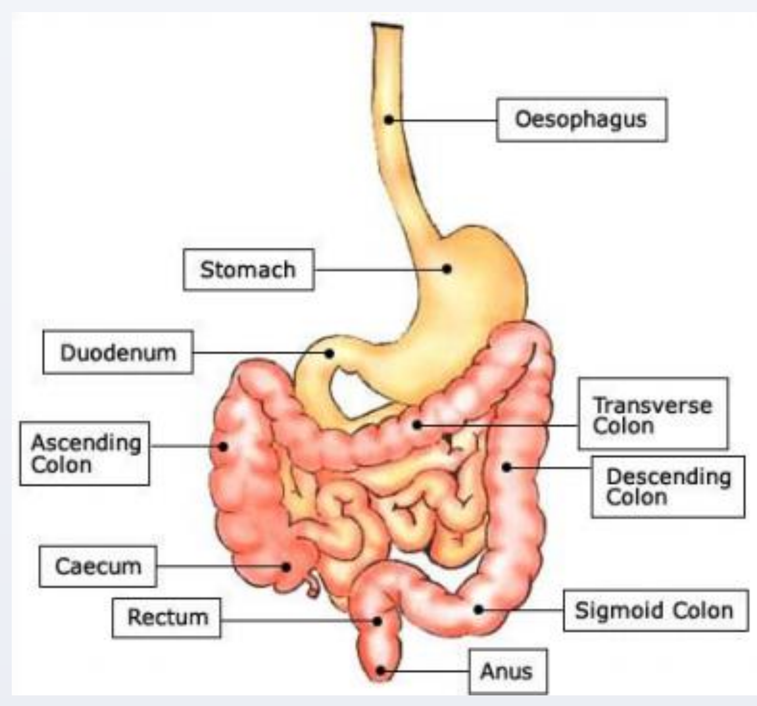
Patient information sheet
Abdominoperineal Resection
Department of Surgical Gastroenterology

What is large bowel?

The large bowel (intestine) is made up of the colon and rectum (back passage). This part of the digestive tract carries the remains of digested food from the small bowel and gets rid of it as waste through the opening to the back passage (anus).
The bowel has four sections: the ascending colon, the transverse colon, the descending colon and the sigmoid colon.



What is abdomino-perineal resection?

An abdominoperineal resection of the rectum involves the removal of the lower part of the large bowel, the rectum (back passage) and the anal region through the abdomen and the perineum (the skin between the anus and the genitals).
The anal area is stitched together and will remain permanently closed. The end of the large bowel is brought out through the wall of the abdomen as a colostomy. This is permanent and allows the bowel content to drain into a bag worn over the colostomy.

When it was done?

This is done when the tumour is in the lowest part of the back passage.

What are the benefits of having the procedure?

Removal of the diseased bowel is the first treatment for a tumour of the bowel. The goal of the surgery is to give you the best chance of cure through total removal of the tumour.
However, your recovery depends how far the disease has spread at the time of your operation. Surgery can also be used as a measure to ease symptoms.

What are the risks of not having the procedure?

Symptoms including pain and bleeding may become worse and your bowel may completely block or burst. Without surgery, the disease may spread to other areas of your body.

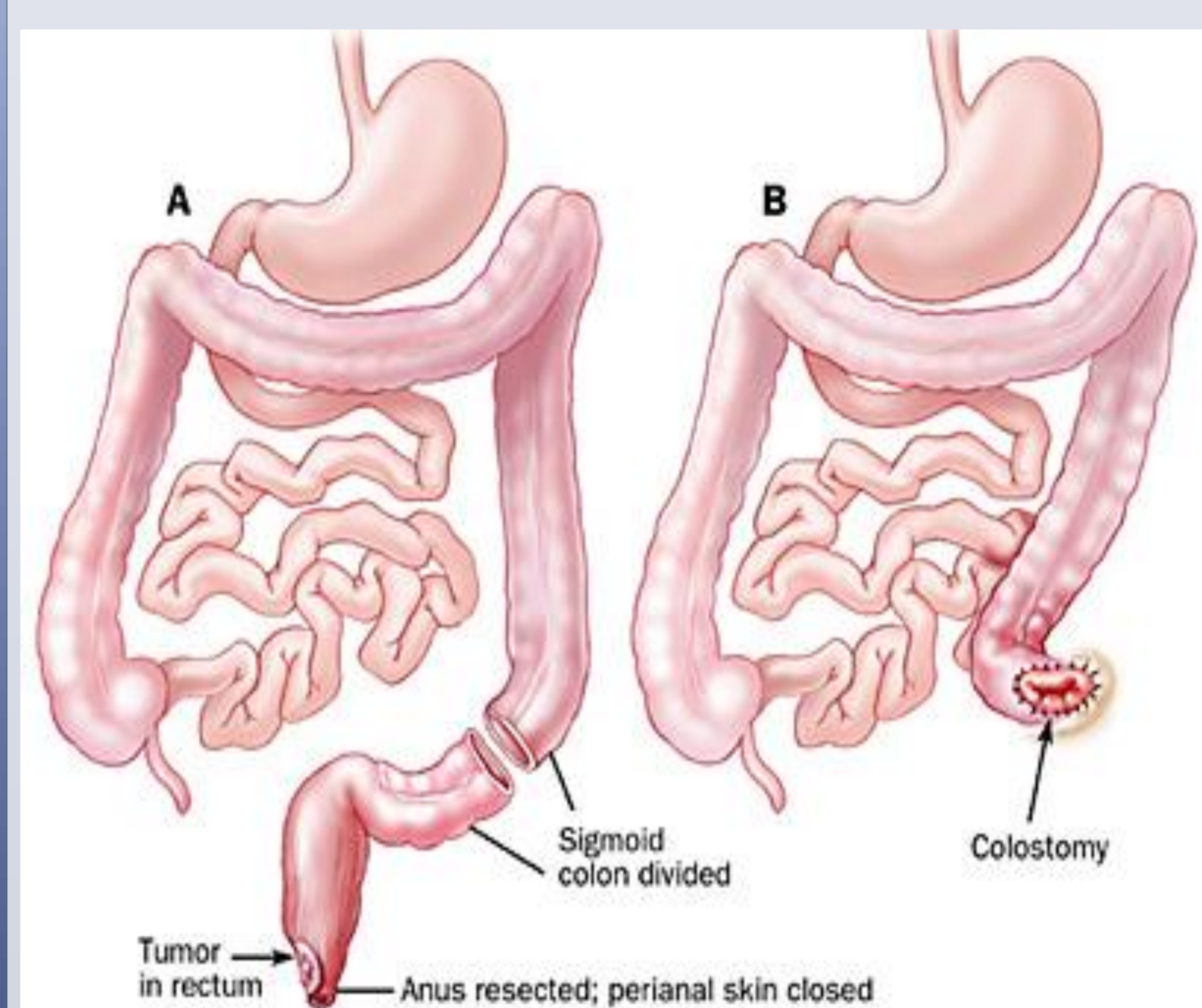
Complications

Infection can occur, requiring antibiotics and further treatment.
Bleeding could occur and may require a return to the operating room,more common if you have been taking blood thinning drugs such as Warfarin, Asprin, Clopidogrel (Plavix or Iscover) or Dipyridamole (Persantin or Asasantin).
Small areas of the lung can collapse, increasing the risk of chest infection. This may need antibiotics and physiotherapy. Heart attack or stroke could occur due to the strain on the heart.
Blood clot in the leg (DVT) causing pain and swelling. In rare cases part of the clot may break off and go to the lungs.
Leakage where the bowel was stitched together. This may need further surgery. Deep bleeding in the abdomen. This may need fluid replacement or further surgery.
Bowel is paralysed, causing abdominal bloating and vomiting. This is usually temporary.
The wound may become infected. This is usually treated with antibiotics or the wound may need to be opened.
Urinary tract infection. Antibiotics may be used to control the infection.
Infection in the abdominal cavity. This may form an abscess may need drainage and antibiotics.

- The blood supply to the stoma may fail and cause damage. This may need further surgery. Excess fluid loss from the stoma. Stoma prolapse - the bowel protrudes past skin.
- Parastomal hernia - the bowel pushes through a weak point in the muscle wall, causing pain.
- Local skin irritation - reddening of the skin and a rash in reaction to the stoma bag glue.
Damage to the tube bringing the urine from the kidney to the bladder.
Abnormal emptying of the bladder. It may empty without control or may not empty at all. Inability to have and/ or maintain an erection in men.In women, it can cause pain during or after intercourse.
The bowel actions may be much looser after the operation than before.
Adhesions (bands of scar tissue) develop in the abdominal cavity and the bowel may block.

How to do the procedure?

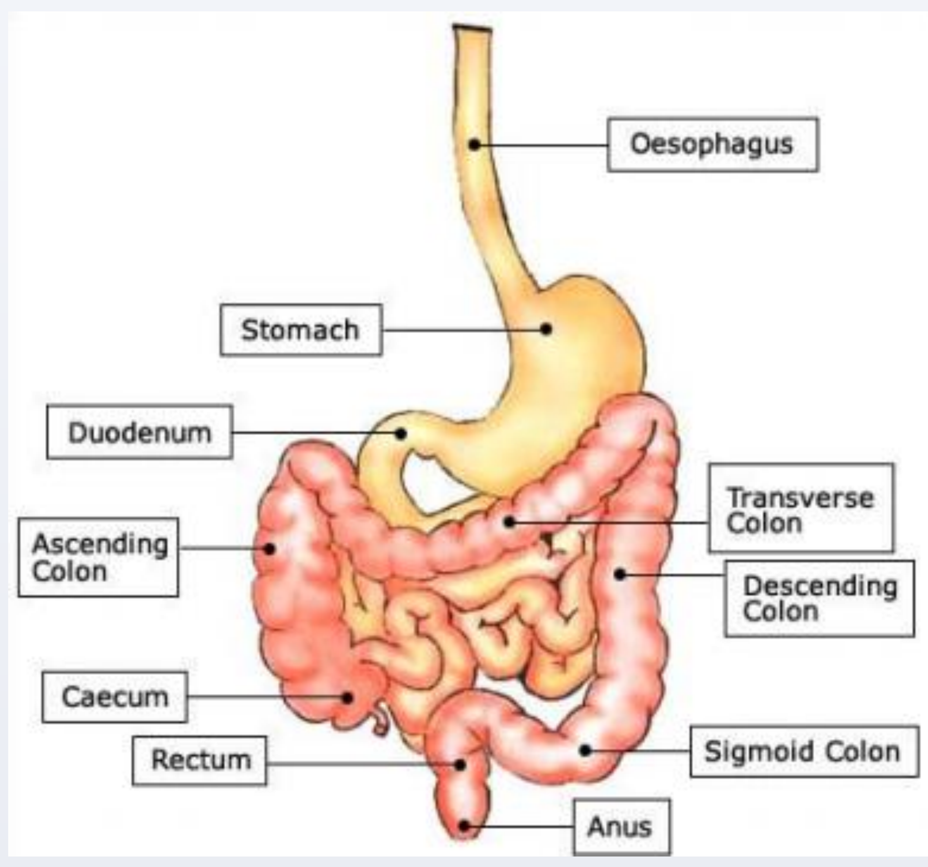
The APR involves removing the entire large bowel along with the rectum and anus (the back passage). When the back passage is removed, the area is then stitched up and permanently closed. A new permanent opening for the bowel is called a stoma and is made in the wall of the abdomen (tummy). Body waste then collects in a disposable adhesive bag which covers the new stoma.



Patient information sheet
Anterior Resection
Department of Surgical Gastroenterology

What is large bowel?

The large bowel (intestine) is made up of the colon and rectum (back passage). This part of the digestive tract carries the remains of digested food from the small bowel and gets rid of it as waste through the opening to the back passage (anus).
The bowel has four sections: the ascending colon, the transverse colon, the descending colon and the sigmoid colon.



What is anterior resection?

It involves the removal of the sigmoid colon and part of the rectum. After removal of the diseased portion the two free ends of bowel will be anastomosed together to restore intestinal continuity.

When it was done?

For the treatment of upper and middle third rectal cancer.

What are the benefits of having the procedure?

Removal of the diseased bowel is the first treatment for a tumour of the bowel. The goal of the surgery is to give you the best chance of cure through total removal of the tumour.
However, your recovery depends how far the disease has spread at the time of your operation. Surgery can also be used as a measure to ease symptoms.

What are the risks of not having the procedure?

Symptoms including pain and bleeding may become worse and your bowel may completely block or burst. Without surgery, the disease may spread to other areas of your body.

Complications

Infection can occur, requiring antibiotics and further treatment.
Bleeding could occur and may require a return to the operating room,more common if you have been taking blood thinning drugs such as Warfarin, Asprin, Clopidogrel (Plavix or Iscover) or Dipyridamole (Persantin or Asasantin).
Small areas of the lung can collapse, increasing the risk of chest infection. This may need antibiotics and physiotherapy. Heart attack or stroke could occur due to the strain on the heart.
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Urinary tract infection. Antibiotics may be used to control the infection.
Infection in the abdominal cavity. This may form an abscess may need drainage and antibiotics.
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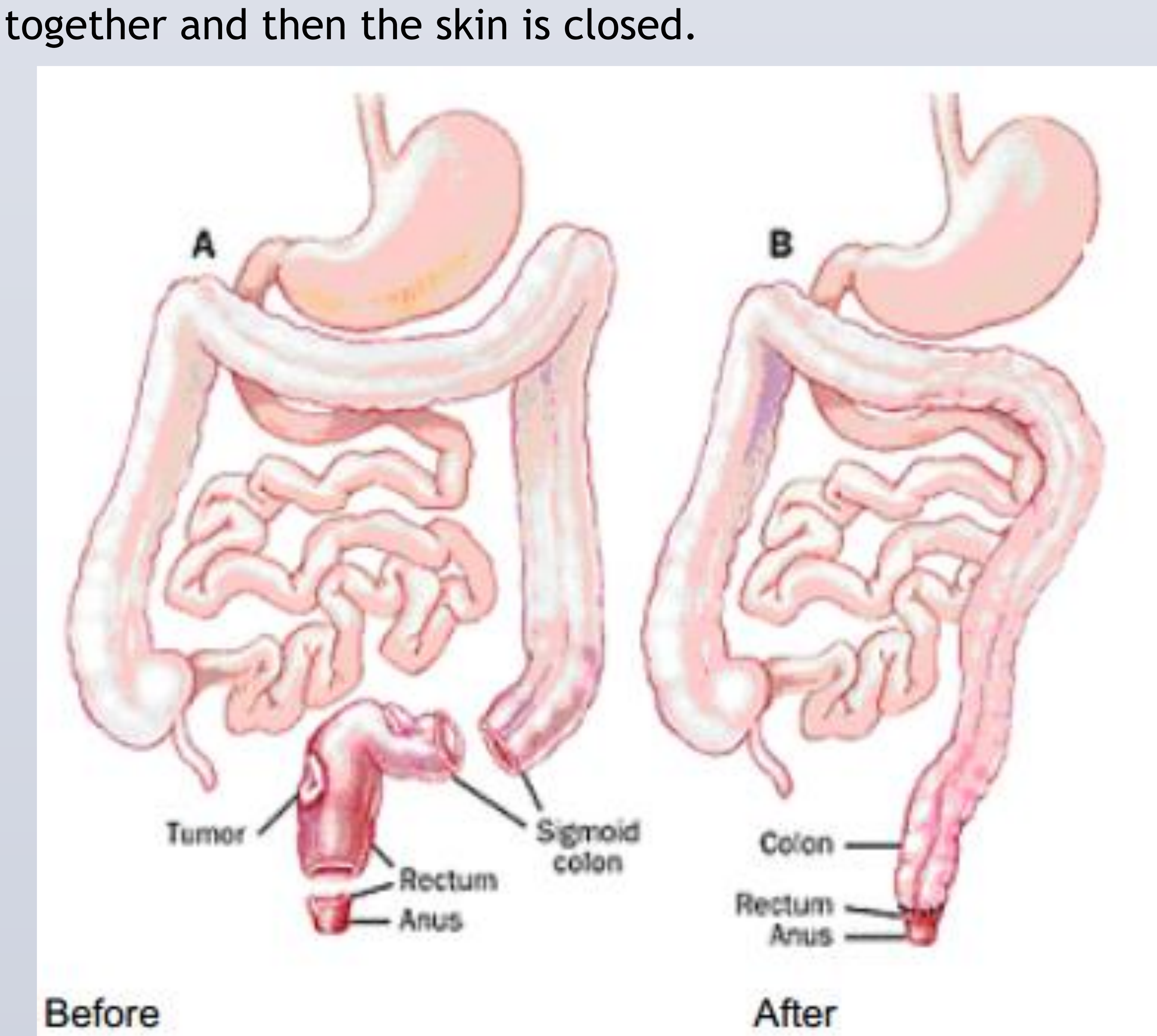
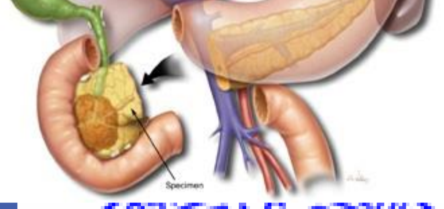
Damage to the tube bringing the urine from the kidney to the bladder.
Abnormal emptying of the bladder. It may empty without control or may not empty at all. Inability to have and/ or maintain an erection in men.In women, it can cause pain during or after intercourse.
The bowel actions may be much looser after the operation than before.
Adhesions (bands of scar tissue) develop in the abdominal cavity and the bowel may block.

How to do the procedure?

Surgery for rectal and sigmoid cancer can be performed by a standard ‘open’ operation with an incision in the abdomen or by laparoscopic ‘keyhole’ surgery. Keyhole surgery stillrequires an incision through which the tumour is removed. The choice of method depends on a number of factors including the size and position of the cancer, your build and coexisting medical conditions, any previous operations on your abdomen, and surgeon preferenceWith keyhole surgery it is sometimes not possible to complete the procedure using this technique; there would be a need to convert to an open operation in this case. At the start of the operation we take the opportunity to look inside your tummy at the rectum and other parts of the abdomen - for example the liver, stomach, small intestine or ovaries.The rectum and colon above it are then mobilised (freed up from their surrounding attachments) so that the rectum can be safely removed, along with some of the mesorectum (fatty tissue that carries the blood vessels and lymph drainage to the bowel). Often the adjacent part of the colon is removed as well to enable better clearance of the disease. In most cases the remaining bowel ends can be joined up again either using special stapling instruments or sutures (stitches). If a stoma (where the bowel is brought out to the skin) is needed then this will have been discussed in advance. At the end of the operation the abdominal wall is stitched together and then the skin is closed.





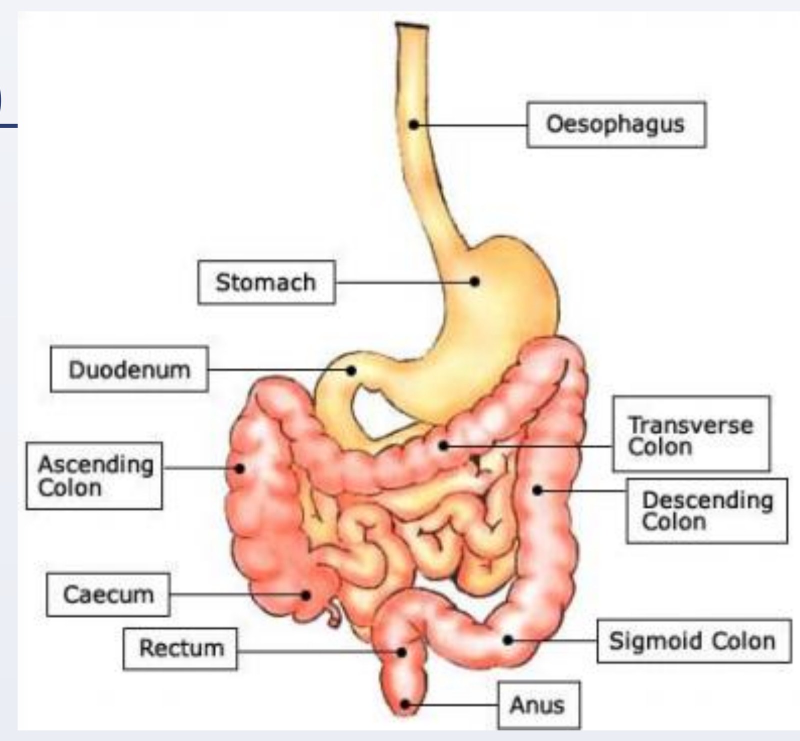
Subtotal Colectomy

Department of Surgical Gastroenterology

JIPMER

WHAT IS THE LARGE BOWEL (COLON)

The food that we eat travels from the mouth to the stomach where digestion begins. It then travels into the small bowel (ileum) where the nutrients are absorbed and the waste that is left moves into the large bowel (colon). The main function of the large bowel (colon) is to store waste until we need to go to the toilet. You can live a normal life with part or all ofyour large bowel (colon) removed.



WHAT IS COLECTOMY?

A colectomy is the removal of part or all of the colon depending on the nature of the disease. It is used to treat a variety of diseases, including: Adenomatous polyps: growths that arise from the mucosa (the inside lining of the colon),diverticular disease: when pouches in the wall of the colon extend outward,**inflammatory bowel diseases:** either Crohn's disease or ulcerative colitis,and cancer of the **colon and rectum**

HOW IS COLECTOMY PERFORMED ?

This surgery on the large intestine can be performed in two ways: conventional open surgery or laparoscopic surgery.

During a **laparoscopic colectomy,** the surgeon enters the abdomen by placing a cannula or port (narrow tube-like instrument) into the abdomen through a small incision measuring less than half an inch. Carbon dioxide (CO_2) gas is pumped into the abdomen through the port to create more space inside the abdomen and to enable the surgeon to better view tissue. The laparoscope, a tiny telescope connected to a video camera, is placed through the cannula to allow the surgeon to see a magnified, lighted view of the internal organs on a TV monitor. Up to four additional cannulas are inserted to allow surgeons to use special instruments to work inside the abdomen.

The segment of the colon to be removed is then excluded from the body's circulation system by dividing the feeding vessels with special instruments. The colon is freed from the attachments to other organs and/or the abdominal wall. The portion of the colon is removed through one of the small cannula incisions or in some cases, a brand new incision is created in an area that is not visible even when the patient is wearing a swimsuit.

When open surgery is indicated or recommended, the same principles are applied, but the surgeon works with his hands through a larger, single incision.

When **open surgery** is indicated or recommended, the same principles are applied, but the surgeon works with his hands through a larger, single incision.

What are the complications and risks associated with colectomy?

