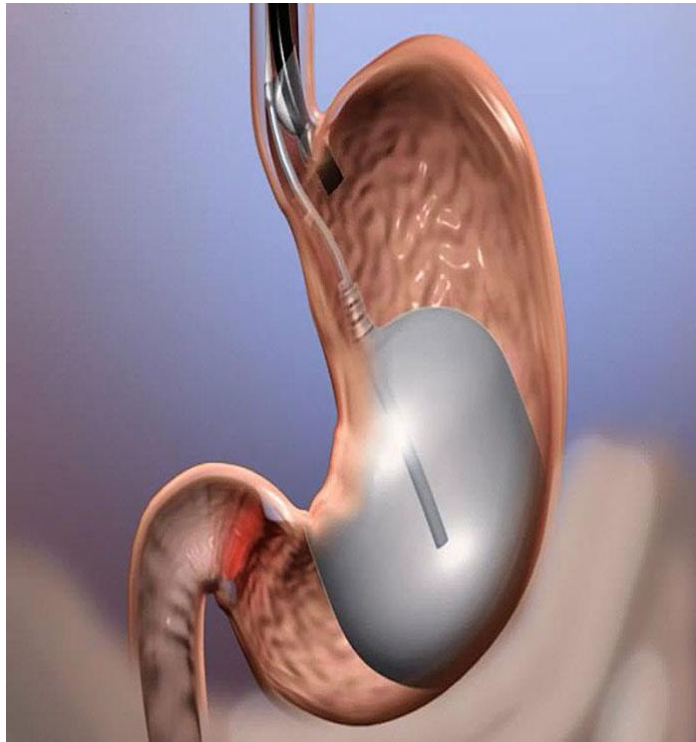
1. Sleeve Gastrectomy
2. Roux-en-Y Gastric Bypass (Standard Gastric Bypass)
3. Mini Gastric Bypass
4. Sleeve Gastrectomy + Duodeno-jejunal Bypass

ALTERNATIVES TO BARIATRIC SURGERY

For some patients, Bariatric Surgery is not a practical option. This may be either due to a very high BMI ($>70 \text{ kg/m}^2$) or when the BMI is not high enough to warrant a surgical procedure (BMI between $25\text{-}32 \text{ kg/m}^2$). For such patients, Endoscopic options are available. These include:

1. Endoscopic Intra-gastric Balloon
2. Endoscopic Sleeve Gastroplasty

These procedures are done only via Endoscopy, so there are no cuts on your tummy, and hospital admission is not needed.



Sleeve Gastrectomy

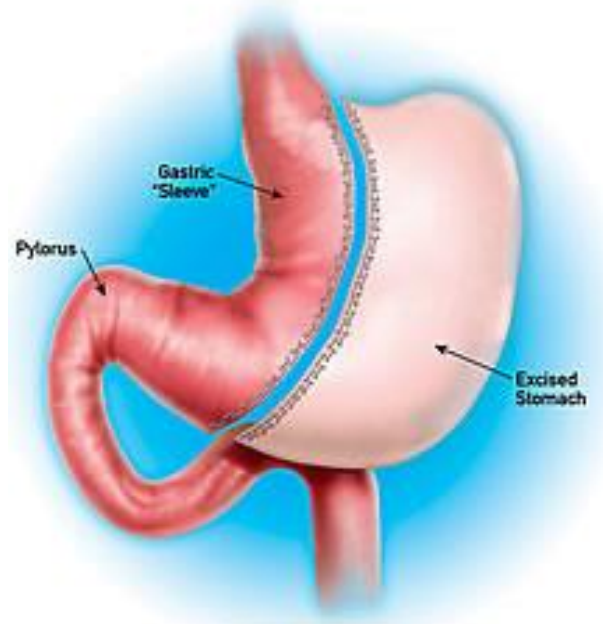
What is it?

The Sleeve Gastrectomy is a type of restrictive weight loss surgery. Sleeve Gastrectomy causes weight loss by restricting the amount of food that a person can consume before feeling full.

