GHADIALI

GHADIALI
General Surgery

PRESENTS

Dr. Mufa T. Ghadiali is skilled in all aspects of General Surgery.
His General Surgery Services include:

- General Surgery
- Advanced Laparoscopic Surgery
- Surgical Oncology
- Gastrointestinal Surgery
- Hernia Surgery
- Endoscopy

What is Laparoscopy All About?

Multimedia Health Education

Disclaimer

This movie is an educational resource only and should not be used to manage surgical health. All decisions about the management of Laparoscopy must be made in conjunction with your Physician or a licensed healthcare provider.

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MULTIMEDIA HEALTH EDUCATION MANUAL

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INTRODUCTION

Laparoscopy is a minimally invasive surgical procedure used to diagnose and treat a wide range of problems within the abdominal and pelvic cavities. Laparoscopy eliminates the need for large abdominal incisions enabling a faster healing process. To learn more about this surgery, let us first learn about the anatomy of the abdominopelvic cavity.

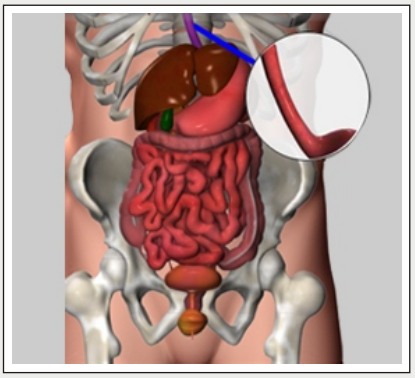
Abdominopelvic Anatomy

The abdominopelvic cavity contains the following organs:

Esophagus

The esophagus is the tube that carries food and drink from the mouth to the stomach. The lower end of the esophagus enters the abdominal cavity.

(Refer fig.1)



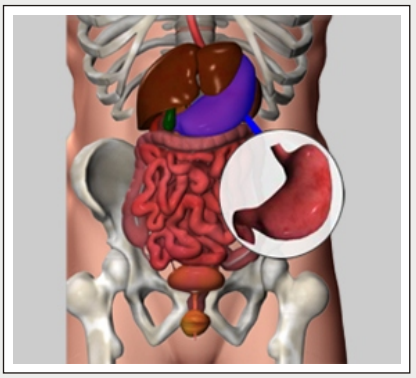
Esophagus

(Fig.1)

Stomach

The stomach is a 'j'-shaped organ with two openings, the esophageal opening where the esophagus meets the stomach, and the duodenal opening, the start of the small intestine where contents leave the Stomach.

(Refer fig. 2)



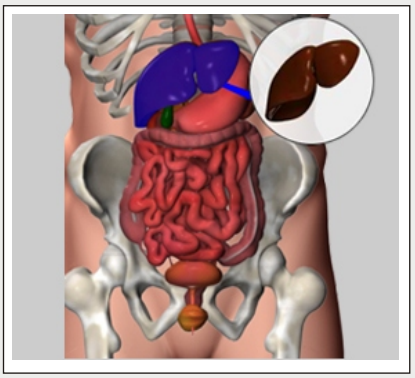
Stomach

(Fig.2)

Liver

The liver is the largest organ in the body and is the main organ of metabolism and energy production.

(Refer fig. 3)



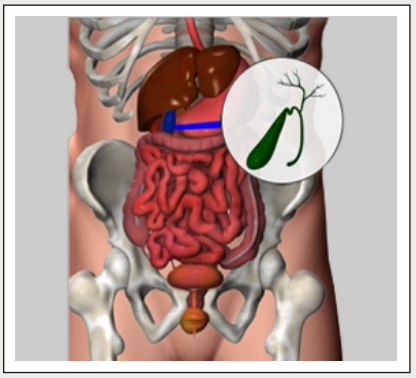
Liver

(Fig.3)

Gallbladder

The gallbladder is a pear-shaped organ that lies just below the liver. It accepts bile from the liver, and stores it. Bile is a watery, greenish-yellowish fluid produced by the liver that aids in the digestion of fatty foods.