The potential complications after colectomy include:

Bleeding

Infection

Injury to other organs, blood vessels, the ureter (the structure that carries urine from the kidneys to the bladder) and the urinary bladder

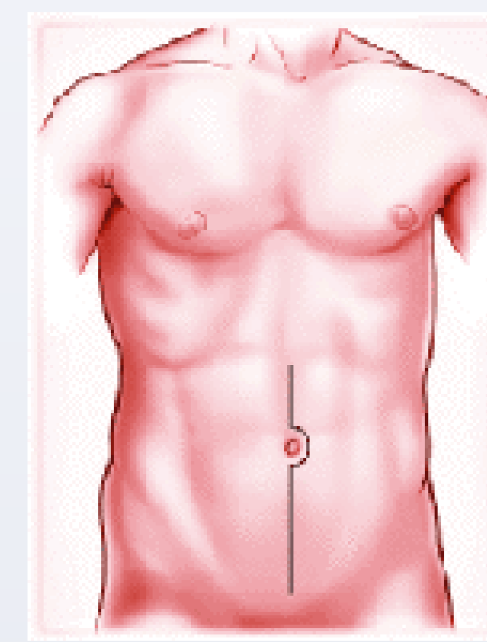
A leak from the connection that is made between the two ends of the intestine

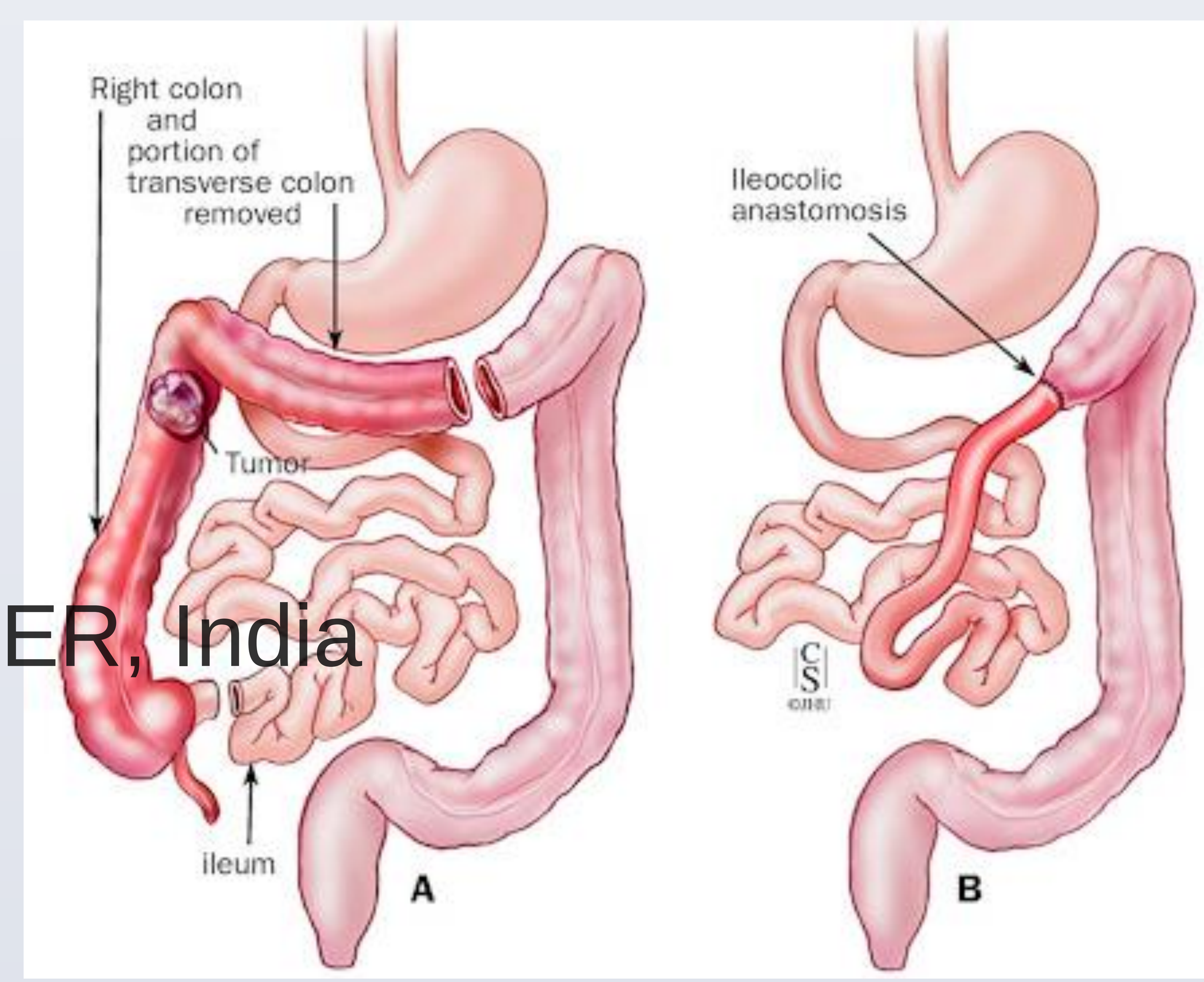
Blood clots in the veins of the leg or the abdomen

Hernia

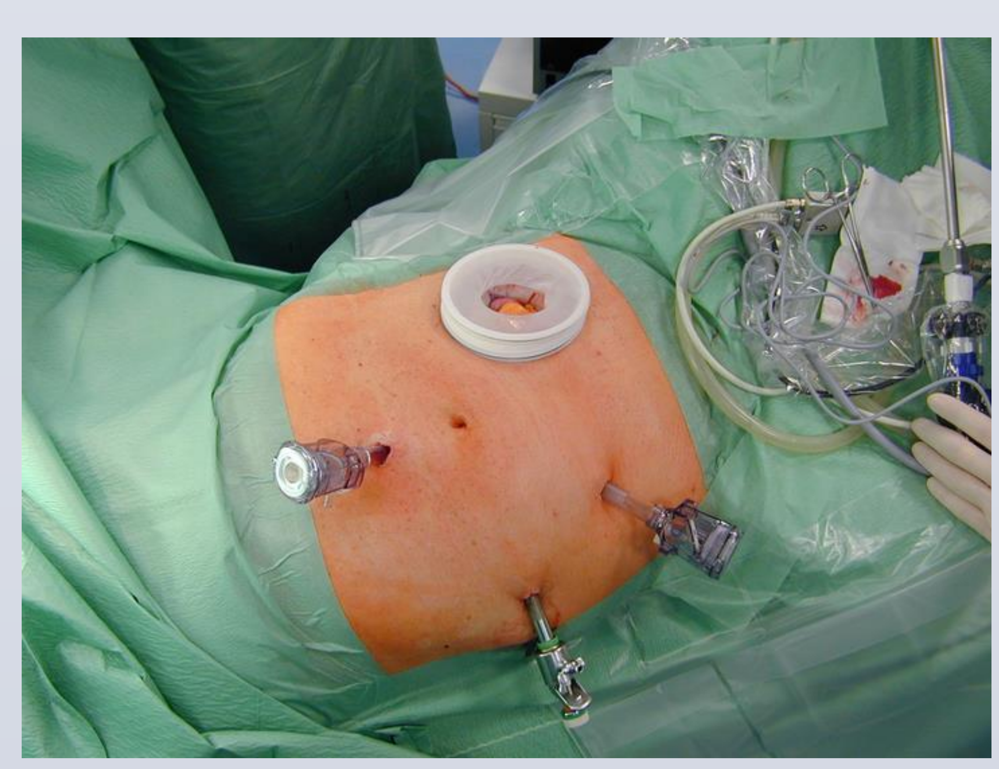
Obstruction of the bowel

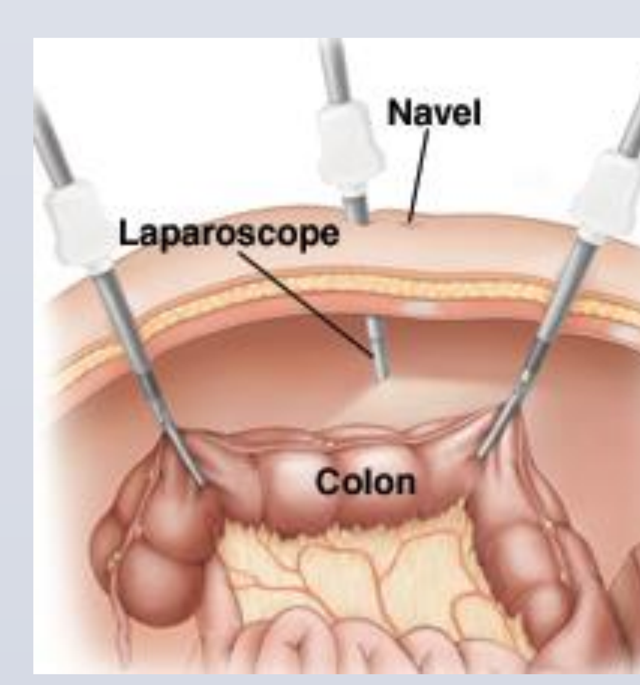
OPEN COLECTOMY

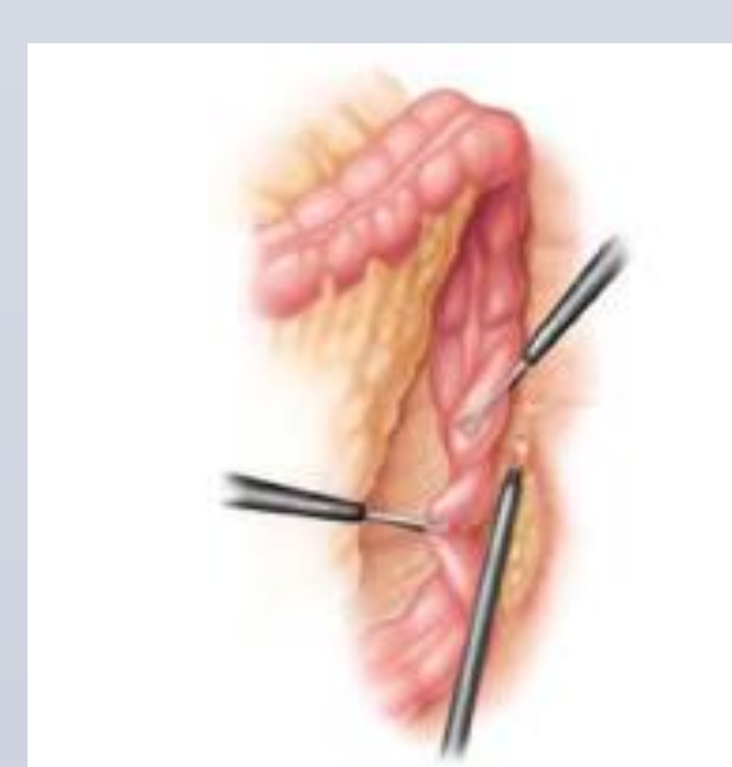




LAPAROSCOPIC COLECTOMY







Cystogastrostomy/Cystojejunostomy

Department of Surgical Gastroenterology

JIPMER

WHAT IS CYSTOGASTROSTOMY/CYSTOJEJUNOSTOMY?

The Cystogastrostomy/Cystojejunostomy is surgery to treat chronic pseudocyst of pancreas by internal drainage. Type of surgery depends on location of pseudocyst.

CYSTOGASTROSTOMY: It is internal drainage of a pseudocyst into stomach.

CYSTOJEJUNOSTOMY: It is internal drainage of a pseudocyst into proximal small intestine.

WHAT IS PSEUDOCYST OF PANCREAS?

The pancreas is a large organ located behind the stomach. It produces hormones and enzymes that help digest food. Pancreatic pseudocyst is a complication of pancreatitis. They are sac-like pockets of fluid on or within your pancreas formed as a complication after an attack of pancreatitis or injury to pancreas. They are circumscribed collections of fluid rich in pancreatic enzymes, blood and necrotic tissue, typically located in lesser sac of the abdomen.

WHAT ARE COMPLICATIONS OF PSEUDOCYST IF NOT TREATED?

If pseudocyst is not resolving with conservative management, it may be symptomatic and cause persistent pain or recurrent vomitings due to pressure effects. Infection may can sometimes lead to pancreatic abscess. Rupture or hemorrhage can happen without warning and can be life-threatening with sudden fall in blood pressure. Sometime sthis may require emergency surgery which may be associated with high risk. Biliary complications like jaundice, itching, fever, pale coloured stools and high coloured urine may occur if there is compression of extrahepatic biliary tree.

WHAT PREPARATION IS REQUIRED FOR SURGERY?

Preoperative preparation includes blood work, medical evaluation, chest x-ray and an ECG depending on your age and medical condition. CECT is required. Blood transfusion may be needed depending on your condition. It is recommended that you shower the night before or morning of the operation. After midnight the night before the operation, you should not eat or drink anything except medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery.

HOW IS CYSTOGASTROSTOMY/CYSTOJEJUNOSTOMY DONE?

You will be placed under general anesthesia and be completely asleep. The incision used to perform can be roof top or vertical.

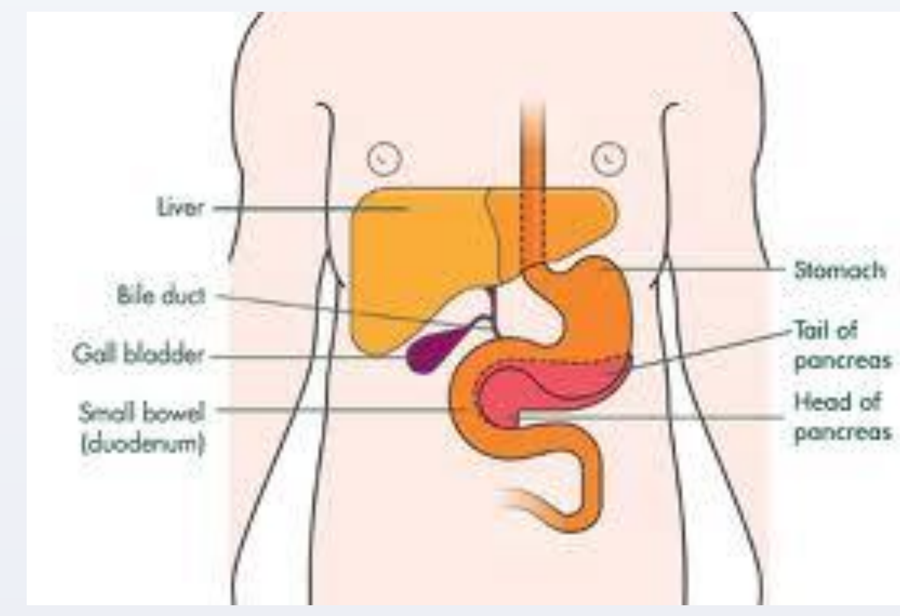
CYSTOGASTROSTOMY: Symptomatic pseudocyst compressing stomach anteriorly may be internally drained by this method. Anterior wall of stomach is opened. Posterior wall is opened at its prominent point where bulge due to pseudocyst is seen. Pseudocyst contents are drained and pseudocyst is anastomosed to stomach.

CYSTOJEJUNOSTOMY: Symptomatic pseudocyst with infracolic bulge or gaint pseudocyst may be internally drained by this method. Jejunal loop is anastomosed to pseudocyst.

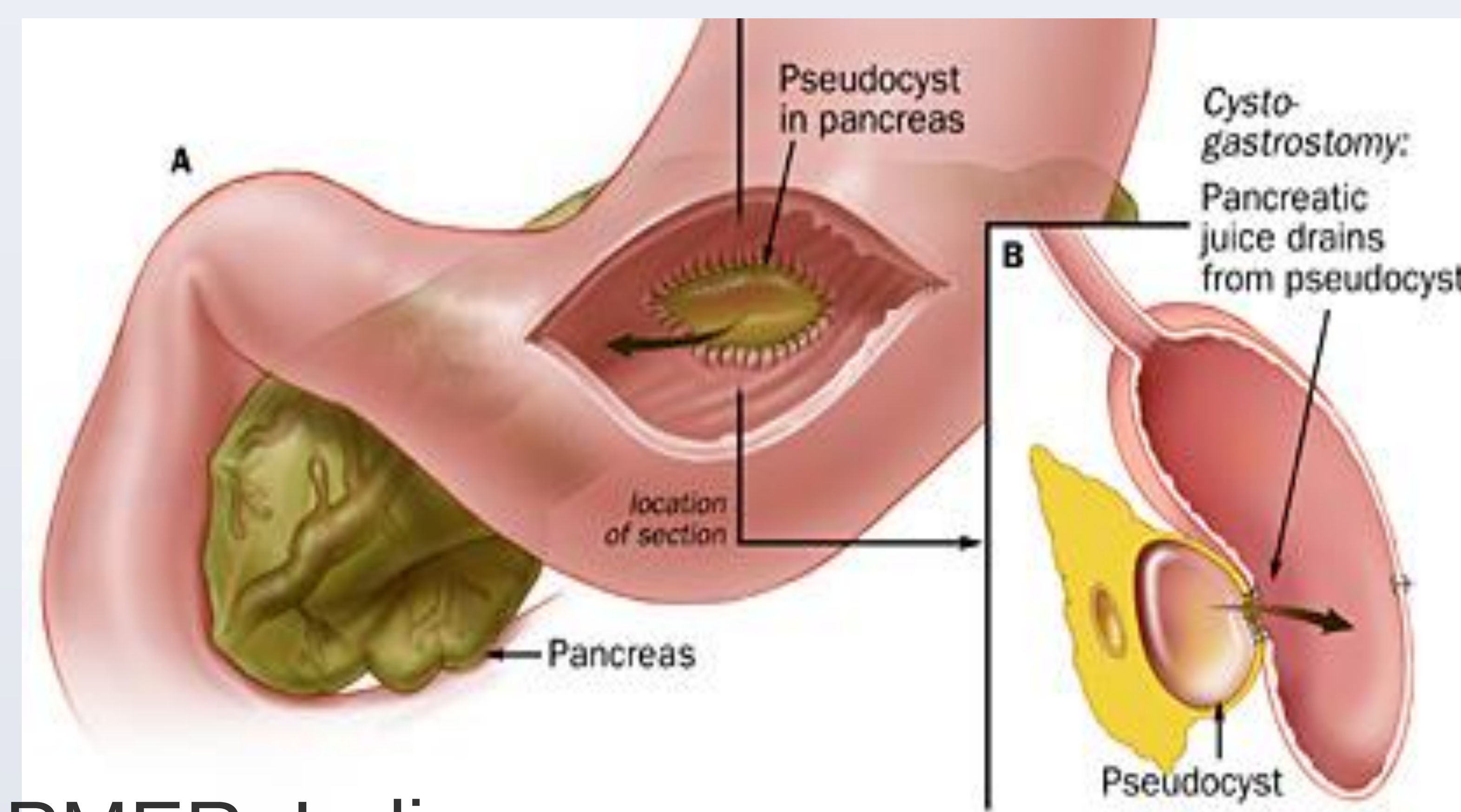
WHAT COMPLICATIONS CAN OCCUR?

Complications are infrequent. Possible complications include :

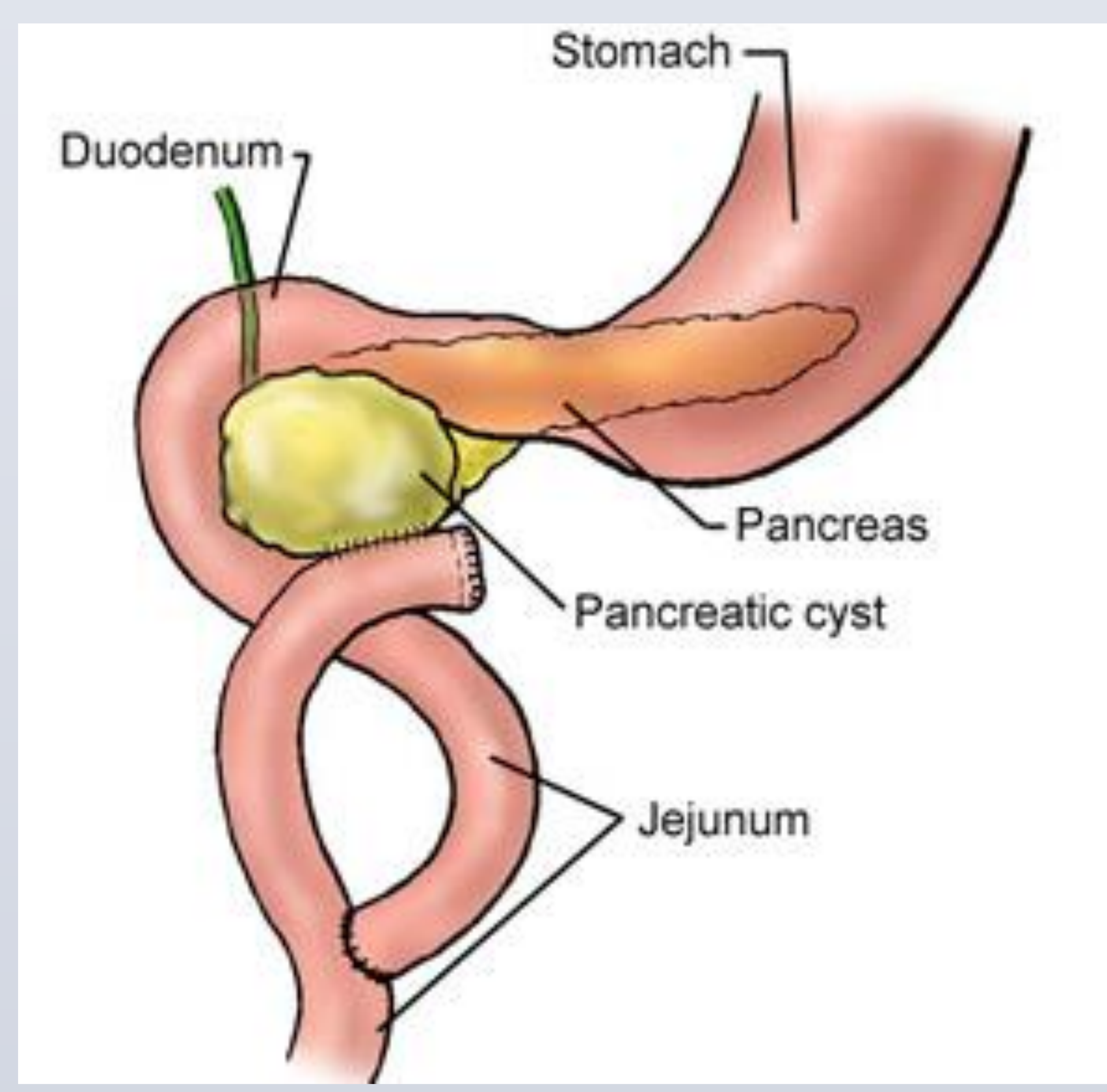
Atelectasis and pneumonia – lung complications which cause fever, cough and might cause respiratory problems. Infection – wound infection might occur, some times causing regular dressings for prolonged period. Bleeding – sometimes bleeding from wound site and surgical sites might occur. There might be chances of injury to surrounding structures if dense adhesions are present. There are chances of leak from suture site causing pancreatic fistula. This could cause intra abdominal collection which might sometimes require drainage. As this surgery involves manipulating small intestine, there are chances of small intestinal obstruction which in most cases can be managed conservatively.



CYSTOGASTROSTOMY



CYSTOJEJUNOSTOMY



RECOVERY

The majority of patients experience relief of symptoms due to pressure effects. This surgery does not have any impact on the development and/or progression of pancreatic exocrine and endocrine function. Recovery time is two to three weeks.

Diagnostic Laparoscopy

Department of Surgical Gastroenterology

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What does the procedure involve?

This involves the insertion of a telescope into the abdominal cavity for diagnostic purposes and may involve a biopsy if any abnormality is found

WHAT SHOULD I EXPECT BEFORE THE PROCEDURE?

Preoperative preparation includes blood work, medical evaluation, chest x-ray and an ECG depending on your age and medical condition.

It is recommended that you shower the night before or morning of the operation.

After midnight the night before the operation, you should not eat or drink anything except medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery.

HOW IS DIAGNOSTIC LAPAROSCOPY DONE?

General anaesthetic is administered.

Your bladder is emptied with a catheter.

An instrument is introduced through your cervix into your womb so that it can be moved as required to help visualise the pelvic organs.

A small cut (1cm) is made inside the umbilicus.

A needle is introduced via the incision into the abdominal cavity, which fills the abdomen with gas (carbon dioxide). This allows the organs to be seen more clearly.

The telescope (laparoscope) is inserted.

Abdomen is visualised throughly to look for any abnormal findings and biospy taken if possible

WHAT COMPLICATIONS CAN OCCUR?

1. Risks from anaesthesia
2. Injury to bowel/bladder/major blood vessels – this may occur on entry into the abdominal cavity with any of the previously mentioned instruments. If necessary, the operation will be converted to a "laparotomy" (i.e. a larger incision will be made on your abdomen) to repair any damage caused. You may need to have a blood transfusion if a vessel is damaged. Your hospital stay may be prolonged if these complications occur.
3. Infection – Serious infections are very rare. Minor infections of the wound sites may occur and usually respond to a course of antibiotics that you can obtain from your general physician.
4. Failure to gain entry into the abdominal cavity – this occasionally happens and you may be offered a repeat attempt at laparoscopy or an open operation at a later stage.
5. Uterine perforation – this could happen with the instrument used to move the uterus. Most small holes in the uterus heal by themselves but you may need to be monitored overnight.
6. Unable to identify the cause of your symptoms – Sometimes nothing is found on laparoscopy to account for your symptoms.
7. Bruising – this should settle after about a week
8. Shoulder tip pain – this is fairly common and results from the gas introduced into the abdomen. The gas may irritate a nerve under the diaphragm, which also supplies the shoulder.

WHEN CAN I GO BACK TO WORK?

People vary in how quickly they recover after surgery. Depending on your job you may be able to return to work 1-3 weeks after the operation, as long as you feel well

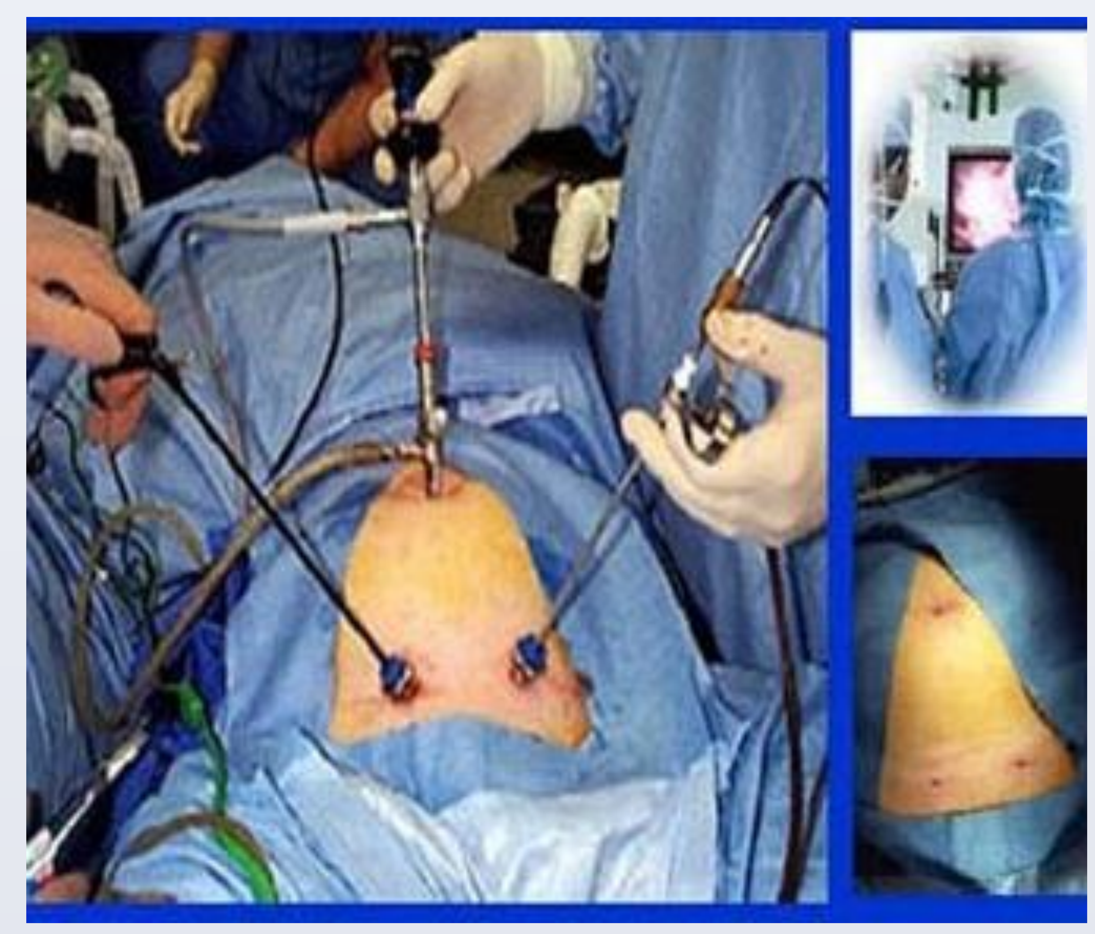
WHEN TO CALL YOUR DOCTOR?

If you experience increasing abdominal pain, distension, high temperature (fever), loss of appetite, nausea or vomiting, this may be caused by damage to your bowel or bladder.

