

THE MELBOURNE HERNIA CLINIC- Hernias as a specialty Informing the patient

A/Prof. MAURICE BRYGEL

MR C LEINKRAM

MASADA PRIVATE HOSPITAL- 03- 95259077

26 Balaclava Road

EAST ST KILDA VIC 3183

mbrygel@netspace.net.au

These notes explain what a hernia is, why a hernia needs surgery, the operation, the postoperative care, and discusses the possible risks of surgery. It forms part of the informed consent process which can be discussed with the patient prior to referral.

Our clinic, we believe is the sole one in Australia where the principal surgeon only performs hernia surgery and abdominoplasty -An abdominal wall surgeon.

Mr Leinkram performs approximately 400 hernia operations per year.

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WHAT IS A HERNIA?

A hernia is a protrusion of part of the abdominal contents through a defect or weakness in the abdominal wall. The abdominal muscular wall acts like a corset holding in the contents. At well recognised weak points in our structure— such as in the groin and belly button the tissues weaken, give way or tear.

The thin inner lining of the abdominal wall (the peritoneum) then protrudes through the defect or weakness in the muscle and expands like a balloon- the sac. The abdominal "contents" fat or bowel move in and out of the defect and sac or may become trapped.

Hernias may be:

a) A REDUCIBLE HERNIA

The hernia pops in and out whilst straining or standing.

b) AN IRREDUCIBLE HERNIA (INCARCERATED OR IMPRISONED)

The contents may become stuck and the hernia is permanently protruding as a lump.

c) A STRANGULATED HERNIA – URGENT SURGERY IS REQUIRED

The blood supply to the hernia is nipped off suddenly at the narrow neck of the sac and the tissues start to die.

d) BOWEL OBSTRUCTION

The bowel within the hernia can be blocked. This causes abdominal pain, vomiting and constipation. Strangulation and bowel obstruction are serious conditions and require emergency surgery.

WHERE DO HERNIAS OCCUR:

- **INGUINAL** - In the groin, the commonest type – about 80%,
- **FEMORAL** - Below the inguinal – relatively more common in females
- **UMBILICAL** - At the navel, (in babies may shrivel up and disappear),

- EPIGASTRIC - In the midline between the navel and breast bone,
- INCISIONAL - In the scar of previous surgery, or port site of key hole surgery
- RECURRENT - At the site of a previous hernia operation,
- HIATUS - Through a gap in the diaphragm. The weakness allows acid to reflux into the gullet causing symptoms. Surgery not usually required.
- OTHER SITES RARELY Spigelian and lumbar.

The **INGUINAL** hernia, which is by far the most common, occurs at any age. The descent of the testis through the modified 3-layer muscle wall of the groin into the scrotum before or at birth has left a potential weakness, through which the hernia descends. Any activity, which constantly or suddenly increases intra abdominal pressure or weakens the muscle may cause a hernia eg, cough, constipation, bladder obstruction or heavy lifting. Ageing weakens the muscles. Obesity increases both the intra abdominal pressure and reduces the muscle strength. There is a family tendency to develop hernias with genetic factors playing a role.

Hernias may occur on one side or both sides simultaneously (bilateral). After a repair of one side a hernia may develop later on the other side in about 15% of cases.

HOW DO YOU KNOW YOU HAVE HERNIA?

Swelling or discomfort is noticed. The swelling may be intermittent. It often subsides overnight when lying down. Once present a hernia does not permanently disappear. Occasionally a hernia is first detected upon routine medical examination or during pre-employment examinations.

INDICATIONS FOR SURGERY

Early surgery prevents hernias becoming painful, enlarging or complications developing. Surgery is advised for most hernias. A truss or belt was frequently used because of the fear of surgery. However a truss does not cure the hernia and is now only used occasionally.

DAY SURGERY

The majority of hernias these days are treated as a day case. Most patients like to avoid staying in hospital unless really necessary. Modern anaesthetic techniques and the use of Local Anaesthesia and mesh, together with our better understanding of hernias, have led to these changes. Day surgery has reduced the cost of hospitalisation thus allowing many non-insured patients to be treated privately.

