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# DIAGNOSTIC LAPAROSCOPY

## WHAT IS A DIAGNOSTIC LAPAROSCOPY

The Laparoscopy and Dye Test is an important part of the Infertility investigations. Its primary function is to view the fallopian tubes, which act as a transporter of the egg and sperm between the womb (uterus) and the ovary. The womb, tubes, ovaries and lower pelvis can be directly examined in detail without the necessity of a large abdominal incision. Approximately 10% - 19% of women have damage to their fallopian tubes sufficient to affect their fertility. Endometriosis (see overleaf) may also be present. Minor endometriosis may affect fertility.

The test enables us to decide whether the fallopian tube is normal or damaged and also to see if there is a blockage in one or both tubes. If the fallopian tubes are damaged or blocked there may well be an impairment of fertility, the degree of impairment being related to the amount of damage to the fallopian tube. It will also identify minor endometriosis that can be treated during the same procedure. Diagnostic Laparoscopy also helps to diagnose cysts, fibroids, adhesions and ectopic pregnancy

The laparoscopy itself is normally performed as a day case procedure unless there are specific reasons otherwise. This means that you present to the appropriate Ward or Unit at a time specified. The operation is performed and you will be allowed home later in the day, providing you are and feel fit enough. If the procedure is not performed as a day case, usually one or two night's hospital stay is required.

## WHAT DOES THE OPERATION INVOLVE

The procedure involves making a small incision (5mm) just below the umbilicus and inserting a fine needle through it. Carbon dioxide gas is blown into the abdomen to lift the abdominal wall off the pelvic structures. It creates a space between the abdominal wall and the bowel. This allows the laparoscope, a small fibre-optic telescope, to be safely inserted through the same incision into the abdominal cavity and decreases the risk of injury to bowel, bladder or blood vessel Occasionally alternative insertion sites are necessary.
We can then view the womb, ovaries and fallopian tubes through the telescope, and examine them. Usually a second puncture, just below the pubic hairline is used to insert a needle or rod, which allows us to lift structures and view the underside as well. To check that the fallopian tubes are actually patent (open) a blue dye is squirted through the cervix and in normal circumstances, this should travel through the womb and out of both fallopian tubes and this should be easily visualised through the telescope.

## AFTER THE OPERATION

Post operatively you will be informed whether a suture has been used to close the small incision just below the umbilicus. The umbilicus is tender and the abdomen may be bruised. Gas used to distend the abdomen can irritate the abdomen and cause shoulder tip, chest or abdominal pain In normal circumstances you would be collected and taken home on the afternoon of the procedure. If you feel sick or unwell then the facility is made available for you to stay overnight. It will take you between three to six days to recover, and it would be inadvisable for you to return to work until after this time. You should not drive for 48 hours. If you develop a high temperature , have pus coming from the wound or worsening nausea or vomiting then you should immediately request a medical opinion.

## RISKS

Laparoscopy is a blind procedure. That is the initial insertion of the tube carrying the telescope

into the abdomen is done from the outside and it is therefore not possible to see the internal structures. These tubes have points that are designed to retract or are blunt to minimize this risk.
Some conditions increase the risk of complications. These include previous abdominal surgery, especially bowel surgery, a history of adhesions, severe endometriosis, pelvic infection, obesity or excessive thinness.

**SERIOUS RISKS**
The risk of bowel and major vessel injury with gynaecological laparoscopic surgery is between 0.5 and 3 per thousand cases. This compares favourably however with rates of 8.4 per thousand for abdominal surgery and 7.3 per thousand for vaginal surgery. This might require immediate repair by laparoscopy or open surgery however15% of these injuries may not be diagnosed at the time of the procedure (RCOG).
Failure to gain entry to the abdomen
Hernia at entry site
Death 3/100,000

Frequent risks
Wound bruising
Shoulder tip pain
Wound infection

A verbal summary of the result will be available to you on discharge, but if there were any abnormality found, a detailed discussion would be arranged at your next infertility clinic appointment.

Do not be concerned if you see some blue staining around the vagina. This will disappear in 2-5 days

For infertility purposes it is inappropriate to have the procedure performed during a period and should a period suddenly start just before your admission date, you should contact the Admissions Office of the Unit you are having the laparoscopy performed at. They will rearrange the date for a more suitable one.

## TREATMENT OF ENDOMETRIOSIS DURING DIAGNOSTIC LAPAROSCOPY

Minimal and mild endometriosis is frequently diagnosed in infertile women, and may occur in 20% - 60% of women studied for infertility.

Endometriosis is an area of tissue that is essentially similar to the tissue that lines the womb. It is commonly found in the abdominal cavity behind the womb, on the outside surface of the womb

or on the ovary. It is hormone sensitive, and therefore cycles in the same way as the womb lining. It therefore swells up, changes after ovulation and may even bleed at the same time as your period. It may cause period like pain. There is only a limited association between the amount of endometriosis and the amount of pain.

Recent evidence has shown that treating minimal and mild endometriosis at laparoscopy increases pregnancy rates over those with minimal and mild endometriosis who are not treated. The treatment can be performed during the laparoscopy and dye test and involves cauterising the areas of endometriosis that are seen. A fine pointed electrode is applied to the areas of endometriosis and the spark creates heat, which vaporizes and destroys the endometriotic area or the use of an instrument called a harmonic scalpel. Both generate heat. This would involve having one or two further 5 mm punctures in the abdomen, but would not necessitate any extra hospital stay or time off work.

If minimal or mild endometriosis is seen, and can be treated using a laparoscopic technique, then it will be done automatically following the laparoscopy under the same anaesthetic unless you do not specifically wish this.

The risk of a complication due to the electro-cauterisation is extremely slight; the most common being a haematoma or bruise at the site of the extra puncture.

Patients with endometriosis designated greater than minimal and mild, i.e. (moderate or severe) will not have their endometriosis treated. This is because they may require more major intervention and the evidence to confirm the treatment of severe endometriosis improves natural fertility, is lacking. The risks of complications following treatment of severe endometriosis are also greater. We feel it is more appropriate to discuss the findings prior to considering any treatment. Therefore in these cases only the diagnostic laparoscopy (and dye test) would be carried out. There would follow a discussion in the clinic regarding the appropriate management.

**ALTERNATIVES TO LAPAROSCOPY**

The fallopian tubes can be investigated using an X-ray based technique called a hysterosalpingogram or an ultrasound based techneque called HyCoSy. This involves putting X-ray visible dye or ultrasound visible fluid into the womb through the cervix. It requires no anaesthetic. Because the tubes only are seen by the outline of the dye it is less accurate (but is less invasive). It does not identify endometriosis (See hysterosalpingogram sheet and HyCoSy sheet)

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