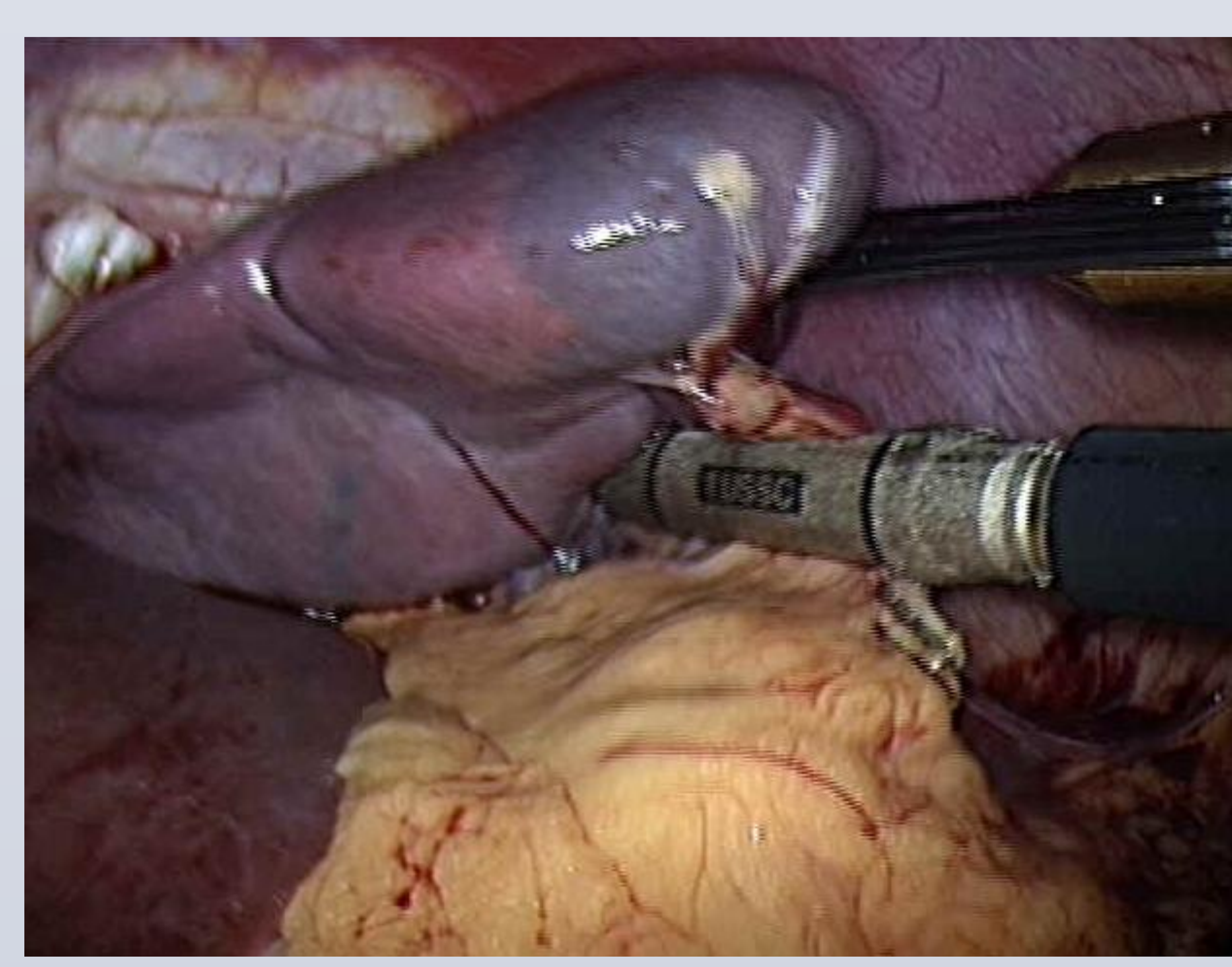
If you develop a painful red swollen leg, shortness of breath, chest pain or start coughing up blood, this may be a sign of a clot in the leg or lung.

In such cases you will need to be admitted to the hospital urgently.

DIAGNOSTIC LAPAROSCOPY



Surgical Gastro, JIPMER, India



Distal Pancreatectomy

Department of Surgical Gastroenterology

JIPMER

WHAT IS DISTAL PANCREATECTOMY?

The pancreas is an organ located behind the stomach that produces chemicals (called enzymes) needed to digest food. It also produces hormones insulin and glucagon. The Distal Pancreatectomy procedure is surgery to treat benign or malignant conditions of pancreas involving body and tail. This operation is performed to remove body and tail of pancreas while preserving the head of the pancreas with splenectomy.

INDICATIONS OF DISTAL PANCREATECTOMY?

1. Chronic pancreatitis
2. Pseudocyst involving tail of pancreas
3. Pancreatic adenocarcinoma involving body and tail
4. Neuroendocrine tumor involving body and tail
5. Papillary cystic neoplasms involving body and tail

WHAT PREPARATION IS REQUIRED FOR DISTAL PANCREATECTOMY?

Preoperative preparation includes blood work, medical evaluation, chest x-ray and an ECG depending on your age and medical condition. Blood transfusion and/or blood products may be needed depending on your condition. CECT abdomen is required to plan for surgery. Work up for diabetes mellitus is required. It is recommended that you shower the night before or morning of the operation. After midnight the night before the operation, you should not eat or drink anything except medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery. Splenectomy is also planned as a part of the procedure, preoperative vaccination for immunization against Pneumococcus, H influenzae and meningococcus is required.

HOW IS DISTAL PANCREATECTOMY DONE?

You will be placed under general anesthesia and be completely asleep. The incision used to perform can be roof top or vertical midline. A distal pancreatectomy is where the distal half of the pancreas is removed by a surgical procedure. Line of transection depends on the site of tumour. After removal of the pancreas, the cut edge of the pancreas is often sutured to prevent leakage of pancreatic juice from this area. The spleen, which is located near this part of the pancreas and shares some of the same blood vessels, may need to be removed as part of the procedure. Drainage tubes-are placed in the abdomen, near the surgical site, during surgery to allow for drainage of the fluids that are produced as a result of surgery and during healing process. As healing takes place, the drainage from the surgical site will decrease and the tubes will be removed.

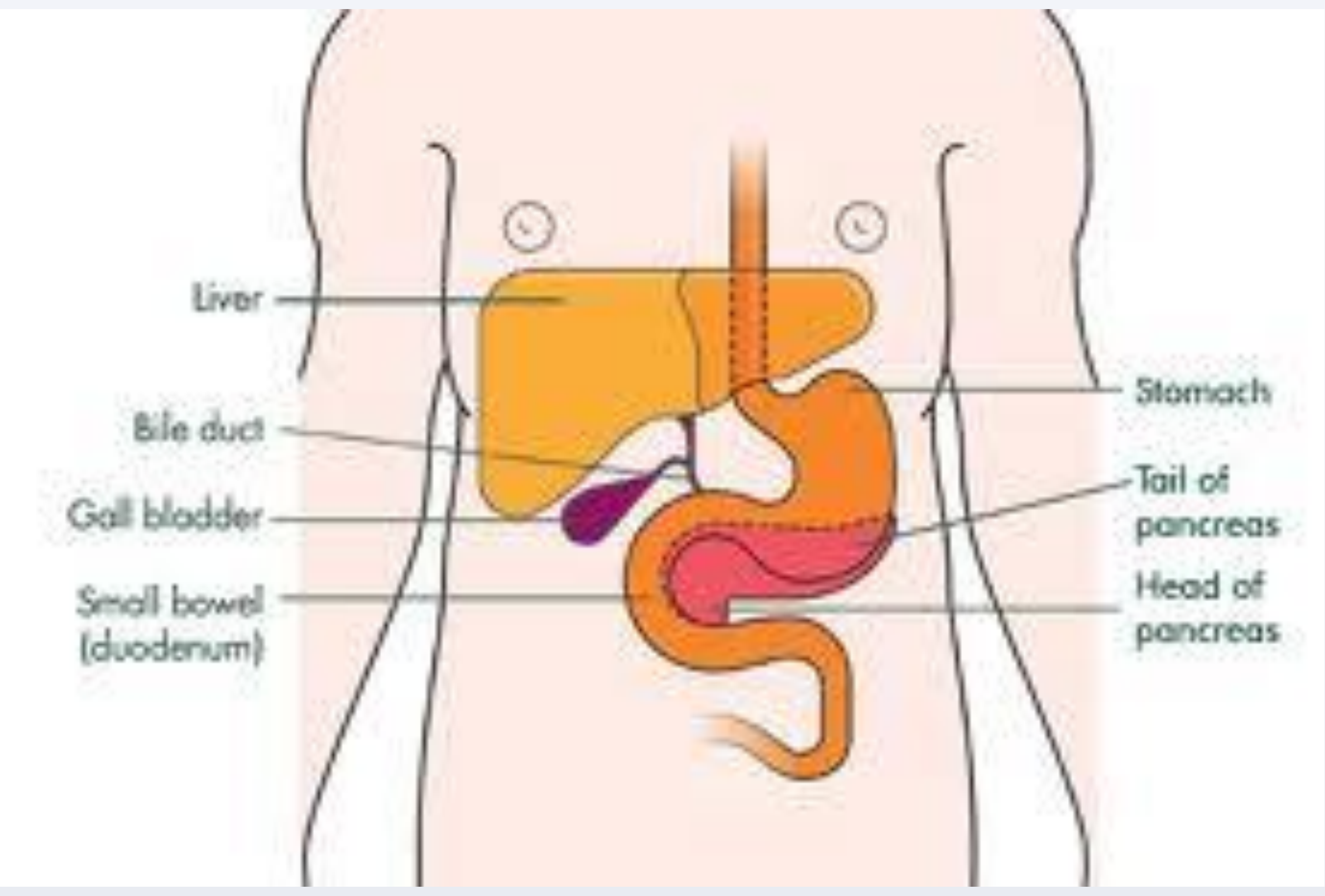
WHAT COMPLICATIONS CAN OCCUR?

Complications are infrequent. Possible complications include :

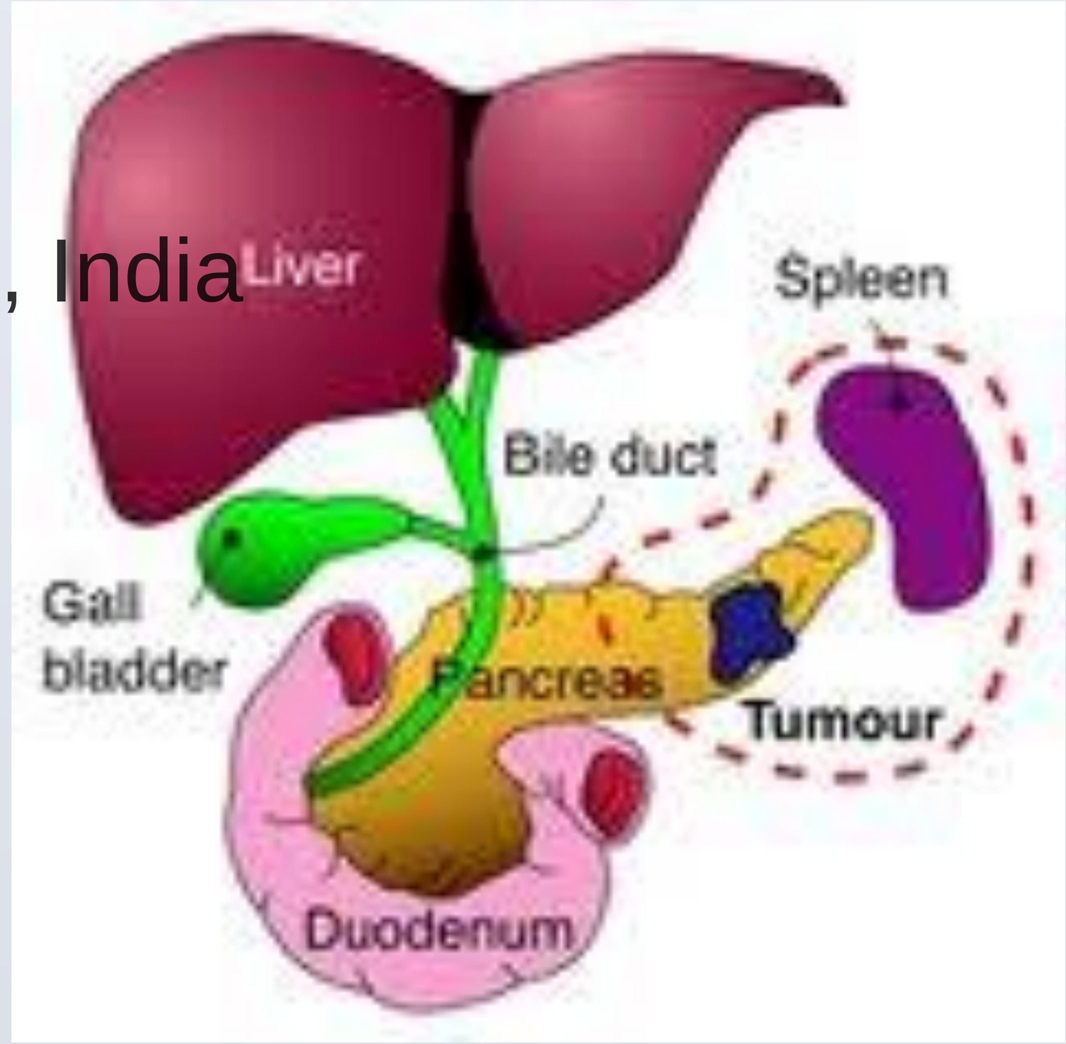
Atelectasis and pneumonia – lung complications which cause fever, cough and might cause respiratory problems. Infection – wound infection might occur, some times causing regular dressings for prolonged period. Bleeding – sometimes bleeding from wound site and drains might occur. There are chances of acute pancreatitis and leak from suture site causing pancreatic fistula. This could cause intra abdominal collection which might sometimes require drainage. As this surgery involves splenectomy, there are chances of overwhelming infection throughout the entire body (OPSI), rare complication seen after splenectomy.

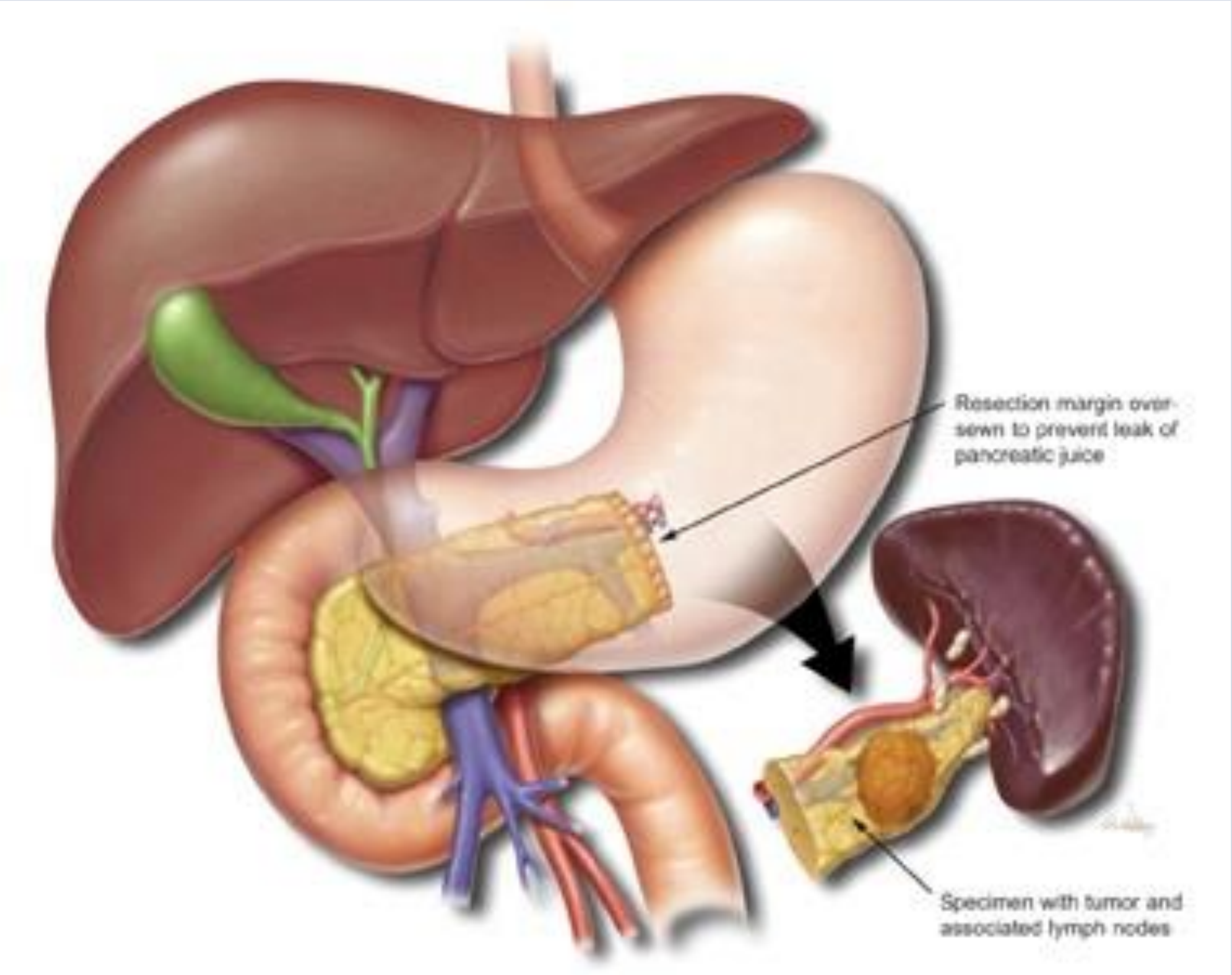
RECOVERY

Prognosis depends on the indication for surgery. As there is loss of pancreatic tissue, there are chances of pancreatic exocrine and endocrine insufficiency (diabetes mellitus). Recovery time is two to three weeks.



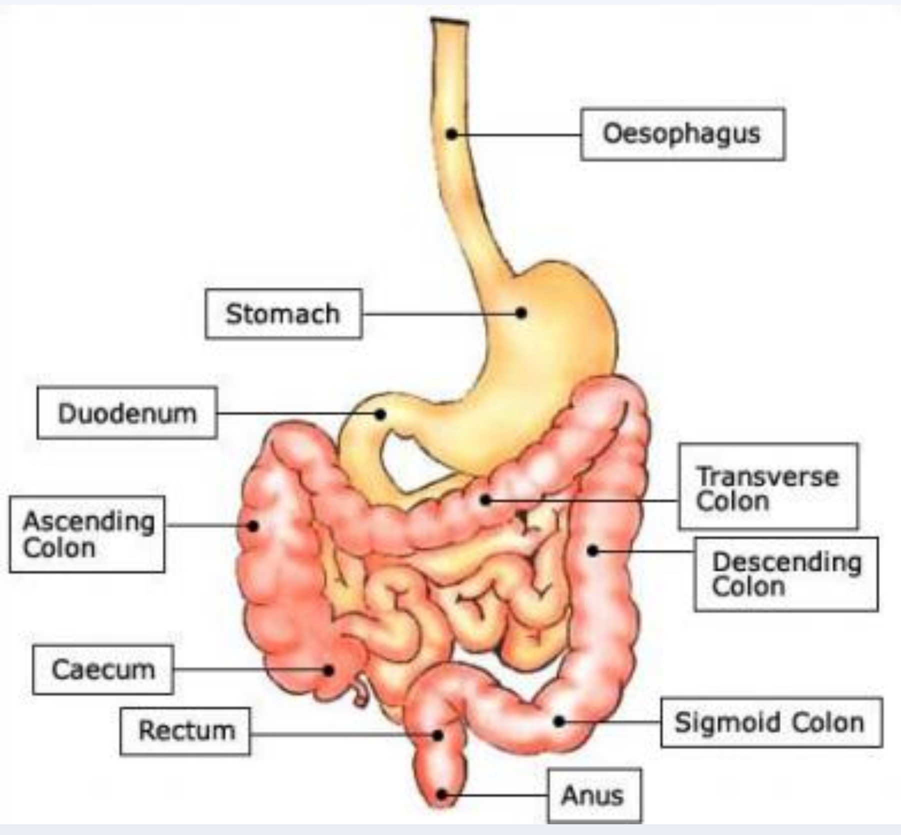
DISTAL PANCREATECTOMY





How to do the procedure?
Total gastrectomy is the removal of whole of stomach through a midline abdominal incision. Jejunal loop is used to join to the esophagus to maintain continuity of bowel. A feeding jejunostomy may be placed depending on surgeon's discrepancy.
What happens if the procedure is not done?
Gastric inlet or outlet obstruction will develop leading to dehydration, electrolyte disorders which may be detrimental to life. Tumor may grow and spread where by survival is redused
Instructions after surgery
Sit up, do limb exercises and spirometry exercises the evening of surgery Start walking on POD 1 and continue to do limb and spirometry exercises, take care of your tubes- abdominal drain, Ryle's tube and Feeding jejunostomy. Chest physiotherapy will be given by nurses and residents . On POD 2 walk for longer length of time,continue spirometry exercises. De

Patient information sheet
Esophagectomy
Department of Surgical Gastroenterology



What is esophagus?
Esophagus is the food pipe through which all the eaten food is passed from mouth into stomach.

Why to do the procedure?
Esophagectomy is done for benign and malignant diseases as a curative therapy

What happens if the procedure is not done?
Patient may not be able to swallow anything because of growth of tumor. Tumor may grow beyond the stage of resection thus decreasing the survival

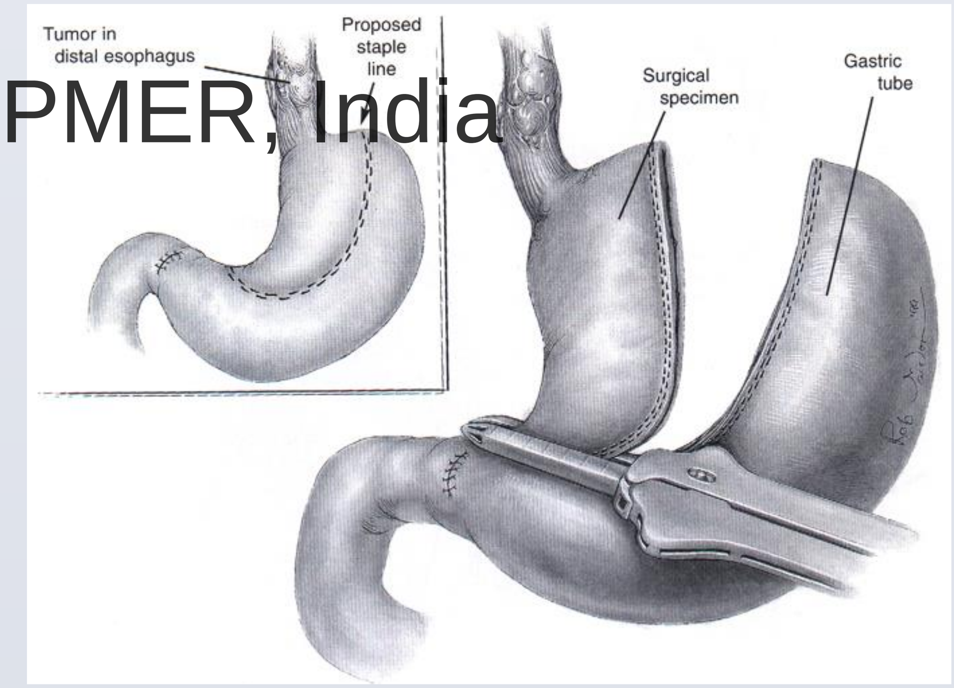
How to do the procedure?
An esophagectomy is the removal of part or the entire esophagus. A new esophagus is made from bringing part of the stomach or intestine up into the chest and attaching it to the part of the esophagus remaining. This will affect your eating habits.
Depending on the approach that your surgeon uses, you will have between one and three incisions (Under your left or right arm, from your lower chest until your belly button or on the side of your neck).

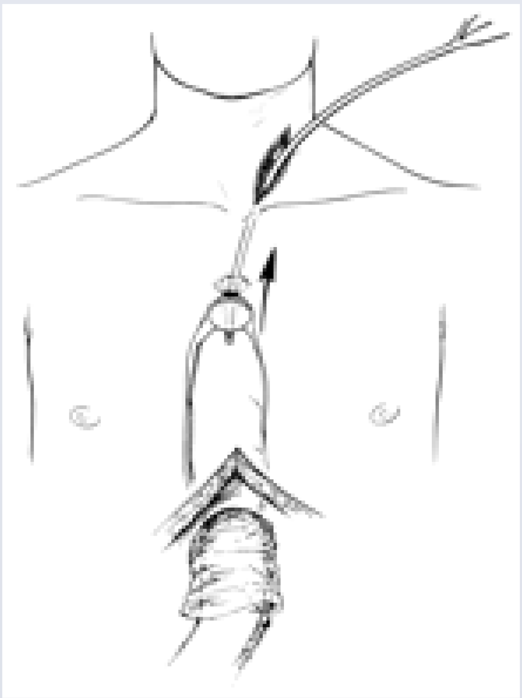
Instructions before surgery
Exercise at least fifteen-minute walk daily .Quit smoking befor surgery if you are a smoker.Do not drink alcohol 24 hours before surgery.Plan ahead to make sure everything at home and hospital is in place before and after surgery Spirometry exercises should be begun at least a week befor surgery

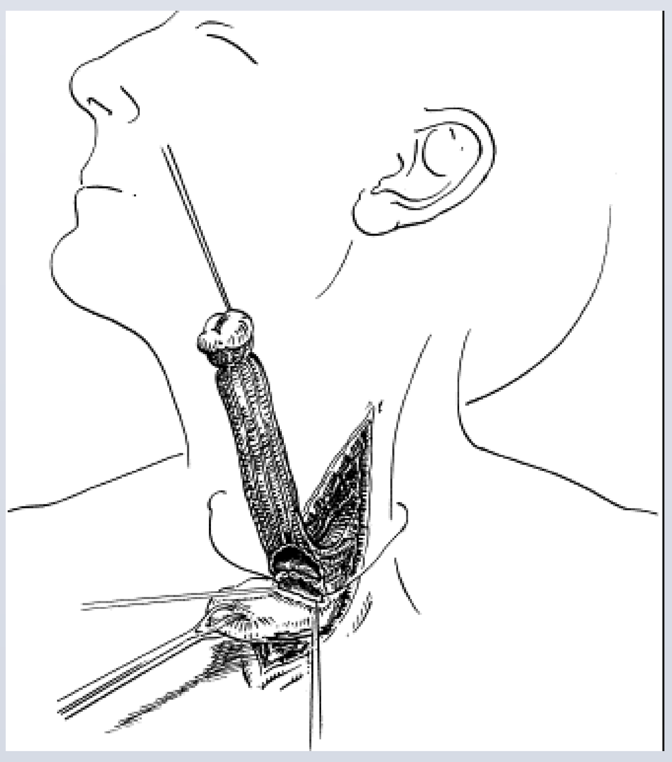
Instructions after surgery
Sit up, do limb exercises and spirometry exercises the evening of surgery .Start walking on POD 1 and continue to do limb and spirometry exercises, take care of your tubes- Chest drain, abdominal drain, Ryle's tube and Feeding jejunostomy. Chest physiotherapy will be given by nurses and residents.On POD 2 walk for longer length of time,continue spirometry exercises. Do not eat anything by mouth. Feeds will be started via feeding jejunostomy and gradually will be advanced .You will be off tubes on by one from POD 3 depending on the circumstances. You can eat after POD 7 if your upper GI contrast study shows no leak of anastomosis.