The size of the stomach is reduced to about 10% of its original volume, leaving behind a stomach measuring 80-100 ml. This results in a limited capacity of food intake.

Quick Overview:

Pre Operative preparation	Liquid diet (depending on your BMI)
Pre Operative Tests	Full body check-up
Hospital stay	2-3 days
Number of cuts (0.5-1 cm)	3-5 (Laparoscopy/ Robotics) or 1 (Single incision surgery)
Return to work	Within a week
Expected Weight loss	60-70% of excess weight



Roux En Y Gastric Bypass

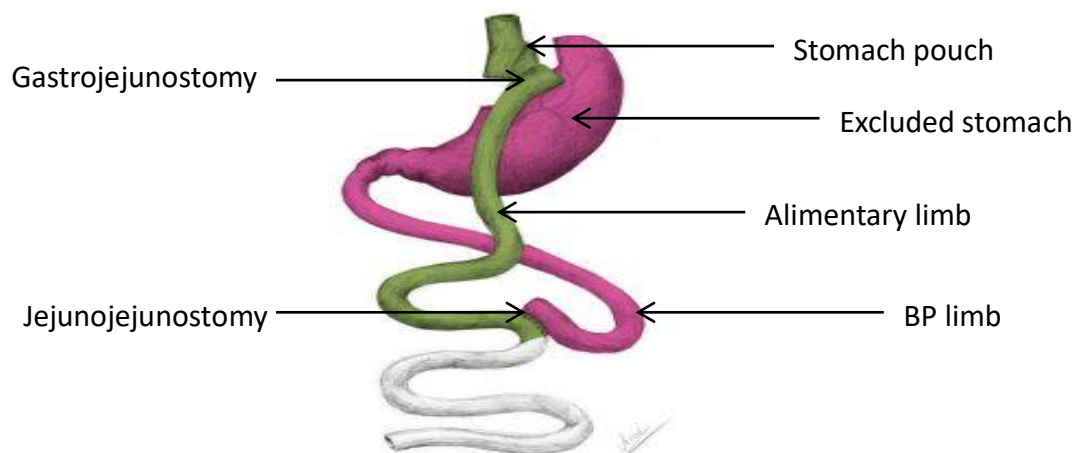
What is it?

Roux-en-Y Gastric Bypass is a type of restrictive as well as malabsorptive surgery that can be performed by a minimally invasive surgical method. Usually 4-5 small cuts of 0.5 – 1 cm are made on the abdomen. The Roux-en-Y Gastric Bypass is then performed Laparoscopically or Robotically, using highly advanced technology to make it safe.

In a Roux-en-Y Gastric Bypass, the stomach is divided into 2 parts – a small functional stomach pouch (approximately 30-50 ml) and a larger excluded stomach. Following this the upper portion of the small intestine is bypassed, ensuring minimal absorption of carbohydrates and fats.

Quick Overview:

Pre Operative preparation	Liquid diet (depending on your BMI)
Pre Operative Tests	Full body check-up
Hospital stay	2-3 days
Number of cuts (0.5-1 cm)	4-5 (Laparoscopy/ Robotics)
Return to work	In a week
Expected Weight loss	70-80% of excess weight



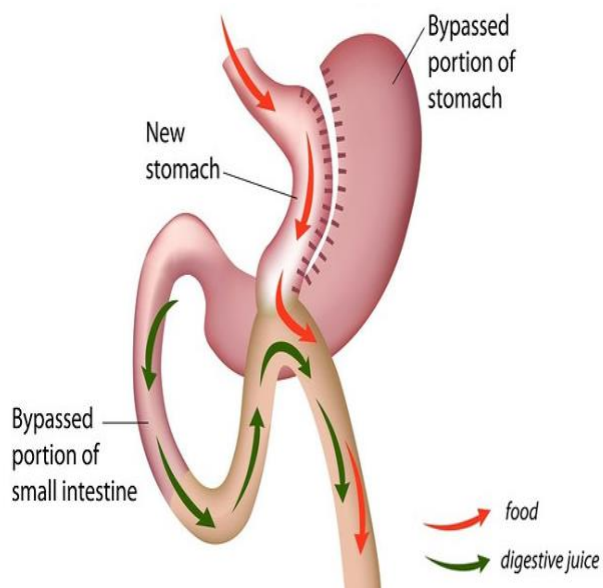
Mini Gastric Bypass/ One Anastomosis Gastric Bypass

What is it?

