BMI is reflection of body fat percentage in majority of the adult population.

What is Metabolic Syndrome?
Metabolic syndrome is a condition in which excess body fat has accumulated to such an extent that health may be negatively affected and life span is shortened. It is a group of diseases where increased abdominal girth more than 90 cm in males and more than 80 cm in females generally associated with increased BMI diabetes, hyperlipidemia, hypertension, polycystic ovaries, sleep apnoea and non-alcoholic steato hepatitis (Fatty Liver).

Obesity occurs over a period of time when you eat more calories than you burn. The balance between calories-in and calories-out differs for each person. Factors that might tilt the balance include your genetic makeup, overeating, eating high-fat foods and not being physically active. Hormones in the gut like Ghrelin, GLP1 also play an active role. Adipose tissue secretes adipokines and free fatty acids into blood which in turn produce insulin resistance and thus lead to diabetes, high blood pressure, high cholesterol and other obesity related diseases.

Problems of Metabolic Syndrome
Metabolic syndrome raises concern because of its implications on the health. It increases the risk of many diseases and health conditions. These include:
- Type 2 diabetes
- Coronary heart disease
- Hypertension (high blood pressure)
- Cancers (endometrial, breast, and colon)
- Dyslipidemia (high total cholesterol & triglyceridemia)
- Stroke
- Liver and gallbladder disease
- Sleep apnea and respiratory problems
- Osteoarthritis
- Infertility
- Mental disorders

Metabolic Syndrome can be treated effectively
Treating Metabolic Syndrome involves more than keeping to a certain diet or taking a tablet. It requires multidisciplinary assessment, which involves several specialists collaborating as a team. The team often comprises a dietician, psychologist, gastroenterologist, cardiologist, pulmonologist, diabetologist, surgeon, anesthesiologist and intensive care specialist.

Treatment can be adapted to the needs of the patient and may include: Psychological support, diet and exercise, medical treatment, endoscopic balloon placements and Metabolic surgery.

Intra Gastric Balloon (IGB)
It is placing a deflated balloon in the stomach using endoscope and then filling it to decrease the amount of intragastric space. It can be left in the stomach for a maximum of 6 months and results in average weight loss of 10 – 15 kg in half a year. It may be used in patients who are over weight and not coming to the category of sleeve gastrectomy.

If you suffer from Metabolic syndrome and have tried various treatments without results, metabolic surgery may be indicated. At present, surgery combined with behavioral changes is the only documented method for achieving long lasting weight loss for patients with morbid obesity.

Bariatric (weight-loss) surgery
Weight-loss (bariatric) surgery, changes the anatomy of your digestive system to limit the amount of food you can eat and digest. Also brings in significant change in gut hormone level. The surgery aids in weight loss and lowers your risk of Metabolic Syndrome (medical problems associated with obesity).

Open Approach
An open procedure involves one long incision that opens the abdomen to provide the surgeon, access. It will be very difficult to complete the operation and will be highly painful. It would require many months of rest.

Laparoscopic Approach
When a Laparoscopic Surgery is performed, a small video camera is inserted through a small incision in the abdominal wall, allowing the surgeon to view and perform the surgery.

Compared to open surgery, Keyhole surgery for treating obesity is highly effective, and safe. Some benefits of laparoscopic surgery include:
- Minimal blood loss
- Minimal post-operative pain
- Very few wound infections
- Very few incisional hernias
- Very fast recovery and early return to pre-surgical level of activity
- Less intestinal adhesions
- More precision due to 20 times magnification

Types of Bariatric Surgery
Restrictive procedures make the stomach smaller to limit the amount of food intake.
Restrictive and Malabsorptive techniques reduce the amount of food intake and also limit the length of intestine that comes in contact with food so that the body absorbs fewer calories. There are tremendous good hormonal effects which help the person to utilise body fat for daily energy needs.

Sleeve Gastrectomy
The portions of stomach which secretes Ghrelin (hormone which increases appetite & cholesterol) and acid (which digests food) in excess is removed. This leads to reduction in food intake and also alteration in hormonal milieu which leads to usage of stored fat for caloric requirement. Thus, by natural way, weight gets
Others

Adjustable Gastric Band:

Effects are moderate with some undesirable effects and hence not preferred.

Roux-en Y gastric bypass

This is malabsorptive procedure. Within the first one year of surgery, you can expect to lose 70 to 75 percent of your excess weight. If you closely follow dietary and exercise recommendations, you can keep most of that weight off long term. Less preferred due to shutting off food distally and some vitamin deficiency.

You are suitable for surgery if:

- Your BMI is 35 or above.
- Your BMI is 30 or above and you have obesity-related health problems (co-morbidities)/Metabolic syndrome.

A multi-disciplinary team will assess the type of surgery suitable for you. They will give you information about benefits and risks of surgery. After the operation, you will have regular check-ups at the obesity center or by your primary care doctor. The operation is the first step in a comprehensive lifestyle change.

In addition to dramatic weight loss, Bariatric surgery improves or resolves conditions associated with obesity like Diabetes, High BP, Infertility, Joint pain, High cholesterol. Perfect diabetic control without any medication is seen in 85-90% of patients undergoing bariatric surgery. The surgery has also shown to improve mobility, quality of life and reduce risk of cancer and heart attacks. Success of surgery will also depend on determination and ongoing effort by the patient.