Patient information

East Sussex Healthcare
NHS Trust

Laparoscopy and Chromotubation (Dye Test)

Introduction

In order to achieve a natural pregnancy, one of the necessary requirements is a passage where the woman's egg can meet and be fertilised by the man's sperm. This usually takes place in one of the woman's fallopian tubes.

In the course of investigation of a couple's fertility, it is often necessary to find out whether the woman's fallopian tubes are open or not. There are several methods to do this and one of the most common ways is the procedure of laparoscopy. In addition to assessing the tubes, laparoscopy can also examine other organs of the pelvis including uterus (womb), ovaries and their surrounding structures.

It will also allow conditions like endometriosis (tissues similar to the inside lining of the womb that are located outside the womb) and adhesions (fine scar tissues) to be seen and diagnosed. It is important to understand that this is a diagnostic procedure that is an operation to find out whether there is any abnormality in relation to the reproductive organs which may be contributing to the fertility difficulty, and not intended to be a treatment operation.

Requirements before the operation

It is important that other basic investigations are completed before a laparoscopy is considered. These include evidence showing that the male partner's sperm count is normal or near normal. It is also useful to know if the female partner is able to ovulate or, if she does not ovulate, is likely to respond to ovulation drugs.

As the operation of laparoscopy may disrupt an early pregnancy, it is extremely important that you are not pregnant at the time of the operation. You are therefore strongly advised to use some form of reliable contraception during the menstrual cycle in which you will be having the procedure.

Arrangements for the operation

Providing you are healthy and within the standard weight limits, the procedure usually takes place as a day case in the Day Surgery Unit or Main Operating Theatre. This means that you will be admitted in the morning or lunchtime, have the operation and go home on the same day.

For those patients who have certain medical problems (e.g. diabetes, heart problems, severe asthma), they will be admitted to the gynaecology ward as an inpatient. This means a longer stay in hospital, perhaps for one or two nights. This is to ensure that these patients receive the safest possible care before, during and after the operation that their medical conditions demand.

This procedure is usually carried out under general anaesthesia. You will be asked not to have any food or drink for at least six hours before the operation, although clear water may be permitted up to 2 hours before the operation (but not within 2 hours of operation). This is a rule that should be strictly observed. If the stomach is not empty before an operation, there is high risk of serious complications from both the anaesthesia and the operation. If it is known that the patient has had food within six hours of the procedure, the operation will be cancelled and another date arranged for the operation.

The details of all the general information are given out at the 'Pre-assessment Clinic', which you are invited to attend one or two weeks before the actual operation. You will be asked a series of questions, particularly in relation to your general health, to ensure that you are medically fit for surgery. The pre-assessment is usually conducted by one of the nurses at the Firle Unit.

Nature of the operation

The operation of laparoscopy involves carefully inserting a long and fine telescope (a laparoscope) into the abdomen through a small incision (cut) at or close to the umbilicus (‘belly-button’). The thickness of the laparoscope is similar to that of an ordinary pen. Before the insertion of the laparoscope, the abdomen is distended by a volume of gas using a special fine needle. This is to ensure that there is an adequate space inside the abdomen to allow safe entry of the laparoscope.

Another small incision is often made at the level of the top of the pubic hairline. This allows the insertion of a long thin probe that helps to manipulate or move the various organs in and around the pelvis so that a clear view of all the pelvic organs is obtained.

With the instruments in place, the uterus (womb), fallopian tubes, ovaries and surrounding structures are inspected carefully, taking note of any unusual or abnormal findings. When available, Polaroid pictures of unusual features can be taken for future reference.

The operation also includes the procedure of chromotubation or dye test. This is a simple test that involves injecting a small quantity of light-blue fluid into the womb via a metal or plastic tube which is placed through the vagina and the cervix (neck of the womb). The aim of this test is to assess whether the fallopian tubes are open or blocked.

If the tubes are open, the fluid will enter them and spill out through the ends of the tubes into the pelvis. With the laparoscope in place, one will be able to see this happening and confirm the normality of the tubes. On the other hand, if the fluid does not enter into (or enters but does not spill out of) the fallopian tubes, then one would suspect tubal blockage.

When all the above procedures are completed, as much of the gas that has been introduced into the abdomen as possible is released through one of the incisions. All the instruments are then removed carefully. The incisions on the abdomen are closed with stitches that usually dissolve over a period of time naturally.

After the operation

You will wake up from the anaesthesia gradually. You may experience some dizziness, nausea and weakness that are the residual effects of the anaesthesia. These will clear up quickly.

