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

KEYHOLE HERNIA SURGERY

Multimedia Health Education

Disclaimer

This movie is an educational resource only and should not be used to manage a hernia or abdominal pain. All decisions about the management of a hernia 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

A hernia is an opening or weakness in the wall of a muscle, tissue, or membrane that normally holds an organ in place. Hernias happen more frequently in certain parts of the body such as the abdomen, groin and upper thigh area, and belly button area. They also can occur in any place where you have had an incision from surgery.

To understand hernias it is important to know a little about the gastrointestinal anatomy.

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Gastrointestinal Anatomy

- Esophagus
- Stomach
- Small Instestine
- Large Intestine

Esophagus:

The esophagus is a muscular tube that connects the mouth to the stomach. The esophageal wall is made up of muscles to help push food into the stomach by waves of peristalsis.

A band of muscles at the lower esophagus (Lower Esophageal Sphincter or LES) prevents stomach contents from entering the esophagus.

(Refer fig.1)

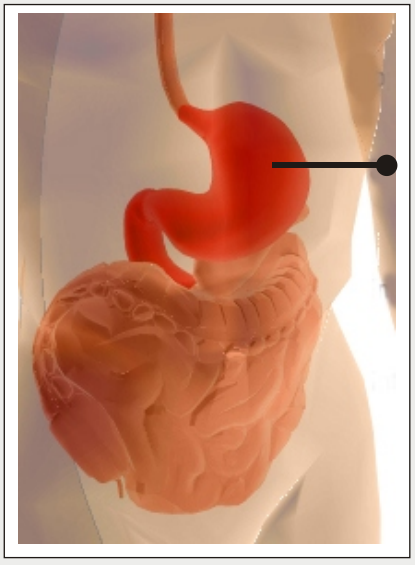
(Fig.1)

Stomach :

The stomach is a J shaped organ with two openings and four regions. The main functions of the stomach are:

- Acts as a temporary food storage
- Controls the rate at which food enters the small intestine
- Secretes acid to aid in digestion
- Fluidization of stomach contents
- Secretion of digestive enzymes
- Antibacterial action

(Refer fig.2)



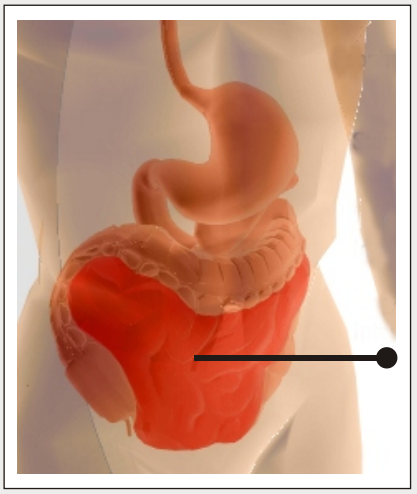
(Fig.2)

Small Intestine:

The small intestine is a long tube where most of the chemical and mechanical digestion is carried out.

The small intestine is divided into three sections: duodenum, jejunum, and ileum.

(Refer fig.3)



Small Intestine

(Fig.3)

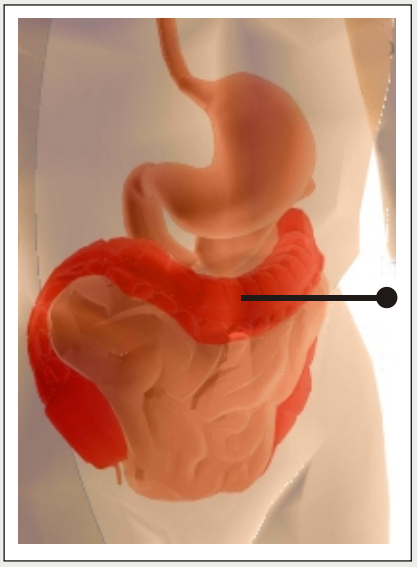
Large Intestine:

The large intestine is the last part of the digestive tube and the location of terminal phases of digestion.

The functions of the large intestine include:

- Recovery of water and electrolytes from the digested food
- Formation and storage of feces
- Microbial fermentation

(Refer fig.4)



Large Intestine

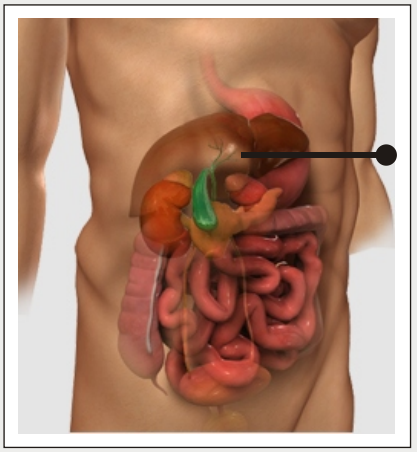
(Fig.4)

Abdominal Cavity

The abdominal cavity is the cavity that holds the bulk of the abdominal organs and is located below the thoracic cavity.