(Refer fig. 4)



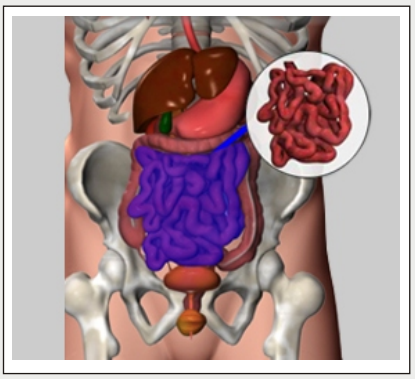
Gallbladder

(Fig.4)

Small Intestine

The small intestine is the site where most of the chemical and mechanical digestion is carried out, and where virtually all of the absorption of useful materials is carried out.

(Refer fig. 5)



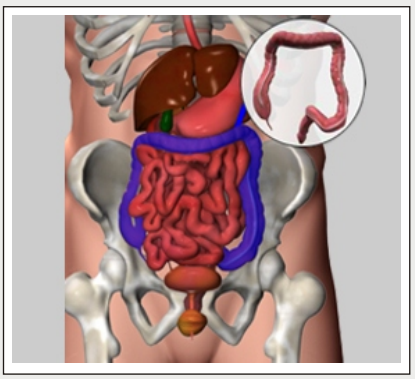
Small Intestine

(Fig.5)

Large Intestine

The large intestine is the last part of the digestive tube and the location of the terminal phases of digestion. It is that part of the digestive tube between the terminal small intestine and anus.

(Refer fig. 6)



Large Intestine

(Fig.6)

The Pancreas

The pancreas consists mainly of exocrine glands that secrete enzymes to aid in the digestion of food in the small intestine. Structurally, the pancreas has four sections; head, neck, body and tail; the tail stretches back to just in front of the spleen.

(Refer fig. 7)

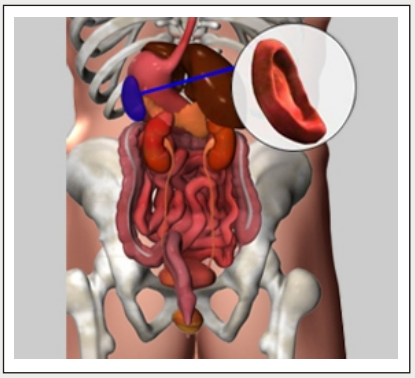
The Pancreas

(Fig.7)

Spleen

The spleen is located in the upper left abdomen and functions to fight infections and keep body fluids in balance.

(Refer fig. 8)



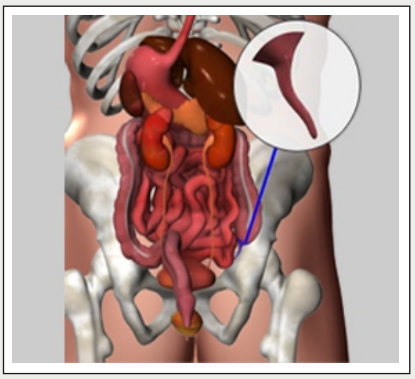
Spleen

(Fig. 8)

Appendix

The appendix is a worm-like extension protruding off of a segment of the large intestine called the cecum.

(Refer fig. 9)



Appendix

(Fig. 9)

Kidneys

Kidneys are located in the back of the abdominal cavity and are responsible for cleaning your blood of wastes and producing hormones.

(Refer fig. 10)

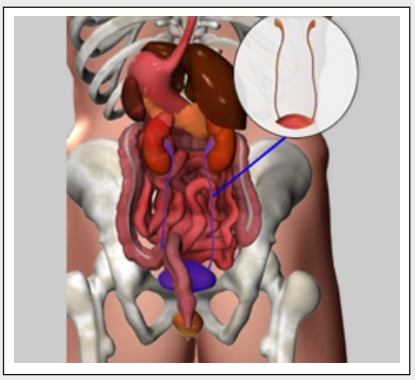
Kidneys

(Fig. 10)

Ureters

The ureters are the two tubes that carry the urine from the kidneys to the bladder.