The mini gastric bypass is a restrictive and malabsorptive procedure that not only reduces food intake, but also reduces the absorption of carbohydrates and fats from the food. Usually 4-5 small cuts of 0.5 – 1 cm are made on the abdomen. In the first step of a Mini Gastric Bypass, a stomach sleeve is created measuring about 70-90 ml and separated from the rest of the stomach. The small intestine is then joined in continuity without disconnecting it. This bypasses a part of the intestine which reduces absorption of carbohydrates and fats.

Quick Overview:

Pre Operative preparation	Liquid diet (depending on your BMI)
Pre Operative Tests	Full body check-up
Hospital stay	2-3 days
Number of cuts (0.5-1 cm)	4-5 (Laparoscopy/ Robotics)
Return to work	In a week
Expected Weight loss	80-90% of excess weight



Sleeve Gastrectomy with DuodenoJejunal Bypass (SG-DJB)

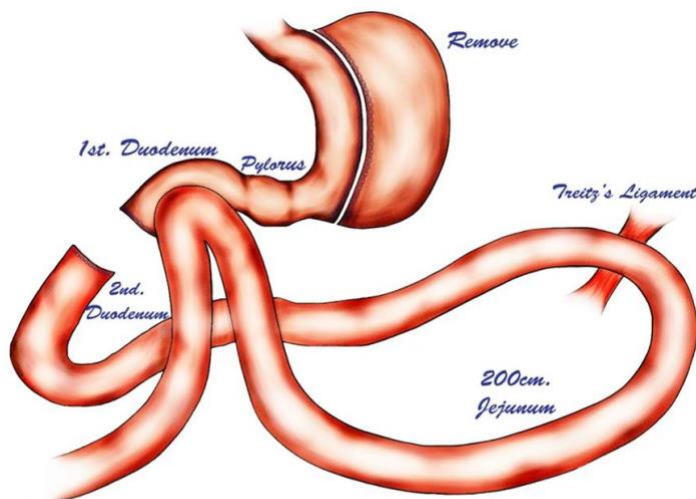
What is it?

The Sleeve Gastrectomy with DuodenoJejunal Bypass is also a restrictive and malabsorptive procedure (like the Roux-en-Y Gastric Bypass and Mini Gastric Bypass) that not only reduces food intake, but also reduces the absorption of nutrients from the food. Absorption of nutrients is limited because a part of the upper small intestine is bypassed and not used for digestion.

Usually 4-5 small cuts of 0.5 – 1 cm are made on the abdomen. In the first step of a Sleeve + DJ Bypass, a Sleeve Gastrectomy is performed. The volume of the stomach sleeve is between 80-100 ml. The first part of the small intestine is then disconnected just below the stomach and the small intestine is then joint in continuity to this cut portion without disconnecting it.

Quick Overview:

Pre Operative preparation	Liquid diet (depending on your BMI)
Pre Operative Tests	Full body check-up
Hospital stay	2-3 days
Number of cuts (0.5-1 cm)	4-5 (Laparoscopy/ Robotics)
Return to work	In a week
Expected Weight loss	70-80% of excess weight



What to expect post Bariatric Surgery?

Now that you have undergone Bariatric Surgery, it is critical that you change your lifestyle. Starting a daily exercise regime and sticking to a healthy diet is a lifelong process, and Bariatric Surgery makes it easier to stick to this schedule.

Follow Up after Bariatric Surgery

A close follow up with your primary surgeon is the extremely important. This will ensure that you stay on track with your lifestyle, and any changes can be made if needed. Usually, patients need to follow up at 1, 3, 6, 12, 18 and 24 months after the surgery, and once a year thereafter.