The abdominal cavity includes the liver, gallbladder, spleen, pancreas, urinary bladder, small intestine, and large intestine. The kidneys are located not in the abdominal cavity but behind it.

(Refer fig.5)



Abdominal Cavity

(Fig.5)

The abdominal cavity is lined with a protective membrane termed the peritoneum. The viscera (internal organs) are also covered in the front with a fatty layer called the omentum.

Hernia

Types:

There are different types of hernias based on their location. The most common types are listed below.

Please click for more information:

- Inguinal hernia
- Femoral hernia
- Hiatus hernia
- Incisional hernia
- Umbilical hernia

Inguinal hernia:

Appears as a bulge in the groin or scrotum. This type is more common in men than women.

Femoral hernia:

Appears as a bulge in the upper thigh. A femoral hernia is a loop of intestine, or another part of the abdominal contents, that has been forced out of the abdomen through a channel called the "femoral canal" - a tube-shaped passage at the top of the front of the thigh. This type of hernia tends to occur in older people and is more common in women than in men.

Hiatus hernia:

Normally, the stomach is completely below the diaphragm. A hiatus hernia is when part of the stomach slides through the diaphragm, the muscular sheet that separates the lungs and chest from the abdomen.

Incisional hernia:

Can occur through a scar if you have had abdominal surgery.

Umbilical hernia:

Umbilical hernia is a small bulge around the umbilicus (belly button). An umbilical hernia in an infant is caused by the incomplete closure of the muscles around the umbilicus.

Risk Factors

Risk Factors for Hernias in general include:

- Family history of hernias
- Overweight or Obesity
- Undescended testes
- Any condition that increases the abdominal pressure is a risk factor for abdominal hernias.

Some examples include:

chronic cough, chronic constipation, enlarged prostate causing straining with urination, and carrying or pushing heavy loads.

How you will feel?

The main symptoms of a hernia are swelling and discomfort which is aggravated by bending or lifting.

- A hiatal hernia by itself rarely causes symptoms - pain and discomfort are usually due to the reflux of gastric acid, air, or bile.
- Umbilical hernia may appear as a non-tender lump in children.
- A femoral hernia causes a grape-sized lump in the groin and many times it is not noticeable.

Hernias are "reducible" if they can be manually pushed back into the abdomen or "irreducible" if they are effectively stuck in the canal. The irreducible hernia is a dangerous condition where the blood supply to the herniated tissue is blocked within the canal cutting off its source of oxygen and nutrients. This requires urgent emergency surgery to release the trapped tissue and restore the blood supply.

Complications

A hernia is not dangerous in itself but there is a risk that it will get trapped (strangulated). This can cut off the blood supply to the hernia causing life-threatening conditions such as gangrene and peritonitis. If it is not treated, a hernia is likely to get larger and become more uncomfortable. It may result in the bowel becoming obstructed. In most cases, a hernia repair operation is recommended.

Another uncommon complication is recurrence.

Diagnosis

Your doctor diagnoses a hernia through medical history and physical examination.

- Occasionally, you may be asked to undertake the following tests:
- X-rays
- Blood tests

Management

If the hernia is very small it may be left alone. However, a hernia will not get better by itself and may need to be treated surgically as they have a high risk of becoming strangulated. Wearing a truss (hernia belt) may help to relieve the discomfort of a hernia but will not improve the condition, and in some cases can cause further damage.

Surgery - Introduction

Keyhole Hernia Surgery is a surgical procedure in which a telescope (laparoscope) is inserted into the abdomen through a small incision.

This is performed in a hospital operating room under general anaesthetic.

The laparoscope is a small fibre-optic viewing instrument made up of a tiny lens, light source and video camera. The surgical instruments used in keyhole hernia surgery are very small (only 3 or 4 mm in diameter), but appear much larger when viewed through a laparoscope.

(Refer fig.6)

(Fig.6)

Operative setting

The television camera attached to the laparoscope displays the image of the abdominal cavity on a television screen. The hernia can be easily seen on a television and the defect and weakness of the muscles is repaired by inserting a sheet of mesh and fixing it in position with tiny staples or screws.

Advantages over an open operation

- Keyhole surgery means "Less post-op pain" and "Faster Recovery".
- No further incisions required for patients with hernias in both groins.
- Ideal method for patients with recurrent hernias after previous surgery
- Early discharge from hospital - either same day or next day after surgery.
- Very early return to work. Often within 3 days for sedentary workers and around 1 to 2 weeks for manual workers.

