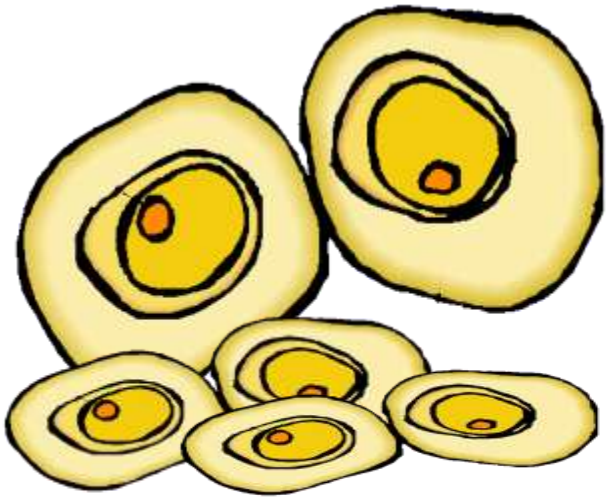
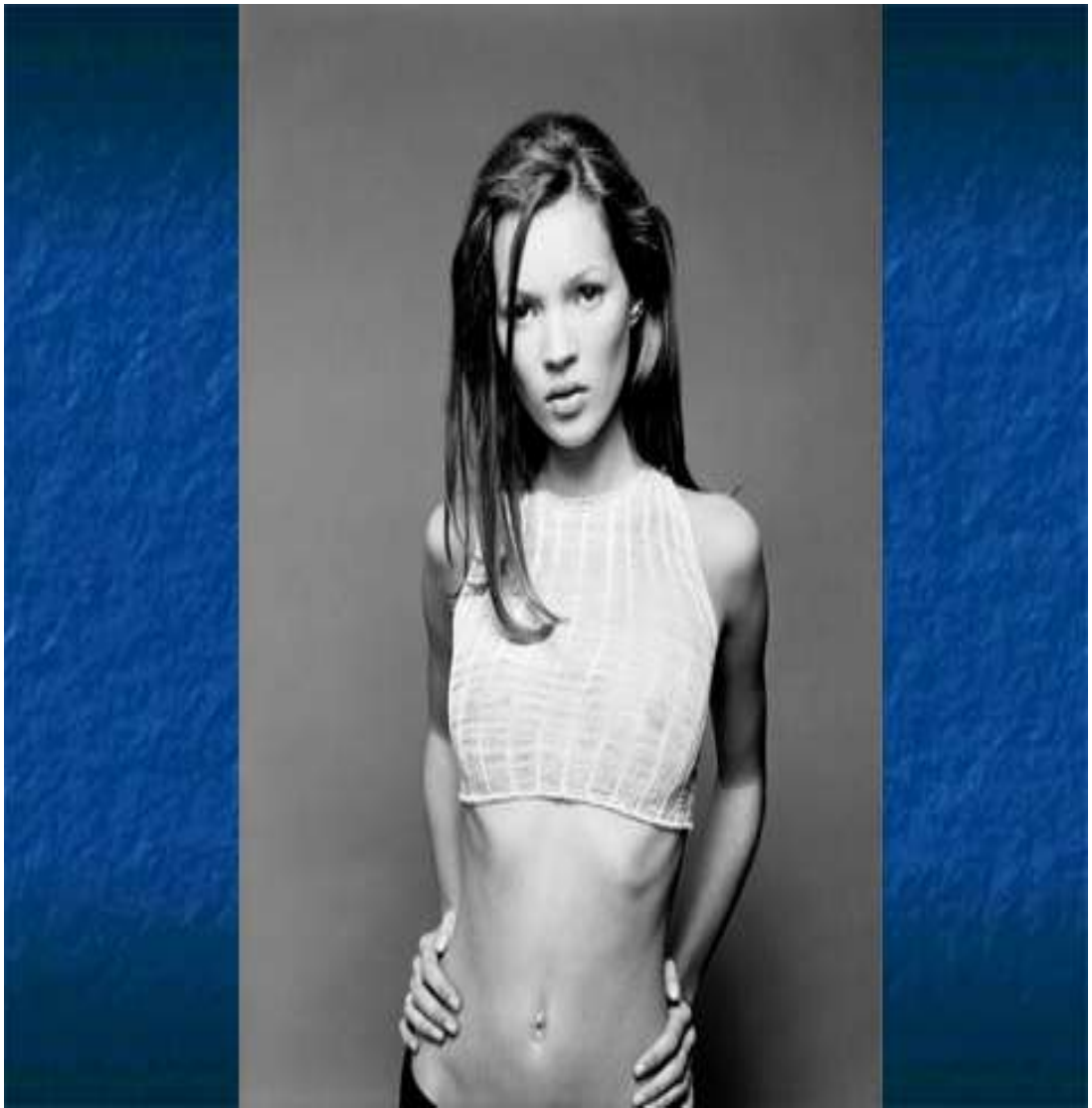
Obesity

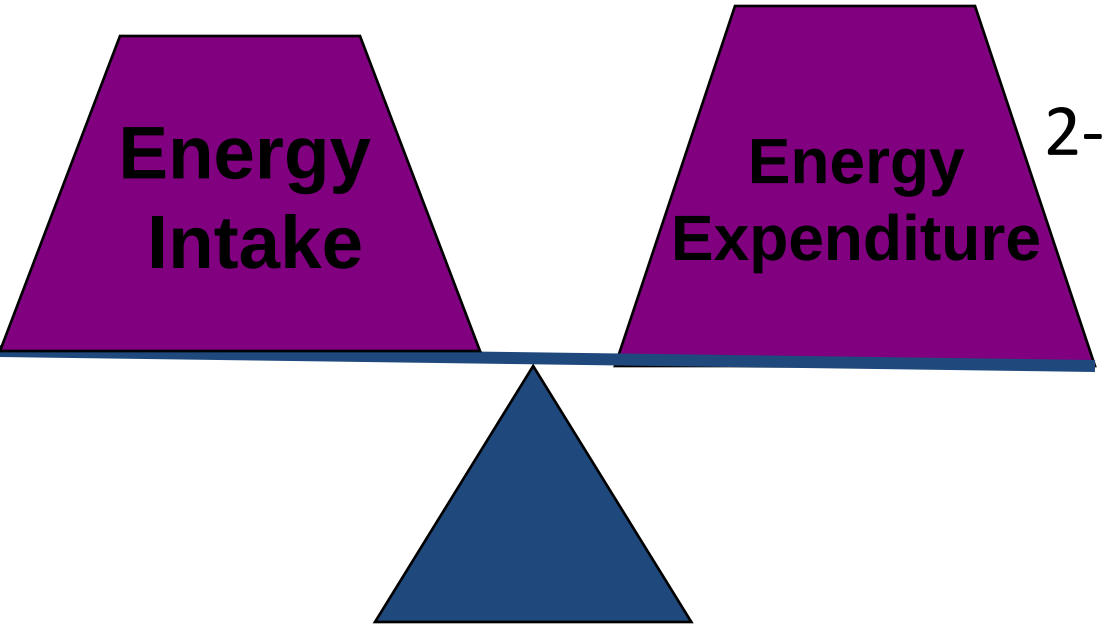
An excess accumulation of fatty tissue that it may have a negative effect on health



This is not necessarily the goal of Bariatric Surgeon



Causes of Obesity



1- excessive food intake

2- lack of physical activity

3 –genetic susceptibility

- endocrine disorders
- medications
- mental disorder

كيف يمكن قياس البدانة؟

من أفضل الطرق التي يمكن أن تحدد ما إذا كان وزنك طبيعي أم لا هي طريقة "مؤشر كتلة الجسم BMI".

طريقة حساب مؤشر كتلة الجسم BMI:

$$BMI = \frac{\text{الوزن (كغ)}}{\text{الطول} \times \text{الطول (متر)}}$$

الوزن دون طبيعي	< 18.5
الوزن طبيعي	18.5 - 24.9
الوزن زائد عن الطبيعي	25 - 29.9
يعتبر الشخص بديناً	30 - 34.9
يعتبر الشخص بديناً جداً	35 - 40
يعتبر الشخص مفرط البدانة	> 40

مثال:

الوزن = 90 م

الطول = 1.65 م

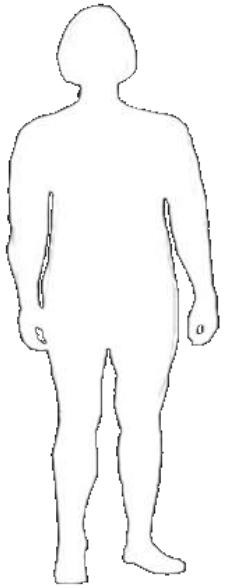
$$BMI = \frac{90}{(1.65 \times 1.65)} = 33.06$$

