

Endometriosis will not Lower IVF Success

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Effects of [endometriosis](#) on fertility treatment success has always been a controversy. When a woman is diagnosed with endometriosis, she receives multiple contradicting advises from multiple sources. It is very difficult for women to sort through these recommendations and pick the ***one that are suitable for her symptoms and reproductive plans***. Indeed reproductive plans and symptoms are by far more important than the nature of the problem, anatomically, as well as what one reproductive surgeon or a fertility specialist think you should do.

Reproductive Plans in women diagnosed with endometriosis

Simply do you want to have a baby or did you complete your family?. If you want to have a baby, then an initial infertility evaluation is required: testing for ovulation, [ovarian reserve](#), male factor and Fallopian tube patency is required. Sometimes other forms of pelvic imaging e.g MRI is needed to test for [ovarian cysts or endometriomas](#)...Endometriosis itself may require laparoscopy and biopsy for accurate diagnosis.

Women are then categorized according to findings: endometriosis only, endometriosis with other factor or endometriosis with low egg reserve. That will facilitate further advice.

One very important indicator that you are not talking to the right person if he or she did not complete the evaluation for male factor and egg reserve. These are essential tenets of fertility and failure to test them will have impact on success. It would be absurd to do surgery for endometriosis for example to discover later that you have a severe male factor that require IVF -ICSI.

If you desire future fertility, reproductive endocrinologists should tailor their advice to preserve reproductive tissues and minimize surgery. There is a strong evidence that surgery in the ovary reduces ovarian reserve, irrespective of technique used.

Pain in women diagnosed with endometriosis

If the main symptom is pain, in different forms, then medical or surgical treatment can be employed. in women who completed their families. Medical treatment e.g non cyclic oral contraceptive pills of GnRH agonists (depot lupron) prevent pregnancy. From a practical stand point, surgery in many cases may not promote pregnancy in women with mild and severe endometriosis.

Women diagnosed with endometriosis and report pelvic pain should focus on getting pregnant. Pregnancy can suppress endometriosis for a long time after delivery

Fertility Treatment in Women Diagnosed with Endometriosis

Absolutely avoid doing surgery in the ovaries in women interested in pregnancy. This is crucial. Opening endometriomas and tripping their walls leads to significant loss of egg reserve. The only indication to remove endometriomas if they are complicated e.g rupture or suspicion

of malignancy. There are many reports of finding eggs in the wall of endometriomas after removal and reduction in egg reserve markers after surgery. Bilateral surgery for endometrioma can lead to menopause, irrespective of the skill of the surgeon.

In minimal and mild endometriosis with reasonable egg reserve, normal sperm analysis and open fallopian tubes, ovarian stimulation and IUI can be entertained in young women (38 years).

In women with moderate or severe endometriosis e.g. endometriomas, blocked tubes.. or those with associated male factor infertility or low egg reserve, IVF yields a much higher pregnancy rate.

IVF Success in Women with Endometriosis

Recent analysis of IVF cycles performed in women with endometriosis with or without other factors (tubal, male, unexplained infertility) indicates that

Isolated endometriosis is associated with similar IVF success and live birth to other infertility factors, though the number of eggs retrieved may be smaller.

Endometriosis when associated with other factors e.g. male or tubal factor may have lower success rates. The live birth rate is still excellent 35 to 45% per cycle.

[Endometriosis-and-IVF](#)

Treatment of Endometriosis related pain

Both medical treatment and surgery are effective for treatment of pain. Endometriomas do not respond to medical treatment. Endometriosis on the peritoneum and other organs respond to medical and surgical treatment. Adenomyosis (endometriosis of

the uterus) is a surgical disease and respond only to surgery.

In general medical treatment is successful but requires patience and can be used for a longer period of time with add back therapy.

If you are diagnosed with endometriosis there is wide range of treatment options. Treatment should be personalized to your reproductive goals and symptoms not to physician expertise and bias. There is really little controversy about what need to be done in each situation. Women just need to be specific about what they want: get rid of pain or have another baby. IVF success is not impaired in women with endometriosis.

Endometriosis: Fertility Options are Clear

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Endometriosis means tissue of the lining of the uterus is present outside the its normal boundaries. It can involve the pelvic lining, the ovaries (endometrioma), the fallopian tubes, the intestine and the muscle of the uterus (adenomyosis). As menstruation takes place in the uterus, these deposits menstruate into itself, become distended and causes pain (pain with menstruation, chronic pelvic pain, pain with intercourse, urination or defecation). Moreover, because of its chemical effects or associated pelvic scarring endometriosis may cause infertility.