Even 80-100 year olds can be treated successfully as a day case. Many older patients tolerate surgery better and recover quicker than the younger. The local anaesthetic technique is certainly safer for the older patient as well. The long acting local anaesthetic reduces post operative pain, and tablets at night are usually sufficient.

YOU KNOW YOU HAVE A HERNIA-so

You may have been recommended by your physician or you have obtained our name from a relative or friend who has had a similar procedure. You may even have found us on the internet. We have extensive information on our website www.hernia.net.au or just google Melbourne Hernia Clinic .

You or your doctor may be looking for more information and possibly wish to choose a surgeon based on that surgeon's experience and specialisation in a particular method.

The 2 broad methods mainly used today.

1/ **The open technique**, where a cut is made directly over the hernia and the hernia is repaired under direct vision. Mesh which stays permanently in place. We are the main proponents of this local anaesthetic method in Australia. While local anaesthesia overseas is common it is not as common in Australia

2/,,**laparoscopic or keyhole** surgery technique where the operation is performed from within, under general anaesthesia using instruments remote from the site of the operation. This technique always requires the use of a Mesh after distension of the abdomen, or the abdominal wall with a gas. The mesh used here is 2-3 times the size required for the open technique.

We recommend the open repair using local anaesthetic infiltration with light intravenous sedation and mesh reinforcement.

This is called "tension free repair". It is called this because the muscles and fascia are not pulled together tightly with suturing. The strength of the repair relies on the mesh. Tight suturing causes pain and leads to the sutures cutting out and recurrence. It was popularised by Lichtenstein of California and has increased in popularity for many reasons as will be elaborated later. It is still the gold standard technique.

Another major advocate of this is the British Hernia Centre of London.

LOCAL ANAESTHESIA

Most hernias can be operated on using direct local anaesthetic infiltration with intravenous sedation. Epidural or spinal anaesthesia – into the back is not necessary and is not recommended as it can have serious side effects.

Many patients are attracted to local anaesthesia because of a fear of general anaesthesia or a previous unpleasant anaesthetic experience. There are also specific indications and advantages of local anaesthesia.

Patients are mobile during the procedure. This reduces one of the major risks of modern surgery – that is thromboembolism – that is clots in the legs, which may travel to the lung. Another term used these days is -economy class syndrome-. That is the cramped conditions and immobility are major predisposing factors to clots forming..

A term, which we have used for many years to describe the after effects of anaesthesia, is – gas lag – a comparison to jet lag a phenomenon of aircraft travel. It is best to avoid a G,A.

Coughing and straining during the procedure help in demonstrating the weakness and that the repair is "TENSION FREE" and sound.

The precise infiltration of the local anaesthetic ensures that the sedation is used as a supplement to ensure a relaxing experience rather than a general anaesthetic. The depth of sedation is managed in conjunction with a specialist anaesthetist with skill in this technique.

A long acting local anaesthetic is used. This ensures that the postoperative period is comfortable, reducing the need for post operative narcotics and the risk of vomiting. Post operative vomiting, respiratory and urinary problems are rare.

The patient is able to walk around immediately or soon after the operation. All this adds up to most patients to being able to go home early the same day.

In addition there are long-term advantages in avoiding a general anaesthetic. Memory, recall and other cognitive factors are less impaired.

Recent European & Melbourne studies, which can be translated to hernia repair, shows that major surgery undertaken with local or regional anaesthesia has a significantly decreased morbidity i.e. less complications.

Hernia repair is one of the most common operations. As surgeons we look for a technique where we can be almost certain that there will be a successful outcome.

In nearly 20,000 cases which we have repaired in this manner there have been very few that have required a full general anaesthetic and this includes large hernia.

THE MESH AND SURGICAL TECHNIQUE

The use of the non-absorbable polypropylene Mesh is now standard. The Mesh is used to reduce the rate of recurrence of hernias. The Shouldice Clinic of Canada has reported excellent results without using Mesh but their results have been difficult to reproduce for most surgeons.

THE MESH PROVIDES

1. An anatomical repair
2. Early strength- allows early mobility
3. Long-term reinforcement.

Minimal suturing is used to restore the anatomy without having to pull the muscles tightly together – THE TENSION FREE REPAIR". If the muscle is pulled together with tension the suturing causes pain. As well when the patient coughs or exerts any pressure the stitches may cut out leading to a high rate of recurrence. Patients used to stay in hospital for 4-5 days to avoid movement and this risk.