Degrees of Obesity

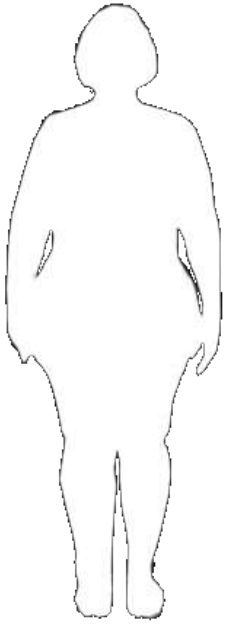
NORMAL
BMI 18.5 – 24.9

OVERWEIGHT
BMI 25 – 29.9

OBESE
BMI 30 – 34.9

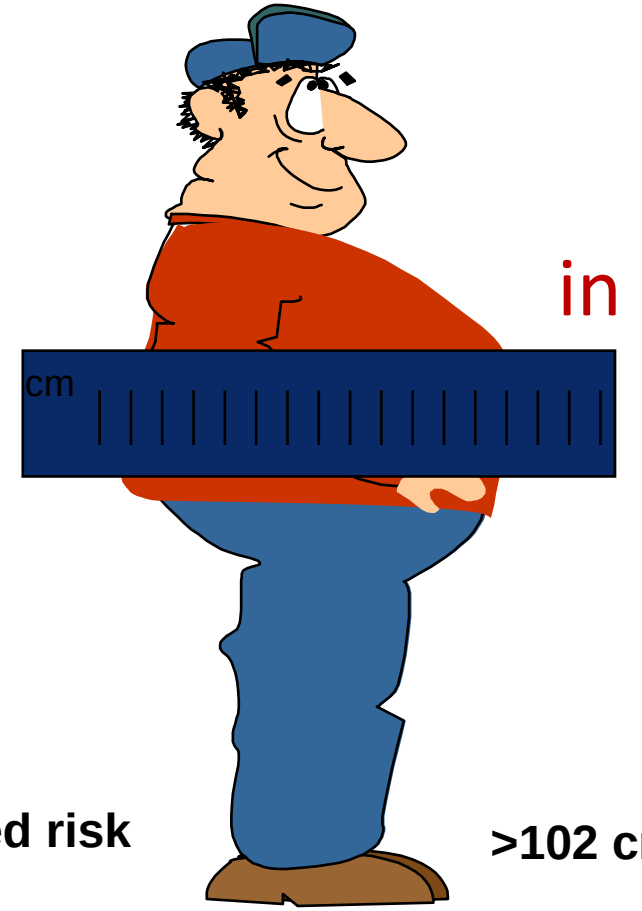


SEVERE OBESE
BMI 35 – 39.9



MORBIDLY OBESE
BMI ≥ 40

Body fat distribution
Apple shaped obesity



Obesity is more common in women than men

Women

>88 cm (80cm) = Increased risk

Men

>102 cm (90cm) = Increased risk


"Apple" vs. "Pear"
Above the waist
Below the waist
A.D.A.M.

The Co-Morbidities accompanied With Obesity

= **T2DM**

= **hyperlipidemia**

= **Osteoarthritis**

= **PCOs and infertility**

=Obstructive Sleep Apena

= GERD

= **Depression**

= **Disc displacement**

= **cardiovascular diseases (Hypertension)**

= **Hypothyroidism**

= **Asthma**

= **Fatty liver NASH**

= Degenerative joint disease

= **certain types of cancer**

Type of cancer	Relative risk* with BMI of 25–30 kg/m²	Relative risk* with BMI of ≥30 kg/m²	PAF (%) for US population‡	PAF (%) for EU population§
Colorectal (men)	1.5	2.0	35.4	27.5
Colorectal (women)	1.2	1.5	20.8	14.2
Female breast (postmenonopausal)	1.3	1.5	22.6	16.7
Endometrial	2.0	3.5	56.8	45.2
Kidney (renal-cell)	1.5	2.5	42.5	31.1
Oesophageal (adenocarcinoma)	2.0	3.0	52.4	42.7
Pancreatic	1.3	1.7	26.9	19.3
Liver	ND	1.5–4.0	ND‖	ND‖
Gallbladder	1.5	2.0	35.5	27.1
Gastric cardia (adenocarcinoma)	1.5	2.0	35.5	27.1

Relative risks associated with overweight and obesity, and the percentage of cases attributable to overweight and obesity in the United States (US) and the European Union (EU). *Relative risk estimates are summarized from the literature cited in the main text. ‡Data on prevalence of overweight and obesity are from the National Health and Nutrition Examination Survey (1999–2000)[205] for men and women from the United States aged from 50–69 years. §Data on prevalence of overweight and obesity are from a range of sources[206] for adult men and women residing in 15 European countries in the 1980s and 1990s. ‖PAFs were not estimated because the magnitude of the relative risks across studies are not sufficiently consistent. BMI, body mass index; ND, not determined; PAF, population attributable fraction (BOX 3).

Indication

IFSO 2018:

- BMI > 40 and failure of non surgical treatment to reduce the weight.
- BMI > 35 with co-morbidities and failure of non surgical treatment.
- BMI > 30 with 3 co-morbidities.
- BMI> 30 with uncontrolled Diabetes.
- Revision surgery with BMI> 35.

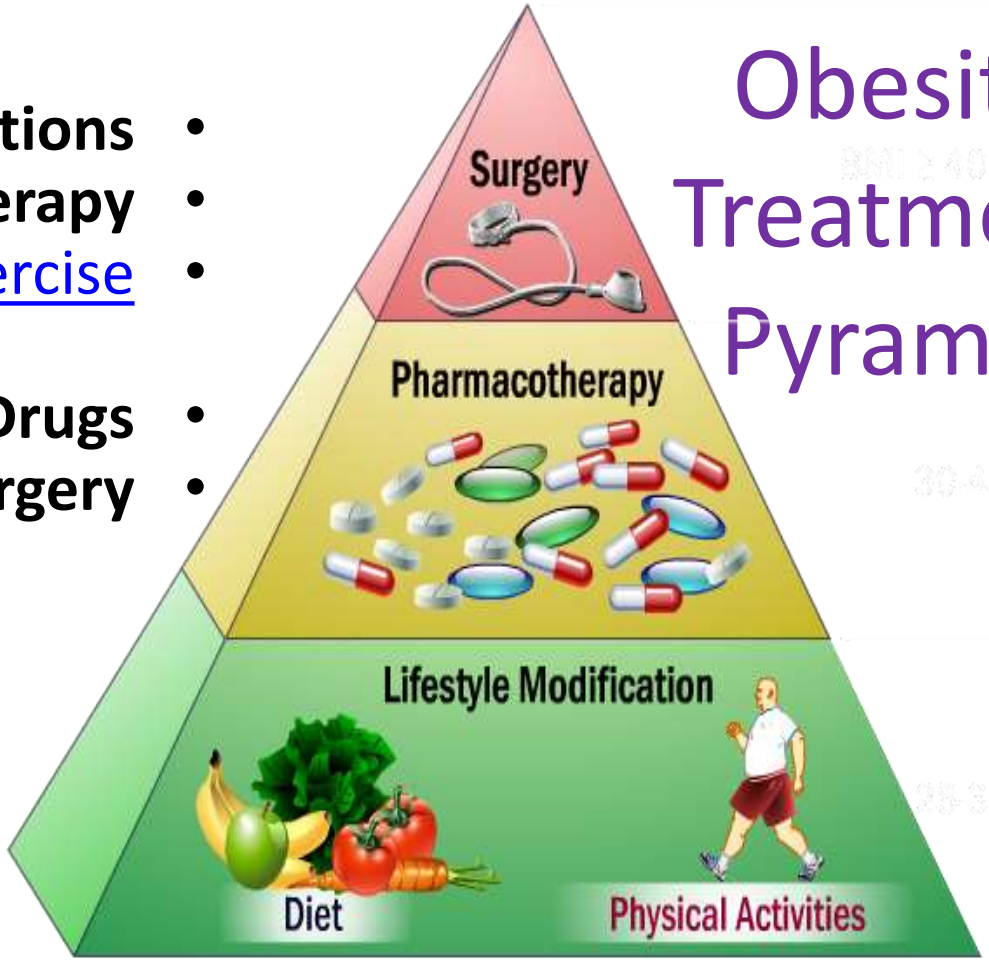
Fit for anesthesia and surgery✓

Treatment

- **Behavior Modifications**
- **Dietary Therapy**
- physical exercise

- **Drugs**
- **Surgery**

Obesity Treatment Pyramid



Obesity is mostly preventable through :

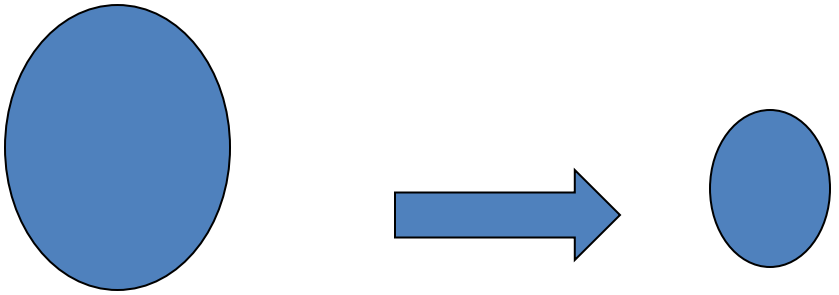
Changes to diet and exercising

- **reducing** the consumption of energy-dense foods(high in fat or sugars)

- **increasing** the intake of dietary fiber

Modifying Eating Behaviors

- Change where and why you eat
- Reduce fried foods
- Reduce your plate size
- Remember all calories count!!!!