Accurate diagnosis of endometriosis requires laparoscopy and

biopsy of the areas suspicious because of its appearance. If you are suspect you have endometriosis (usually because of pelvic pain) and want to get pregnant or having difficulty becoming pregnant you face a small dilemma. You are usually given different recommendations from different headquarters, depending on their expertise and biases. Examples of such recommendations:

'Lets do laparoscopy to diagnose endometriosis, remove any endometriosis we find as well as remove any scarring'

'Lets give you medications for endometriosis'

The questions is which recommendation is "good for your specific case".

Few basic principals about endometriosis treatment

These are not disputed principals, just facts related to the treatment of endometriosis in general.

1. Accurate diagnosis of endometriosis requires a laparoscopy and pathological examination of tissue biopsies obtained.
2. Medical treatment of endometriosis does not allow you to get pregnant while you are using it: oral contraceptive pills, synthetic progesteron, danazol and GnRH agonists (lupron) prevent ovulation. While you are taking these medications you will mostly not ovulate so you will not get pregnant.
3. Endometriomas (endometriotic cysts of the ovary) do not respond to medical treatment. Moreover their removal mostly require removal of a part of the ovary, because they are firmly attached. Thus their removal can lower the number of eggs remaining in the ovaries (ovarian reserve).

Treatment of infertility associated with endometriosis

Though each specific situation may require a different course

of action as recommended by your physician, there are general guiding principals for treatment of infertility when endometriosis is suspected.

1. **Infertility investigation:** do not make any treatment decisions without a full fertility workup. Do not proceed unless you know your partner sperm analysis, obtained the results of ovarian reserve tests, tested if your fallopian tubes are open or not via an HSG as well as general preconception lab tests. Why? if you undergo surgical treatment for endometriosis and later discovered that your partner has very low sperm count requiring IVF and ICSI, then surgery had no potential to help you get pregnant.

2. **What is your priority treating infertility or treating pain?** This is important because medical treatment, although effective in treating pain cannot help you with infertility because it mostly prevents ovulation. Please note that the best treatment for pain associated with infertility is pregnancy. The large amounts of progesterone produced during pregnancy suppresses endometriosis, sometimes for years after delivery.

3. **Resection of endometrioma;** If a cyst consistent with endometriosis is seen on ultrasound be very careful with a recommendation to resect that cyst. Resection requires surgery. it reduces ovarian reserve because of removal of ovarian tissue. Unless the cyst is suspicious of malignancy or complication they are better left alone with observation while proceeding directly to fertility treatment e.g IVF. There is no evidence that removal of the cyst improves IVF success. On the contrary, removal of the cyst is associated with low response in that ovary.

4. **Laparoscopic surgery for mild and minimal endometriosis:** There are two studies that showed an improvement in pregnancy rate after laparoscopy for mild endometriosis. To put this in perspective, yes laparoscopy for infertility and mild

endometriosis and infertility is an option but the magnitude of benefit in this case is limited at best. You first have to undergo surgery (with its possible complications). If endometriosis is found and ablated you would get a small bump in pregnancy rate in the year following surgery. The surgery may also help you with pain. On the contrary, endometriosis may not be found and you still have to try after surgery. Considering all the risks and benefits, the odds for pregnancy is not dramatically improved.

5. An alternative approach to mild and minimal endometriosis:

The general thinking about infertility associated with minimal and mild endometriosis is that it is unexplained infertility. In these cases there is no mechanical distortion of pelvic organs and fallopian tubes are open. If sperm analysis is within normal enhancing fertility could be achieved through stimulation of the ovary to produce multiple eggs followed by IUI or IVF. This approach avoids surgery with its potential complication. IVF carries approximately three times the odds of pregnancy and can control the risk for multiple pregnancy, compared to IUI.

6. Moderate to severe endometriosis: These cause distortion or blocking of the fallopian tubes. Surgery is an option but its much more complicated than mild cases and has the risk of injury to the intestine, ureter, fallopian tubes, ovaries..Scarring also may recur after surgery. An alternative approach is to proceed to IVF. It avoids major surgery and can address tubal, male and ovulatory factors. IVF success is not reduced in women with endometriosis.

