



Laparoscopic treatment of fibroids (Laparoscopic Myomectomy)

Definition

A surgical procedure in which a fibre optic instrument is inserted through the abdominal wall in order to remove uterine leiomyomata (fibroids).

Reasons for Laparoscopic Myomectomy

These notes should be read in conjunction with the notes on this website, *Fibroids: An Overview, and Fibroids and Fertility*. There are many reasons for removing fibroids, which will vary from person to person in their type, size and significance. In the vast majority of cases where removal of fibroids is required, a laparoscopic route is appropriate. This can either be achieved by conventional “straight stick” laparoscopy or by Da Vinci (robotic) myomectomy. Data on post-operative recovery and effects of laparoscopic myomectomy versus open or laparotomy myomectomy, varies due to the extremely heterogeneous nature of the patients and surgeons skills in the studies. However, the benefits of laparoscopy are well proven with respect to decreased complication and improved recovery times. There are also undoubted cosmetic advantages to operating with small incisions. *It is usual for the laparoscopic myomectomies that I perform to be discharged on the same day.*

Are all fibroids able to be removed laparoscopically?

The short answer here is 'no' but in the vast majority of cases, this will be possible. It is not until the size of the fibroid approaches the height of the umbilicus (belly button) that serious issues may occur. However, with appropriate planning, pre-operative preparation and surgical skills, almost all problems can be avoided. Difficult procedures involve very large fibroids, patients of increased body mass index and cases where multiple fibroids co-exist. In these cases it is difficult, by any means, to preserve a sufficient amount of uterine muscle in order to affect a neat and sound repair of the uterus. Some fibroids regardless of size and according to location are easily removed. For example, fibroids at the front and centre of the uterus are generally easier to remove by any means. Difficult cases may be those where the fibroids extend into the coverings around the sides of the uterus (broad ligaments), especially if the fibroid has multiple parts and surrounds or pushes under the ureters. What we are able to do today is far in excess of that which was commonly done even two years ago. This has been made possible by improvements in sutures (specifically unidirectional barbed sutures), suturing technique, diathermy instruments, adhesion barriers, new haemostatic matrices, understanding of injectable haemostatic agents and morcellators. The latter are instruments that reduce fibroids to small strips so that they can be removed via small incisions.

What means of removing fibroids are at my disposal?

1. Conventional straight stick laparoscopy. Most of this document will refer to this method.
2. Robotic or Da Vinci myomectomy. Refer to the separate document on this website for further discussion regarding Da Vinci myomectomy. Essentially, the principals are exactly the same as conventional straight stick laparoscopy however robotic myomectomy adds the advantages of increased visual acuity, increased manual dexterity, approaching or even exceeding that of the human hand which results in a more accurate and potentially more sound repair to the uterus after removal of the fibroids.
3. Myomectomy via laparotomy. Generally an incision is made similar to that required for a caesarean delivery. I would rarely do this now. The disadvantages are more pain, a bigger scar, longer recovery and more adhesions, and usually greater blood loss. Reasons for doing this might be multiple fibroids, deeply placed within a uterus that is a very difficult reconstructive candidate. These are however reasons for considering a robotic assisted myomectomy.

Classification of fibroids

Fibroids are classified as subserosal, intramural or submucosal (sub-classified types 0, 1 and 2).

Anaesthetic

Laparoscopic myomectomies always require a general (sleeping) anaesthetic.

Preparation

Occasionally I require patients to take mechanical bowel preparation (Fleet or Golytely) to remove the residue from the bowel prior to the operation. This can make the operation safer and more easily performed by improving surgical access to the pelvis. You should get a good night's sleep and take all your routine medications. You will be advised from when to fast. General anaesthetic generally requires a six hour fasting period. If you are unsure of when to fast from please contact my staff. It is important that you provide me with a comprehensive list of all your medications including herbal remedies and alternative remedies. Herbal remedies, aspirin and fish oil can prolong post-operative bleeding in an unpredictable way and should all be brought to my attention. It is especially important that you stop aspirin and tablets such as clopidogrel (Plavix) for at least a week prior to the operation. If you have any concerns regarding the applicability of these circumstances then please ask advice from me or another specialist physician. Often, special arrangements need to be made for patients taking Warfarin.

Please shower carefully prior to the procedure and pay special attention to the umbilicus (belly button), removing all traces of fluff and debris. You might like to use an antibacterial soap (such as Gamophen) for this purpose. Please take out any belly button jewelry if possible. Prior to the laparoscopic removal of fibroids, we need to be sure that there is no chance of uterine fibroid cancer. The gold standard for determining this is indeed histological examination however ultrasound, LDH isoenzymes (blood test) and an MRI scan are also very accurate. One or all of these will need to be performed prior to your procedure. Removal of a simple, small, subserosal fibroid with a one layer closure of the uterus may take as little as a half an hour, removal of multiple intramural fibroids may take three to four hours depending on circumstances. On average, a fibroid of around 8 cm lying within the uterine musculature takes around two to two and a half hours to remove.

Incisions

Laparoscopic myomectomy is generally performed through four abdominal incisions. This will include a 10 – 12 mm incision under the umbilicus. This sometimes may be placed higher if access to the pelvis dictates. A further approximately 12 – 15 mm incision is made on the left or right side of the abdomen near the hip bone. Two 5 mm incisions are placed opposite this and vertically below the umbilicus around the level of the hairline. The incisions will be asymmetrical. The height and position of the incisions will also vary according to required surgical access. Closure of the incisions will be via a beneath skin (subcutaneous) dissolving suture, through the skin Nylon suture or skin adhesive (Dermabond) according to particular circumstances. Please let me know if you have a strong preference.