(Refer fig. 11)



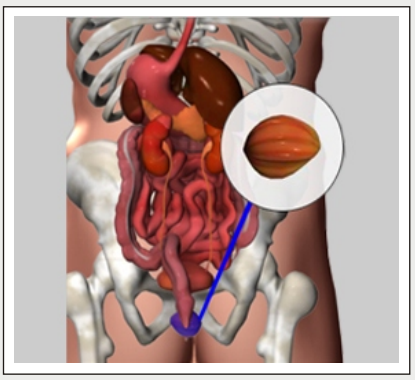
Ureters

(Fig. 11)

Prostate

The prostate is a male gland about the size of a walnut that is involved in semen production.

(Refer fig. 12)



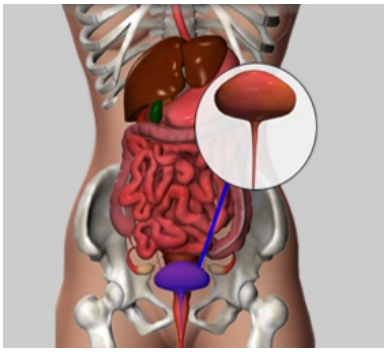
Prostate

(Fig. 12)

Bladder

The urinary bladder is a sac that acts as a reservoir for holding urine.

(Refer fig. 13)



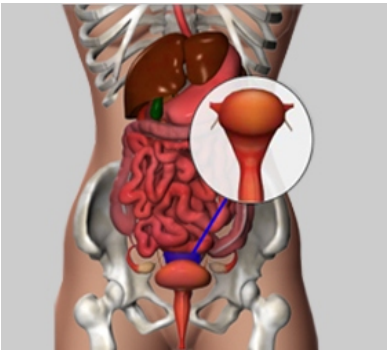
Bladder

(Fig. 13)

Uterus

This is where normal egg implantation occurs in women after fertilization by sperm.

(Refer fig. 14)



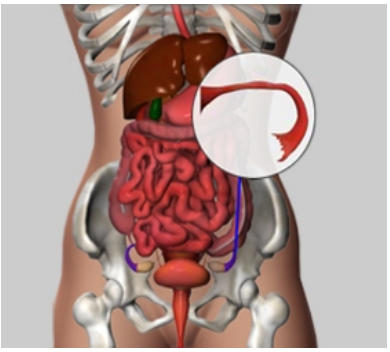
Uterus

(Fig. 14)

Fallopian Tubes

These are the passageways that a fertilized egg goes through before implanting in the uterus.

(Refer fig. 15)



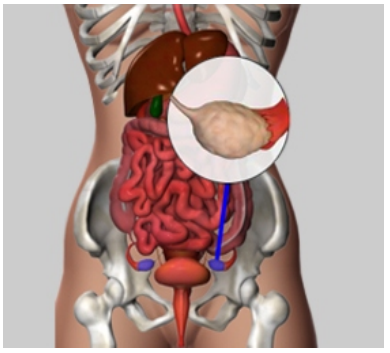
Fallopian Tubes

(Fig. 15)

Ovaries

Women have two ovaries that contain eggs for reproduction and also produce female hormones.

(Refer fig. 16)



Ovaries

(Fig. 16)

What is Laparoscopy?

Laparoscopy is a procedure that enables your surgeon to look inside the abdominal and pelvic cavities to diagnose and treat a variety of abnormal conditions. A laparoscope is a long, narrow telescope with a light source and video camera at the end. The scope is passed through a tiny incision into the abdomen where images from the camera are projected onto a large monitor for the surgeon to view the abdominopelvic cavity.

Laparoscopes have channels inside the scope enabling the surgeon to pass gas in and out to expand the viewing area or to insert tiny surgical instruments for treatment purposes. The surgical instruments used in operative laparoscopy are very small but appear much larger when viewed through a laparoscope.