Diet Progression After Bariatric Surgery:

Immediately following surgery, you will begin with a clear liquid diet. You may gradually start adding thicker liquids to your diet after you are discharged from the hospital.

It is important to know that following surgery, your stomach size is very small. The opening that allows food to pass out of your stomach is also very narrow. For this reason, it is important to take only two to three sips or bites at a time of any new food and then wait 10 minutes before taking more. This will help you learn your limits and tolerance. Liquids will empty faster from your stomach than soft solids.

If you overeat or eat too quickly, you may experience nausea or pain. You should avoid rich, creamy liquids such as gravies, sauces and ice creams.

Dietary guidelines:

Eat balanced meals with small portions.

Keep a daily record of your food portions and of your calorie and protein intake.

Eat slowly and chew small bites of food thoroughly.

Do not use straws, drink carbonated beverages or chew ice. They can introduce air into your pouch and cause discomfort.

Avoid sugar, sugar-containing foods and beverages, concentrated sweets and fruit juices.

Avoid smoking and alcohol.

Fluids:

Drink extra water and low-calorie or calorie-free fluids between meals to avoid dehydration. All liquids should be caffeine-free.

Sip about 1 cup of fluid between each small meal, six to eight times a day.

We recommend drinking at least 2 liters (64 ounces or 8 cups) of fluids a day. You will gradually be able to meet this target.

We strongly warn against drinking any alcoholic beverages. After surgery, alcohol is absorbed into your system much more quickly than before, making its sedative and mood-altering effects more difficult to predict and control.

Protein:

Preserve muscle tissue by eating foods rich in protein.

High-protein foods include eggs, meats, fish, seafood, tuna, poultry, soy milk, tofu, cottage cheese, yogurt and other milk products.

Supplements:

You must take vitamin and mineral supplements on a daily basis to prevent nutrient deficiencies. Please remember that all pills must be crushed or cut into six to eight small pieces. You are not able to absorb whole pills as well as before surgery, and it can be difficult for the pills to pass through your new anatomy.

Long-term Dietary Guidelines:

Over time, you will be able to increase the variety and consistency of foods in your diet.

Some foods may continue to be poorly tolerated, including red meats, chicken, breads, and high-fiber fruits and vegetables. It is up to you to figure out which foods suit you, and stick to them to ensure a good quality of life.

Always avoid SNACKING. All types of snacks are rich in carbohydrates and fats and very poor sources of protein. **Eating these frequently will lead to weight regain.**

Focus on **high protein, low-fat, low-sugar and low-calorie foods** and continue to count your calories every day. Try to meet your serving goals for all food groups.

A good diet is always balanced with regular exercise. SO do not give up on either one of these!

To stay well hydrated, drink at least 2 liters of water or non-caloric fluids daily, unless this is contraindicated due to a medical condition.

Nutrition Labels:

Read NUTRITION LABELS carefully. These are a very helpful to guide your daily calorie and protein intake.

These contain complete information about the amount of proteins, carbohydrates and fats in each serving. Most also contain details of the amount of cholesterol, sodium and vitamin content in each serving.

Use these to ensure you stick to your protein goals.

Nutrition information of all foods is available online on multiple websites. Use these to calculate your calories.

GENERAL GUIDELINES:

- Do not eat/ drink in front of the TV/ while reading/ while working. These habits cause you to overeat without you realizing it.
- Keep a food and exercise diary. Note down your daily calorie intake and expenditure. Health apps on your smartphone are very useful (eg: My Fitness Pal, S Health, etc).
- Do not take second helpings.
- Keep tempting foods (bread, sev, bhel, biscuits, wafers, etc) out of the house. Your family members will also eat healthy!
- Continue walking at a fast pace daily, and slowly progress to jogging.
- Take the stairs instead of the elevators.
- Do not eat anything at least 3 hours before your bedtime.
- Get adequate sleep.
- Take your nutritional supplements on time.

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