BEHAVIOR MODIFICATION :

- -Eat 3 times per day
- - No Snacking Between Meals (Water Only)
- – No Eating after 7:00 pm

LIFESTYLE CHANGES :

- - Walk **one half hour** per day (Continuous)

Medications :

can be used, along with a suitable diet,
to reduce appetite or
decrease fat absorption

If diet, exercise, and medication are not effective:

Endoscopic ;

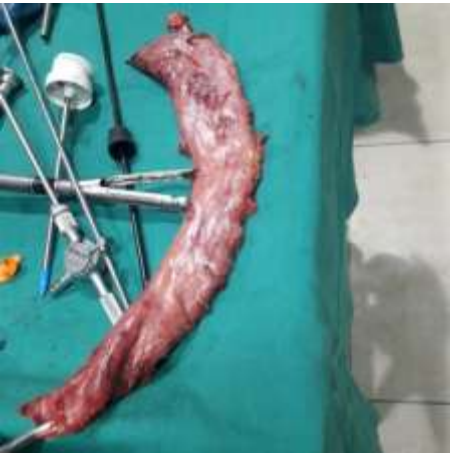
- Gastric balloon Botox

- Surgery

to reduce stomach volume
or :
length of the intestines

Type of Surgery :

= Restrictve : restrict amount of food ingested

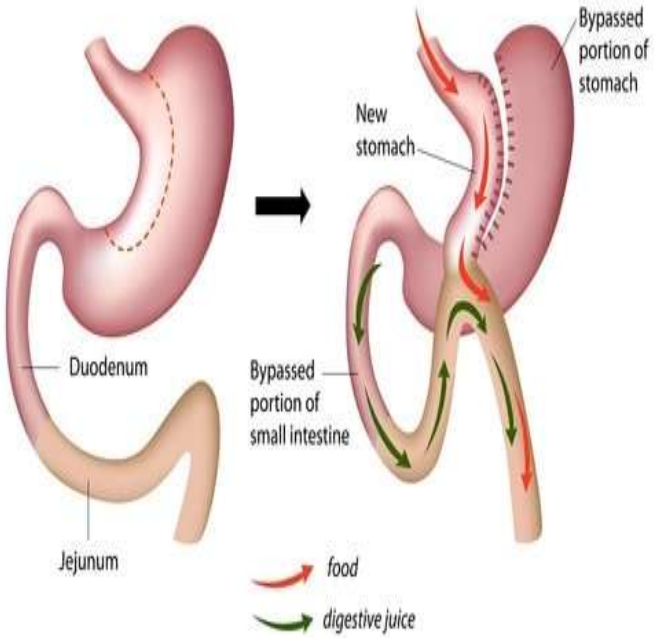


- gastric Balloon
- Gastric Band
- Sleeve gastrectomy

=Malabsorpative : limits digestion and absorption

Decreases length of intestine exposed to digested food

Mini-Gastric Bypass



- Roux-en Y Gastric bypass (RYGB)

-

–Bilio-pancreatic diversion (BPD)

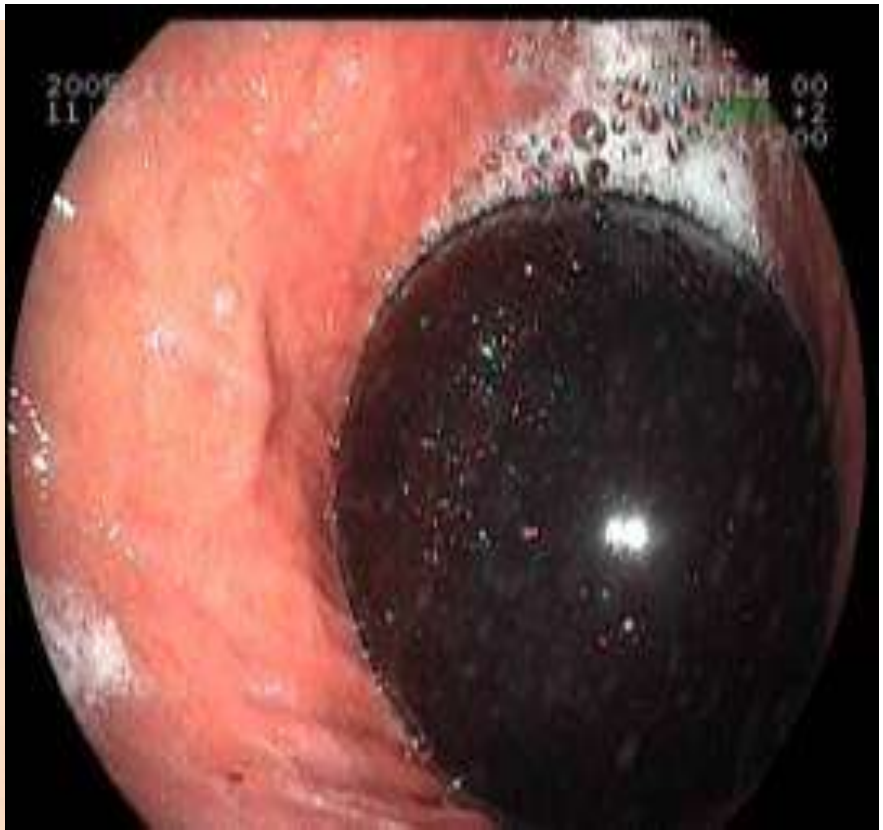
Duodenal Switch (BPD/DS

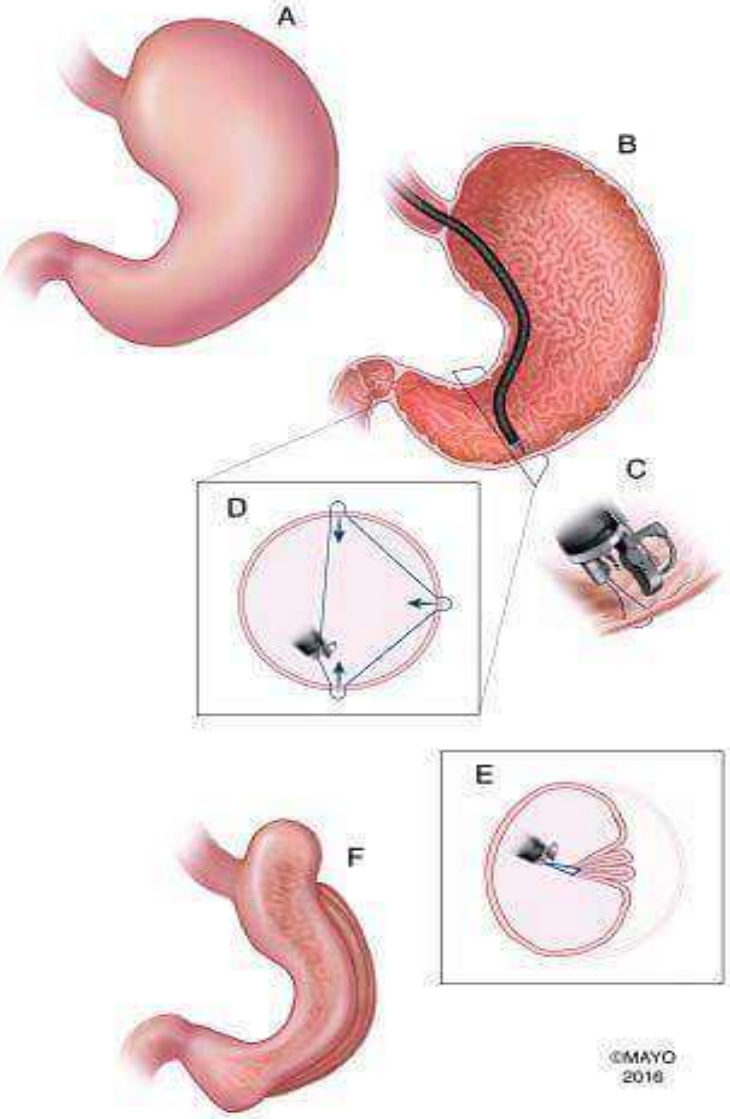
Endoscopic :

Balloon

Botox injection??

Endoscopic Sleeve Gastroplasty (ESG)





Endoscopic Sleeve Gastroplasty

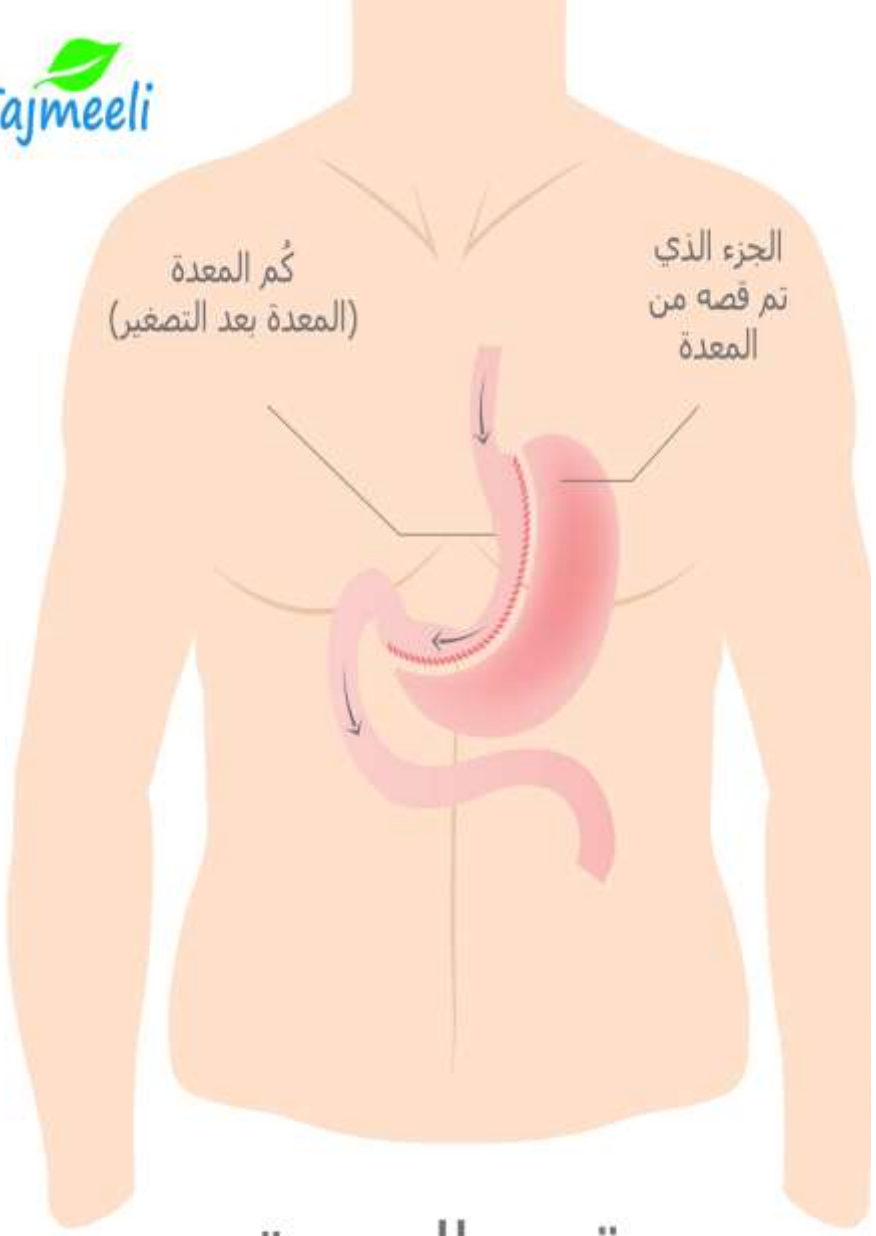
طي أو تصنيع المعدة الطولي عبر منظار المعدة.