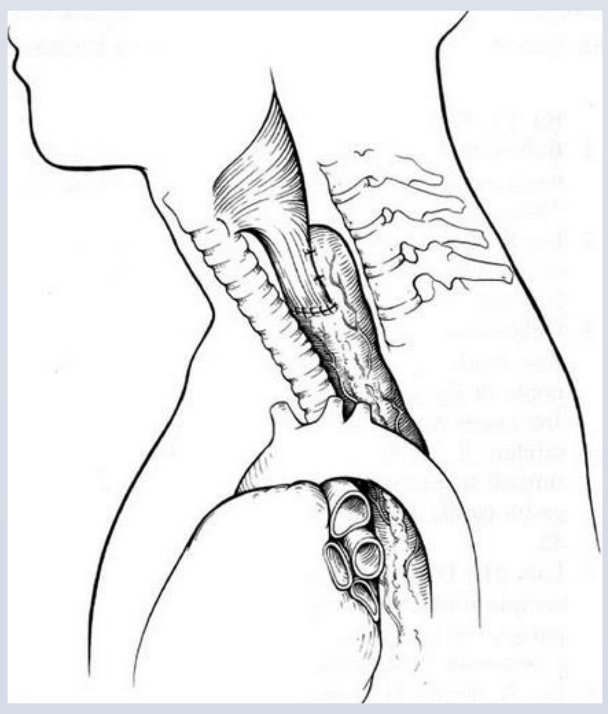
What are complications of the procedure?
You may develop Pneumonia or lung collapse which are common after any thoracoabdominal surgery but risk is more here.
Anastomotic leak with or without chest infection which can be managed conservatively.
Recurrent laryngeal nerve injury and hoarseness of voice can occur in 10 % of cases
There is risk of wound infection as in all major thoraco abdominal procedures.

Esophagectomy









How to do the procedure?
Total gastrectomy is the removal of whole of stomach through a midline abdominal incision. Jejunal loop is used to join to the esophagus to maintain continuity of bowel. A feeding jejunostomy may be placed depending on surgeon's discrepancy.
What happens if the procedure is not done?
Gastric inlet or outlet obstruction will develop leading to dehydration, electrolyte disorders which may be detrimental to life. Tumor may grow and spread where by survival is redused
Instructions after surgery
Sit up, do limb exercises and spirometry exercises the evening of surgery
Start walking on POD 1 and continue to do limb and spirometry exercises, take care of your tubes- abdominal drain, Ryle's tube and Feeding jejunostomy. Chest physiotherapy will be given by nurses and residents .
On POD 2 walk for longer length of time,continue spirometry exercises.

Patient information sheet
Feeding Jejunostomy
Department of Surgical Gastroenterology

Why to do the procedure?
When a patient cannot feed himself by mouth, and needs building up, an alternative to total parenteral nutrition (which is expensive and has its own complications) is to put a tube into his jejunum and feed him through that. Its done in casess when an oesophageal obstruction is present, To protect a suture line in the esophagus, stomach, duodenum following an injury.

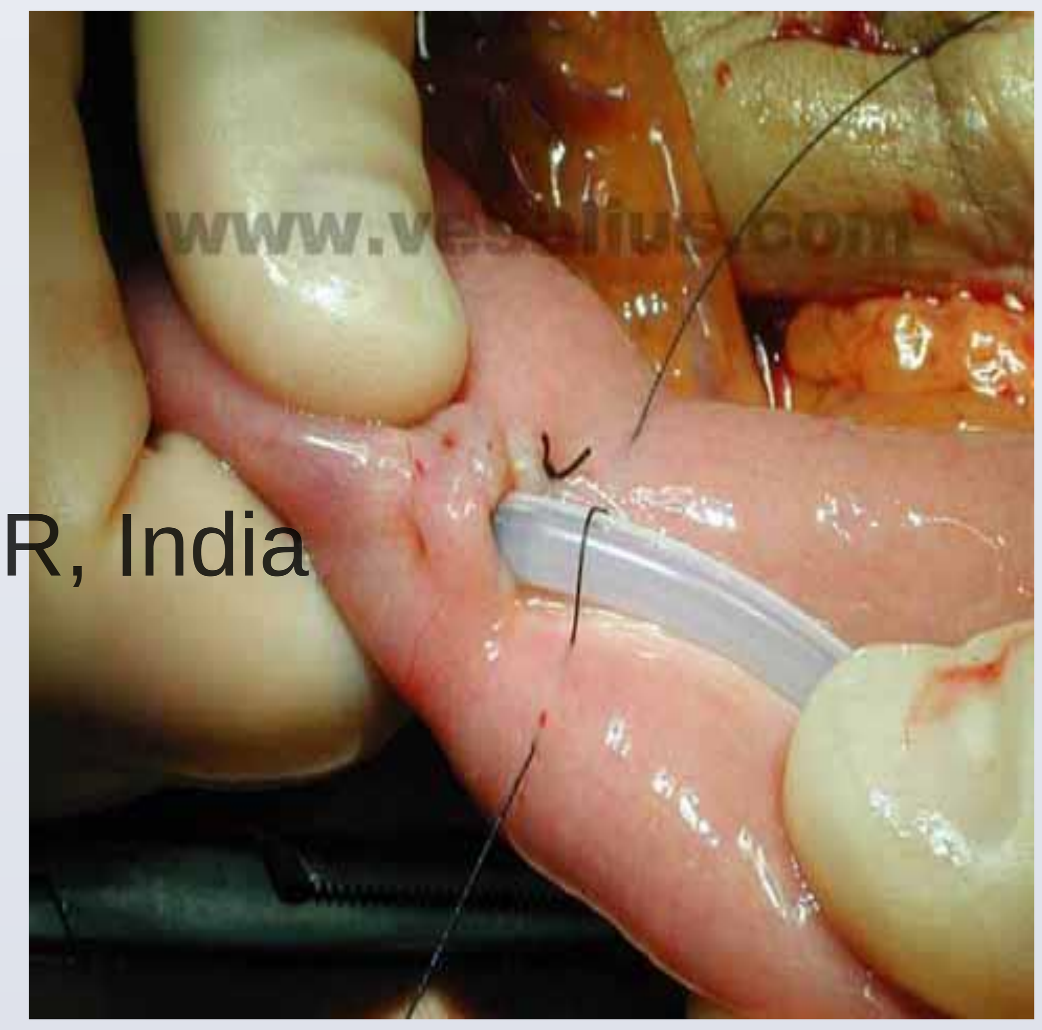
How to do the procedure?
A small laparotomy in the patient's upper abdomen under local or general anaesthesia.
A loop about 25 cm from his duodenojejunal junction chosen, A holeis made through into the lumen. A long Ryle's tube, inserted through this hole for about 10 cm. gut closed around tube for a length of about 5 cm using Lembert technique of a bowel closure .
Second incision made in the abdominal wall above where this loop of jejunum will comfortably lie. Jejunum is fixed to the interior of abdominal wall .Abdomen is closed.

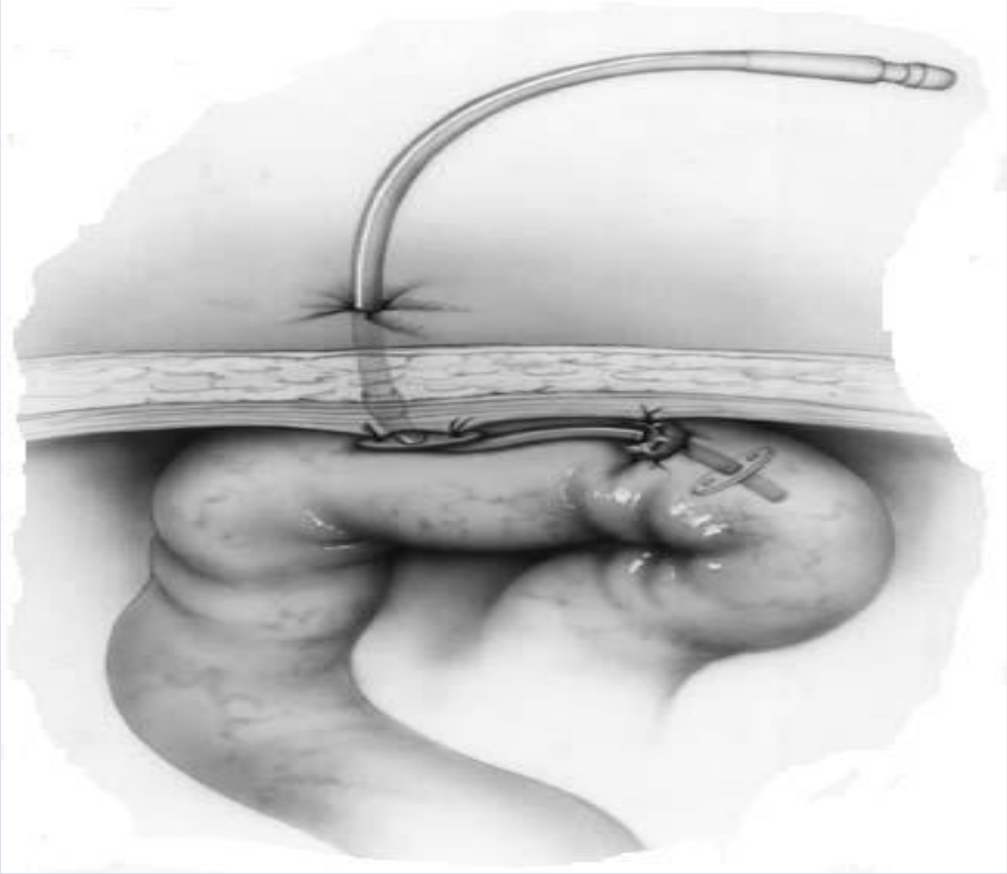
Instructions after surgery
Feeding through FJ is started after 6 hours.
Volume of feeding increased initially followed by osmolality.
Check for any suture cut through or peritubal leakage and report immediately

What are complications of the procedure?

You may develop Pneumonia or lung collapse which are common after any abdominal surgery.
Jejunostmy leak with or without intra abdominal abscesses though rare can occur and may prolong the hospital stay. There is risk of wound infection as in all major abdominal procedures

Feeding Jejunostomy





Frey’s procedure

Department of Surgical Gastroenterology

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WHAT IS FREY’S PROCEDURE?

The Frey procedure is surgery to treat chronic pancreatitis due to a blocked duct. Frey's operation is indicated on patients with chronic pancreatitis who have "head dominant" disease. This operation is performed to remove most of the head of the pancreas while preserving the body and tail of the pancreas with concomitant drainage of ductal system.

WHAT IS CHRONIC PANCREATITIS?

The pancreas is an organ located behind the stomach that produces chemicals (called enzymes) needed to digest food. It also produces hormones insulin and glucagon. Chronic pancreatitis is inflammation of the pancreas that does not heal or improve, gets worse over time, and leads to permanent damage. As a result, the organ is no longer able to make the right amount of these enzymes and your body may be unable to digest fat and other important parts of food. Damage to the portions of the pancreas that make insulin may lead to diabetes. The condition is most often caused by alcohol abuse. Repeat episodes of acute pancreatitis can lead to chronic pancreatitis. Sometimes the cause is not known.

WHEN IS IT INDICATED?

This is used when the doctor believes pain is being caused by both inflammation of the head of the pancreas as well as the blocked ducts. The Frey procedure adds a longitudinal duct decompression to the pancreatic head resection - the head of the pancreas is surgically removed, and the ducts are decompressed by connecting them directly to the intestines.

WHAT ARE COMPLICATIONS IF CHRONIC PANCREATITIS IS NOT TREATED?

If chronic pancreatitis with head dominant disease is not treated, it may cause severe pain to interfere with daily activities. It may cause obstruction to pancreatic duct resulting in more pancreatic exocrine and endocrine insufficiency. Pancreas might get atrophied due to back pressure from obstruction. So treatment is indicated in symptomatic patients

WHAT PREPARATION IS REQUIRED FOR FREY’S PROCEDURE?

Preoperative preparation includes blood work, medical evaluation, chest x-ray and an ECG depending on your age and medical condition. Blood transfusion and/or blood products may be needed depending on your condition. It is recommended that you shower the night before or morning of the operation. After midnight the night before the operation, you should not eat or drink anything except medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery.

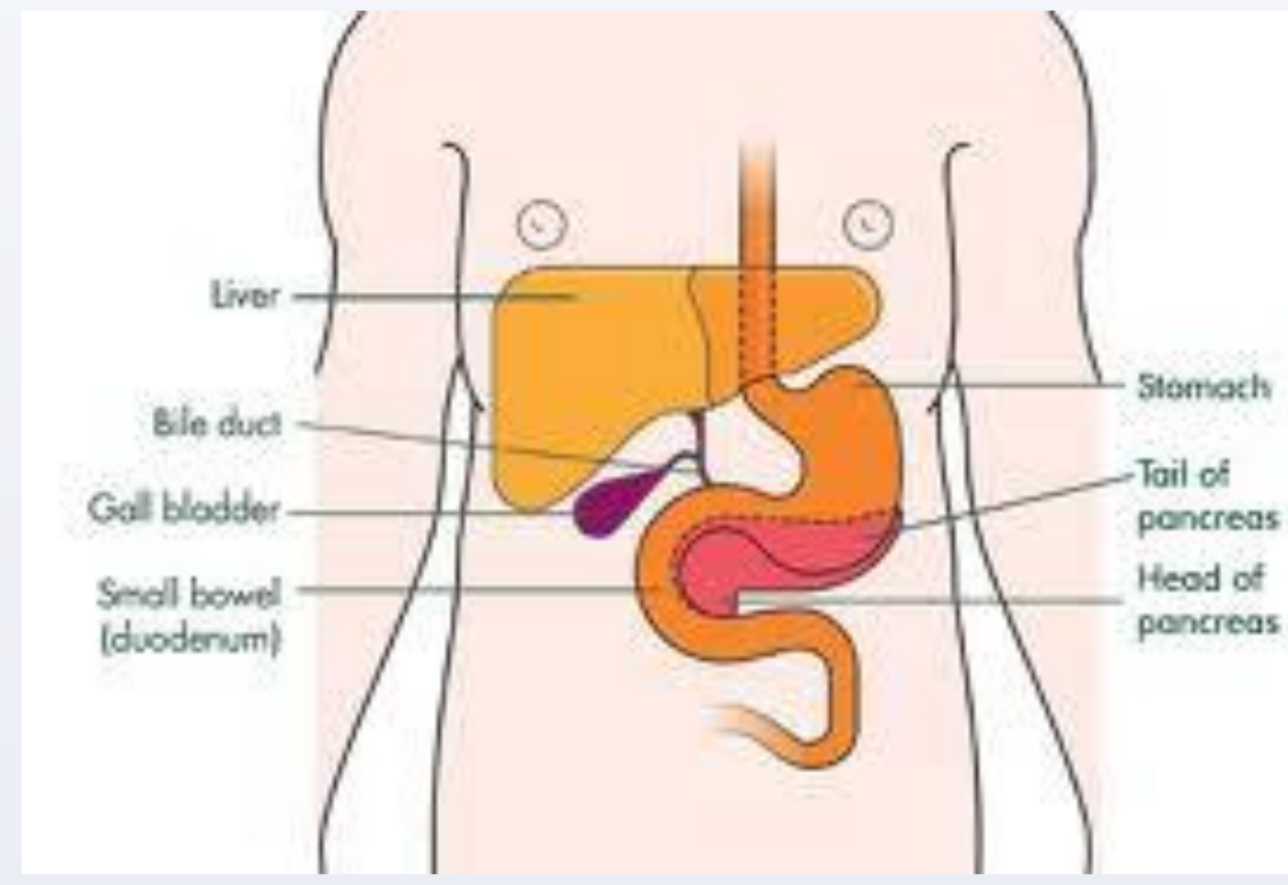
HOW IS FREY’S PROCEDURE DONE?

You will be placed under general anesthesia and be completely asleep. The incision used to perform can be roof top or vertical The head of the pancreas is cut out and a new and longer passage from the pancreas to the middle section (jejunum) of the small intestine is constructed. The Frey procedure can be used to treat cases where there is evidence that the ducts of the pancreas have become blocked and the head of the pancreas has become inflamed. The inflamed part of the head is removed and the ducts are directly connected to the intestines, allowing the digestive juices to flow into the intestines. Frey's procedure is an effective treatment for intractable pain in patients with chronic pancreatitis.

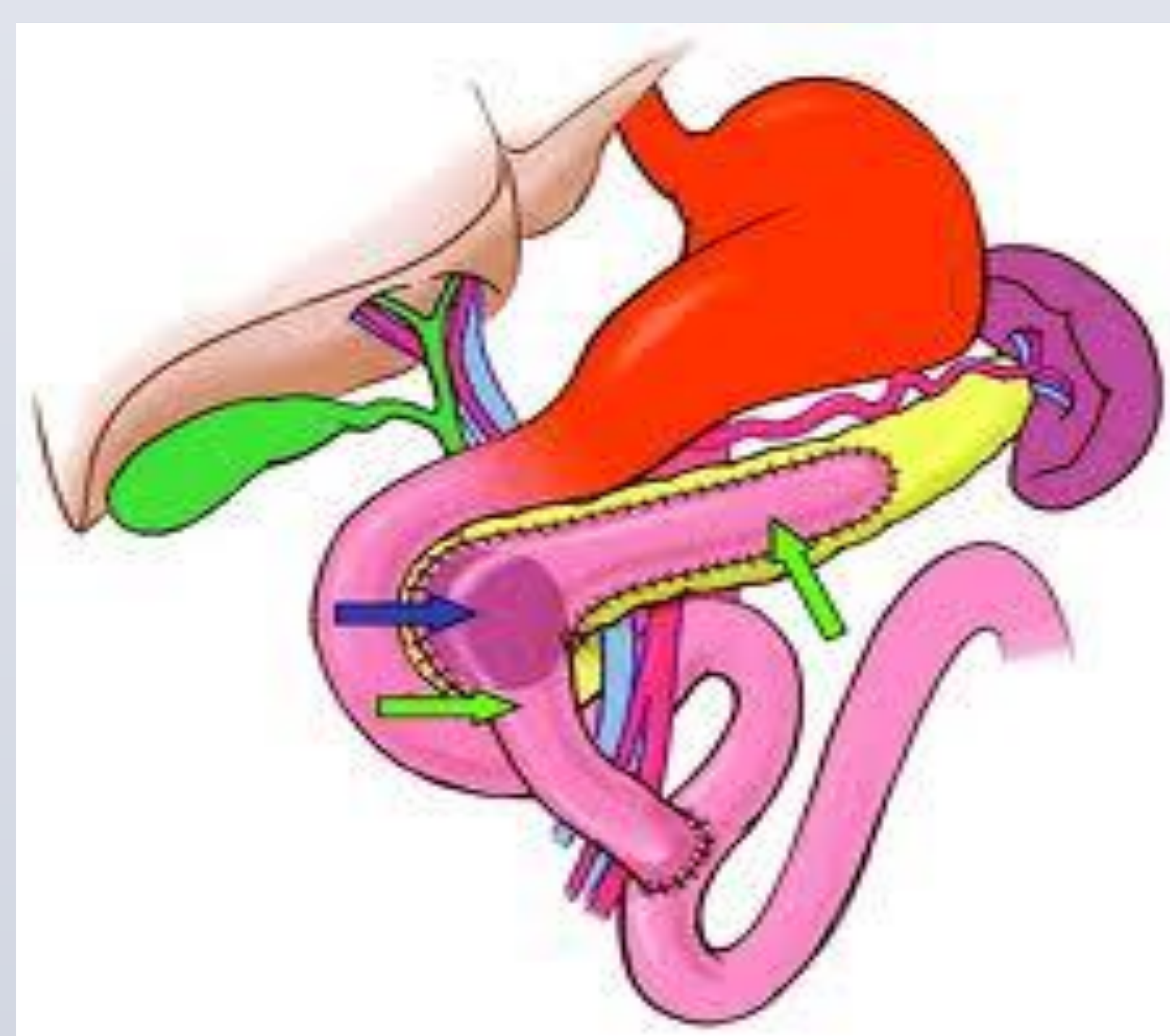
WHAT COMPLICATIONS CAN OCCUR?

Complications are infrequent. Possible complications include :

Atelectasis and pneumonia – lung complications which cause fever, cough and might cause respiratory problems. Infection – wound infection might occur, some times causing regular dressings for prolonged period. Bleeding – sometimes bleeding from wound site and drains might occur. There might be chances of bile duct injury & bile leak when there is difficulty during surgery. There are chances of acute pancreatitis and leak from suture site causing pancreatic fistula. This could cause intra abdominal collection which might sometimes require drainage. As this surgery involves manipulating small intestine, there are chances of small intestinal obstruction which in most cases can be managed conservatively.



FREY’S PROCEDURE



RECOVERY

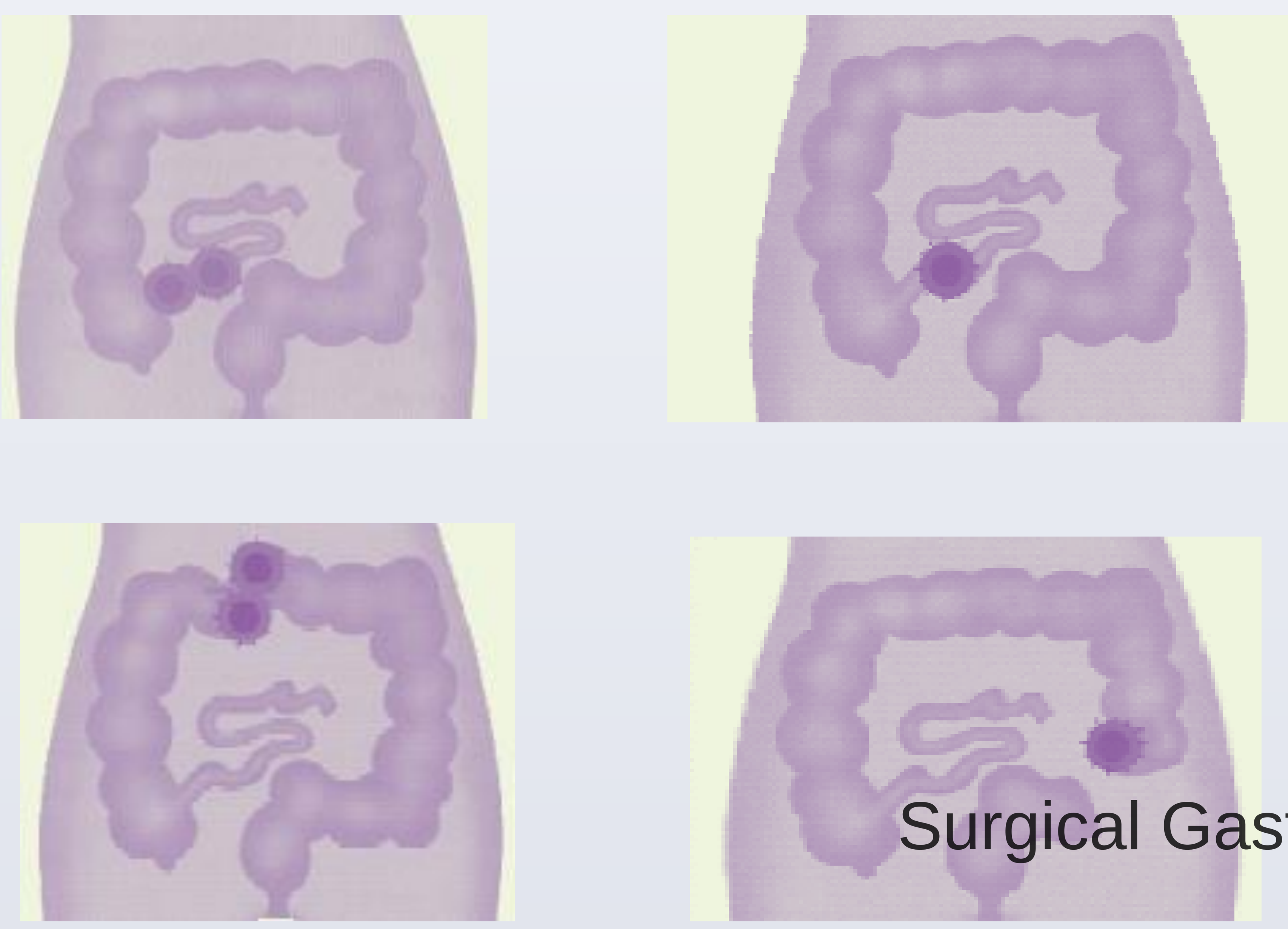
The majority of patients (70%) experience pain relief after surgery. This surgery does not have any impact on the development and/or progression of pancreatic exocrine and endocrine function. Recovery time is two to three weeks.

Patient information sheet
Stoma reversal
Department of Surgical Gastroenterology

What is a stoma ?