Laparoscopy may be either diagnostic, operative, or both:

Diagnostic Laparoscopy

A laparoscopy is diagnostic when the surgeon is viewing the abdominal cavity to make a diagnosis, without any treatment administered at that time. This is particularly useful when other tests such as x-rays, scans, or blood work are inconclusive. The laparoscope is usually smaller as no channel is needed for surgical instruments.

Operative Laparoscopy

A laparoscopy is considered operative when the surgeon is treating a problem that is found during diagnostic laparoscopy with surgical instruments through the laparoscope. If your surgeon sees an opportunity to repair a problem during a diagnostic Laparoscopy, an operative Laparoscopy will usually be performed at that time depending on the patient's condition and the surgeon's preference.

Why is it done?

Why is Laparoscopy performed?

There are several reasons why your doctor may recommend undergoing a Laparoscopy procedure.

Abdominal Laparoscopy

This procedure is performed to assess the organs of the abdomen to diagnose and treat tumors, injury, infection, bleeding after abdominal trauma, unexplained abdominal pain, obstructions, and to determine the stage of cancers.

Gynecological Laparoscopy

This procedure is performed to assess the reproductive organs to diagnose and treat the cause of infertility, chronic pelvic pain, and the presence of fibroids, cysts, and tumors. Laparoscopy is also used to diagnose and treat endometriosis, ectopic (tubal) pregnancies, and Pelvic Inflammatory Disease.

Types of Procedures

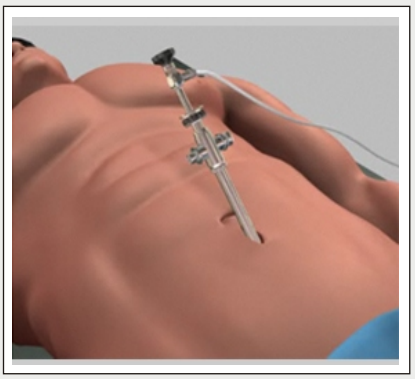
Types of operative procedures that can be performed with Laparoscopy include the following:

- Laparoscopic Cholecystectomy: Removal of the gallbladder
- Laparoscopic Appendectomy: Removal of the appendix
- Laparoscopic Hernia Repair: Repair of common hernia sites including inguinal (groin), femoral (below the groin), and some abdominal hernias.
- Laparoscopic Spleenectomy: Removal of the spleen
- Laparoscopic Adhesiolysis: Removal and freeing of scar tissue build up, also called Adhesions.
- Laparoscopic Bariatric Surgery: Certain weight loss surgeries can be performed laparoscopically including adjustable gastric banding and gastric bypass surgeries.
- Laparoscopic Colectomy: Surgical removal of part of the colon for treatment of a wide range of colorectal diseases such as colon cancer, diverticulitis, chronic ulcerative colitis, and Crohn's Disease.
- Laparoscopic GERD surgery: Treatment of gastroesophageal reflux disease (GERD) can be treated Laparoscopically.
- Laparoscopic Adrenalectomy: Removal of the adrenal glands
- Laparoscopic Nephrectomy: Removal of a kidney for donor purposes.
- Laparoscopic Tubal Ligation: Tying off of the fallopian tubes to prevent pregnancy.
- Laparoscopically Assisted Hysterectomy: Vaginal hysterectomies involve removing the uterus through the vagina. In laparoscopically assisted hysterectomy, the laparoscope is used to cut the tissue bands holding the uterus in place.
- Laparoscopic Prostatectomy: Surgical removal of the prostate for cancer treatment.

How is it done?

Laparoscopy is performed as day surgery either in the hospital or outpatient surgery center under general, regional, or occasionally local anesthesia depending on the type of procedure performed and the surgeon's preference.