و يتم فيها طي المعدة و تصغير حجمها بواسطة أدوات

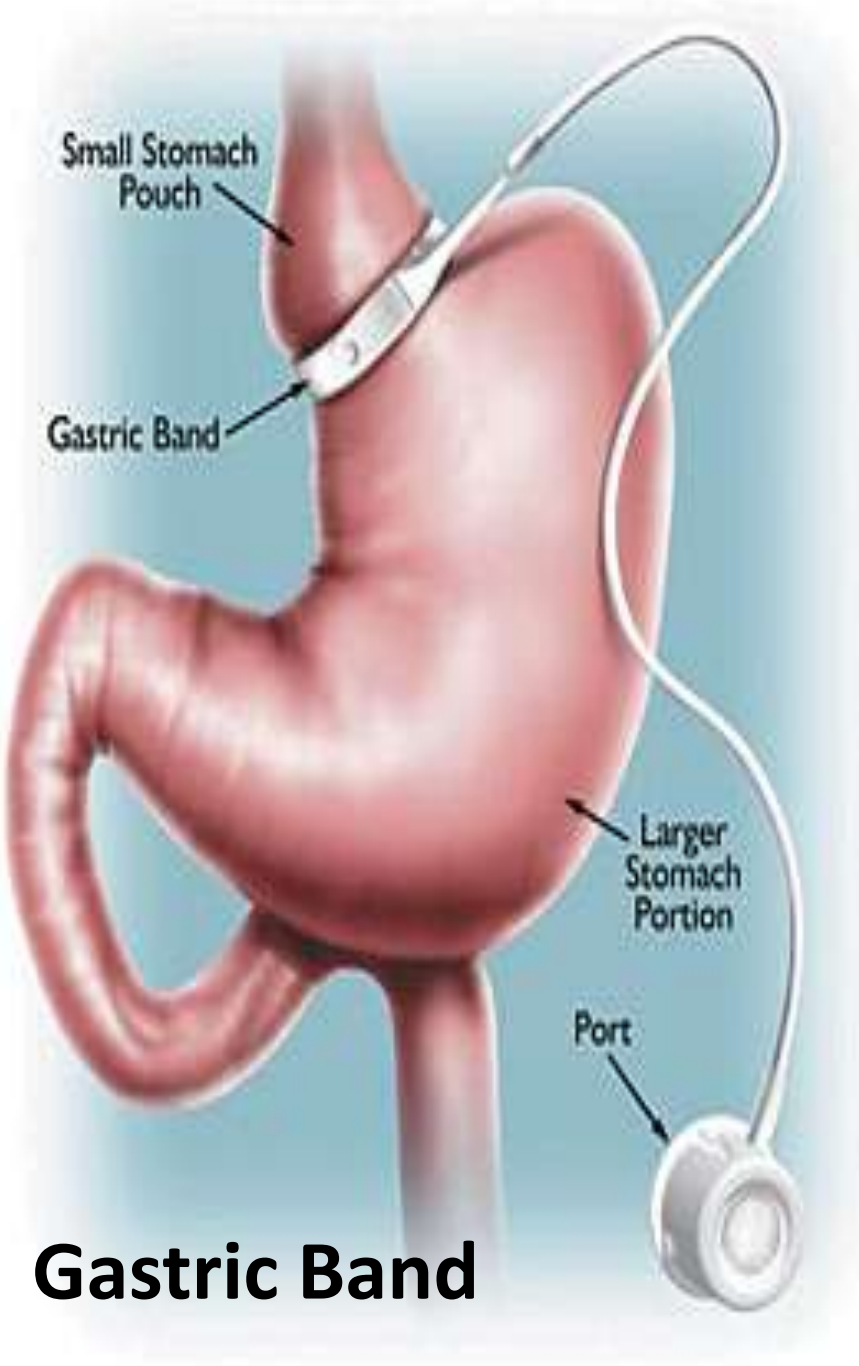
خياطة خاصة يتم ادخالها عبر الفم بواسطة منظار