A loop or an end of healthy bowel is pulled up onto the surface of the abdomen to create an artificial opening where faeces can be passed out of the body, instead of through the anus.

Types of stoma : temporary and permanent.

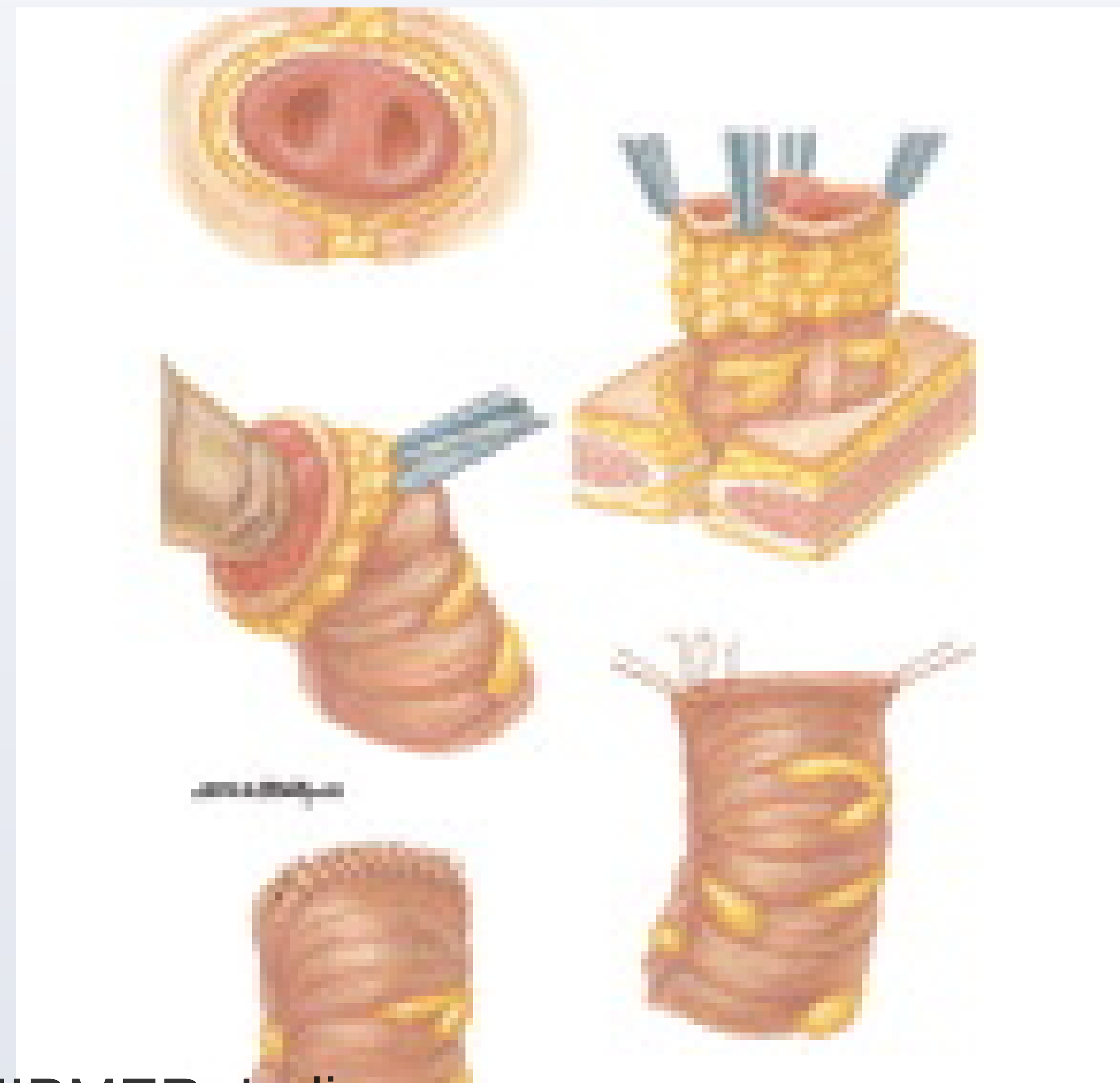


What is stoma reversal?

Stoma reversal operation involves rejoining two ends of bowel and closing the stoma that was formed during the first operation.
Closure should be delayed until the edema and induration of the bowel around the colostomy opening have subsided and the intestine has resumed a normal appearance.
The patency of any anastomosis of the intestine distal to the colostomy should be assured by contrast study using fluoroscopy.

How to do the procedure?

Position – Supine
Anaesthesia - Spinal or general anesthesia
Incision – an oval incision is made through the skin and subcutaneous tissue about the stoma to mobilise the bowel segments and the both the bowel segment are joined together with suture.The incision closed with suture.



Complications

Infection can occur, requiring antibiotics and further treatment.
Bleeding could occur and may require a return to the operating room,more common if you have been taking blood thinning drugs such as Warfarin, Asprin, Clopidogrel (Plavix or Iscover) or Dipyridamole (Persantin or Asasantin).
Small areas of the lung can collapse, increasing the risk of chest infection. This may need antibiotics and physiotherapy. Heart attack or stroke could occur due to the strain on the heart.
Blood clot in the leg (DVT) causing pain and swelling. In rare cases part of the clot may break off and go to the lungs.
Leakage where the bowel was stitched together. This may need further surgery. Deep bleeding in the abdomen. This may need fluid replacement or further surgery.
Bowel is paralysed, causing abdominal bloating and vomiting. This is usually temporary.
The wound may become infected. This is usually treated with antibiotics or the wound may need to be opened.
Urinary tract infection. Antibiotics may be used to control the infection.
Infection in the abdominal cavity. This may form an abscess may need drainage and antibiotics.
The blood supply to the stoma may fail and cause damage. This may need further surgery. Excess fluid loss from the stoma. Stoma prolapse - the bowel protrudes past skin.
The bowel actions may be much looser after the operation than before.
Adhesions (bands of scar tissue) develop in the abdominal cavity and the bowel may block.

Mesh hernioplasty for incisional hernia

Department of Surgical Gastroenterology

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WHAT IS INCISIONAL HERNIA?

An incisional hernia develop in the abdominal wall at previous surgical incision site. It usually arises in the abdominal wall where there is a defect due to a previous surgical incision. Increases in size gradually with protrusion of intestinal and omental contents into the swelling. Factors contributing to incisional hernia are poor wound healing after surgery, many operations via same incision, previous wound infections, obesity and long term steroids or immunosuppression drugs.

WHAT IS THE NEED FOR SURGERY?

Incisional hernias can increase in size with time. There will be protrusion of intestinal and omental contents into the swelling. It causes dragging pain and some times hernial contents get obstructed and trapped. Later blood supply is lost and the hernial contents become non viable. This leads to a severe pain abdomen of sudden onset and is a surgical emergency. So incisional hernia repair is performed to correct a weakened area that has developed in the scarred muscle tissue around a prior abdominal surgical incision. There is no alternative to surgical treatment.

WHAT PREPARATION IS REQUIRED FOR MESH HERNIOPLASTY FOR INCISIONAL HERNIA?

Preoperative preparation includes blood work, medical evaluation, chest x-ray and an ECG depending on your age and medical condition. It is recommended that you shower the night before or morning of the operation. After midnight the night before the operation, you should not eat or drink anything except medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery.

HOW IS MESH HERNIOPLASTY FOR INCISIONAL HERNIA DONE?

You will be placed under general anesthesia or spinal anesthesia depending on the site of hernia and whether open or laparoscopic surgery is done. The incision from the earlier surgery is reopened at the site of the hernia. The hernia sac is carefully dissected and opened. The intestine or other tissue in the hernia sac is placed back into the abdominal cavity. The effectiveness of surgical repair of an incisional hernia depends in part on reducing or eliminating tension at the surgical wound. The tension-free method preferred involves the permanent placement of surgical – prosthetic mesh patches well beyond the edges of the weakened area of the abdominal wall. The mesh is sewn to the area, bridging the hole or weakened area beneath it. As the area heals, the mesh becomes firmly integrated into the inner abdominal wall membrane (peritoneum) that protects the organs of the abdomen. Suction drainage tubes-are placed in the site where mesh is placed, near the surgical site. As healing takes place, the drainage from the surgical site will decrease and the suction drain will be removed.

WHAT COMPLICATIONS CAN OCCUR?

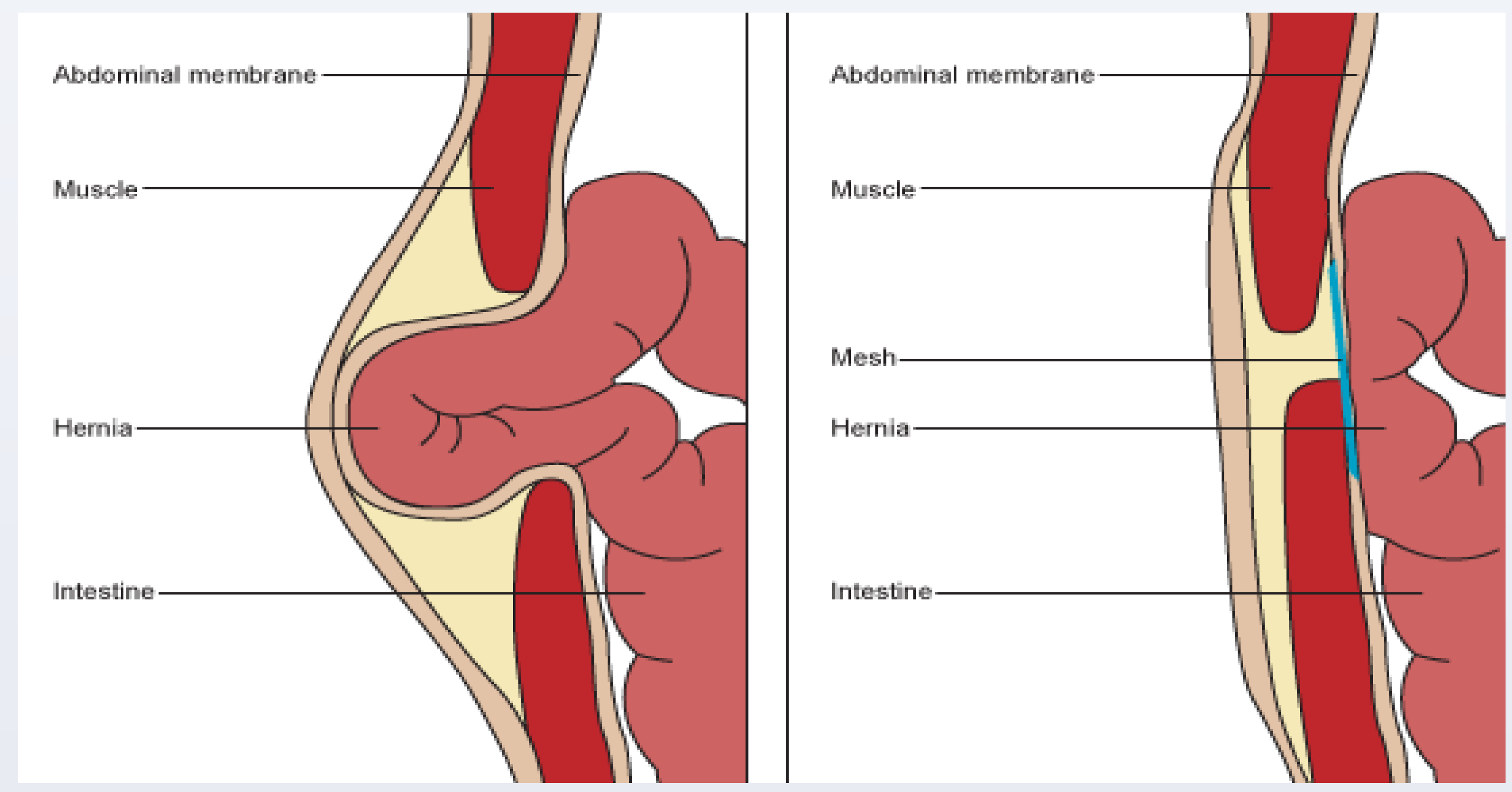
There are different risks depending on whether the operation is done open or laparoscopically.

Risks Specific to *Open* Incisional Hernia Repair:

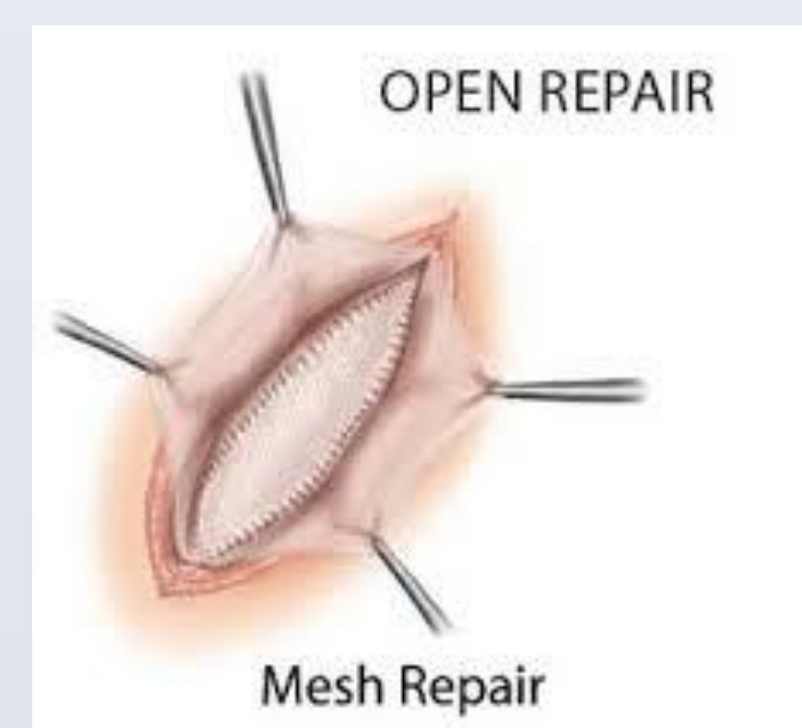
Seroma - It is collection of clear fluid under the wound after surgery. This is usually prevented by drain. Injury to the bowel may occur in open operation if the bowel may be caught up in scar tissue (adhesions) and easily torn. This is usually repaired at the time of the operation, but it may prohibit the use of mesh. Mesh infection - This is rare. If infection occurs, the mesh needs to be removed at another operation. Wound infection occurs in 2-4% of patients. Recurrence of the hernia is about 5-10%. This risk can be minimized by not lifting heavy weights for at least six weeks after surgery. But there is increased risk of recurrence in patients with who have a poor immune system, diabetes, obesity or multiple previous surgeries. There will be numbness of the skin around the wound that may be permanent. There is rare possibility of small intestinal obstruction after many years when intestine adheres to mesh.

Laparoscopic surgery tends to have a lower rate of wound infections, seroma and mesh infection than open surgery. Laparoscopic surgery probably has a higher risk of bowel Injury and there is always a chance of conversion to open procedure.

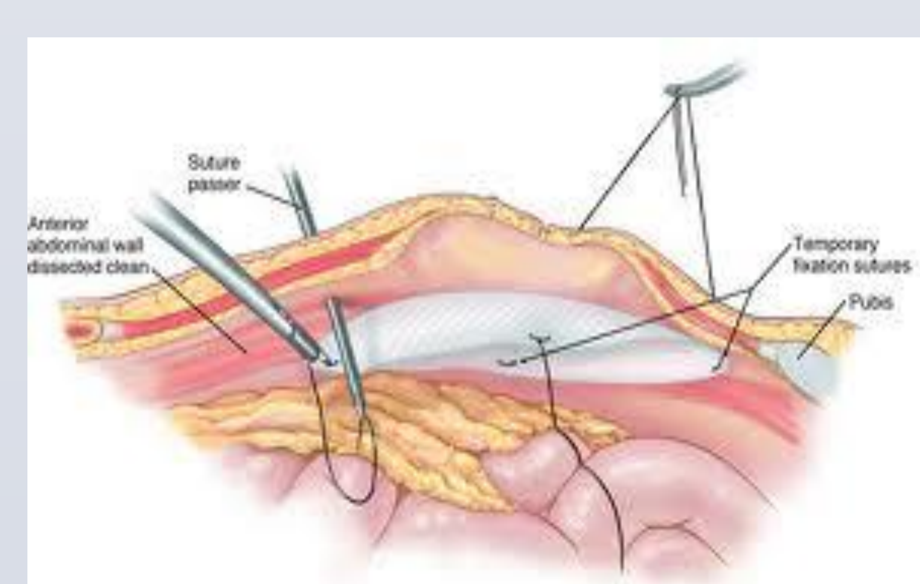
Mesh hernioplasty for incisional hernia

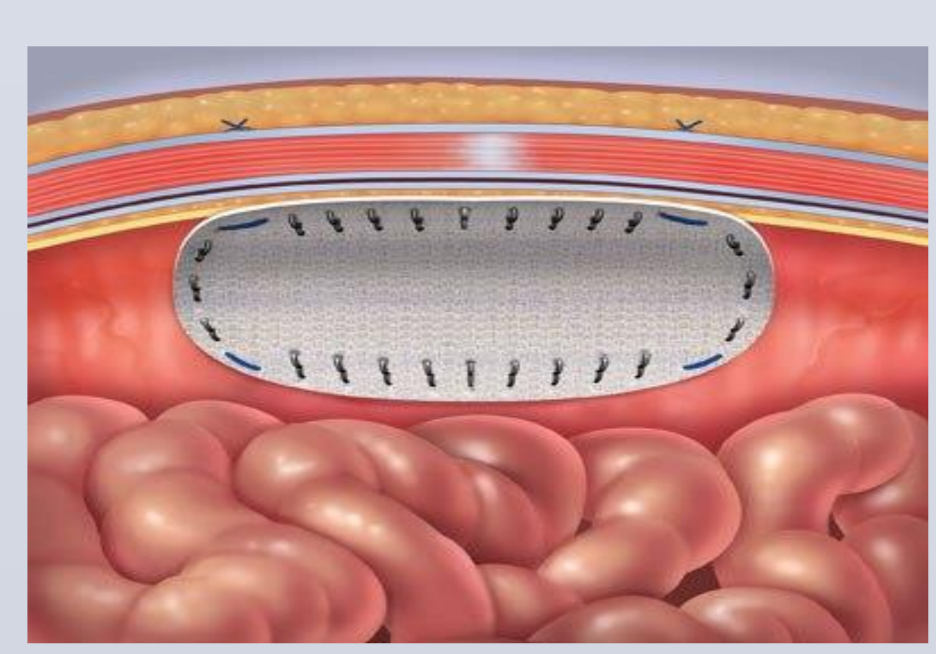


Open Mesh hernioplasty



Laparoscopic Mesh hernioplasty





RECOVERY

The rate of recurrence is much less with the laparasocpic approach (less than 10%) as compared to the 20-40% recurrence rate with the open procedure. Recovery time is two to three weeks after open surgery where as it is earlier with laparoscopic surgery.

Laparoscopic Cholecystectomy

Department of Surgical Gastroenterology

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WHAT IS THE GALL BLADDER?

The gallbladder is a pear-shaped organ that rests beneath the right side of the liver.

Its main purpose is to collect and concentrate a digestive liquid (bile) produced by the liver. Bile is released from the gallbladder after eating, aiding digestion. Bile travels through narrow tubular channels (bile ducts) into the small intestine.

Removal of the gallbladder is not associated with any impairment of digestion in most people.

WHAT HAPPEN WHEN GALL BLADDER IS REMOVED?

Removal of the gallbladder is not associated with any impairment of digestion in most people.

WHAT PREPARATION IS REQUIRED FOR LAPAROSCOPIC CHOLECYSTECTOMY?

The following includes typical events that may occur prior to laparoscopic surgery; however, since each patient and surgeon is unique, what will actually occur may be different:

Preoperative preparation includes blood work, medical evaluation, chest x-ray and an EKG depending on your age and medical condition.

It is recommended that you shower the night before or morning of the operation.

After midnight the night before the operation, you should not eat or drink anything except medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery.

Drugs such as aspirin, blood thinners, for several days to a week prior to surgery.

HOW IS LAPAROSCOPIC REMOVAL OF THE GALLBLADER DONE?

1. Under general anesthesia, so the patient is asleep throughout the procedure.
2. Using a cannula (a narrow tube-like instrument), the surgeon enters the abdomen in the area of the belly-button.
3. A laparoscope (a tiny telescope) connected to a special camera is inserted through the cannula, giving the surgeon a magnified view of the patient's internal organs on a television screen.
4. Other cannulas are inserted which allow your surgeon to delicately separate the gallbladder from its attachments and then remove it through one of the openings.
5. Many surgeons perform an X-ray, called a cholangiogram, to identify stones, which may be located in the bile channels, or to insure that structures have been identified.
6. If the surgeon finds one or more stones in the common bile duct, (s)he may remove them with a special scope, may choose to have them removed later through a second minimally invasive procedure, or may convert to an open operation in order to remove all the stones during the operation.
7. After the surgeon removes the gallbladder, the small incisions are closed with a stitch or two or with surgical tape

WHAT HAPPENS IF THE OPERATION CANNOT BE PERFORMED OR COMPLETED BY THE LAPAROSCOPIC METHOD?

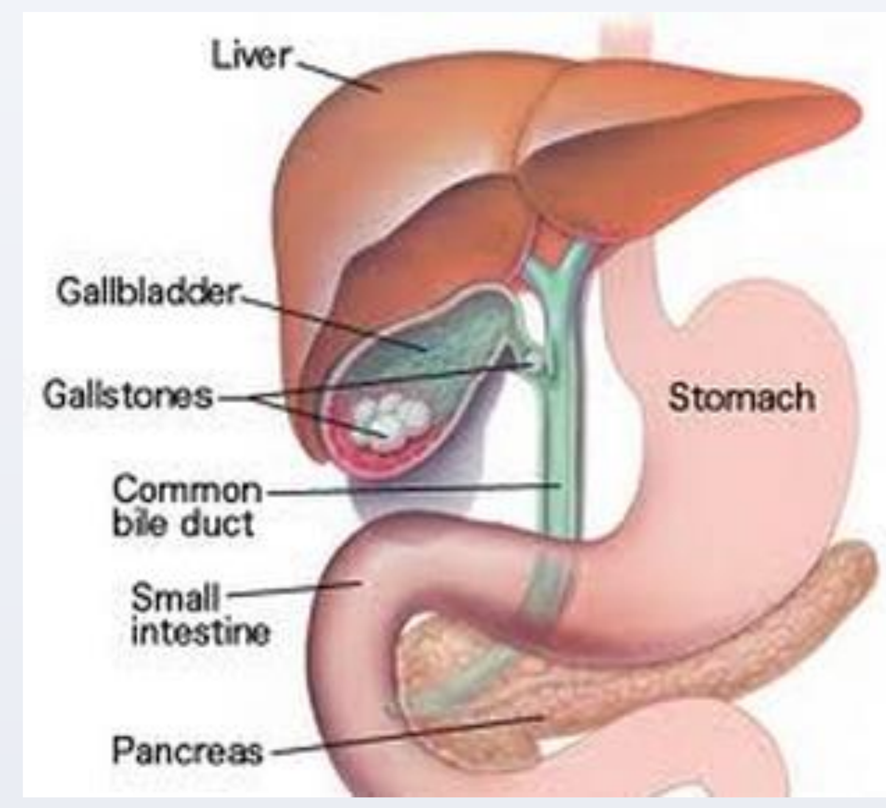
Factors that may increase the possibility of converting to the "open" procedure may include obesity, inability to visualize organs or bleeding problems during the operation.When the surgeon feels that it is safest to convert the laparoscopic procedure to an open one, this is not a complication, but rather a sound surgical judgment for the utmost safety of the patient .

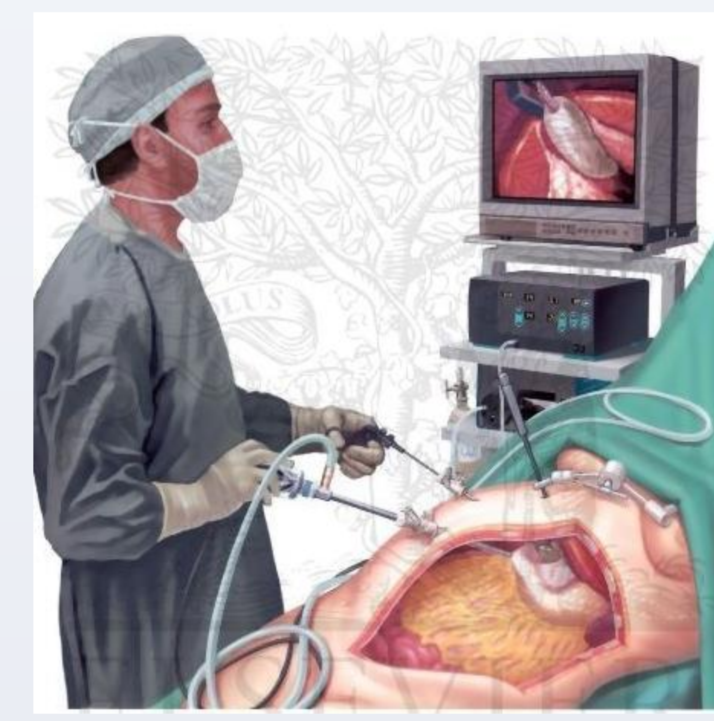
WHEN TO CALL YOUR DOCTOR?