The Mesh is fashioned to reconstitute the shutter mechanism at the internal ring – like a jacket with one lapel in front of the cord, (which transmits the vessels and vas to and from the testes in the scrotum) – and the other behind. Thus when the patient coughs or strains, the internal ring, through which indirect inguinal hernia protrudes is narrowed and strengthened.

Mesh is also used for most other types of hernias including epigastric, umbilical, femoral, incisional and recurrent hernias. There are many types of materials of different shapes and sizes. There is also a plug technique, popularised by Lichtenstein' This is used to fill in a defect, which is difficult to close without tension.

RESULT

Recent and continuing audit of the Melbourne Hernia Clinic demonstrate that many problems of the past have been reduced.

1. There is a low morbidity and recurrence rate.
2. Hospital stays have become shorter.
3. The vast majority post operative pain is not a great problem. -chronic pain is rare
4. Early return to work is possible.

AUDIT

Over 90% of cases of our INGUINAL, UMBILICAL & EPIGASTRIC HERNIAS are treated as a day case. The remainder stayed in hospital longer because of age, family circumstances or ill health. The technique of local anaesthetic infiltration has proved very safe for the elderly.

THE HERNIA PROCESS

You are deciding what should you do?

Before any operation is carried out a full assessment is required.

An extensive medical history can be completed online- www.hernia.net.au
The web site illustrates the above with diagrams and videos.

THE TYPES OF THINGS WE NEED TO KNOW ARE

- a. Your height, weight and age
- b. Your medications, allergies, anaesthetic reactions, previous operations.
- c. Contact with infectious diseases such as Hepatitis, Covid 19, HIV.
- d. diabetes, heart disease, epilepsy, asthma or fainting episodes
- e. Past history of thrombosis in the legs
- f. Bleeding or family history of bleeding tendency, medications being used to thin the blood such as Aspirin or Warfarin. A complete list of medication is required.

*All medication should be brought to hospital with you.

After the clinic has all this information it should be able to decide whether you are a suitable candidate for surgery.

Your insurance details are necessary to give you informed financial consent. In Australia part of the medical fee is covered by Medicare if you have a referral letter. This is applicable also if you have no insurance. If you are not insured -termed self funded you will be given hospital rates and out of pocket medical expenses including anaesthetist and assistant'

YOU ARE NOT ALLOWED TO EAT OR DRINK FOR AT LEAST 6 HOURS PRIOR TO SURGERY.

ANAESTHESIA - LOCAL OR GENERAL?

Hernia repair may be carried out under local anaesthesia with intravenous sedation called Neurolept anaesthesia - or under general anaesthesia. This will be discussed with you by the surgeon and by the anaesthetist at his pre-operative visit.

THEATRE

A needle is placed in the vein to administer medications that have a hypnotic and amnesic effect, making the time pass quickly and pleasantly. These reduce the risk of nausea AND VOMITING

A drape ensures that you are unable to see the procedure. The arms are placed in a comfortable position and the skin is cleaned with antiseptic solution.

SURGERY

The surgeon first injects the local anaesthetic. There may be an initial sting, but this rapidly settles and you are asked to let your muscles go floppy. The surgery quickly proceeds and you experience no pain. Any discomfort can be alleviated by a further injection. You may just chat to the anaesthetist or the theatre sister, listen to the music or you just doze off.

We have introduced a special retractor which gives very good access and vision thus facilitating a much smaller incision. Just a few centimetres.

During the procedure the surgeon will ask you to cough, which will demonstrate the hernia and then later on, that the strength of the repair is satisfactory. You will be asked to wriggle your toes during the procedure to prevent the circulation in your legs becoming sluggish. You may have a dry mouth and lips. These can be moistened. The procedure takes less than one hour. Often the events cannot be recalled.

THE SURGICAL REPAIR

Involves freeing the sac from the surrounding tissue and removing or reducing it. The defect is repaired with non-absorbable sutures. Modern synthetic material reduces the risk of infection. Additional strength is added by inserting a polypropylene (Prolene) non-absorbable mesh. Recently we have introduced a self adherent Velcroe type mesh which requires minimal suturing.