المعدة أي دون عمل جراحي. و تتم تحت التخدير العام

Tajmeeli



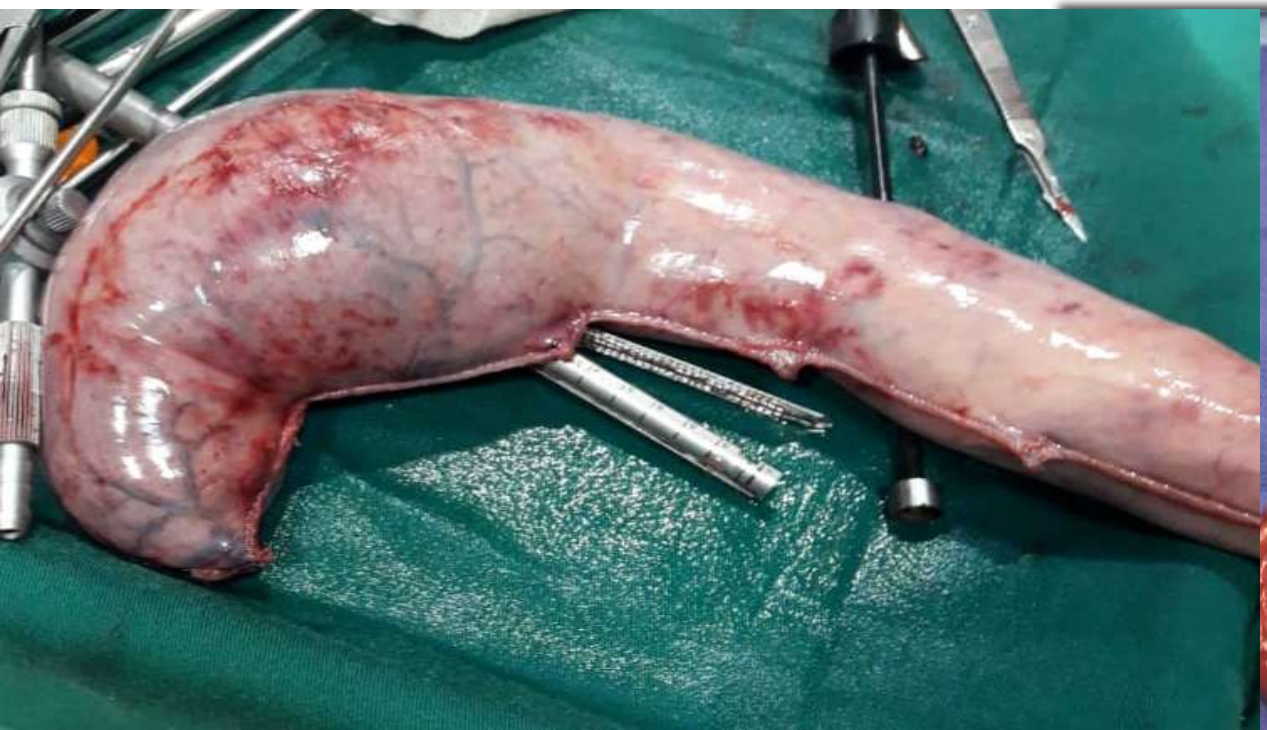
قص المعدة

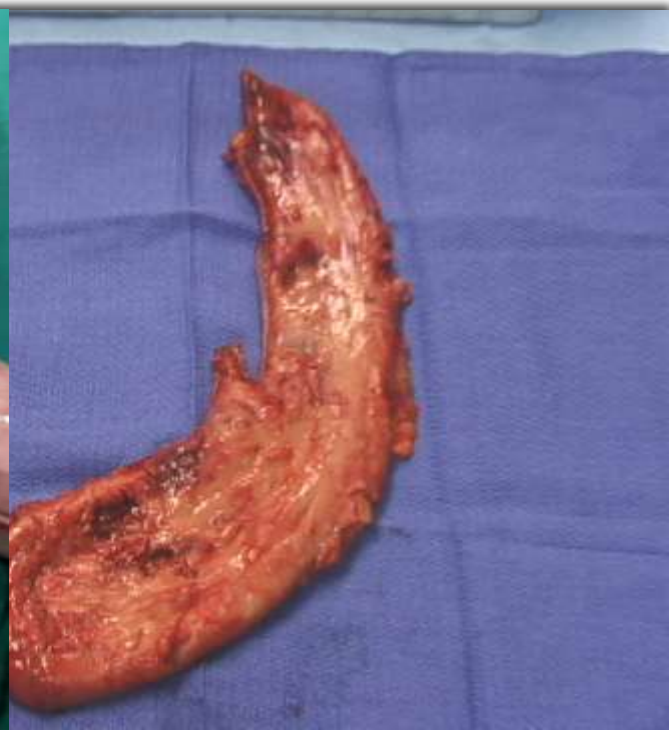


Gastric Band

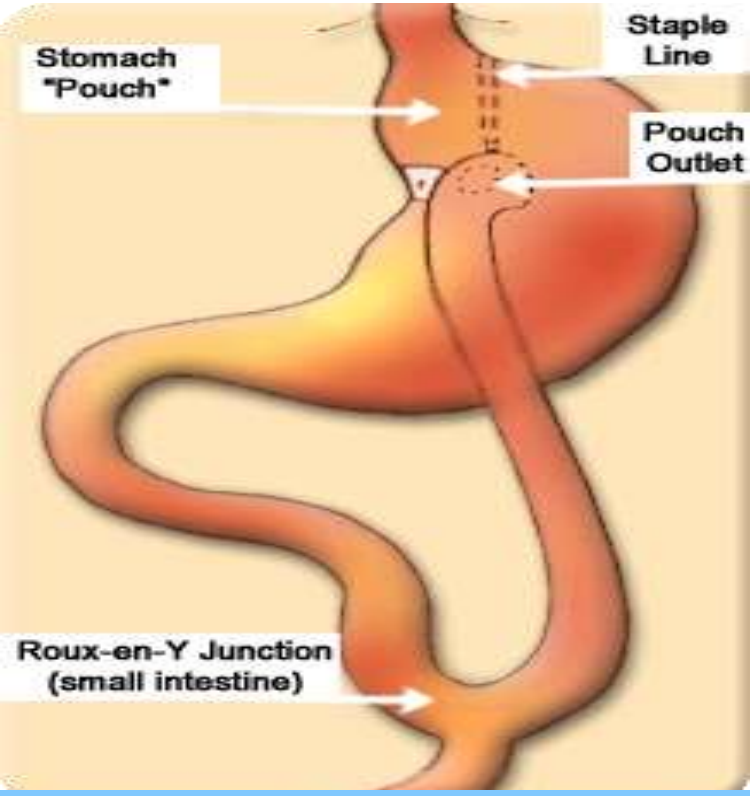
Sleeve Gastrectomy

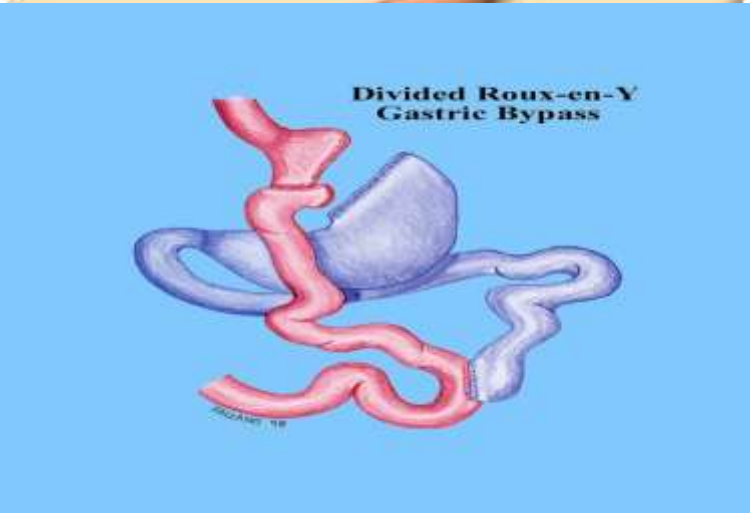
- Purely restrictive
- Partial gastrectomy of greater curvature
- Leaves tube of stomach sized to 32 French Bougie





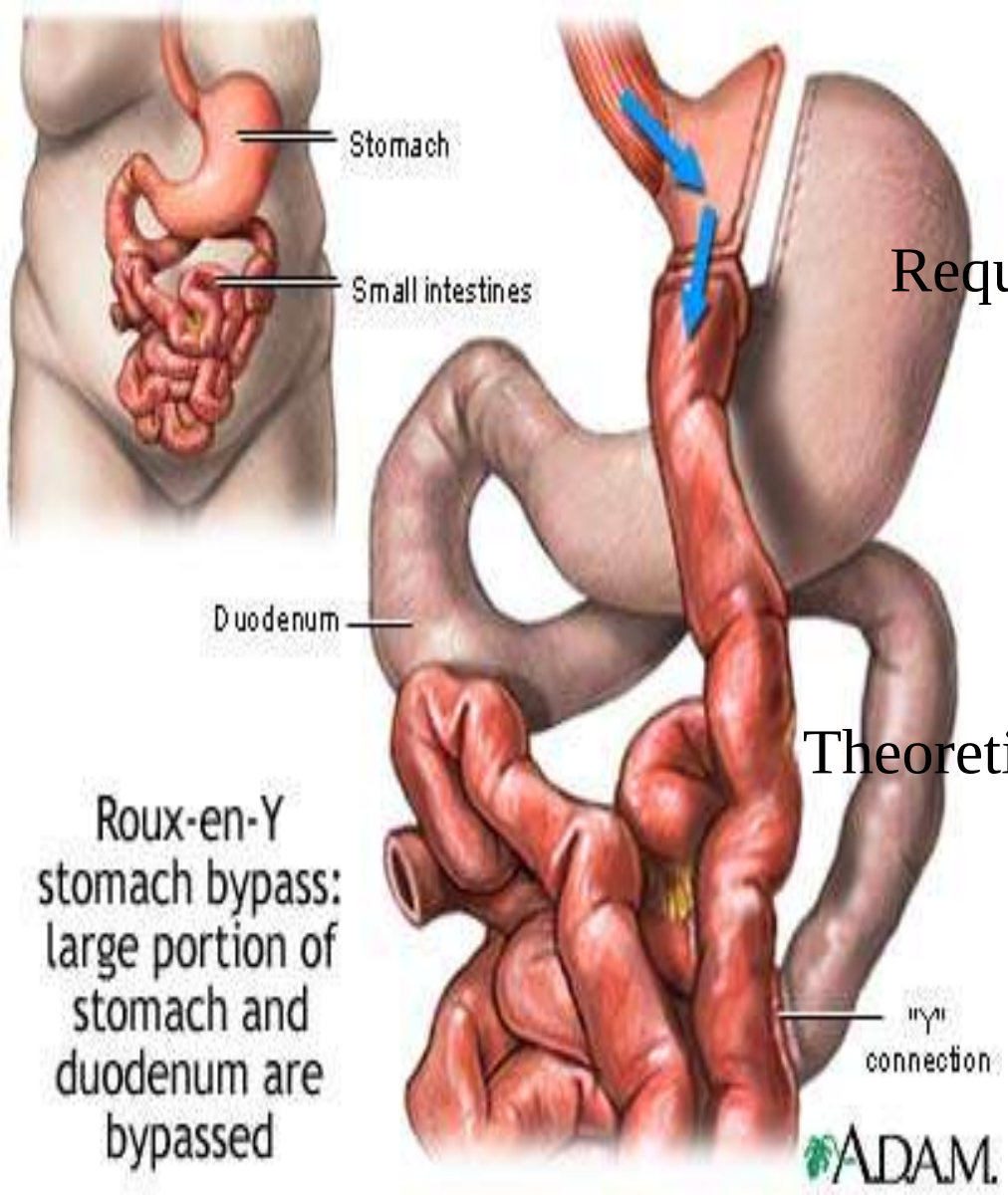
Roux-en-Y Gastric Bypass





- **50 ml** gastric pouch
- With : **2 cm outlet**
- Bypass distal stomach , duodenum,
- first segment of jejunum
- **Bypass 150+ cm jejunum**
- .