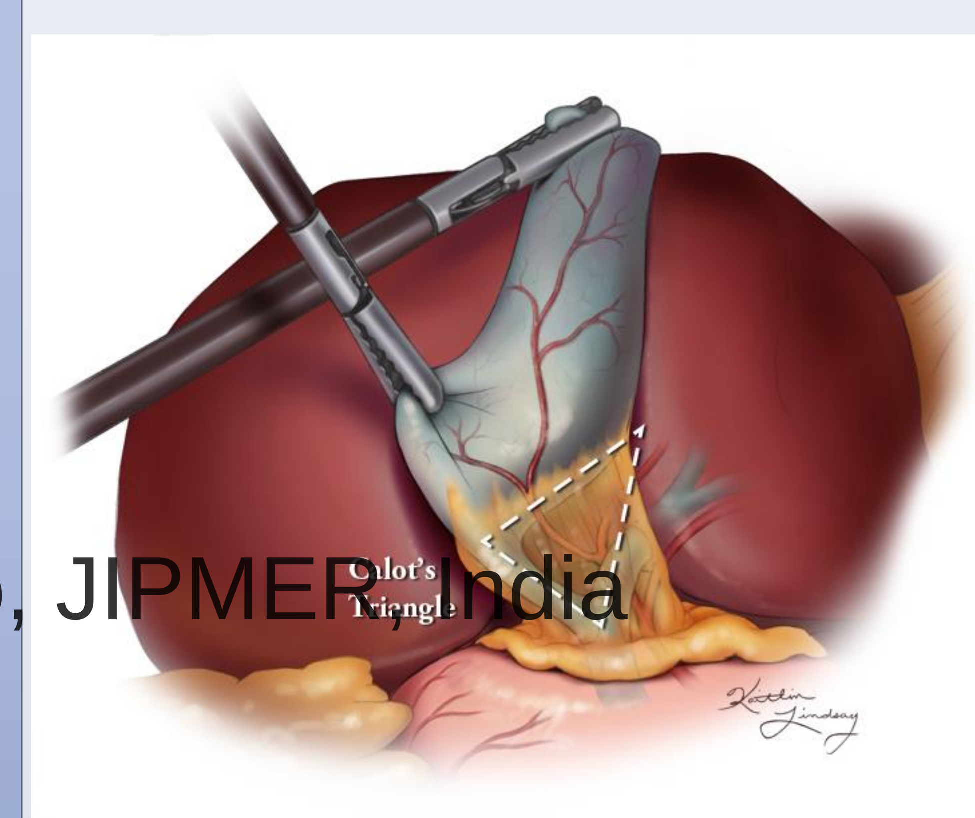
Be sure to call your physician or surgeon if you develop any of the following:

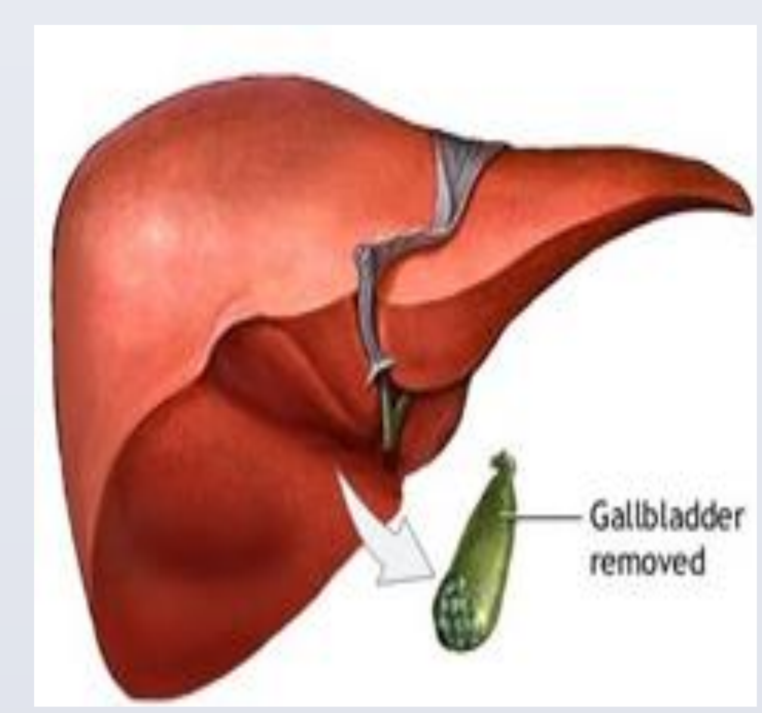
1. Persistent fever over 101 degrees F (39 C)
2. Bleeding
3. Increasing abdominal swelling
4. Pain that is not relieved by your medications
5. Persistent nausea or vomiting
6. Chills
7. Persistent cough or shortness of breath
8. Purulent drainage (pus) from any incision
9. Redness surrounding any of your incisions that is worsening or getting bigger
10. You are unable to eat or drink liquids

Laparoscopic cholecystectomy









WHAT COMPLICATIONS CAN OCCUR?

Complications are infrequent.Possible complications may include

1) Shoulder pain: This often happens after keyhole surgery, but tends to last less than 24 hours. It is due to the gas used to inflate the inside of the abdomen during the operation.

2) Infection: This can occur in the wound(s), in the lungs, at the site of the intravenous drip, or at the position where the gall bladder was located.

3) Bleeding: This can occur during or after the operation, as with any surgery.

4) Bile leak: Bile can leak from tiny accessory ducts or the main bile duct after the operation. This may settle spontaneously, but in some cases may require further intervention.

5) Damage to surrounding structures: Rarely, nearby structures can be damaged inadvertently during this operation, as with any operation. These structures include the bile duct, bowel, and the blood supply to the liver. A bile duct injury is potentially very serious but is rare, occurring in approximately 3 in every 1000 operations.

6) Deep vein thrombosis (DVT) / Pulmonary embolus (PE): Clots forming in the veins can occur with any surgery, but the risk is increased with laparoscopic surgery.

7) Retained Stone: Before or during the operation a stone can move into the bile duct. This often causes no problem and passes into the bowel. However, if it does not pass, a second procedure may be necessary to remove it.

Laparoscopic Splenectomy

Department of Surgical Gastroenterology

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WHAT IS THE SPLEEN?

The spleen is a blood filled organ located in the upper left abdominal cavity. It is a storage organ for red blood cells and contains many specialized white blood cells called "macrophages" (disease fighting cells) which act to filter blood. The spleen is part of the immune system and also removes old and damaged blood particles from your system. The spleen helps the body identify and kill bacteria. The spleen can affect the platelet count, the red blood cell count and even the white blood count.

WHAT HAPPEN WHEN SPEEN IS REMOVED?

If you do not have a spleen you will still be able to cope with most infections, but in some cases serious infection may develop quickly. The risk of this happening is higher inchildren than in adults but it is still very small.

WHAT PREPARATION IS REQUIRED FOR LAPAROSCOPIC SPLENECTOMY?

Preoperative preparation includes blood work, medical evaluation, chest x-ray and an ECG depending on your age and medical condition.

Immunization with vaccines to help prevent bacterial infections(Pneumococcos,H influenzae and meningococcos) after the spleen is removed should be given two weeks before surgery, if possible.

Blood transfusion and/or blood products such as platelets may be needed depending on your condition.

It is recommended that you shower the night before or morning of the operation.

After midnight the night before the operation, you should not eat or drink anything except medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery.

HOW IS LAPAROSCOPIC REMOVAL OF THE SPLEEN DONE?

1.You will be placed under general anesthesia and be completely asleep.

2.A cannula (hollow tube) is placed into the abdomen by your surgeon and your abdomen will be inflated with carbon dioxide gas to create a space to operate.

3.A laparoscope (a tiny telescope connected to a video camera) is put through one of the cannulas which projects a video picture of the internal organs and spleen on a television monitor.

3.Several cannulas are placed in different locations on your abdomen to allow your surgeon to place instruments inside your belly to work and remove your spleen.

4.A search for accessory (additional) spleens and then removal of these extra spleens will be done since 15% of people have small, extra spleens.

5.After the spleen is cut from all that it is connected to, it is placed inside a special bag. The bag with the spleen inside is pulled up into one of the small, but largest incisions on your abdomen.

6.The spleen is broken up into small pieces (morcelated) within the special bag and completely removed.

WHAT HAPPENS IF THE OPERATION CANNOT BE PERFORMED OR COMPLETED BY THE LAPAROSCOPIC METHOD?

Factors that may increase the possibility of converting to the "open" procedure may include obesity, inability to visualize organs or bleeding problems during the operation.When the surgeon feels that it is safest to convert the laparoscopic procedure to an open one, this is not a complication, but rather a sound surgical judgment for the utmost safety of the patient .

WHAT COMPLICATIONS CAN OCCUR?

Complications are infrequent.Possible complications may include

1.Cannula site infections,

2.Pneumonia

3.Internal bleeding or infection inside the abdomen at the site where the spleen used to be The 4.Pancreas can become inflamed (pancreatitis).

5. Hernias at the cannula sites

6.Overwhelming infection throughout the entire body (OPSI). This complication is also infrequent

WHEN TO CALL YOUR DOCTOR?

Be sure to call your physician or surgeon if you develop any of the following:

Persistent fever over 101 degrees F (39 C)

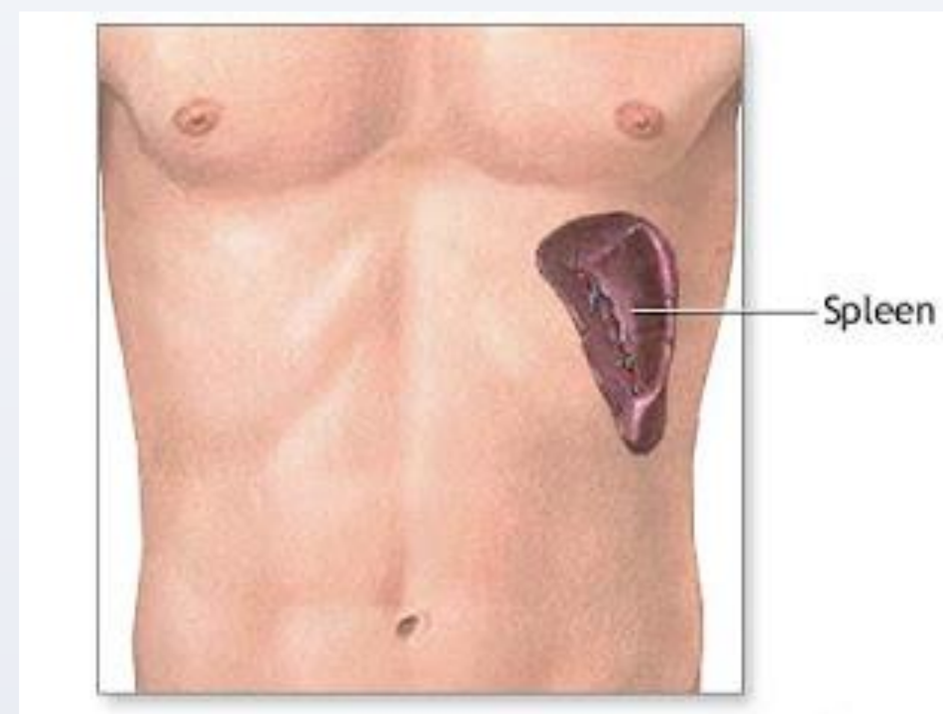
Chills

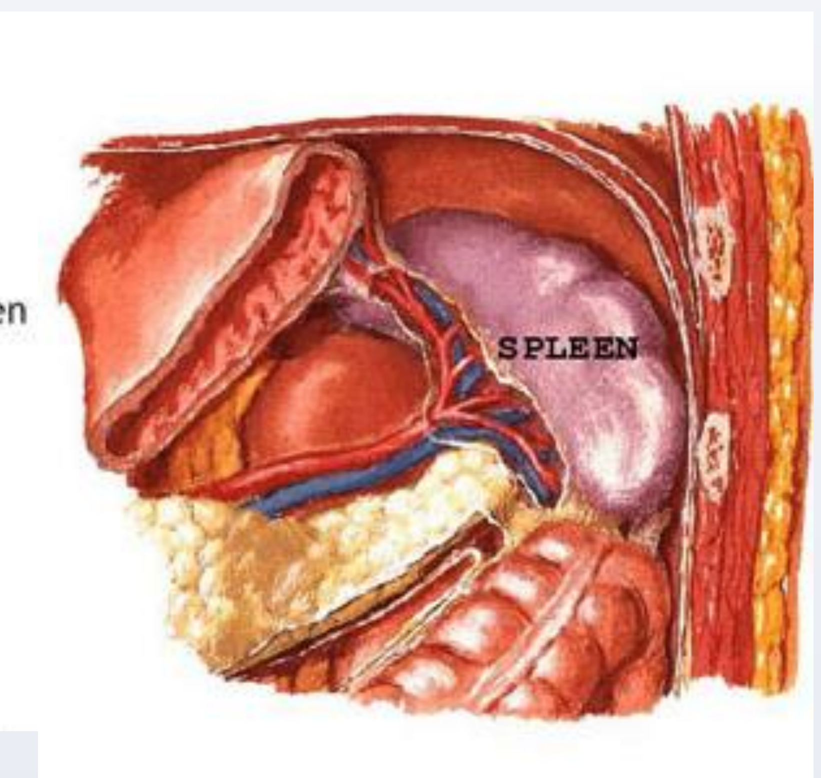
Persistent cough or shortness of breath

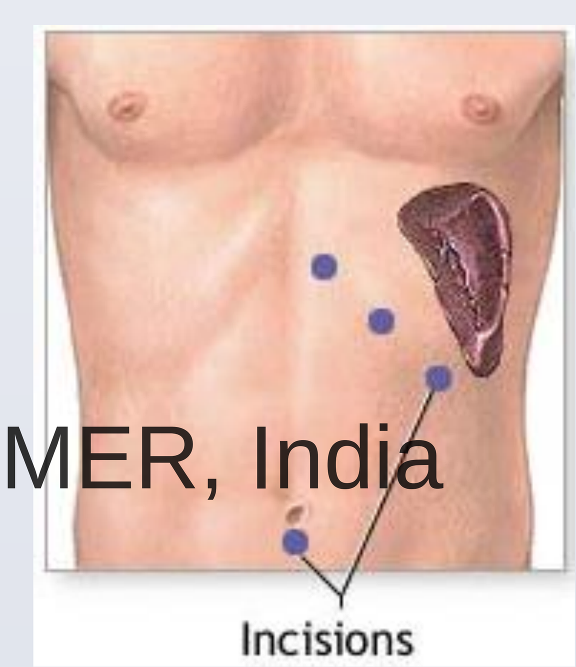
You are unable to eat or drink liquids

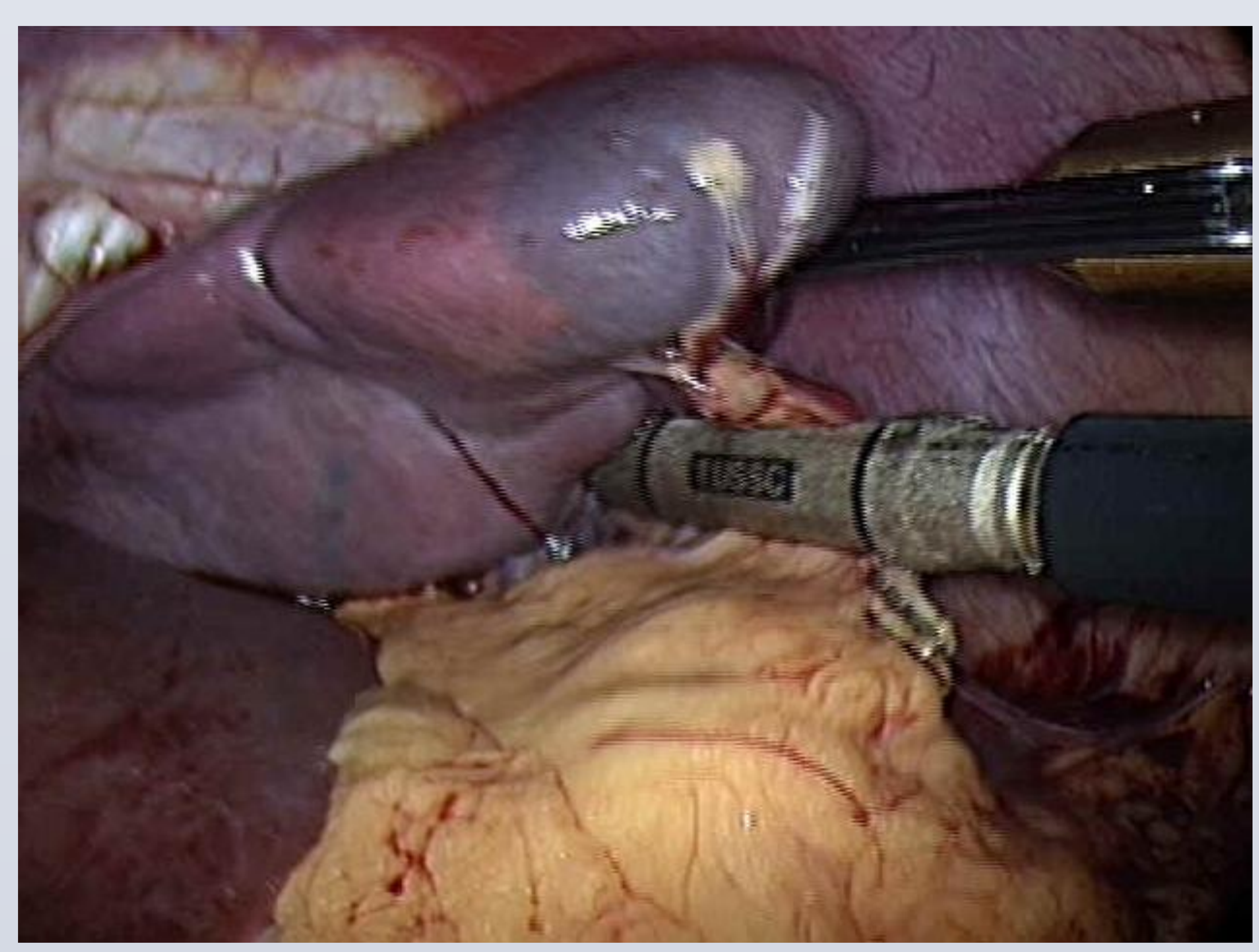
(It is important that you tell your physician or any physician that is covering for your doctor that you had your spleen removed)

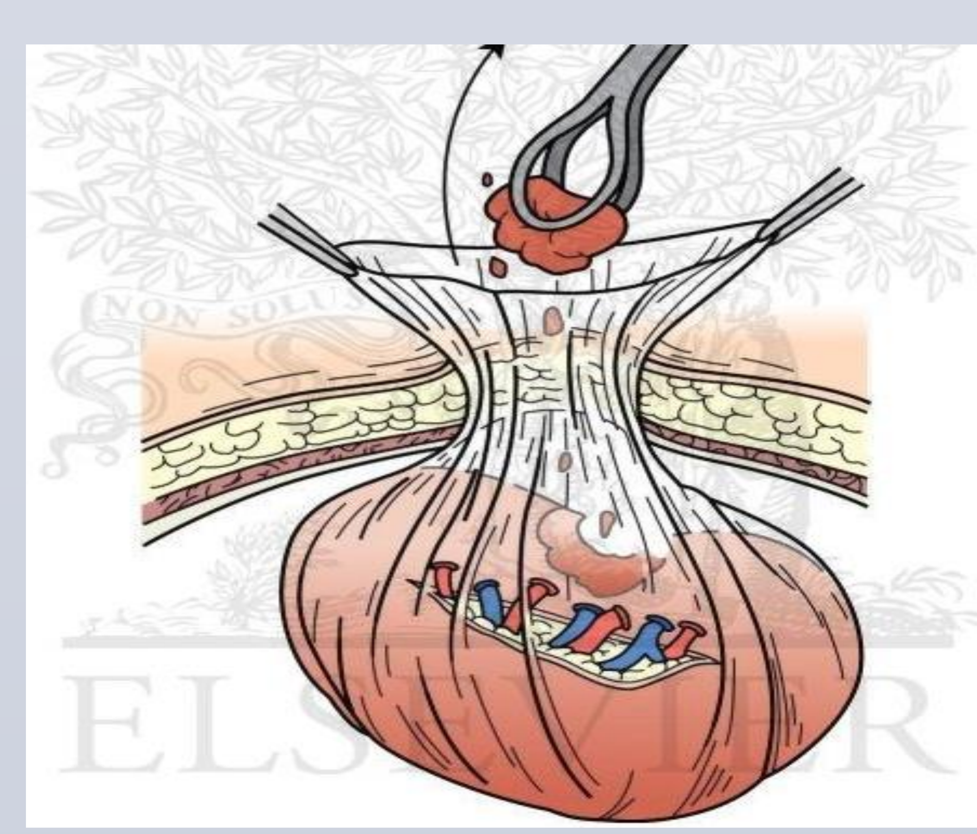
Laparoscopic splenectomy











Proximal splenorenal shunt

Department of Surgical Gastroenterology

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WHAT IS THE PROXIMAL SPLENORENAL SHUNT PROCEDURE?

The proximall splenorenal shunt is a surgical procedure. During the surgery, splenectomy is done and the end of splenic vein is and reattached to the left kidney (renal) vein. This surgery selectively reduces the pressure in your varices (the large, swollen veins that develop across the stomach and esophagus) and controls the chances of variceal bleeding. This also helps in relieving the patient from pressure effects of splenomegaly and hypersplenism.

WHAT IS THE NEED FOR PROXIMAL SPLENORENAL SHUNT PROCEDURE?

Investigations confirm that you have portal hypertension and it is the cause for GI bleed and moderate to massive splenomegaly.. Portal hypertension is a condition characterized by increased pressure in the portal vein (the vein that carries blood from the digestive organs to the liver) due to various causes . There is enlargement of your spleen and there are pressure effects due to spleen. Enlarged spleen also causes reduction in blood components which increaes cahnces of bleeding .This procedure helps control the bleeding in the varices, without taking the blood flow away from your liver and decrease pressure in portal circulation. As spleen is also removed, you will be relieved from effects of spleen enlargement.

WHAT PREPARATION IS REQUIRED FOR PROXIMAL SPLENORENAL SHUNT ?

Preoperative preparation includes blood work, medical evaluation, chest x-ray and an ECG depending on your age and medical condition. Blood transfusion and/or blood products may be needed depending on your condition. Upper GI endoscopy is required to see varices. Doppler study of splenoportal axis or CT portovenogram is required to plan for surgery. It is recommended that you shower the night before or morning of the operation. After midnight the night before the operation, you should not eat or drink anything except medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery. As splenectomy is a part of the procedure, preoperative vaccination for immunization against Pneumococcus, H influenzae and meningococcus is required.

HOW IS PROXIMAL SPLENORENAL SHUNT DONE?

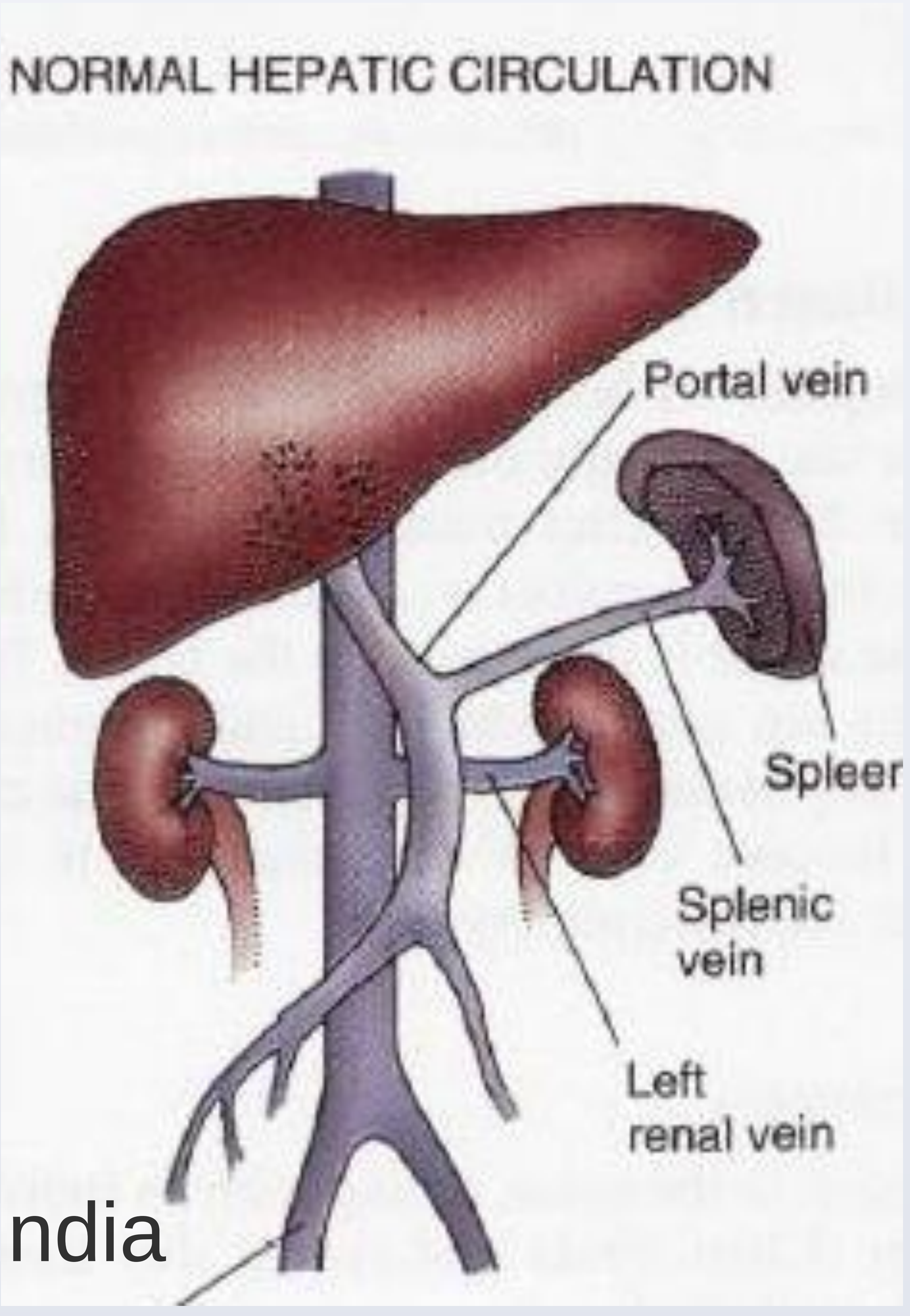
You will be placed under general anesthesia and be completely asleep. The incision used to perform can be left extended subcoastal. First the large spleen is removed. The end part of splenic vein is joined to left renal vein. This causes decreases in portal pressure. After checking for hemostasis, drain is placed in splenic fossa. Some times rarely tail of pancreas might be required to be removed to make use of splein vein properly to create shunt. Wedge biopsy of liver is taken at the end of procedure to known the status of liver and the extent of damage in liver if present.

