

A Couples Guide to Infertility Treatments

A thorough infertility evaluation should always be completed before beginning treatment.
The investigation includes many of the following:

- Complete *endocrine evaluation of the female*, assessing ovarian, pituitary, adrenal and thyroid functions in order to determine if or why she is not ovulating properly.
- Possibly check *fasting insulin and glucose* levels to see if she has polycystic ovarian syndrome (PCOS) and/or insulin resistance. Many women with PCOS and/or insulin resistance can significantly benefit from weight loss or medications such as Glucophage (Metformin) in order to improve their response to infertility medications with increased pregnancy rates.
- Assess her '*ovarian reserve*' of eggs by measuring (cycle days 2, 3 or 4) Estrogen and FSH levels, as well as an ultrasound-US (follicle count) to make sure her reserve of eggs is not diminishing. Anti-Mullerian hormone (AMH) may also be checked.
- Evaluate the *Uterus and Fallopian tubes* by Hysterosalpingogram-HSG (XRay) or Saline Sonogram-SIS (Ultrasound).
- Finally, a *semen analysis (SA)* with a sperm function test (Kruger Strict Morphology) should be done to assess the male's fertilizing capacity. Just because he has a normal sperm count and motility does not mean that his sperm can easily fertilize an egg.

Then we have a thorough *consultation* in order to discuss test results and the four primary infertility treatment options: (1) Natural cycles/IUI; (2) Clomid therapy with timed intercourse or Intrauterine Inseminations (IUI); (3) Gonadotropin (FSH) injections with IUI; and/or (4) In Vitro Fertilization (IVF).

Clomid (an anti-estrogen) stimulates your pituitary gland to produce more FSH (Follicle Stimulating Hormone) which then causes the ovary to develop typically one or two mature follicles, each containing an egg. Clomid has a positive effect on the ovaries but its anti-estrogenic effect on cervical mucus quality and on the uterine lining, hamper pregnancy rates the longer you are on Clomid. For that reason, if one is going to get pregnant, most pregnancies with Clomid and timed intercourse or IUI occur within the first 4 treatment cycles. We often add natural estrogen and natural progesterone at appropriate times of the menstrual cycle to improve the uterine lining and cervical mucus in order to overcome the negative effect that Clomid has on the uterine lining and cervix. In addition, the IUI allows us to bypass any adverse cervical mucus by placing millions of motile sperm into the top of the uterine cavity, thereby exposing the female to far more sperm than will normally occur with intercourse. In addition, with IUI the timing is very important. We will usually do an ultrasound 4 or 5 days after the last Clomid pill and if the follicles are mature size (18 mm or larger) we give an injection of HCG hormone, a pregnancy hormone which mimics the LH (luteinizing hormone) surge. This HCG

injection will cause a woman to ovulate 24 to 38 hours later, allowing for excellent timing. We do IUIs 7 days a week to ensure appropriate timing. Clomid with IUI is relatively easy to do, less expensive and less risky than other options, but less successful. Approximate costs for Clomid/IUI can range from \$ 900 - \$1600/mo depending on the number of US exams and IUIs needed, as well as medications.

Gonadotropin (FSH) injections have some significant advantages as well as disadvantages. Some of the FSH medications include Bravelle, Follistim, and/or Gonal-F. The FSH injections are more potent than Clomid therapy and therefore, we expect more egg development but ideally want to see no more than 2 or 3 mature follicles. On FSH injection medications, any follicle 16 mm or larger will usually release its egg (ovulate), but on rare occasions follicles as small as 14-15 mm may ovulate, leading to higher risks of ovarian hyperstimulation (OHSS) and/or multiple births. Another advantage of the FSH therapy is the cervical mucus quality is much improved compared to Clomid, due to higher levels of estrogen as more follicles develop. In addition, the higher estrogen levels benefit the uterine lining which will be much better stimulated than with Clomid. For these reasons- more eggs, better cervical mucus and a better uterine lining, the pregnancy rates with FSH therapy are higher than with Clomid. However, specialists generally discourage this treatment due to the following disadvantages:

- 1) More labor-intensive monitoring of the ovaries (lab and Ultrasound) is required
- 2) Considerably higher costs for monitoring and medications
- 3) Higher risk of twins and high-order multiples (triplets or worse)

The average woman may require 7-10 days of injections, which we teach the patients to do. However, during that time, she needs more intensive monitoring and may have 4 - 6 visits to the office for ultrasound and estrogen blood tests. This helps determine the appropriate dose of FSH so that we can achieve a safe stimulation of the ovaries with a handful of mature eggs being released. When doing FSH injections, due to the need for more blood tests and ultrasounds, the average costs for treatment can range from \$2000-\$3000/mo, plus the cost of the medications. Insurances that pay for infertility treatment will usually cover this therapy.

Lastly, the risk of multiples is considerably higher with FSH therapy. We expect approximately 20% twins (compared to 6-8% with Clomid), triplets 4%, (compared to approximately 1 in 500 pregnancies with Clomid) and on rare occasions, quadruplets or more... due to the inability to control exactly how many eggs will release when using FSH injections.

In Vitro Fertilization (IVF) is the only method that allows us to *assess egg quality* and on occasion, abnormal genetics of embryos. In addition, IVF allows us to *bypass any tubal disease* as well as overcome most *male factor infertility* by placement of the best sperm directly into the egg to improve fertilization rates (ICSI). IVF treatment uses the same FSH medications, but in higher doses, since we want to get more eggs developing so that we can retrieve more eggs and therefore, have more embryos in order to be more selective and choose the best embryos for transfer to the uterus. With IVF we can control the risk of multiples better by transferring fewer embryos to the uterine cavity. IVF is certainly more labor intensive but carries the highest chance for pregnancy and also allows us to minimize the risk. It is more expensive than the FSH therapy but in

many cases, is the best choice.

Depending on the woman's age (and ovarian reserve), sperm function testing, a couple's work schedule and time commitments, insurance, and risk tolerance, we can help most couples decide on the treatment options that may be best suited for them. For more infertility articles, go to my website www.TheInfertilityDoctor.com.

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Published Feb 2006 Pioneer Press Newspapers. Revised Mar 2009. Revised Apr 2010