

Laparoscopy for Ovarian Cautery



**Southern Ontario
Fertility Technologies**

Introduction

Some women with decreased ovulation will be very resistant to ovulation induction (separate information sheet available). Several tricks are available to promote ovulation and these are outlined in the information sheet on ovulation induction. If these women have polycystic ovary syndrome (information sheet available), two choices are available. We can add injectable fertility medications or we can perform laparoscopy and ovarian cautery.

Adding **injectable fertility medication** can often overcome the resistance to ovulation but injectable fertility medications are expensive and often response to these medicines has a threshold effect. Threshold effect means that at one dose, there may still not be a response but at only a slightly higher dose, multiple eggs or follicles may develop.

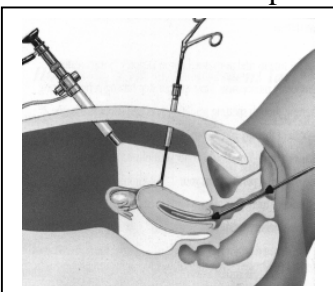
If a moderate number of eggs develop (2 to 4), you may decide to proceed with intercourse or intrauterine insemination (IUI) but the risk of a multiple pregnancy is very high. If even more eggs develop, the risk of a multiple pregnancy becomes too high to risk intercourse or IUI. The options then are to abandon the cycle or to convert it to in vitro fertilization (IVF). Conversion to IVF is covered in another information sheet.

The other alternative, **ovarian cautery or drilling** at the time of laparoscopy may also be considered. Ovarian cautery or drilling has been demonstrated to cause the resumption of normal ovulation or cause an improved response to clomiphene in many patients. Although this sounds crazy, it works very well. It was discovered serendipitously like many things are in medicine (see box). An additional information sheet is available on laparoscopy.

Polycystic Ovary Syndrome was called Stein-Leventhol Syndrome after two gynecologists who first investigated women who did not ovulate. They took wedge biopsies from the ovaries of these women. However, they found that when they did the biopsies, the women would often start to ovulate! This is now believed to work because it decreases the intra-ovarian male hormone level and can be more easily done by burning the surface of each ovary in 6-10 places during a laparoscopy.

The Procedure

The first step in laparoscopy is **anesthesia**.



This involves an intravenous (IV) through which medication will be given that will put you to sleep. After you are asleep a tube is put in your airway to help you breath.

Your abdomen will be cleansed and sterile sheets will be placed at the sides, bottom and top to prevent infection. The same solution will also be used to cleanse the vagina, as often instruments have to be used in this area as well.

A small incision is made at the bottom edge of the navel and a special needle or a trocar is inserted through the incision. Gas is then put in the abdominal cavity through the needle or trocar. This makes it easier and safer to see with laparoscope and allows your physician a better view inside.

Any other incisions are then made and the instruments inserted while viewing through the laparoscope.

When the examination (and any procedure) is over, the gas and instruments are removed and the incisions are closed with small stitches.

You are then taken to **the “recovery room”** usually as you are just starting to wake up. There will be a nurse in the recovery room to take care of you as you come out of the anesthetic which usually takes 45-60 minutes. Once you are awake you will leave the recovery room and be allowed to rest in the post-surgical unit until you go home. Your husband or other support person can be with you in the post-surgical unit but not in the recovery room.

The performance of ovarian cautery during laparoscopy usually makes the procedure no more difficult for the patient in terms of pain from the procedure or recovery time. Ovarian cautery, like most operative laparoscopies, requires a third incision (one at the navel and two smaller incisions in the lower abdomen) but this seldom effects recovery times.

Who will Perform the Laparoscopy?

If you have been referred to S.O.F.T. by a gynecologist, we will ask them to perform the surgery. If you have been referred to S.O.F.T. by a physician who does not perform laparoscopy, your procedure can be done by Dr. Martin or Dr McNaught. Sometimes, to expedite the timing of your laparoscopy we will have you discuss it with both clinic doctors so your surgery can be done by the one who has the first available surgical time. If you request, we can send you to another gynecologist or occasionally, in rare circumstances we will request your surgery be done by another physician.