Roux-En-Y Gastric Bypass



Roux-en-Y stomach bypass: large portion of stomach and duodenum are bypassed

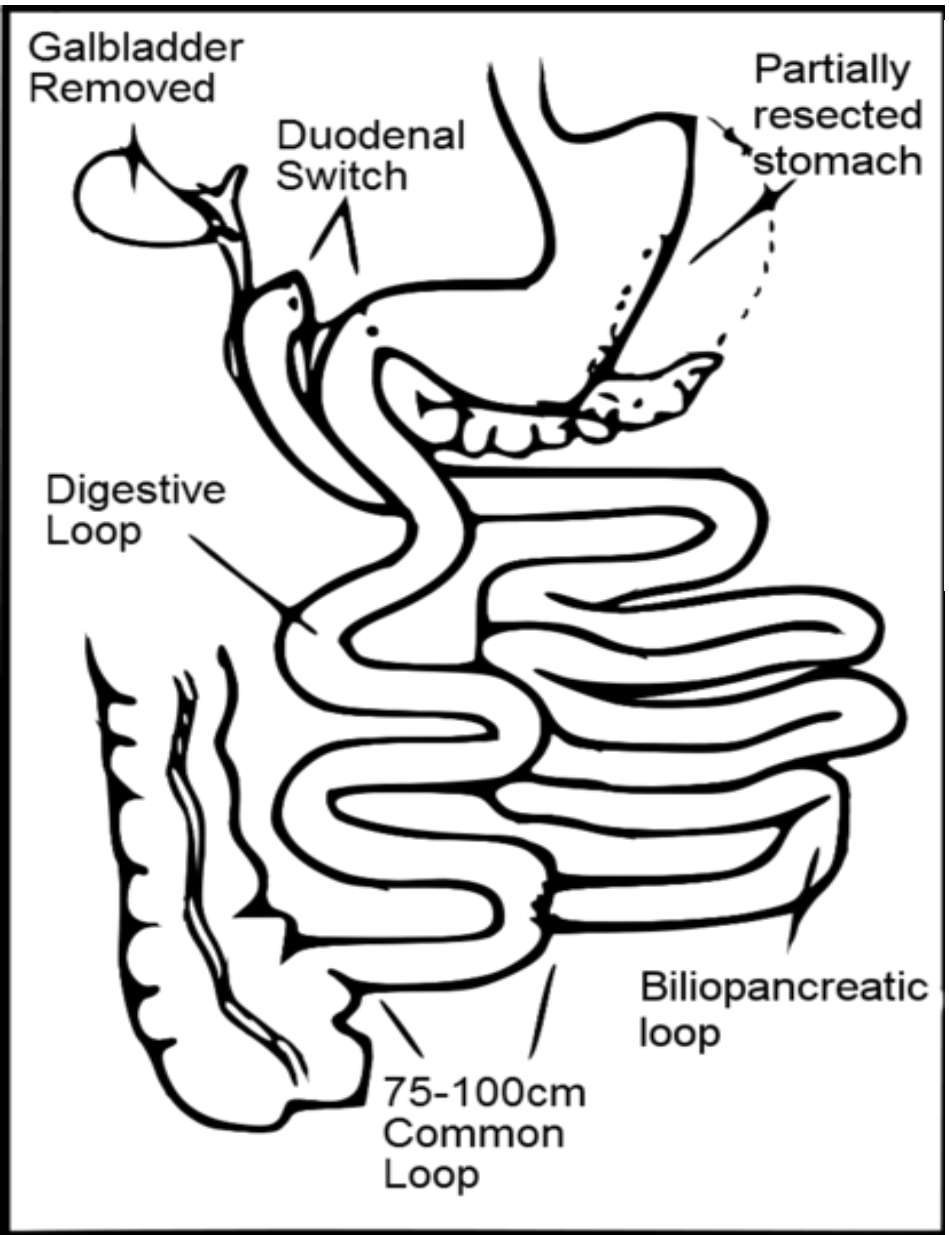
= Inaccessible gastric remnant

Require life-long vitamin supplements•

Side effects: • dumping, • stomal stricture• Deficiencies- iron, calcium•

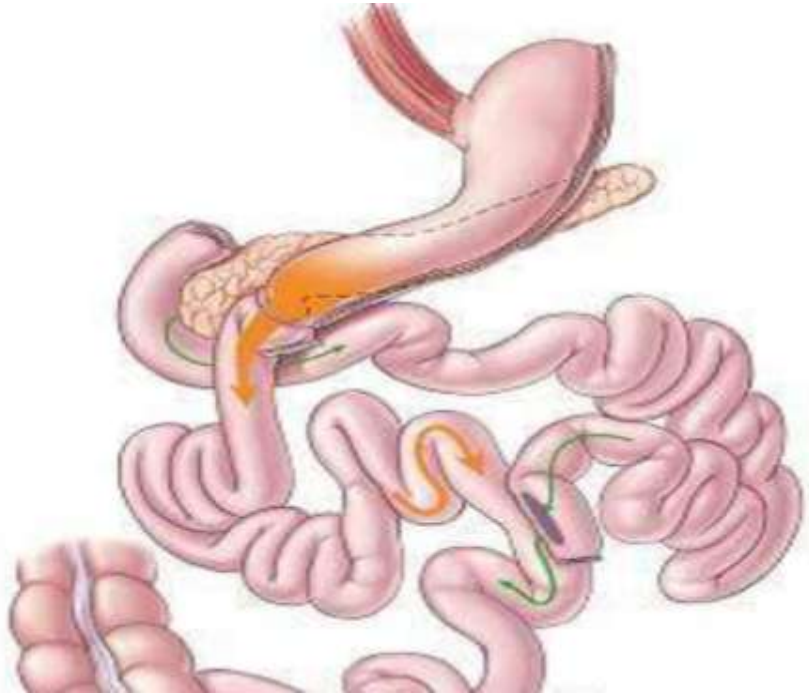
Theoretically reversible, but very difficult•

Sleeve Gastrectomy with duodenal switch



التحويل الصفراوي البنكرياسي مع التبديل الاثني عشري (BPD/DS) .

هو إجراء مع اثنين من المكونات. أولا، يتم إنشاء أنبوب معدي عن طريق إزالة جزء من المعدة، تشبه الى حد ب عيد استئصال المعدة الكمي (التكميم).بعد ذلك، يتم تج اوز جزء كبير من الأمعاء الدقيقة.



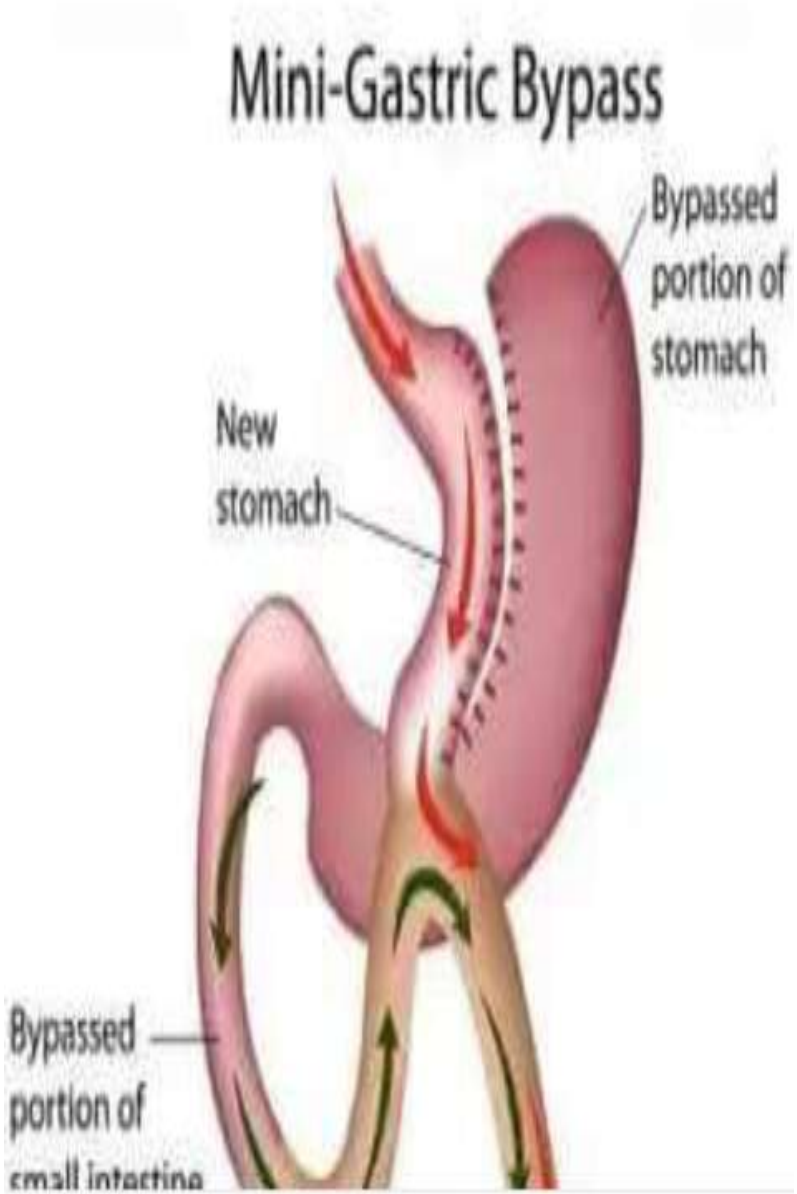
المجازة المعدية المصغرة (تحويل المسار) : MGB
mini bypass و تتم بالمنظار و تهدف إلى إنشاء :

1- جيب معدة طولاني يمتد من بداية الثلم الزاوي و باتجاه الأعلى عند الوصل المعدي المريئي

2- مفاغرة واحدة معدية صائمية أمام الكولون(GJ) على بعد 200 سم أو أكثر من الصائمي عن رباط ترايتز .

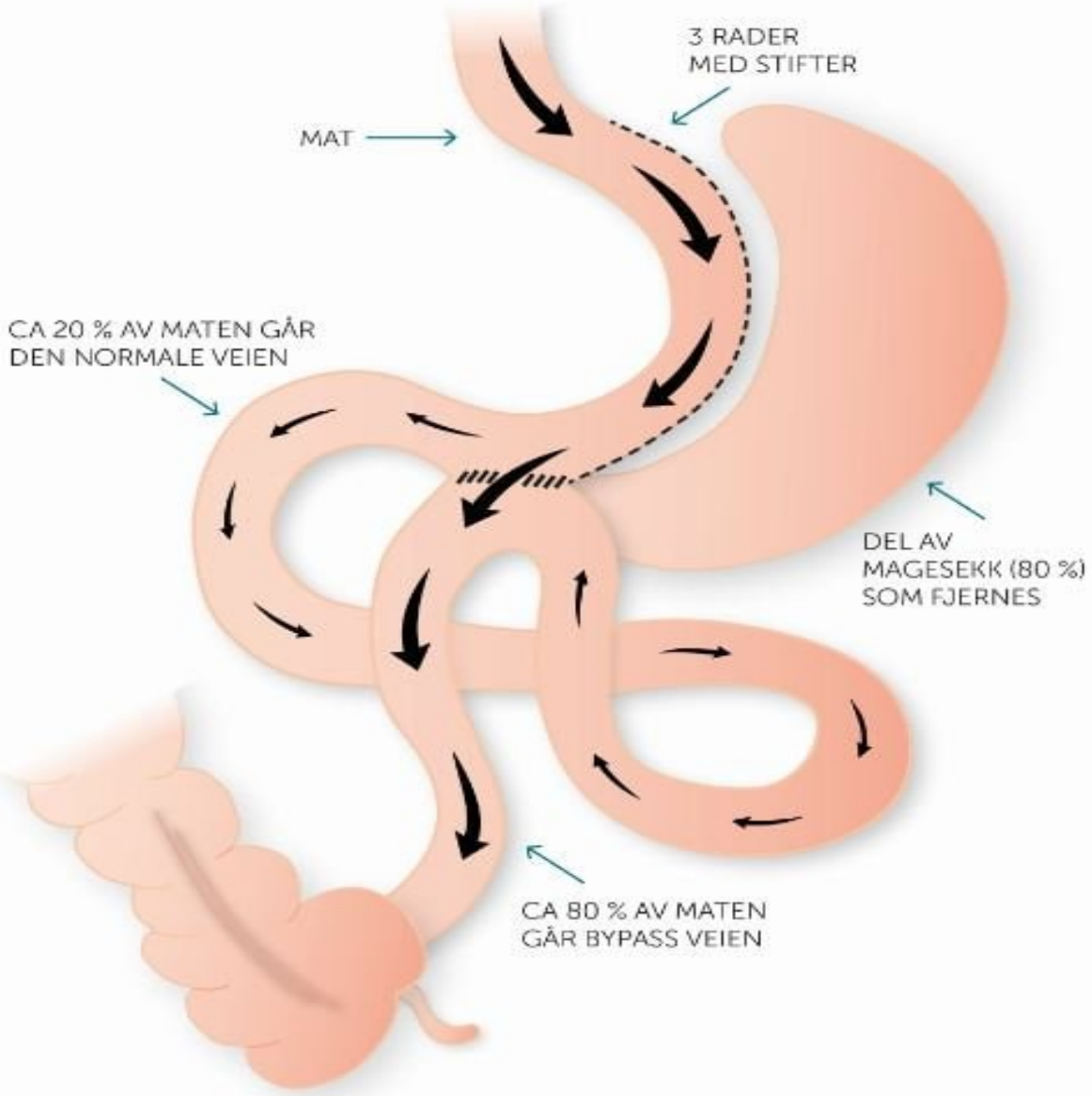
الأمر الذي يؤدي إلى تحديد كمية الطعام في الوجبة الواحدة و سوء امتصاص كبير و خاصة للدهون و بذلك يمتص الجسم سعرات حرارية أقل ،و هي تؤثر بشكل ايجابي في شفاء الداء السكري النمط 2 .