Associated procedures

Performance of associated procedures depends entirely on the aims of your surgery. If fertility is your goal then invariably hysteroscopy and curette will be performed at the same time. I generally also perform a dye hydrotubation assessment to check for tubal patency either before or after removal of the fibroid. Fibroids are often associated with abnormal uterine motility and seem to be associated with endometriosis. If endometriosis is present, this will be entirely removed by excision if at all practical. If access to the pelvis is limited by the fibroids and endometriosis resection is not safe or involves further surgery beyond the scope of our pre-operative discussion, then further surgery may need to be scheduled.

What happens during the operation?

You will be admitted to the overnight stay ward or Day Surgical Ward prior to theatre. You will be visited by the anaesthetist prior to commencing the operation who will ask you questions about your general health and about any previous anaesthetic experiences. You will be asleep for the duration of the operation. An intravenous line will be placed, usually in the back of one hand or at the level of the elbow. Whilst you are asleep the skin of the vagina and abdomen are treated with an antiseptic solution and a small incision is made around the umbilicus through which the laparoscope is inserted. The abdomen is inflated with carbon dioxide gas, as in its normal state there is no space within the abdomen and pelvic cavities in which to operate. The carbon dioxide gas provides a safe environment in which to effectively operate. A small amount of carbon dioxide gas is absorbed into your blood but this is rapidly breathed out. The other small incisions, most commonly around three, are made in the lower part of your abdomen as described. The bladder will also be emptied during the operation with placement of an indwelling urinary catheter. This will generally be removed before you wake up and enter the Recovery area.

Post-procedure care

After leaving the Operating Theatre you will have a drip intravenous line in your arm. This is to maintain your hydration as you will have been fasting prior to the procedure. You will be cared for in the Recovery area of the Operating Theatre which involves one on one care by a specialist member of the nursing staff. After one to two hours you will be offered something to drink and eat if appropriate and be able to change back into your street clothes and arrangements will be made for your discharge. Most laparoscopic myomectomies are performed as day surgery. However, if your recovery is slower or if you require help with pain relief, we will not hesitate to admit you if it is in your best interests.

Post-discharge care

Most patients should be able to resume regular activities including driving within five days. There may be a dull, non-specific pain across most of the abdomen. This is thought to be due to stretching by the carbon dioxide gas. A patient's reaction to this is extremely variable. Some patients may feel subjectively bloated for a period of weeks after laparoscopy and some patients feel nothing. The discomfort can be treated with non-steroidal anti-inflammatory medications such as Naproxen or Nurofen in combination with Panadol, Panadeine or Panadeine Forte. You will probably have a small amount of vaginal bleeding due to the curette done at the start of the procedure. The next period usually arrives within four to six weeks and may not be the same as a regular period. Excessive bleeding either from the vagina or from the wounds is very uncommon although I am unable to give you an exact figure as to how long the bleeding will persist. You should notify me if you develop a fever (temperature greater than 37.5 degrees), pain or cramping that does not respond to regular doses of simple analgesics, bleeding involving clots or foul smelling vaginal discharge. You will usually have from one to two stitches in each laparoscopy incision and these stitches will need to be removed around a week after the procedure.

Complications

Laparoscopies are very common and I frequently perform laparoscopic myomectomies. The complication rate is very low however the following have been described after any laparoscopy:

1. Infection. Infection is rare. Infection of the wounds may not be apparent until days or even weeks afterwards. This generally arises from the patient's own bacteria. The chance of a skin infection after a laparoscopy is around 2%.

2. Damage to organs such as bowel, bladder or blood vessels (around 1:3000).
These sorts of problems are extremely unlikely in my hands. Most such problems are readily correctable during the surgery using laparoscopic techniques however very rarely, if an operation can't be completed this way, a larger incision (laparotomy) is made if this is in your best interests to do so. This will mean several days in hospital rather than day stay.
3. Failure to complete the procedure. I will conduct your laparoscopy with upmost skill and care, taking care to complete every part of the operation and to gain whatever information I need in order to fix your problem. However, sometimes, if unexpected pathology is encountered which requires a major deviation from the procedure that I explained to you before, then I will simply end the operation and discuss my findings with you, in which case a further operation may need to be scheduled.
4. Scarring. Some people are prone to developing lumpy scars. This is more common in those of Asian or African background. Please refer to my notes on care of incisions and wounds for advice about post-operative care of incisions and minimising scarring.
5. Conversion to laparotomy. As with any laparoscopy or laparoscopic myomectomy, conversion to laparotomy in order to safely complete a procedure is sometimes required. With careful pre-operative preparation, evaluation and appropriate surgical technique, my conversion rate is less than 5%.

Results from examination

The fibroid pieces are all sent to pathology for examination. The time this takes depends on the volume of fibroid removed. It generally takes around two to three days. At this stage I will remove your sutures if used and will discuss the operative findings and pathology once more. I will also then be in a position to give you specific advice regarding your future fertility issues, pregnancy planning and later delivery of any future children. If removal of your fibroids was for management of pressure symptoms or heavy periods, at this stage we will discuss your further management options.