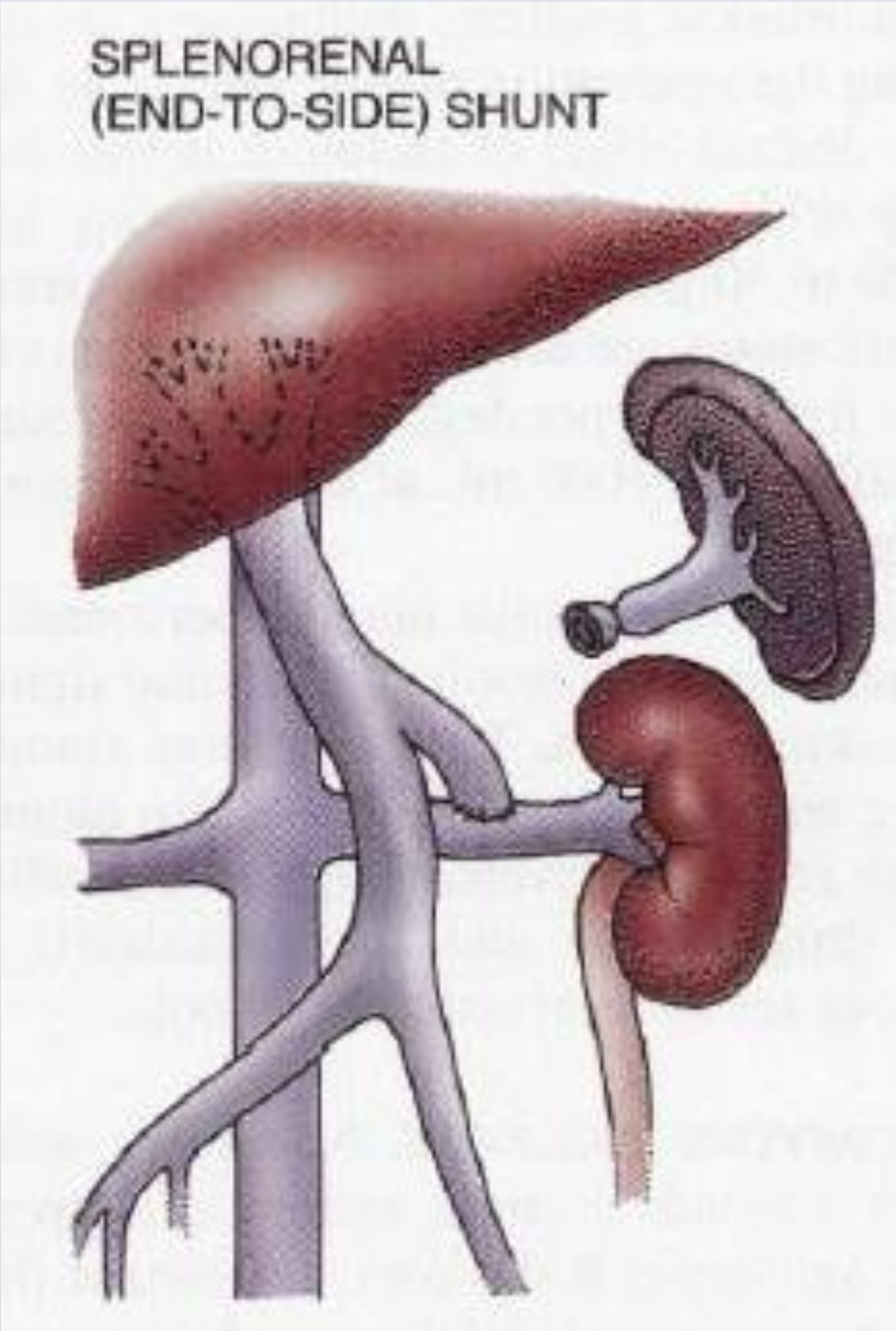
WHAT COMPLICATIONS CAN OCCUR?

Complications are infrequent. Possible complications include :

Atelectasis and pneumonia – lung complications which cause fever, cough and might cause respiratory problems. Gastric dilatation might be there after surgery as large spleen is removed. Infection – wound infection might occur, some times causing regular dressings for prolonged period. Bleeding – sometimes bleeding from wound site and surgical site drains might occur. There might be chances of injury to stomach or pancreas. There are chances of acute pancreatitis and leak from suture site causing pancreatic fistula. This could cause intra abdominal collection which might sometimes require drainage. After surgery there are chances of accumulation of free fluid in abdomen and there might be distension of abdomen. This can be managed with medications which increase urine output and decrease accumulation of free fluid in abdomen. As this surgery involves splenectomy, there are chances of overwhelming infection throughout the entire body (OPSI), rare complication seen after splenectomy.

PROXIMAL SPLENORENAL SHUNT





RECOVERY

Prognosis depends on the indication for surgery and whether cirrhosis of liver is present. Recovery time is two weeks. If there is fever after discharge patient should immediately consult doctor and start antibiotics.

LAPAROSCOPIC SLEEVE GASTRECTOMY

Department of Surgical Gastroenterology

JIPMER

WHAT DOES THE PROCEDURE INVOLVE?

A sleeve gastrectomy is a life changing operation. It is used to help people to lose weight and improve their health. Losing weight lowers the risk of developingmedical problems associated with obesity. For example, high blood pressure, diabetes, arthritis, breathing problems and asthma. The sleeve gastrectomy makes your stomach smaller and should change the amount you can eat at your meals which will help you to lose weight. It is not a reversible procedure.

INDICATION OF THE PROCEDURE?

Sleeve gastrectomy are performed on patients who having severe obesity and moderate obesity with associated diabetes, asthma,arthritis and sleep disorder.

WHAT SHOULD I EXPECT BEFORE THE PROCEDURE?

Preoperative preparation includes blood work, medical evaluation, chest x-ray and an ECG depending on your age and medical condition.

It is recommended that you shower the night before or morning of the operation.

After midnight the night before the operation, you should not eat or drink anything except medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery.

HOW SLEEVE GASTRECTOMY WORKS?

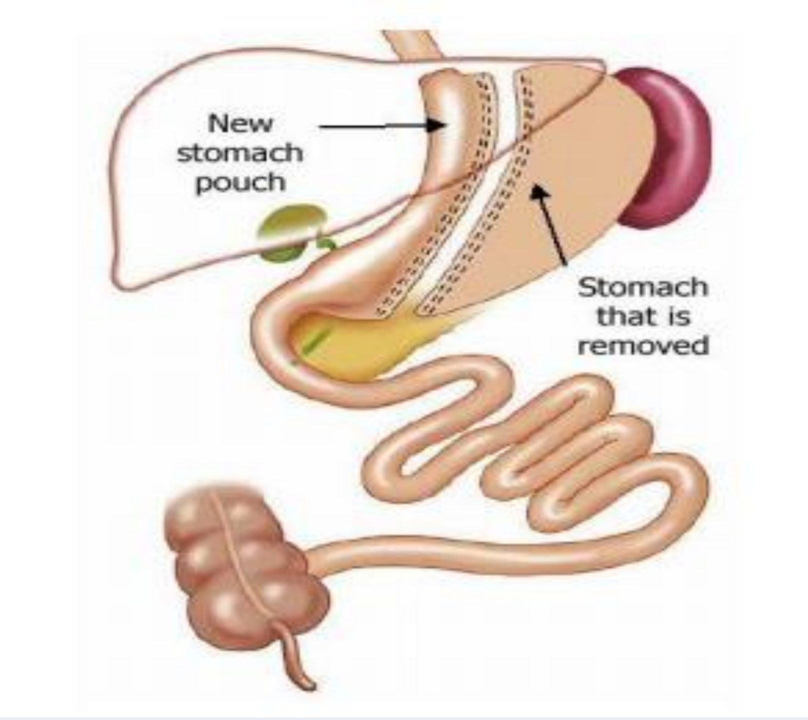
The operation involves removing approximately 85-90% of your stomach, leaving behind a narrow tube (sleeve) which becomes your new stomach. After the surgery food will follow the normal route into the smaller stomach and then on into the small intestine.

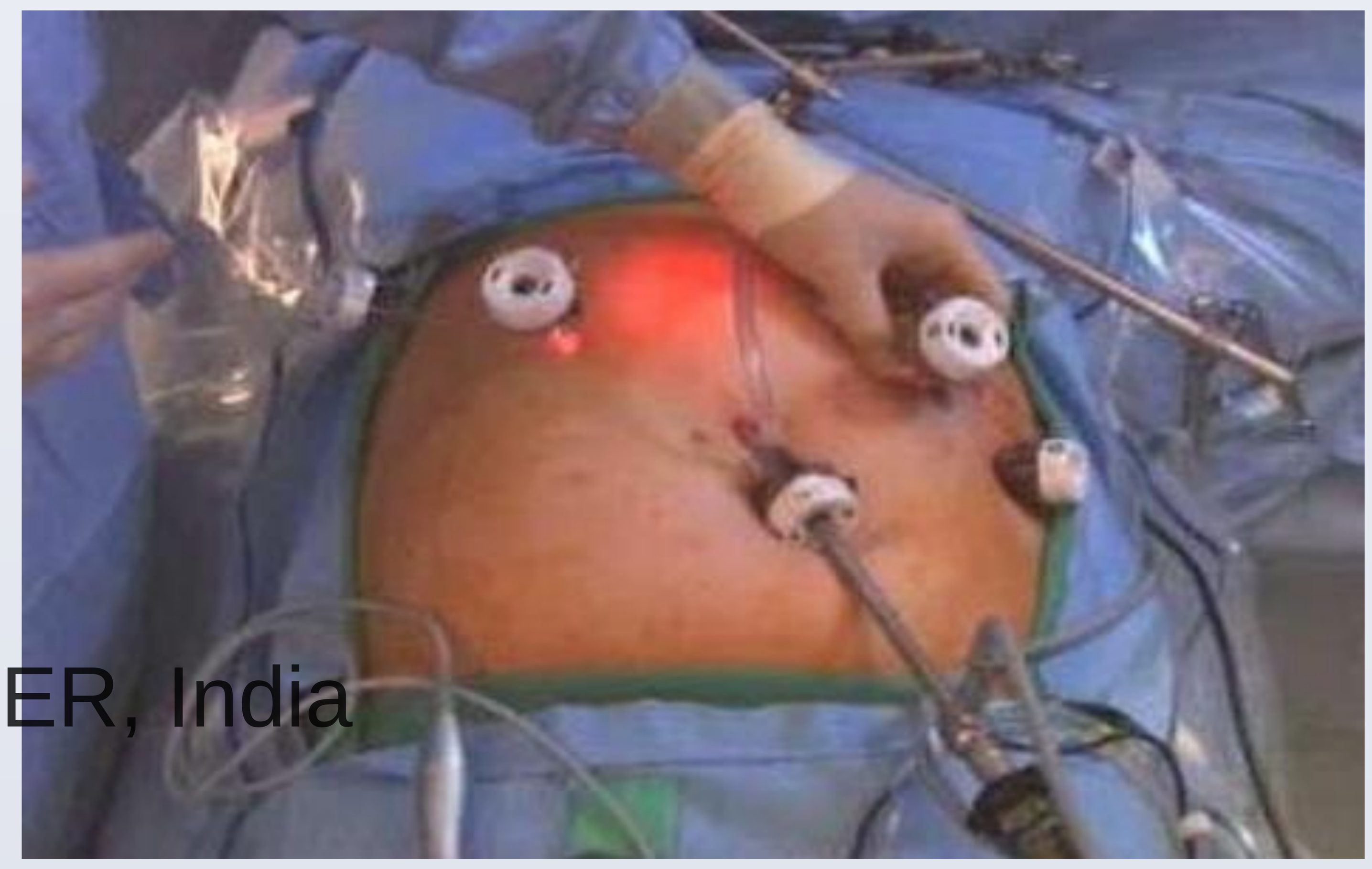
The operation also alters some of the hormone signals from the stomach and intestine to parts of the brain that control body weight: many patients report that following this operation they feel less like eating and feel fuller sooner and for longer after a meal. As the size of your stomach has been reduced the size of your meals will need to be reduced to be appropriate for your new small stomach. Your reduced portion size combined with low fat, low sugar choices will help you to lose weight and maintain the weight lost. The surgery is done laparoscopically, commonly known as "keyhole" surgery. This means that you will be up and about soon after surgery and should make a speedy recovery. Although you will have some pain

WHAT COMPLICATIONS CAN OCCUR?

1. Wound infection: this can usually be treatedwith a course of antibiotics and does not require hospital admission.
2. Bleeding: You will be monitored carefully for signs of bleeding. If occurs, it can be often managed conservatively and occasionally it may require transfusions. Exceptionally the surgeon will need to perform surgery to stop the bleeding.
3. Blood clots in the legs or the lungs (DVT/PE): To prevent blood clots from forming you will be given special stockings, an injection to thin the blood. During and immediately your operation you will also wear special boots to prevent clots from occurring. You need to continue to wear the stockings for few weeks after your operation. Smoking significantly increases the risk of clotting. If you are a smoker, you will be advised to stop smoking before surgery.
4. Leaks from staple lines: This postoperative problem is rare but serious and may require emergency surgery. A leak is usually caused by a failure of the natural healing process as all staple lines are checked at the end of the operation. If this happens, your hospital stay will be longer. Sometimes this will heal without further surgery. In the worst case scenario your surgeon may decide to take you back to theatre to control the leaking.
5. Dismotility: very occasionally the new stomach may respond to surgery with frequent spasms and a temporary intolerance to food and even liquids. This is a rare and unpredictable event which may require temporary tube feeding.
6. Long term problems are uncommon but can include:
   - ---port site hernias of the abdominal wall
   - ---narrowing (stricture) of the sleeve which can make eating and drinking more difficult. This will need to be stretched with an endoscopy
   - ---Hair loss or thinning in the first six months. This is a temporary side effect of the rapid weight loss and it will re-grow
   - ---Gallstones

LAPAROSCOPIC SLEEVE GASTRECTOMY



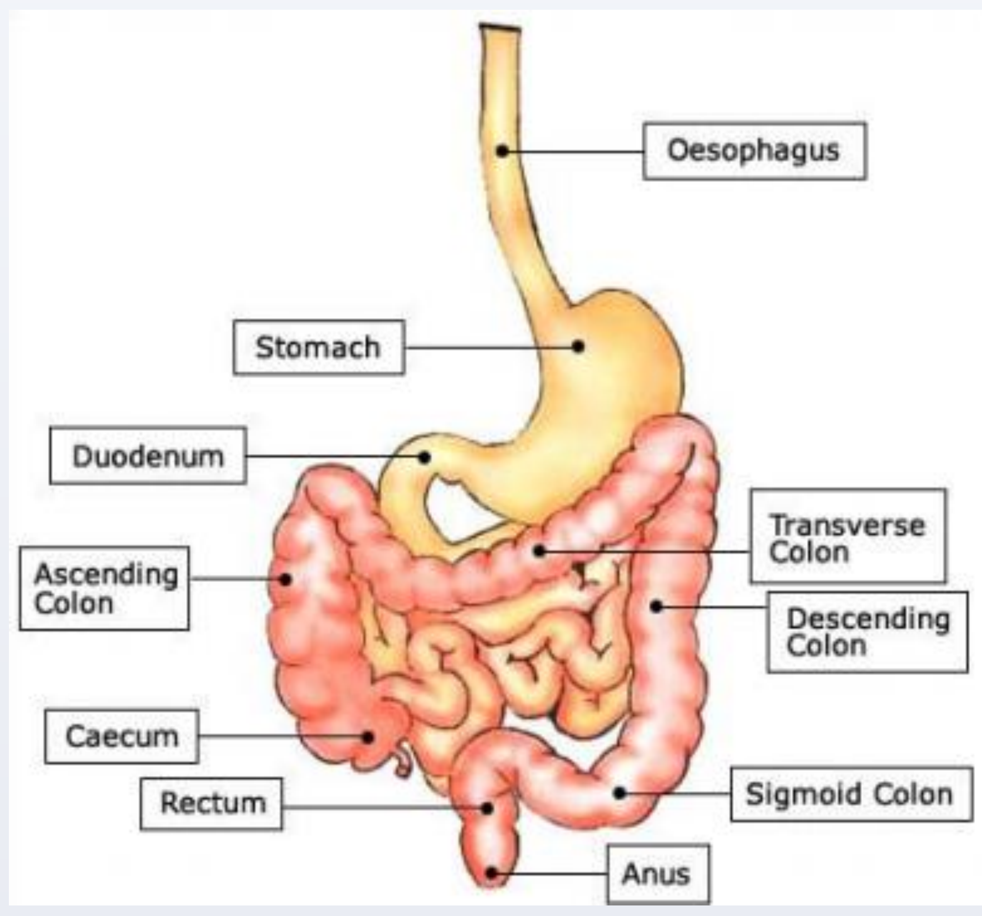


How to do the procedure?
Total gastrectomy is the removal of whole of stomach through a midline abdominal incision. Jejunal loop is used to join to the esophagus to maintain continuity of bowel. A feeding jejunostomy may be placed depending on surgeon's discrepancy.
What happens if the procedure is not done?
Gastric inlet or outlet obstruction will develop leading to dehydration, electrolyte disorders which may be detrimental to life. Tumor may grow and spread where by survival is redused
Instructions after surgery
Sit up, do limb exercises and spirometry exercises the evening of surgery Start walking on POD 1 and continue to do limb and spirometry exercises, take care of your tubes- abdominal drain, Ryle's tube and Feeding jejunostomy. Chest physiotherapy will be given by nurses and residents . On POD 2 walk for longer length of time,continue spirometry exercises. Do

Patient information sheet

Small bowel resection and anastomosis

Department of Surgical Gastroenterology



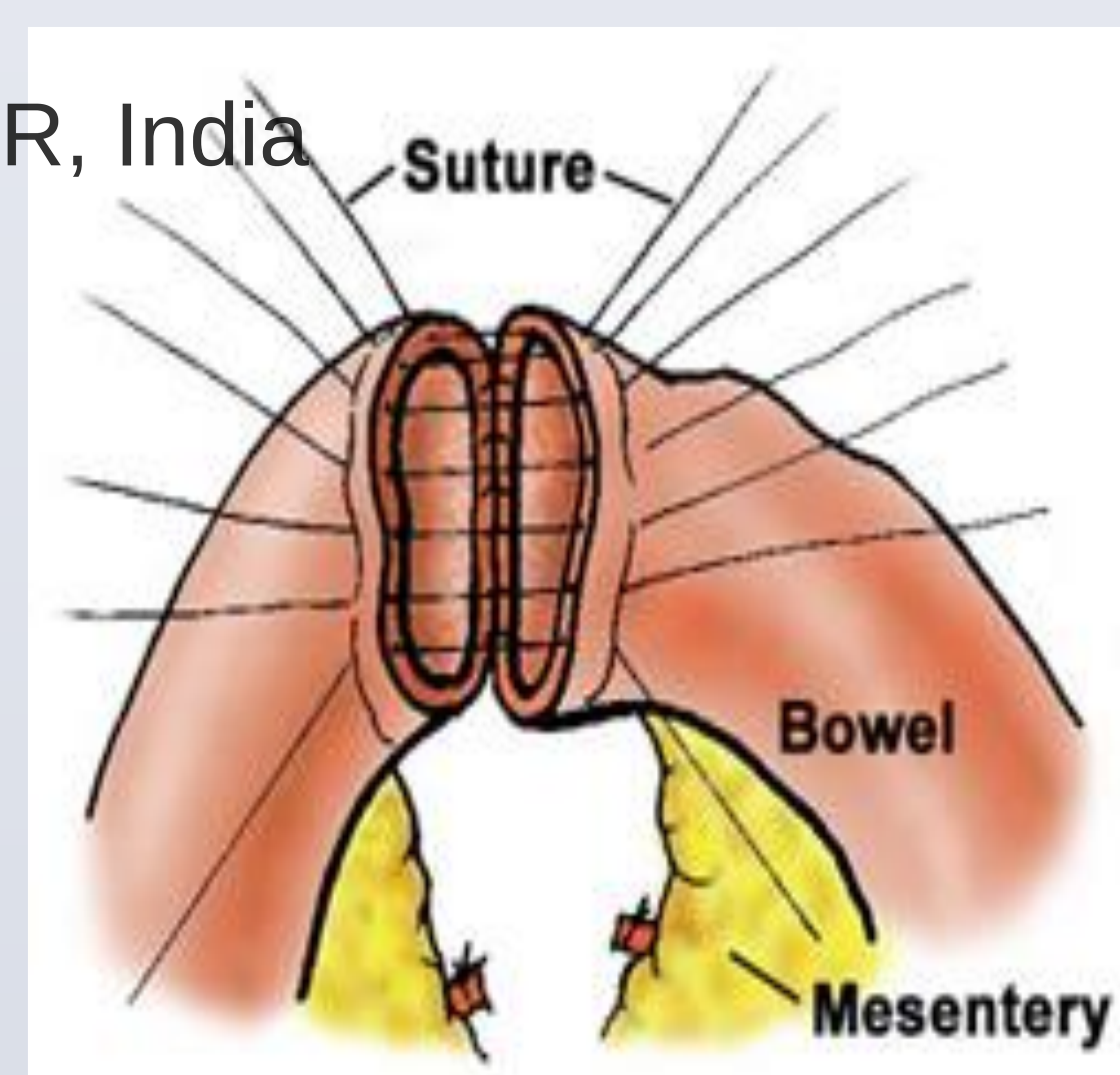
What is small bowel?
Small bowel is the largest digestive organ in the body where digestion and absorption of food material takes place. It connects stomach with large bowel.

Why to do the procedure?
Small bowel resection is done for strictures causing obstruction either due to benign causes like Crohn's, tuberculosis and malignant diseases
What happens if the procedure is not done?
There will be continued bowel obstruction with vomiting, dehydration, electrolyte imbalances which may be detrimental to life. If there is malignant tumor it can spread and result in more serious complications like rupture, hydroureteronephrosis or death.
How to do the procedure?
Small bowel resection is the removal of segment of small bowel through a midline abdominal incision. Cut ends of the bowel are then joined together in single layer or double layer using continous suturing technique or interrupted suturing technique
Instructions after surgery
Sit up, do limb exercises and spirometry exercises the evening of surgery
Start walking on POD 1 and continue to do limb and spirometry exercises, take care of your tubes- abdominal drain, Ryle's tube and Feeding jejunostomy. Chest physiotherapy will be given by nurses and residents .
On POD 2 walk for longer length of time,continue spirometry exercises.
Do not eat anything by mouth. Feeds will be started via feeding jejunostomy and gradually will be advanced
You will be off tubes on by one from POD 3 depending on the circumstances.
You can eat after POD 7 if your upper GI contrast study shows no leak of anastomosis.
Total duration of stay after the procedure is around 8-12 days. Eat small frequent meals, avoid sugars, separate solids

What are complications of the procedure?

You may develop Pneumonia or lung collapse which are common after any abdominal surgery.
Anastomotic leak with or without intra abdominal abscesses though rare can occur and may prolong the hospital stay. There is risk of wound infection as in all major abdominal procedures

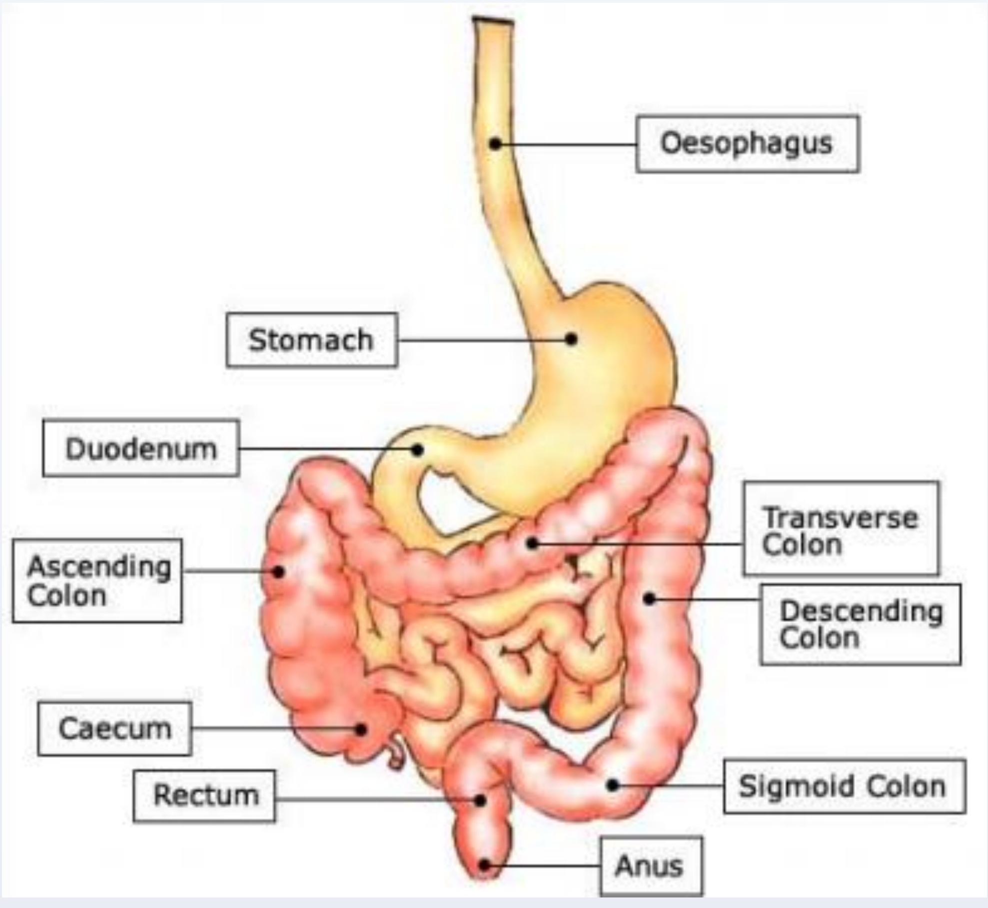
Small bowel resection and anastomosis



How to do the procedure?
Total gastrectomy is the removal of whole of stomach through a midline abdominal incision. Jejunal loop is used to join to the esophagus to maintain continuity of bowel. A feeding jejunostomy may be placed depending on surgeon's discrepancy.
What happens if the procedure is not done?
Gastric inlet or outlet obstruction will develop leading to dehydration, electrolyte disorders which may be detrimental to life. Tumor may grow and spread where by survival is redused
Instructions after surgery
Sit up, do limb exercises and spirometry exercises the evening of surgery Start walking on POD 1 and continue to do limb and spirometry exercises, take care of your tubes- abdominal drain, Ryle's tube and Feeding jejunostomy. Chest physiotherapy will be given by nurses and residents . On POD 2 walk for longer length of time,continue spirometry exercises.