و إن هذا الإجراء قابل للعكس بعمل جراحي ثاني إذا لزم الأمر طبيا".

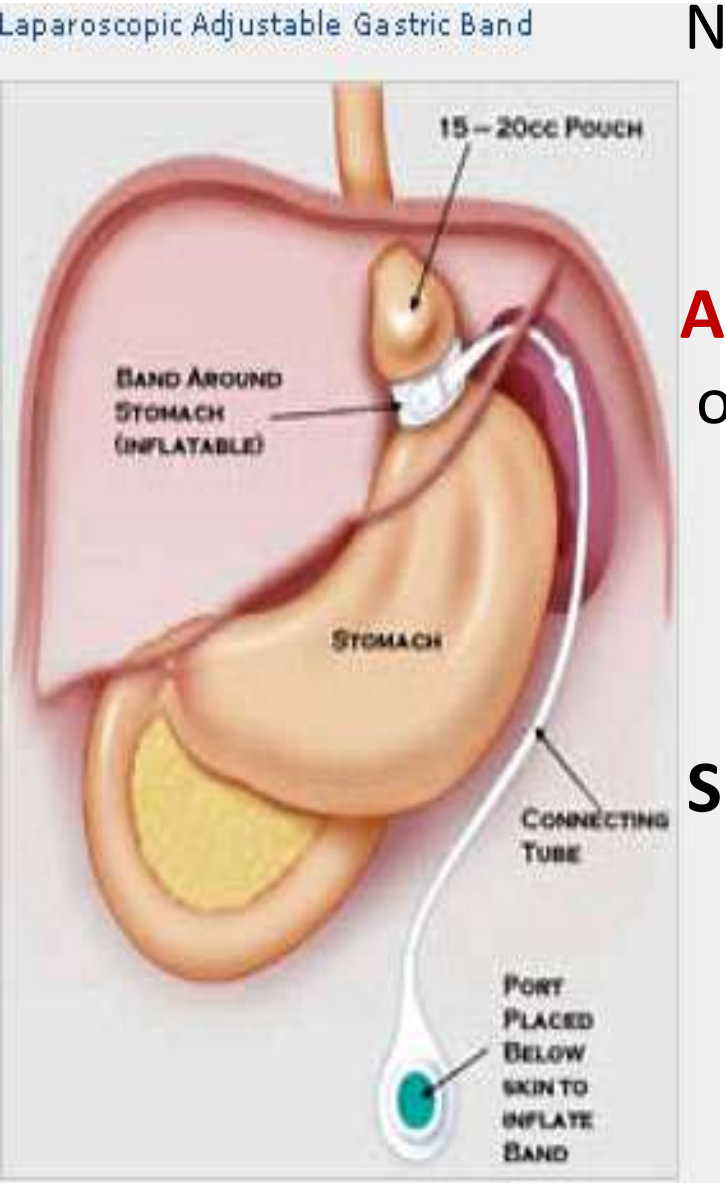


اكتب تعليقاً...

SLEEVE - BYPASS (SASI)



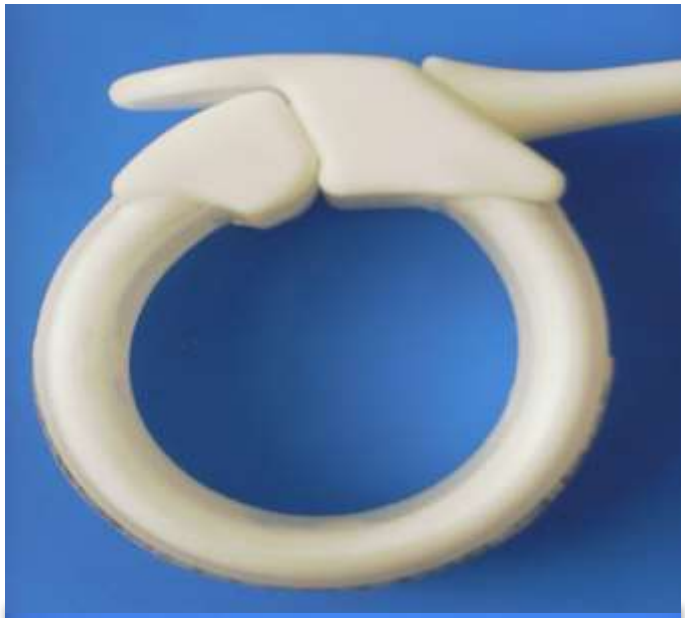
LAP-BAND



- No physiological changes or resections
- **A silicone Band** around the upper part of the stomach creates **15- 20 ml pouch**
- Port of adjustment attached to abdominal wall
- **Slows down gastric pouch emptying**
- Inflate/deflate 6 times a year

The Laparoscopic Adjustable Gastric Band

Unfilled Band



Filled Band

= Early feeling of satiety ■

= Purely restrictive ■

= Quick recovery ■

= Reversible (if necessary) ■

Complications of Gastric Lap-Band®

- Perforation of Stomach
- Mal positioning
- Abdominal Pain
- Heartburn
- Vomiting
- Inability to Adjust the Band
- Failure to Lose Weight
- ***Slippage***
- ***Gastric Erosion***
- ***Dilated Esophagus***
- Infection of System
- Fatigue or malfunction

Preoperative preparation

Avoid Sedatives! ✓

Aspiration prophylaxis → PPIs, H2 antagonists ✓

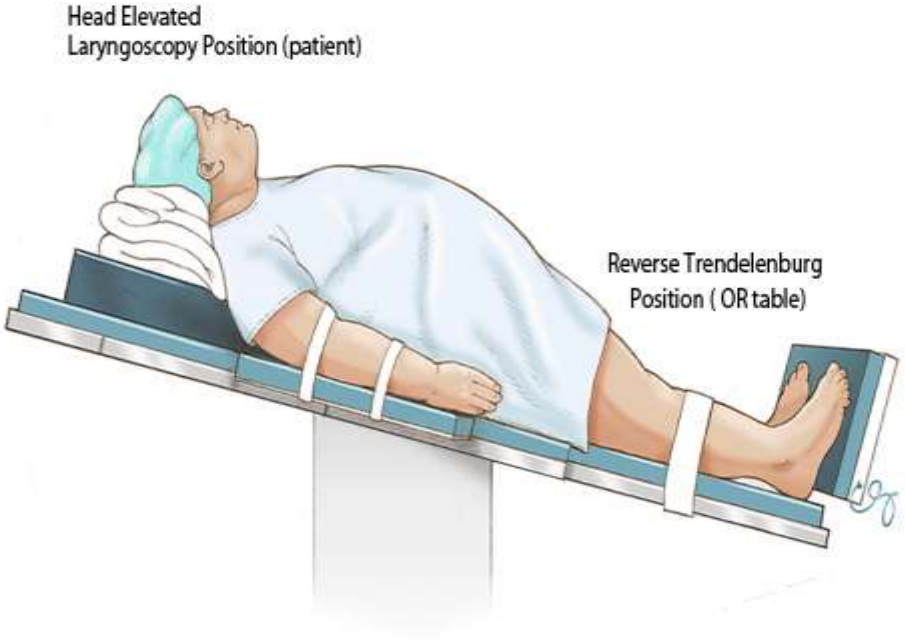
Thromboembolism prophylaxis ✓

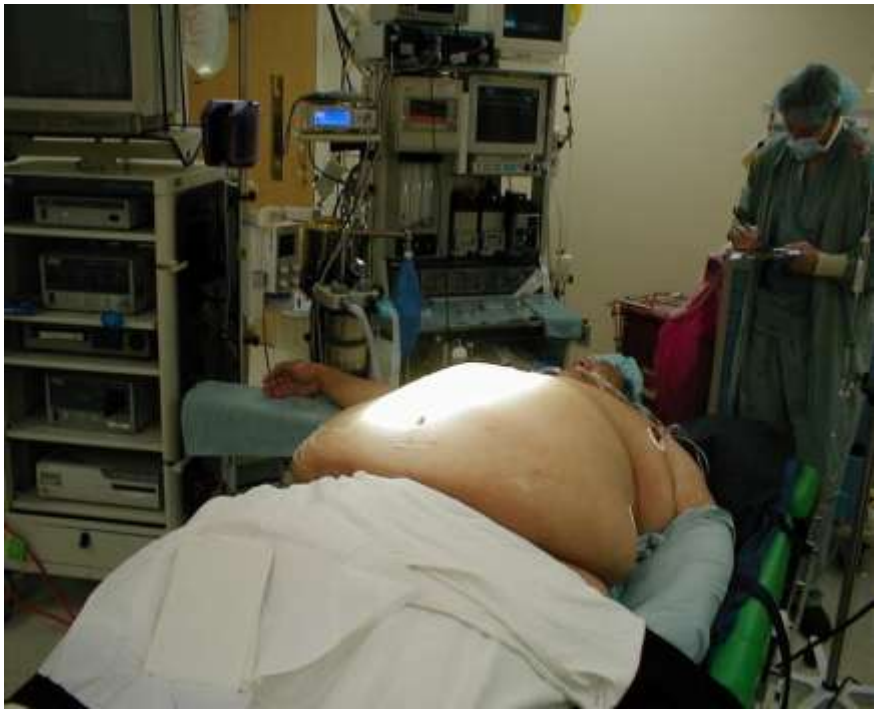
Positioning

- Special table with a bean bag

Cushion gel pads → pressure on gluteal muscles may lead to rhabdomyolysis!