RECOVERY

In recovery cycle your legs to promote the circulation and reduce the risk of developing clots in the calves. You are pain free as the local anaesthetic lasts approximately six to 10 hours. You may have a drink and a light snack in recovery. You will be encouraged to walk with assistance. Slowly hang your legs over the side of the bed and let your circulation adjust to prevent giddiness. The groin may gradually become painful and stiff. Painkillers are given as necessary. It is unusual for injections to be required. The next day the most uncomfortable part is getting out of bed. Activity is encouraged. Your temperature is often slightly elevated but does not necessarily signify infection.

THE BOWELS

These may take a day or so to work. A laxative or a suppository may be necessary. . There is often some abdominal swelling or discomfort due to gas.

THE WOUND

This is closed with dissolving suture or stapled. A waterproof dressing is used. This may be left in place until the first post-operative visit, which should take place between 5-10 days later. Slight numbness may be present. Normal feeling soon returns.

BRUISING AND SWELLING

This may occur especially when the hernia has descended into the scrotum or if you have been on blood thinning medication. The scrotal bag or penis may become discoloured or swollen. A small amount of bleeding tracks down by way of gravity. A pair of firm jockey shorts can help the discomfort and reduce the swelling. A firm ridge can be felt in the wound especially in the first week or two following surgery. However, the wound becomes flat quickly after that.

POST- OPERATIVE ACTIVITY

The aim is to return you to normal as soon as possible. The non-absorbable and mesh make the hernia repair strong from the beginning. Ordinary exercise is encouraged immediately. The only limiting factor is your comfort.

Lying about and prolonged immobility are not at all helpful. As you move about you may feel twinges of pain but no damage will result. There are often short periods of discomfort. However, the overall trend is for continued improvement. It takes 4-7 days before you should drive a car. You may be driven around but may become a bit stiff over a long journey.

RETURN TO WORK

This depends very much on the individual and the type of work. It may be difficult to stand all day or sit in an uncomfortable position. Office workers or executives usually return to work between 1 - 4 weeks but usually can function next day from home. Labourers are usually off work for 4 - 6 weeks and duties may be restricted for another week or two.

DAY SURGERY

The majority of patients are able to go home only a few hours after their surgery. The patient must have somebody at home that night and have adequate pain relief. There is a small risk of fainting so someone should accompany you for example if you go to the toilet that night. Instructions regarding your care will be given. It is unusual to have a problem going home the same day, but if there is the doctor should be contacted.

FOLLOW-UP

An appointment should be made in the week following surgery. The office should be contacted if there are any problems. Undue pain, severe swelling and a fever or discharge may signify an infection. This is not common but may be remedied by draining and or antibiotics.

CONCLUSION

The aim of the operation is to give a satisfactory repair with minimal chance of recurrence and a rapid return to health and work.

YOU NOW KNOW SOMETHING ABOUT HERNIAS

There is constant debate and evolution in medicine. Years ago you might have been in hospital 5-10 days for a hernia repair with possible a high chance of infection or recurrence. Now improved anaesthetic techniques and other developments have improved care. Issues are not now whether you should stay in 5-6 days, how to control infection or even the high recurrence rate. It is more about which technique shall I have, how quick can I get back to work or sport or will I have any pain at all now or in the future.

There have always been many ways of repairing hernias. The ease and the availability of early hernia repair now means that less hernia patients develop complications requiring emergency surgery– such as bowel obstruction or strangulation. Now even frail elderly patients can have their hernia repaired under LA and be fairly sure they will get a good result.

we recommend the local anaesthetic technique with the tension free repair using Mesh reinforcement.

The Melbourne Hernia Clinic operates at Sir John Monash Private Clayton, Masada Private E.St.Kilda and Mitcham Private hospitals

RISKS OF SURGERY

Most patients are advised to have their hernia repaired although waiting in many cases will cause no ill effect. The decision is often based on the presence of symptoms such as discomfort, the hernia enlarging, or the doctor's advice after full discussion.

Hernias are not always painful and the results of surgery are not always perfect. This should be considered before surgery is undertaken. Although we have performed thousands of hernia repairs, always with care and expertise, results can vary in different individuals.