Patient information sheet
Subtotal gastrectomy
Department of Surgical Gastroenterology

What is stomach?
Stomach is an organ where food is stored of swallowing and broken down into smaller pieces and then propelled into small intestine. It connects esophagus with small bowel.



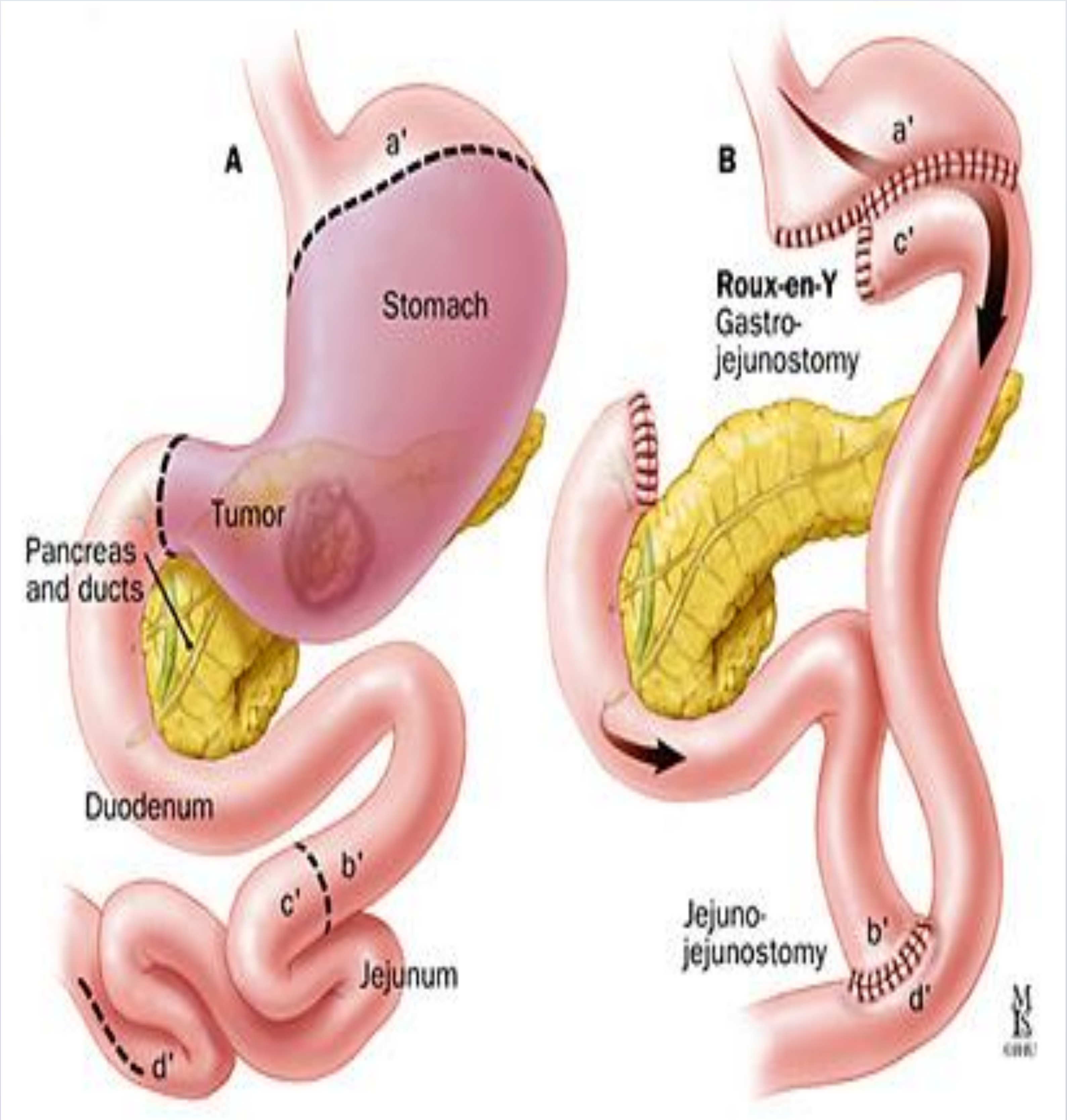
Why to do the procedure?
Subtotal gastrectomy is done for obstruction due to peptic ulcer disease, caustic injuries or benign tumors and for malignant diseases located in the distal part of the stomach as a curative therapy
What happens if the procedure is not done?
Gastric outlet obstruction will continue leading to dehydration, electrolyte disorders which may be detrimental to life. In case of tumor , it may grow and spread where by survival is redused.
How to do the procedure?
General anesthesia given before the start of the procedure. Subtotal gastrectomy is the removal of distal 2/3 rd of stomach through a midline abdominal incision. Jejunal loop is used to join to the reminder of stomach to maintain continuity of bowel. A feeding jejunostomy may be placed depending on surgeon's discrepancy.
Instructions after surgery
Sit up, do limb exercises and spirometry exercises the evening of surgery
Start walking on POD 1 and continue to do limb and spirometry exercises, take care of your tubes- abdominal drain, Ryle's tube and Feeding jejunostomy. Chest physiotherapy will be given by nurses and residents .
On POD 2 walk for longer length of time,continue spirometry exercises.
Do not eat anything by mouth. Feeds will be started via feeding jejunostomy and gradually will be advanced
You will be off tubes on by one from POD 3 depending on the circumstances.
You can eat after POD 7 if your upper GI contrast study shows no leak of anastomosis.
Total duration of stay ranges from 8-12 days after surgery

What are complications of the procedure?

You may develop Pneumonia or lung collapse which are common after any abdominal surgery.
Anastomotic leak with or without intra abdominal abscesses though rare can occur and may prolong the hospital stay. There is risk of wound infection as in all major abdominal procedures.
You may develop some minor digestive problems which may be prevented by taking precautions like eating less quantity at a time, separating liquids from solids and avoiding sugars.
You may develop may be some nutritional disorders which can be corrected by providing supplements

Surgical Gastro, JIPMER, India

Subtotal gastrectomy



TRANSARTERIAL CHEMOEMBOLISATION(TACE)

Department of Surgical Gastroenterology

JIPMER

WHAT IS CHEMOEMBOLISATION?

Chemoembolisation is a treatment for liver cancer, using a combination of an anticancer drug (chemotherapy) and an agent to block the blood vessels supplying the tumour (embolisation). It is often called transarterial chemoembolisation (TACE)

WHY HAVE YOU BEEN PLANNED FOR TACE?

Patients who have been referred for this procedure have tumours in the liver. These may be from a primary cancer arising in the liver, or cancer spreading to the liver from somewhere else in the body. The only way of curing these tumours, at present, is with an operation to remove the tumour from the liver. You will have seen a specialist liver doctor and, after discussion, will have explained that your tumour is unsuitable for cure with an operation.

WHAT HAPPENS DURING TACE?

You will be asked to get undressed and put on a hospital gown. A small cannula (thin tube) will be placed into a vein in your arm. You may receive a sedative to relieve anxiety, as well as an antibiotic.The procedure is performed using local anaesthetic and often sedation. The skin at the top of the leg (groin) is numbed and a small tube (catheter) is placed in the artery.The catheter is passed into the artery to the liver under X-ray guidance. X-rays are taken to identify the blood vessels supplying the tumour by injecting dye (contrast agent) into the catheter. The catheter is passed as close as possible to the blood vessels supplying the tumour and treatment is given. It may take two or more separate courses of the treatment to treat the tumour.

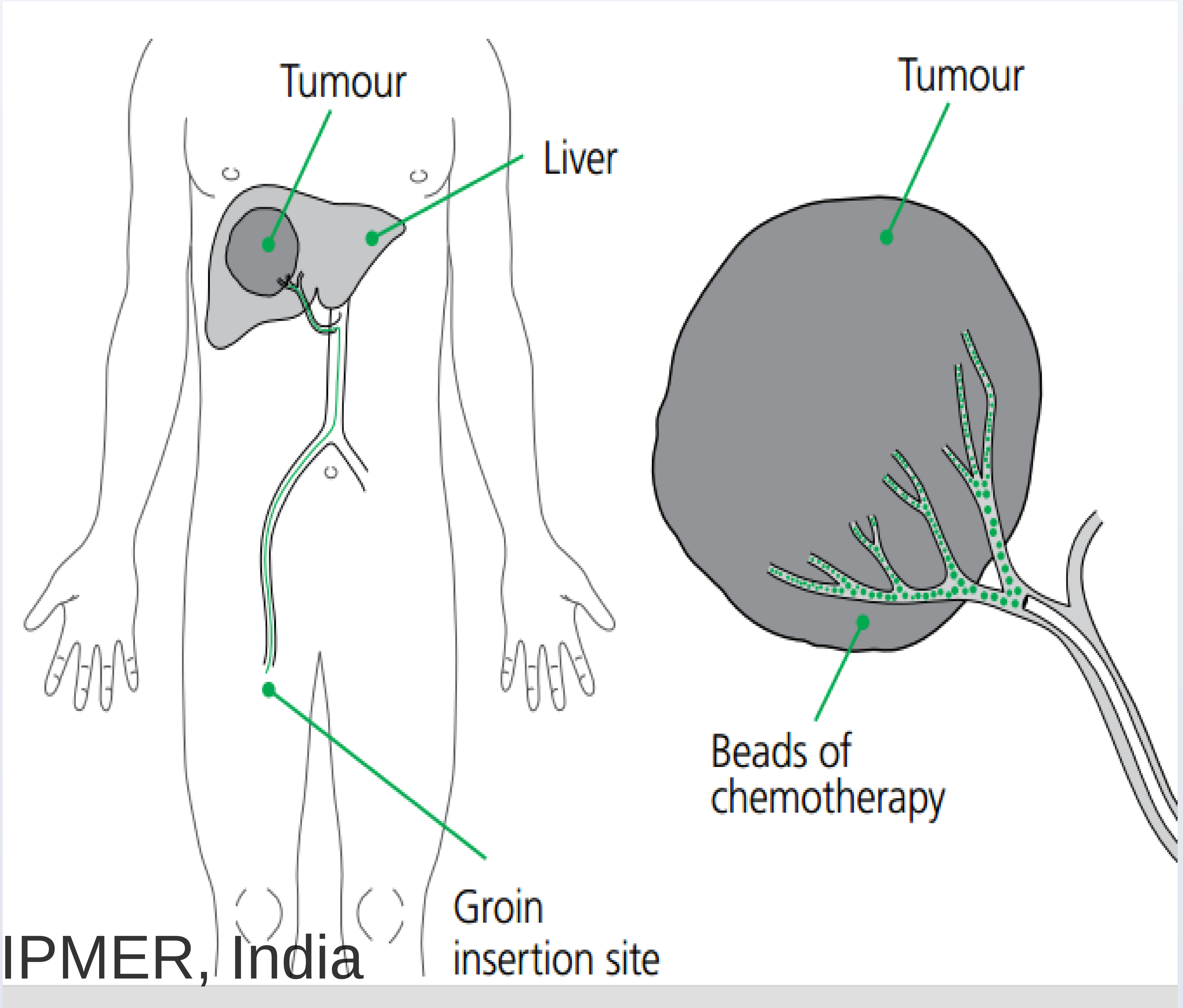
WHAT HAPPENS DURING TACE?

The purpose of TACE is to provide relief of symptoms related to the tumour, to reduce the size or rate of growth of the tumour and to improve survival from the tumour.It is not intended to provide a cure for the liver tumour. Evidence from published data suggests that selected patients with liver cancer treated by TACE have an improved survival, approximately 50% greater survival at two years, compared with patients having no treatment.

HOW LONG WILL IT TAKE?

Every patient is different, and it is not always easy to predict; however, expect to be in the cardiology/radiology department for about one to two hours.

TRANSARTERIAL CHEMOEMBOLISATION(TACE)



Surgical Gastro, JIPMER, India

What are the complications and risks associated with TACE?

TACE is a safe procedure, but as with any medical procedure there are some risks and complications that can arise. The overall risk of a problem requiring further treatment is low (1–2%).

It is common to have some **bruising** at the puncture site. This may be sore for a few days but will resolve. Very rarely, significant **bleeding or blockage of the artery** can occur, which may require a small operation (less than 1 in 1,000).

Pain, nausea and flu-like symptoms can occur after the procedure. These can vary from being very mild to severe. Treatment with strong painkillers and anti-sickness tablets will be available if you require them. The symptoms may take 1–2 weeks to settle.

Fatigue is a very common symptom after the procedure. Almost all people experience a feeling of general tiredness lasting for about two weeks, this is normal.

Infection can occur in the area of the liver treated and will need treatment with antibiotic injections.

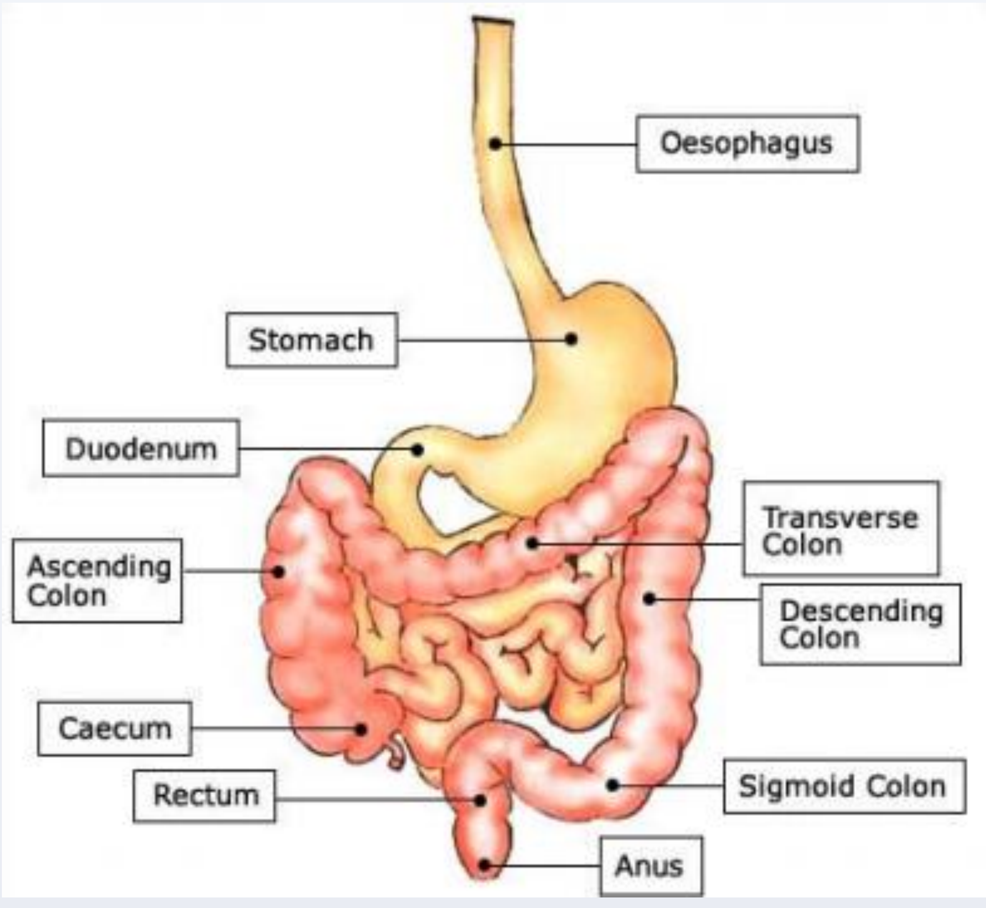
Acute liver failure is a rare, but serious, complication occurring in approximately 1% of patients.

Impairment of kidney function can occur following the treatment. This can be due to the contrast, the anti-cancer drug or dehydration. You will normally have a drip placed before the procedure. This is to give you sufficient fluids to reduce the risk of problems with the kidney function

How to do the procedure?
Total gastrectomy is the removal of whole of stomach through a midline abdominal incision. Jejunal loop is used to join to the esophagus to maintain continuity of bowel. A feeding jejunostomy may be placed depending on surgeon's discrepancy.
What happens if the procedure is not done?
Gastric inlet or outlet obstruction will develop leading to dehydration, electrolyte disorders which may be detrimental to life. Tumor may grow and spread where by survival is redused
Instructions after surgery
Sit up, do limb exercises and spirometry exercises the evening of surgery
Start walking on POD 1 and continue to do limb and spirometry exercises, take care of your tubes- abdominal drain, Ryle's tube and Feeding jejunostomy. Chest physiotherapy will be given by nurses and residents .
On POD 2 walk for longer length of time,continue spirometry exercises.

Patient information sheet
Total gastrectomy
Department of Surgical Gastroenterology

What is stomach?
Stomach is an organ where food is stored of swallowing and broken down into smaller pieces and then propelled into small intestine. It connects esophagus with small bowel.



Why to do the procedure?
Total gastrectomy is done for malignant diseases located only in the fundus and body of the stomach as a curative therapy

How to do the procedure?
Total gastrectomy is the removal of whole of stomach through a midline abdominal incision. Jejunal loop is used to join to the esophagus to maintain continuity of bowel. A feeding jejunostomy may be placed depending on surgeon's discrepancy.

What happens if the procedure is not done?
Gastric inlet or outlet obstruction will develop leading to dehydration, electrolyte disorders which may be detrimental to life. Tumor may grow and spread where by survival is redused

Instructions after surgery
Sit up, do limb exercises and spirometry exercises the evening of surgery
Start walking on POD 1 and continue to do limb and spirometry exercises, take care of your tubes- abdominal drain, Ryle's tube and Feeding jejunostomy. Chest physiotherapy will be given by nurses and residents .
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You will be off tubes on by one from POD 3 depending on the circumstances.
You can eat after POD 7 if your upper GI contrast study shows no leak of anastomosis.
Total duration of stay after the procedure is around 8-12 days.

What are complications of the procedure?
You may develop Pneumonia or lung collapse which are common after any abdominal surgery.
Anastomotic leak with or without intra abdominal abscesses though rare can occur and may prolong the hospital stay. There is risk of wound infection as in all major abdominal procedures.
You may develop some minor digestive problems which may be prevented by taking precautions like eating less quantity at a time, separating liquids from solids and avoiding sugars.
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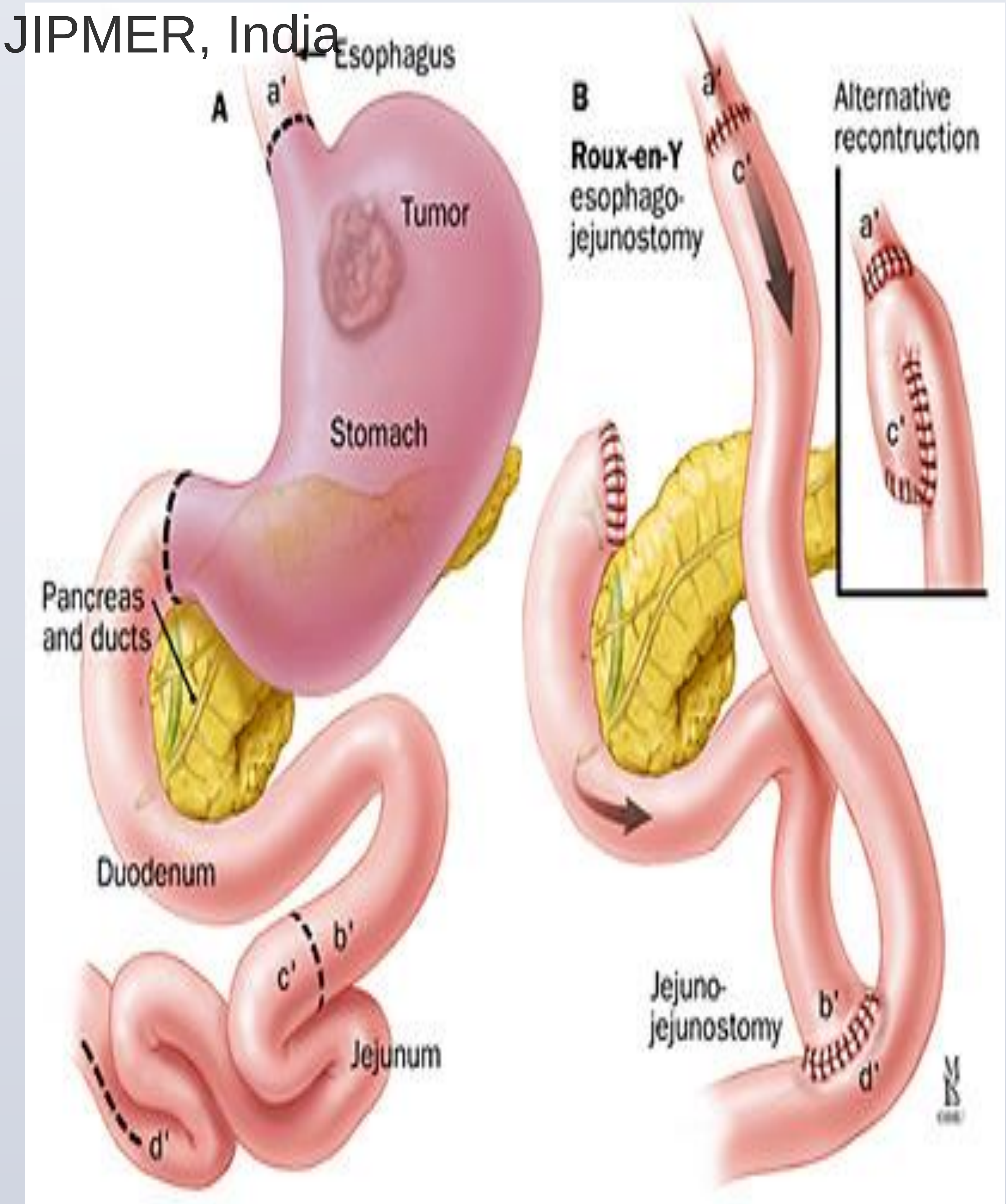

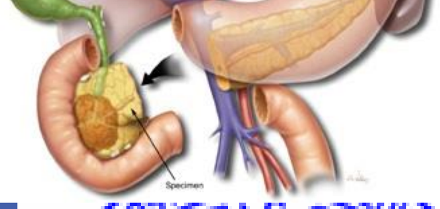

Whipple's procedure

Department of Surgical Gastroenterology

JIPMER

What is the pancreas?

Pancreas is an organ located in upper part of the abdominal cavityThe pancreas has two functions.It produces insulin to control blood sugar.In its absence you will get diabetes. It produces digestive juices to help your body breakdown your food.

Why do i need this operation?

Common reasons to perform this surgery are, cancer of the head of the pancreas, bile duct, duodenum or ampulla. For these cancers, Whipple's operation offers the only chance of cure. It should be noted, that it is sometimes difficult to obtain a definite diagnosis of cancer either before or during the surgery. The pancreas tends to develop a great deal of scarring or reaction that interferes with interpreting a pre-operative needle biopsy. It is common to biopsy a cancer in this region and only obtain a benign report. Thus, it is up to the surgeon's judgement whether or not the patient has cancer and would benefit from this surgery. The presence of cancer will be determined by the pathologist when they assess the removed specimen under the microscope.

How is Whipple's procedure performed?

The Whipple's procedure is performed in two stages:

Removal stage: The gall bladder (cholecystectomy), the common bile duct (choledochectomy), the head of the pancreas, duodenum, part of the stomach, part of the small bowel and the lymph glands in the area are removed.

Reconstruction stage: The pancreas is attatched to small bowel, the bile duct joined to the bowel and finally the stomach is attached to the bowel to allow food to pass through.

What happen if surgery is not done?

The cancer/diseases will contiue to progress and spread to other organs if timely surgery is not done

What complications can occur?

The Whipple's operation is a complex surgery with many potential complications. In the hands of surgeons who are experienced, the complication rate is usually very low.

Pancreatic Fistula

After the tumour is removed from the pancreas, the cut end of the pancreas is sutured back into the bowel so that pancreatic juices can mix with food and be absorbed. The pancreas is a very soft and sometimes fatty organ and in some patients, this suture line may not heal very well. If this happens, then patients develop leakage of pancreatic juice.

This usually leaks into the soft plastic drain that the surgeon leaves at the time of the surgery and is controlled without any ill effect to the patient. In most patients who develop a leak of pancreas juice, the leak heals on its own.

Occasionally the drain doesn't cope with all the drainage and the patient will need to be re-operated on to drain the pancreatic juice. This re-operation occurs in 1-4% of patients undergoing Whipple's procedure.

Gastroparesis - paralysis of the stomach

It is quite common (about 25% of patients) for the stomach to remain paralysed for a variable time after a Whipple's operation. The small bowel however begins to function in the first one to two days after surgery.

It may take up to 4-6 weeks for the stomach to adapt to the changes after the surgery. This may mean that you cannot take anything by mouth during this time and you will have to remain in the hospital. It also may mean that you may require continuous drainage of your stomach to prevent vomiting. (Done with a tube in the nose, or a tube through the skin of your abdomen into your stomach)

Other immediate complications of this surgery

Death: approx. 1% of all patients
Bleeding: either in the first 2-3 days requiring return to surgery or delayed bleeding from a ruptured artery some weeks after surgery. You may require a blood transfusion.
Infections: Wound, pneumonia, urine, bile duct, intra-abdominal, epidural related, IV line related, related to the gastrostomy tube.
Clots in the legs that may travel to the lungs.
Stomach ulcer that may or may not bleed. This may present as a vomit of blood or black bowel motions.
Wound pain and prolonged numbness under the wound.
Hernia of the wound.

WHIPPLE'S PROCEDURE