- trendelenburg with legs spread apart and both arms out on arm ✓ boards





Positioning

Good preoxygenation

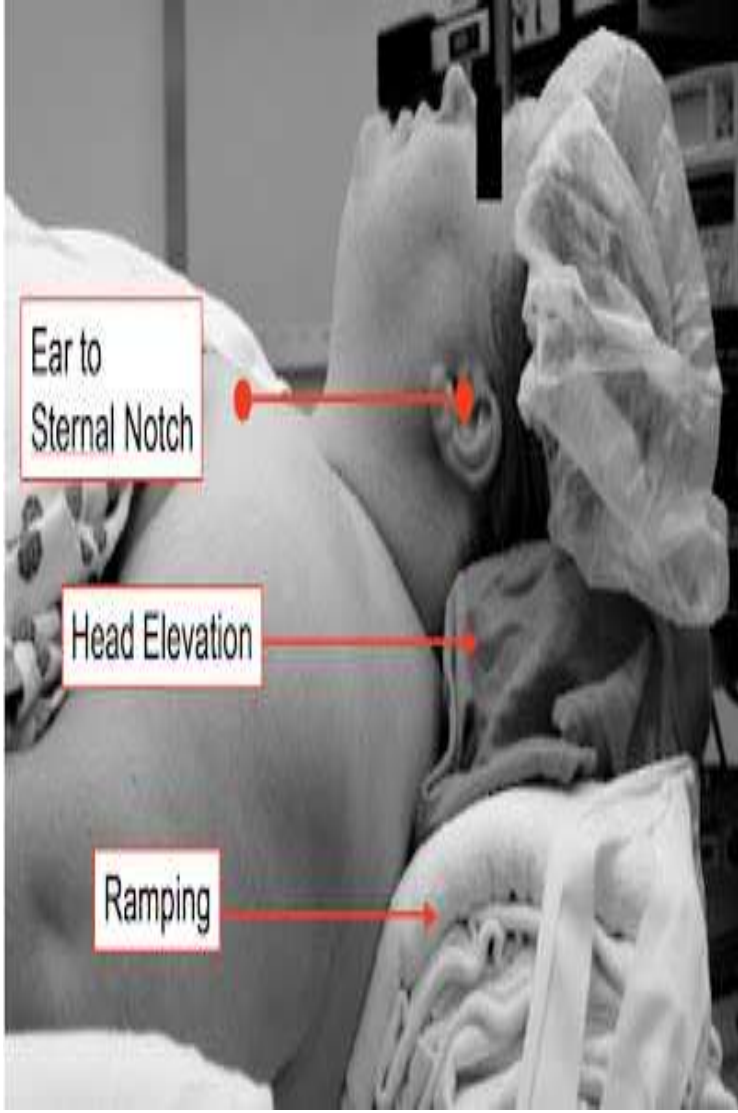
Tidal volumes < 13 ml/kg

AVOID N_2O

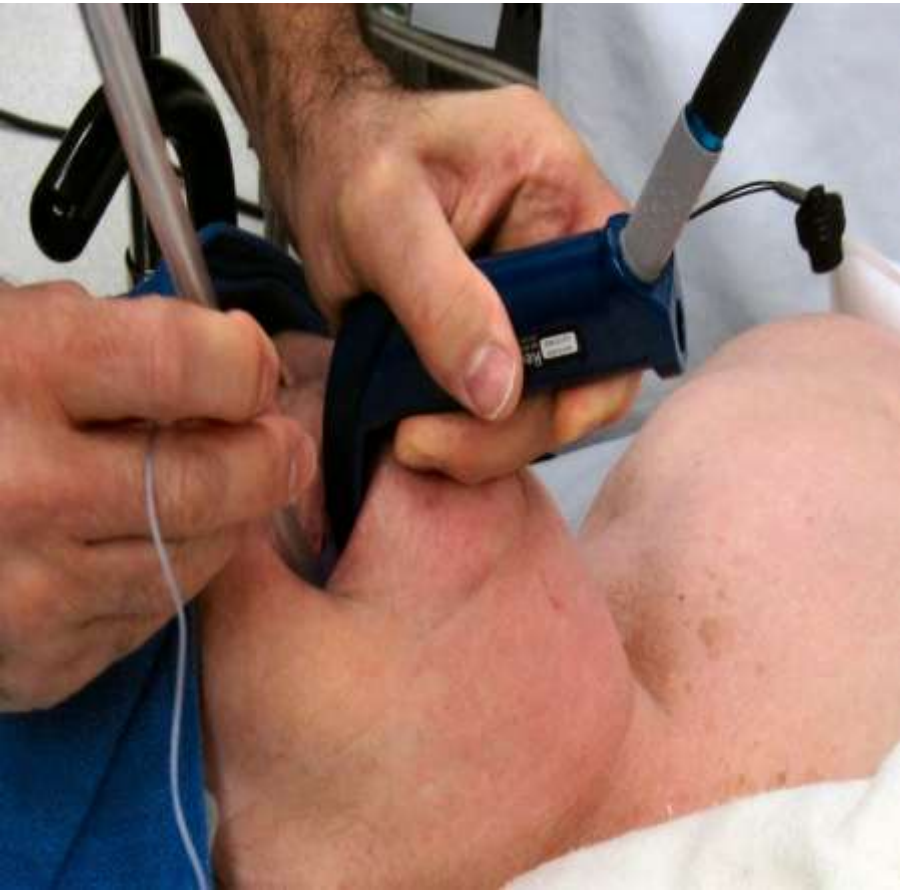
Sevoflurane and Desflurane

Consider Dexmedetomidine*

Fluids well balanced



Intraoperatively…



Postoperatively…

- Initiate thrombophylaxis
- Continue analgesics
- Continue CPAP if initiated
- Antibioprophylaxis
- PPIs and gastric protection
- Fluid management

Risk factors for complications :

Age > 65 -

- Male ✓

Long operative time

Open surgery ✓

- Diabetes

•

- Cardiac and respiratory comorbidities ✓

Complications of bariatric surgery

Anastomosis leaks or staple line leaks-

– PE or DVT

– Cholelithiasis

– Stomal ulceration

– Dumping syndrome

- Constipation

	All Surgeries	Gastric Banding	Roux-en-Y
Early	Bleeding Infection Dehydration Peritonitis Bowel obstruction Perforation Pneumonia DVT/PE Death	Band slippage Band malfunction Infection at band site	Leak from anastomotic site
Late	Cholelithiasis Cholecystitis Pouch dilation GERD/dysphagia Herniation at the surgical site **Nutritional deficiencies:** *Vitamin A , Protein Thiamine, Vitamin B12*✓	Anorexia Band slippage Band malfunction Infection at band site ❖	Small bowel obstruction Marginal ulcers Pancreatitis Anastomotic Stricture Dumping syndrome❖

Anastamosis Leaks

- Up to 7-10 days after surgery
- Most common at gastrojejunostomy, enteroenterostomy, Roux limb stump, staple line
- Can lead to **peritonitis, sepsis**, possible death
- **Presentation :**
  - **Tachycardia**
  - **tachypnea**
  - **Fever**
  - **Ab pain/back pain**
  - **rebound tenderness**

Dumping Syndrome

- Occurs with high dose simple sugar ingestion
- Sugar in small intestine causes osmotic overload and fluid shift from blood to intestine
- Increased intestinal volume leads to watery diarrhea
- Decreased blood volume leads to systemic changes :
- **Hypotention , Tachycardia**
- Flushing ,Lightheadedness, syncope
- Abdominal cramping and diarrhea , Nausea and vomiting
-
- **Patient education:**

Eat slowly –

Avoid drinking before, during and not until 30 minutes after meals. –

Constipation

- Most common complaint
- Causes

Dehydration and decreased fluid intake post-operatively –

Increased metabolic water needs –

Calcium and iron supplement use following surgery –

- **Treat with increased fluids**

Nutritional Consequences

- Iron deficiency anemia (RYGB)
- B12 deficiency
- Folate deficiency
- Calcium and Vitamin D deficiency

- Not seen with purely restrictive surgeries

In conclusion…

when you eat more than you use..it is stored in your body as “fat”

fruits, vegetables, legumes
Low sugar, low fat
Play an hour a day

When a child is overweight or obese, there is more likelihood of becoming obese as an adult

Nourishing the body: plate method

Balanced plate

Balanced plate after bariatric surgery


CONDÉ NAST
TORESCO


BEFORE
AFTER

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