You will have some pain, particularly around where the two small cuts are on the abdomen. There may also be some bruising around the lower abdomen. You may also experience some discomfort in your right shoulder and perhaps behind your neck.

This is due to irritation of the diaphragm by a small volume of gas that may have been trapped. This irritation of the diaphragm will then cause 'referred' pain to the shoulder and behind the neck. The trapped gas will dissolve gradually over the following few days and the discomfort will disappear. You will be given a short course of painkillers to help you with the pain. In addition to the discomfort, you may also have slight vaginal bleeding which should settle within a day or two.

Once you are fully awake, the doctor who performed your operation will explain to you what he or she has found during the operation. You are welcome to ask as many questions as possible so that you understand the findings of the operation. The doctor may also briefly discuss the subsequent management of your fertility. You will be given a review appointment at the Fertility Clinic to further discuss the findings at laparoscopy. A letter of summary of the procedure will be sent to your General Practitioner, so that he or she is aware of the findings as well.

You are normally asked to stay in the Day Surgery Unit for at least two to three hours after the operation. Providing you are fully awake, can manage to keep oral fluid down and pass urine, you will be allowed to go home. You will need to be accompanied by an adult on discharge, as it is unsafe to go home on your own. Occasionally, some patients take slightly longer to wake up from the anaesthesia or experience more discomfort than usual. These patients will then be transferred to the gynaecology ward for further observations. They may be able to go home later but often an overnight stay is advised.

Following discharge, you are advised to rest as much as possible for a few days, but you do not need to be confined to your bed. Moving around gently and taking frequent deep breaths may actually speed up recovery and help to avoid some of the complications of having had an operation. For two to three days after the procedure, you are advised not to drive a motorcar or ride a motorcycle. If you experience symptoms over and above those that are described above, you should consult your General Practitioner. He/she may wish to refer you to the Gynaecology Assessment Unit for review by the hospital doctors.

Additional procedures that may be performed at the same time (you will be advised whether they are necessary)

Hysteroscopy
This is a procedure that involves passing another fine telescope into the womb through the vagina and cervix. No cut or incision is required although dilatation of the cervix is sometimes needed. By putting either gas or saline water into the womb, the cavity and the inside lining of the womb can then be inspected and examined. A sample of the lining of the womb may also be taken at the same time. Your doctor will tell you whether you will need this procedure and the reasons for it.

Cautery of mild endometriosis
Endometriosis is a condition in which tissues that closely resemble the inside lining of the womb (endometrium) occur outside the womb but in the pelvis. A small proportion of women undergoing laparoscopy will be found to have endometriosis in the pelvis.

It has been shown that, in mild cases of endometriosis, treating these endometriotic tissues at the time of laparoscopy may improve the chance of pregnancy. There are two ways of treating these tissues: electrocautery (burning with a electrically heated needle) and laser. Your doctor will explain whether this may be done at the time of your operation.

Division of fine adhesions
Adhesions are fine scar tissues that may be found around the womb, fallopian tubes and ovaries. They may lead to restriction of movement of these organs, therefore having an effect on fertility. They may be caused by infection, previous operations, and endometriosis. If possible, dividing these adhesions may improve fertility.

Drainage of simple ovarian cysts
Simple ovarian cysts are fluid-filled sacs within the ovary that sometimes occurs in normal women. When they are small, no treatment is necessary as they tend to disappear on their own.

If they are larger, however, they may interfere with ovulation and fertility. In these latter cases, they can be drained during laparoscopy, by putting a needle into the cyst and the fluid drawn out. This is only appropriate if the cyst is simple and the fluid clear.

It is worth bearing in mind that any additional procedure carried out during laparoscopy will increase the chance of complications occurring. It will also prolong recovery from the procedure and may lead to longer stay in hospital. You have the right to refuse to have any of the above procedures being done.

Possible risks and complications of the operation

In general, all operations carry some degree of risks to your general health. The operation of laparoscopy is not regarded as a major surgical procedure but it does carry a very small chance of complications, estimated to be less than 1%.

Every effort is made to reduce the occurrence of complications but we do need your cooperation in following the instructions that you are given.

Summary of the more common possible risks and complications

The following list is a summary of the more common possible risks and complications that may arise as a result of the procedure. The list is not intended to make you feel anxious about the operation but to provide details so that you can make an informed decision regarding the operation. As mentioned earlier, the chance of complications is very small indeed.