(Refer fig.17)



(Fig. 17)

During laparoscopy, the patient is placed lying on their back with their body tilted so the feet are higher than the head. This position helps to move some of the abdominal organs toward the chest allowing the surgeon a clearer view.

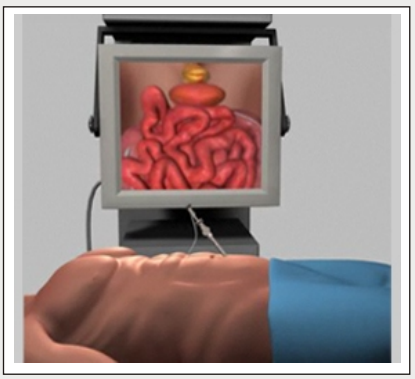
The surgeon uses a needle to inject a harmless gas into the abdominal cavity near the belly button to expand the viewing area of the abdomen giving the surgeon a clear view and room to work.

The surgeon makes a small incision in the abdomen, usually at or below the belly button, and inserts a tube called a trocar through which the laparoscope is introduced into the abdomen.

Additional small incisions may be made for a variety of surgical instruments to be used during the procedure. The location of the incisions will depend upon the reason for the procedure.

With the images from the laparoscope as a guide, the surgeon can look for any pathology or anomaly. The large image on the television screen allows the surgeon to see the abdominal contents directly and to determine the extent of the problem, and then perform the particular surgical procedure, if necessary.

(Refer fig.18 & 19)



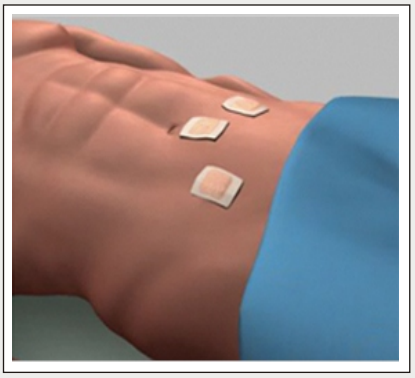
(Fig. 18)

(Fig. 19)

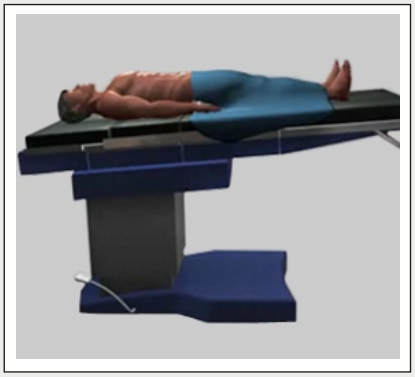
If the surgeon sees an opportunity to treat a problem, a variety of surgical instruments can be inserted through the laparoscope or through other small incisions your surgeon may make.

After treating the problem, the laparoscope and other instruments are removed and the gas released. The tiny incisions are closed and covered with small bandages. Laparoscopy is much less traumatic to the muscles and soft tissues than the traditional method of surgically opening the abdomen with long incisions (open techniques).

(Refer fig.20 & 21)



(Fig. 20)



(Fig. 21)

Post-op Guidelines

After Laparoscopy your surgeon will give you guidelines to follow depending on the type of laparoscopy performed and the surgeon's preference.

Recovery time varies depending on whether your laparoscopy was diagnostic or operative and the type of anesthesia used, but usually the patient can go home after a few hours.

Common post-operative guidelines following laparoscopy include the following:

- You will need someone to drive you home after you are released as the anesthesia may make you feel groggy and tired.
- Do not remove the dressings over the incisions for the first two days and keep the area clean and dry. No showering or bathing during this time. The incisions usually heal in about 5 days.
- Your surgeon may give you activity restrictions such as no heavy lifting. It is very important that you follow your surgeon's instructions for a successful recovery.
- You may feel soreness around the incision areas. Your surgeon may give you a prescription pain medicine or recommend NSAID's (non-steroidal anti-inflammatory drugs) for the first few days to keep you comfortable.
- If the abdomen was distended with gas, you may experience discomfort in the abdomen, chest, or shoulder area for a couple days while the excess gas is being absorbed.
- Contact your doctor immediately if you have a fever, chills, increased pain, bleeding or fluid leakage from the incisions, chest pain, shortness of breath, leg pain, or dizziness.

