

Laparoscopic Hernia Repair

Protrusion of contents of the abdomen through an opening in the abdominal wall is called an abdominal *hernia*. Repair of the hernia is necessary if it is causing pain, or if the contents is likely to get stuck or twisted and not go back to its normal position. Twisted or *strangulated* hernia is a surgical emergency.

Hernias can occur in the groin, where they are known as *inguinal* or *femoral*. If they occur simultaneously on each side they are called *bilateral*. If they occur at the site of a previous operation they are called *incisional*, and if they occur after an earlier hernia repair they are called *recurrent*.

INGUINAL HERNIA

This is the commonest type of groin hernia and occurs because of a weakness in the muscles of the groin at the site where the blood vessels and vas deferens to the testis in males, or the round ligament in females, pierce the abdominal wall.

Conventional surgery aims to repair the weakness using the tissues themselves (the Canadian technique) or by using a patch of synthetic mesh stitched to the edges of the defect in a way that avoids stretching of the muscle (the Tension free repair). These operations can be performed under local anesthesia with discharge a few hours after the operation.

All these techniques necessitate an incision in the muscles of the abdominal wall to allow the surgeon access to the correct layer for the repair. During the healing phase, any strain on the muscles, such as coughing, sneezing, laughing and many movements, pulls on the repair causing pain that can limit normal activity for many weeks. Moreover when performed for hernias on each side, the addition of a second incision can be quite disabling with discomfort and swelling below the scars for many weeks.

It is common for an area of numbness to develop below the incision due to stretching or cutting of a small nerve that passes through the operated region. This numb area usually shrinks with time.

A third basic type of repair also uses mesh, placed behind all the muscle layers (the Stoppa technique) and is usually reserved for bilateral and recurrent hernias.

Laparoscopic techniques have been developed that are similar to this third type of repair. Because the muscle incisions are tiny compared to conventional surgery, recovery is much more rapid and it is possible, even *desirable*, to return to normal activity as soon as possible after the surgery. Most patients will be back to work or normal activity in 4-7 days. Return to vigorous activity such as gym work or weight training can occur around 10 days after the surgery.

As for conventional repair, hospitalization is on an ambulatory basis, but *general anesthesia* is necessary for laparoscopic hernia repair.

LAPAROSCOPY FOR EVERYONE?

The advantage of laparoscopic repair is most obvious when the hernia is bilateral or recurrent. Discomfort after bilateral laparoscopic hernia repair is so markedly reduced that it is the better approach in many patients. Recurrent hernia after conventional surgery is often repaired with mesh anyway so the less painful laparoscopic technique is preferable. Patients who must return to vigorous work activities or sports as soon as possible may prefer laparoscopy. In some patients the presence of a hernia is strongly suspected but it cannot be felt on physical exam. In this situation a laparoscopic approach is of major benefit

Laparoscopic repair is best avoided in patients with conditions in whom local anesthesia may be preferable such as heart or lung disease, and in young children in whom conventional repair is simple and effective. Similarly, femoral hernia, and a small inguinal hernia on one side in a woman are probably better repaired conventionally as the size of the incisions and the amount of muscle opened is minimal and recovery is relatively rapid.

Rest assured that the best possible operation will be advised for you.

BEFORE THE SURGERY

Because the operation is performed under general anesthesia limited pre-admission testing may be necessary dependant on your age. No specific preparation is necessary other than fasting from 12 mid-night before the scheduled surgery. DO NOT shave yourself before the procedure.

THE DAY OF SURGERY

Apart from insurance documents and any recent X-rays, you will not need anything but your street clothes and perhaps something to read. Have someone bring you to the hospital and arrange for transport home. DO NOT plan to drive home yourself.

You should empty your bladder just before being transferred from the holding area to the operating room - tell the nurse if you have voided - this may avoid the need for a catheter during the surgery.

Shaving of the skin is minimized. Three tiny incisions are made in the umbilicus and skin of the lower abdomen depending on the specific laparoscopic technique that is planned. There should be no stitches to remove afterwards.

Once you are awake in the recovery area, you will be given pain-killing medication and something to drink. You will be encouraged to get up and go to the bathroom. By the time you are steady on your feet and can urinate normally, you will be ready for discharge. The reason most patients need overnight admission is inability to urinate, often due to long-standing

urinary problems. Some people react to anesthesia with nausea and vomiting and need an I.V. for a few hours till the after-effects abate.

At home you should eat light meals for the first day or so till you feel yourself again. Avoid prolonged use of Percocet or Tylenol 3 (which contains codeine) as these will cause constipation. Simple painkillers such as acetaminophen (Tylenol) or ibuprofen (Motrin, Advil) are preferable after 24 hours. Your first bowel movement may not occur for 2 or 3 days but if you feel uncomfortable then a bisacodyl (Dulcolax) suppository or Fleet enema will help.

You may notice a swelling in the groin after the surgery. This is not a recurrence of the hernia but a collection of fluid in the space where the hernia was, and will disappear in a few weeks. Sometimes it is necessary for us to aspirate this with a needle and syringe in a sterile fashion in the office.

For more details about care of the wounds see the leaflet handed to you when you first registered at the office.

COMPLICATIONS

There are a number of possible complications of the laparoscopic part of the operation. Fortunately these problems are rare but the commoner ones are described below.

Occasionally one of the staples used to secure the mesh internally to the muscles snags or irritates one of several sensory nerves that run between the muscle layers. We use techniques to avoid this but if it does happen, the symptoms usually resolve in a few weeks without further treatment.

Strict precautions are taken to avoid contamination of the mesh during implantation. This, combined with the tiny incisions, nearly eliminates infections although a small number of are reported with any form of hernia repair (less than 1%).

Hernia recurrence occurs if the intestine or fat within the abdomen pushes under the mesh and out through the opening in the muscle. This is uncommon and can usually be repaired laparoscopically by adding more mesh to cover the new defect.

RESEARCH

We are constantly refining techniques to make laparoscopic surgery more safe and effective and to collect data concerning the longer-term results. At intervals after your procedure one of our research assistants may call to check on your progress.

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