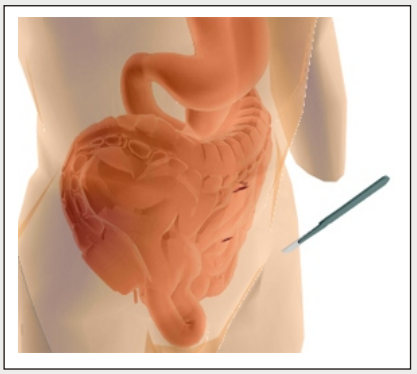
Disadvantages over open operation

- General Anaesthetic is always necessary.
- More costly.
- Unproven recurrence rate in the very long term.

Procedure

The surgeon makes three small incisions over the abdomen to insert the balloon dissector and trocars (key holes).

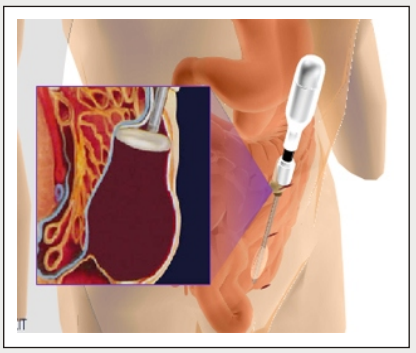
(Refer fig.7)



(Fig.7)

In the first incision, a deflated surgical balloon dissector is inserted. A laparoscope is inserted into this device and the balloon is inflated with a hand pump under direct vision. This balloon allows the surgeon to create a space outside the abdominal cavity.

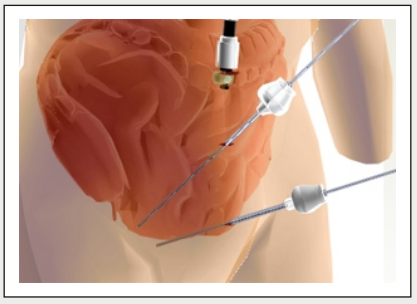
(Refer fig.8)



(Fig.8)

Once the trocars (key holes) are placed, the key hole instruments are then introduced to repair the hernia so the hernia mesh can be placed to complete the repair.

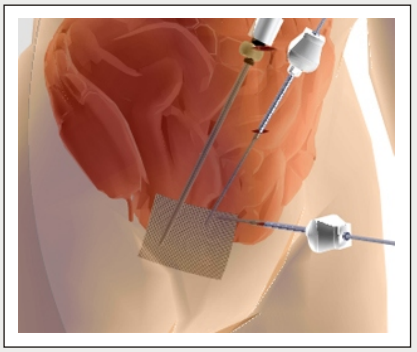
(Refer fig.9)



(Fig.9)

The mesh is inserted in through the top key hole and positioned with the key hole instruments. Once the mesh has been positioned, it is fixed into place with tiny tacks.

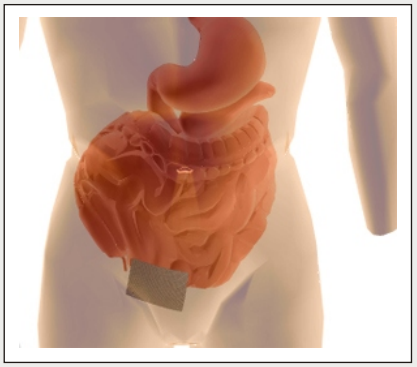
(Refer fig.10)



(Fig.10)

After the hernia mesh has been fixed into place the CO2 gas is evacuated and the trocars (key holes) are removed and the tiny incisions are closed by suturing or by tape.

(Refer fig.11)



(Fig.11)

Post Operative Care

- You will wake up in the recovery room and then be transferred back to the ward
- A bandage will be around the portals.
- Once you recover, your drip will be removed.
- Your surgeon will see you prior to discharge and explain the findings of the operation and what was done during surgery.
- Pain medication will be provided and should be taken as directed
- You can remove the bandage in 24 hours and place waterproof dressings (provided) over the wounds.
- Bruising usually appears in the genital area. This is not painful and disappears over 1-2 weeks.
- Swelling in the groin, at the site of the hernia, may occur due to serum collecting in the cavity left by reducing the hernial sac.
- You are able to drive and return to work when comfortable unless otherwise instructed.
- Please make an appointment 7-10 days after surgery to monitor your progress.

Risks & Complications

Complications can be Medical (general) or specific

Medical complications include those of the anaesthetic and your general well being. Almost any medical condition can occur so this list is not complete.

Complications include

- Allergic reactions to medications
- Blood loss requiring transfusion with its low risk of disease transmission
- Heart attacks, 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 and prolonged hospitalization

Specific complications could be

- Local discomfort and stiffness
- Infection
- Damage to nerves or blood vessels - Swelling at the hernia site is not uncommon as the space taken up by the hernia is filled with fluid.
- Bruising of the groin or scrotum is very common and disappears within 1 to 2 weeks.
- Blood clots (Deep Venous Thrombosis)
- Wound irritation
- Urinary retention

☐ ☐ ☐ 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 : _____