Anaesthetic complications
General anaesthesia is usually very safe. Problems however may arise very rarely as a result of anaesthesia. Your anaesthetist will see you before the operation to discuss your anaesthetic and to answer any questions you may have. This is also your opportunity to discuss the best way to control any pain or discomfort you may have after your operation.

Failure to insert instruments into the abdominal cavity
Very rarely, difficulties may be encountered during insertion of the special gas needle or the laparoscope. This usually happens in women who are overweight and those who have a scarred abdomen from previous surgery. If the abdomen cannot be entered safely, the procedure will be abandoned. Alternative methods of checking the fallopian tubes will be considered.

Damage to major abdominal organs
During the insertion of the various instruments into the abdomen, organs like the large and small intestines, bladder and blood vessels may be unintentionally injured. The chance of this happening is very small. This chance will however be increased if you have had previous surgery in your abdomen like Caesarean section, tubal surgery, ovarian cyst removal, appendix removal and bowel or bladder surgery. It is also more likely if you are overweight. If there is suspicion that organ damage has occurred, the operation will proceed to a laparotomy (see below). Any damage to organ(s) will be repaired.

Bleeding
There may be minor bleeding from the site of the incisions which is usually dealt with before the end of the operation. Very occasionally, this bleeding may restart after the operation. This usually requires no more than firm pressure on the site of the incision. There may also be some bleeding from the vagina as a result of the placement of the instrument for the dye test. This is usually of minor degree and should stop within a couple of days. If any of the bleeding described above persists, you should consult your General Practitioner immediately.

As mentioned above, blood vessels may be damaged during the insertion of the instruments into the abdomen. This will lead to bleeding into the abdomen. Sometimes a laparotomy (see below) will be required to stop the bleeding.

Infection
Occasionally, there may be some inflammation of the wounds a few days after the procedure. As long as the areas are kept clean, the inflammation will settle. If it does not settle, antibiotic treatment is sometimes necessary.

Bladder infection may result, as catheterisation of the bladder to empty all urine is part of the procedure of laparoscopy. This may result in 'cystitis' symptoms and antibiotic treatment is usually required.

Infection of the pelvis may very rarely occur. This will cause abdominal pain and fever, and will require hospital admission and treatment with antibiotics through a drip.

Injury to the cervix (neck of the womb)
In order to steady the womb to allow correct placement of instruments, a special device is placed on the cervix. This may infrequently cause small tears of the cervix. These tears usually heal spontaneously and do not leave any scarring. Occasionally, one or two stitches may be required to repair the tears.

Perforation of the uterus
As mentioned previously, a special cannula (tube) is placed through the cervix into the uterus so that dye can be injected into the womb. This cannula may rarely go through the wall of the womb thus causing a very small hole. This small hole usually heals without requiring any repair and will not lead to any problem in the future. Repair may be necessary, however, if there is persistent bleeding from the perforation.

Risk of laparotomy
A laparotomy is a major operation that involves opening into the abdomen through a long incision. There are a number of reasons for this to happen, most of which are mentioned above. It allows direct examination and correction of any complication. It will only be carried out if it is absolutely necessary to safeguard your health. Depending on the reason for the laparotomy, your stay in the hospital will be prolonged to a varying degree.

Possible alternative procedure to assess fallopian tubes

Hysterosalpingogram (HSG)
This is a special X-ray procedure for checking the shape of the cavity of the womb and whether the fallopian tubes are open or not. The advantage of HSG is that it does not require general anaesthesia. It does not however provide details of the ovaries and is unable to diagnose adhesions and endometriosis accurately. The procedure involves placing a cannula through the vagina and cervix so that a special dye that appears on X-ray screen can be injected into the womb. X-ray pictures are then taken to record the findings. This is similar to the dye test at laparoscopy.

It is important that you have read and fully understood the information provided in this leaflet. Please do not hesitate to voice your concerns or queries regarding any aspect of the operation at any time before the operation.

Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the Patient Experience Team – Tel: (01323) 417400 Ext: 5860 or by email at: esh-tr.patientexperience@nhs.net

Hand hygiene

The Trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

Other formats

If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.

Tel: 01424 755255 Ext: 2620

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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Reference

The following clinicians have been consulted and agreed this patient information:
David Chui and Dexter Pascall Consultant Obstetrician and Gynaecologist

The directorate group that have agreed this patient information leaflet:
Guideline Implementation Group

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Responsible clinician/author: David Chui, Consultant Obstetrician and Gynaecologist

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