Risks and Complications

As with any surgery there are potential risks involved. The decision to proceed with the surgery is made because the advantages of surgery outweigh the potential disadvantages. It is important that you are informed of these risks before the surgery takes place.

Most patients do not have complications after Laparoscopy; however complications can occur and depend on which type of surgery your doctor performs as well as the patient's health status. (i.e. obese, diabetic, smoker, etc.)

Complications can be medical (general) or specific to Laparoscopy. Medical complications include those of the anesthesia and your general well being.

Almost any medical condition can occur so this list is not complete. Complications include:

- Allergic reaction to medications
- Blood loss requiring transfusion with its low risk of disease transmission
- Heart attack, strokes, kidney failure, pneumonia, bladder infections
- Complications from nerve blocks such as infection or nerve damage
- Serious medical problems can lead to ongoing health concerns, prolonged hospitalization, or rarely death.

Because the abdominal muscles are not cut in laparoscopic surgery, the pain and complications associated with abdominal surgery are lessened. However, complications can occur with any surgery. Specific complications for Laparoscopy include:

Specific complications for Laparoscopy include:

Post-operative fever and infection

Antibiotics given at the time of surgery lessen this risk but symptoms of infection should be reported to your physician and can include: fever, chills, increasing pain, bleeding, and foul smelling drainage.

Surgical injury to blood vessels

A rare complication that is usually recognized during surgery and repaired. Rarely, a blood transfusion may be necessary.

Surgical injury to bowel or bladder

Also a rare complication that is usually recognized during surgery and repaired. Rarely, a temporary colostomy may be necessary.

Gas Embolism

If gas is used to distend the abdominal cavity for better viewing there is a risk of gas embolism or gas bubbles in the bloodstream. This is a serious condition that can impede blood flow to vital organs or cause a blood clot to occur in a blood vessel.

Blood Clots

Small clots can form in the leg veins (thrombophlebitis) causing sudden swelling or discoloration in the leg requiring immediate medical attention. A rare but life threatening complication can occur in which the blood clot travels to the lungs (pulmonary embolism).

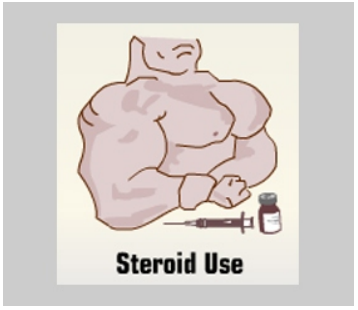
Adhesions

Extensive scar tissue formation can form in the abdominopelvic area. Rarely adhesions can obstruct the intestines requiring additional surgery.

Conversion to Laparotomy

There are occasions when a laparoscopy cannot be completed successfully without converting to a traditional "open" surgery called a laparotomy. A laparotomy is similar but is done through a larger abdominal incision.

Risk factors that can negatively affect adequate healing after surgery include:



Disclaimer

Although every effort is made to educate you on Laparoscopy and take control, there will be specific information that will not be discussed. Talk to your doctor or health care provider about any concerns you have about Laparoscopy.

☐ ☐ ☐ **YOUR SURGERY DATE**

☐ **READ YOUR BOOK AND MATERIAL**

☐ **VIEW YOUR VIDEO /CD / DVD / WEBSITE**

☐ **PRE - HABILITATION**

☐ **ARRANGE FOR BLOOD**

☐ **MEDICAL CHECK UP**

☐ **ADVANCE MEDICAL DIRECTIVE**

☐ **PRE - ADMISSION TESTING**

☐ **FAMILY SUPPORT REVIEW**

Physician's Name : _____

Physician's Signature: _____

Date : _____

Patient's Name : _____

Patient's Signature: _____

Date : _____