7. Adenomyosis (endometriosis of the uterus): MRI is sometimes needed for accurate diagnosis of adenomyosis. Adenomyosis is a surgical disease and its cure require removal of the whole uterus. This is because it cannot be shelled out of the uterus like a fibroid. Better ignored and proceed with fertility treatment.

Do not make any decisions related to infertility before a complete workup; sperm analysis, ovarian reserve tests and fallopian tube patency test. Avoid surgery in the ovary as it may reduce ovarian reserve. There is no established evidence that the chance for successful fertility treatment is reduced in women with endometriosis. Laparoscopic surgery is an option but is associated with surgical complications.

Ovarian Cysts and Fertility

Ovarian cysts are very common during reproductive age women. The cyst has a wall and is full of fluid. Very few of ovarian cysts are cancer after puberty and before menopause. The two most common types are **follicular cysts** and **corpus luteum cysts**. These are the result of follicle growth in the ovary (the sac that contains the egg) that either a. does not release the egg and continue to grow or b. releases the egg then the follicle wall now called the corpus luteum closes and reform a cyst. The vast majority of these cysts require just observation as they resolve on their own.



laparoscopic surgery for endometrioma may reduce ovarian reserve

The other two common benign cysts are dermoid cysts and endometriomas. **Dermoid cyst** is a developmental cyst that are commonly found in young women. It is very rare for them to become cancer. Larger cysts can twist and become painful as they twist the blood vessels of the ovary. This needs prompt medical attention. **Endometriomas** are benign cysts full of old

blood. The wall of endometriomas is similar to the lining of the uterus-endometrium. They sometimes cause pelvic pain.

Benign tumors of the ovary can also include **serous or mucinous cysts**, they contain thin or thick fluid, respectively. They rarely become malignant. **Border-line ovarian cysts** exhibit more activity of the cells lining the cyst wall but lack the invasion seen in cancer. **Malignant cysts** do exist but are not common before the age of 40.

Evaluation of ovarian cysts include clinical history, pelvic exam, careful ultrasound, color doppler to study blood flow into the cyst and blood work to assay tumor markers. Vaginal ultrasound, can in expert hands, delineate the characteristic appearance of the cyst and can reach an accurate diagnosis in 90% of dermoid cysts and endometriomas. Sometimes a follow up of six to eight weeks is needed as the majority of follicular and corpus luteum cysts will disappear during this period. Larger cysts that do not appear during that period may require surgical evaluation, usually using minimally access surgery-laparoscopy.

Fertility preservation in women diagnosed with ovarian cysts. The most important initial task is to exclude malignancy in an ovarian cyst.

Benign cysts— can be managed using *observation* every 6 months or ovarian cystectomy. Ovarian cystectomy entails making a cut in the ovary and removal of the cyst and the cyst wall. **Removal of the cyst wall, inadvertently remove some of the adjacent ovarian tissue. Sometimes that impairs the future function of the ovary and reduces ovarian reserve and possibly the chance of future pregnancy.** This is especially true if the surgery has to be repeated in the future or needs to be done on both sides. If the type of cyst is known with high degree or certainty as in the case of dermoid cysts and endometriomas, the cysts are small and not causing any complaints, young women can elect to observe them until they

complete their family. If ovarian cystectomy is planned, discussion of the effects on ovarian function should be initiated as well as evaluation of ovarian reserve before and after surgery. Ovarian stimulation and egg or embryo freezing can be accomplished prior to surgery. For some women, ovarian tissue freezing can also be performed at the time of surgery.

Borderline ovarian cysts. Borderline ovarian cysts can be treated with cystectomy-removal of the cyst, oophorectomy-removal of the whole ovary or hysterectomy with removal of both ovaries. There is no evidence that one treatment is better than the other in terms of survival. For women who desire future fertility removal of the cyst only is a viable option. If the ovary need to e removed, ovarian stimulation, egg retrieval and embryo or egg freezing can be performed prior to surgery.

Malignant ovarian cysts. Malignant ovarian tumors limited to one ovary, can be treated by removal of that ovary with preservation of the uterus and the other ovary. Unfortunately, those that spread beyond the ovary may require hysterectomy and removal of both ovaries.

If you have an ovarian cyst and surgery was recommended, consultation with a reproductive endocrinologist and oncologist or gynecologist can clarify possible effects of surgery on future fertility. Women then will have the opportunity to understand fertility preservation options available for them.