After The Procedure

Usually the physician who performed the laparoscopy will want you to make an **appointment 2 weeks** after the surgery to discuss the results, check your incisions and decide on the next treatment.

About half of patient will have a spontaneous menstruation within 60 days of the surgery and we usually wait for this to occur. We have found that in the first 30 days after the procedure, during recovery that the ovaries are extremely resistant to ovulation induction.

If a spontaneous menstruation does not occur within 60 days of the procedure, we will bring on a cycle so that we can get on with your treatment. Once the cycle is brought on, ovulation induction is prescribed. This is usually in a dose lower than that being used before the surgery. The exact prescription will be discussed at your post-operative visit. Usually, but not always, we will want to monitor a cycle. This also will be discussed at the post-operative visit.

If a spontaneous menstruation does occur within 60 days of the surgery it usually means that ovulation may occur spontaneously or with much less medicine than before the surgery. Sometimes, no medication will be prescribed or only mild ovulation induction. Usually, we will want to monitor the cycle.

The Results

Ovarian cautery has been used many times in the S.O.F.T. clinic. The results were tabulated and presented at the 2006 annual meeting of the Canadian Fertility and Andrology conference. As you will see, most patients (92%) ovulate after the procedure. The detailed results are reproduced for your interest below:

Effectiveness of Laparoscopic Ovarian Cautery for Clomiphene Resistant PCOS

James S.B. Martin. Southern Ontario Fertility Technologies, London, Ontario, Canada*

Objective: To investigate the effectiveness of laparoscopic ovarian cautery in PCOS patients who fail to ovulate with at least 150 mg of clomiphene citrate for three days.

Methods: A diagnosis of PCOS was made using the criteria established by the Modified Consensus of the National Institute of Child Health and Human Development in 1990 and modified (2004) at an international consensus. Non-ovulation was documented by monitoring the cycle (using a minimum of 150 mg of clomiphene citrate for 5 days) with serial estradiols, LHs and vaginal ultrasounds. Monitoring began on day 12 of cycle and continued until ovulation occurred (tripling of baseline LH in presence of a follicle 16 mm or greater) or non-ovulation was diagnosed by three days without follicle growth or increased estradiol. Fifty two of fifty seven consecutive patients were documented with non-ovulation went on to laparoscopy with ovarian cautery and 51 patients' results post operatively were recorded.

Results: Menstruation occurred in twenty one patients within 60 days of surgery. If menstruation occurred they were given 50 mg clomiphene citrate and monitored as described above. If no menstruation occurred, a menstruation was medically induced and 100 mg clomiphene citrate was given and they were monitored as above. Medications were increased or modified until monitoring indicated ovulation. Ovulation was documented in 47 of the 51 patients (47/51=92%). Twelve patients ovulated on 50 mg clomiphene citrate (12/51=24%), 21 on 100 mg clomiphene citrate (21/51=41%), 4 on femara 5 mg (4/51=7.8%), 3 on clomiphene citrate 150 mg (3/51=5.9%) and 7 on a combination of clomiphene and femara (7/51=13.7%).

Conclusions: Laparoscopic ovarian cautery is extremely effective at promoting ovulation in women with PCOS who do not ovulate with at least 150 mg clomiphene citrate. It should be considered and offered for these women as an alternative to injectable medications or in vitro

A Final Note

Almost all patients ovulate after ovarian cautery. However, some do not! S.O.F.T. is often considered the final stop to get ovulation occurring. One of our common referrals is patients who have been tried on ovulation induction agents to the maximum dose and have failed to ovulate.

If ovarian cautery fails to allow ovulation, we have two options. On extremely rare occasions we have repeated the ovarian cautery. We have only had to do this three times in the first 5 years of the clinic operation and it is usually successful. The other option is to use injectable fertility medications and risk a conversion to IVF. This also is usually effective.

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S.O.F.T.

555 Southdale Rd., E., Suite 107,

London, ON, N6A 1A2

Tel: (519) 685-5559

Check out our web page at www.soft-infertility.com