Although the operation may be done exactly the same way, some patients are able to return to work the following day and have no painkillers whatsoever. However, others may have severe pain over a couple of days for no explained reasons. This pain then usually tapers off but there are occasional spikes. Return to activity may be delayed and may not be as rapid as expected. In addition some patients, after surgery, do have continuing discomfort and pain persists. This is only in a small number of patients but needs to be considered before making a decision to operate. Some patients have groin discomfort without an obvious hernia on examination. An ultrasound may have been carried out showing a small hernia. These patients may not benefit from early surgery as the symptoms may persist. Other causes of the symptoms need to be assessed and it is often preferable to wait. Although complications and problems after hernia surgery are uncommon now, they do still have to be considered particularly as they relate to the individual patient.

There are many complications possible but not directly related to the technical hernia operation. These may possibly be associated with the anaesthesia and the age or health of the patient.

These might include respiratory problems, cardiac problems, reaction to medication, or clots in the leg. Clots in the leg may occur with any operation but it is very uncommon when a hernia is repaired under local anaesthetic and sedation. Clots are common after big operations such as hip replacements etc. These clots may break off and travel to the lung — pulmonary embolism — which can be fatal. This is one of the big risks of surgery and one of the reasons we perform many operations under local anaesthetic because we believe the risks of this occurring are reduced when considering thousands of patients we have treated.

URINARY PROBLEMS

Post-operative pain can inhibit the urinary reflex-causing blockage of the bladder. If this occurs a catheter may need to be passed and rarely surgery is required. With local anaesthetic the incidence of this problem is very low indeed, because there is no immediate post operative pain and the reflex is thus not inhibited.

Problems which may occur directly related to the operation are:

- Bleeding from or into the wound — in males for inguinal hernias, into the scrotum. It is rare for this to be a significant problem but if it is severe then an operation may be required. A clot may form and may require drainage.
- Wound infection may occur in less than 1% of cases. It may be very minor with just some slight redness or it may be more severe where antibiotics and drainage and even reoperation are required — extremely rare. There is the rare occasion where the mesh needs to be removed.
- Infection delays recovery but usually settles down within a week or two. There are usually no after effects but there is a possible slight risk of a recurrence. Rarely the mesh or suture materials become chronically infected and may need to be removed at operation.
- Rarely in males with inguinal hernia repairs, the testis can become painful and enlarged and even shrivel up. This is either due to inflammation or impairment of the blood supply. It is more common where there have been previous surgery in the area such as with a recurrent

hernia. This condition is called ischaemic orchitis or epididymo orchitis and once again is very uncommon.

- Strangulated hernias are more difficult hernias. There is a small risk of damage to the contents of the hernias such as the bowel. This is very rare in our experience.

Thus hernia surgery is usually a very safe operation but the results may vary

THE MELBOURNE HERNIA CLINIC-history

The hernia clinic was registered and established , by A/Prof. Maurice Brygel a general surgeon, qualified and trained in Melbourne. Mr Charles leinkram joined the clinic over 15 years ago and has brought additional experience and new ideas.

He found that because incisional hernias were so prevalent special techniques for their repair were required. This led to his interest to the use of abdominoplasty to improve the exposure and to his expertise in that field.

Maurice had visited centres in Los Angeles---, The Lichtenstein Clinic, where the tension free technique was instituted using Mesh reinforcement and in Canada The Shouldice Clinic, where many thousands of hernia operations were carried out under local anaesthetic. He also visited the London Hernia Clinic where day surgery hernia repair had become established.

He concluded after using and viewing the different techniques that the best results could be obtained by using local anaesthetic infiltration with sedation, and the tension free mesh reinforcement technique. The chief exponents of these that are well known are The Lichtenstein Institute of Los Angeles and The British Hernia centres.

Mr Brygel felt of the opinion that the tension free repair with Mesh have excellent results and has many advantages.

Maurice has repaired over 10.000 hernias. The results of the surgery are audited and submitted to the Royal Australian College of Surgeons as a routine part of practice. They were also published in peer reviewed journals

Over 90%of the hernias are repaired as a day case.

Only qualified experienced anaesthetists are used to administer the sedation.