

Infertility Treatment Western (in Black)
and Eastern Procedures (in Blue)
Medications, Procedures and TCM alternatives

Clomid - (Clomiphene Citrate, is one of the most popular fertility drugs in use, can help many women get pregnant, but it's not for everyone, often the very first medication tried when treating anovulation or unexplained infertility, usually well-tolerated Clomid side effects[Ⓢ] If you experience side effects not on this list, or your side effects are especially severe, you should contact your doctor)

The risk of getting pregnant with twins or more may be the most well-known side effect of Clomid. During clinical trials of Clomid, 6.9% of pregnancies were twin pregnancies, 0.5% were triplets, 0.3% were quadruplets, and 0.1% were quintuplets. To reduce the chances of having twins while taking Clomid, your doctor should always start you on the lowest dose first, 50 mg, before trying higher doses.

According to Clomid's drug information sheet, ovulation usually occurs 5 to 10 days after the last pill. If you're on the day 3 through 7 dosing schedule, that would put your expected ovulation between days 12 and 17 of your cycle. If you're taking Clomid on days 5 through 9 of your cycle, that would put expected ovulation between days 14 and 19.

The best thing to do is to start having sex every other day for one week, starting on the fifth day after taking the last pill. Also, if you use an ovulation predictor kit, you may want to have sex everyday when the kit indicates that ovulation is around the corner. It's important to keep in mind that these are not guaranteed days for ovulation, but only the most common times of ovulation for Clomid patients. It's also important to keep in mind that the time you usually ovulate from cycle to cycle may be different when taking Clomid. You may ovulate earlier or later than you usually do. However, after Clomid treatment has started, ovulation will usually occur around the same time each treatment cycle.

While 75% of women taking Clomid for anovulation will ovulate, 25% will not. Without ovulation, pregnancy achievement is impossible. If you don't achieve ovulation on Clomid, will you need to move on to stronger drugs or more complex treatments? Not necessarily.

Clomid Resistance: Sometimes, the reason you may not ovulate on Clomid is because the dosage is too low. It's common to start Clomid treatment at 50 mg, and then increase to 100 mg if you don't respond to 50 mg. In some cases, doctors will try doses up to 250 mg. However, if you're still not ovulating, your doctor may say you are *Clomid resistant*. (fancy way of saying that your body does not respond the way we'd like to Clomid..)

Possible reasons for Clomid resistance: **PCOS:** (Polycystic ovarian syndrome) Women with PCOS commonly have trouble with Clomid resistance, especially those who are diagnosed as INSULINE RESISTANT or with HYPERANDROGENIC LEVELS (high levels of DEHAs and male hormone levels). PCOS is an endocrine disorder and a common cause of infertility in women. In PCOS, hormones that affect the reproductive system are abnormal, leading to irregular or absent ovulation. PCOS is a common disorder, affecting up to 8% of women. Women with PCOS often have polycystic ovaries. This means that the ovaries have many tiny, benign and painless cysts. During an ultrasound exam, the tiny cysts may resemble a string of pearls. However, polycystic ovaries do not always point to PCOS. Studies have found that some women have polycystic ovaries, normal ovulation, and no other signs of an endocrine disorder like PCOS.

A common finding with PCOS is abnormally high levels of androgen hormones. While androgens are found in both men and women, they are considered to be primarily male hormones. High androgen levels are associated with some of the more visibly distressing symptoms of PCOS, including acne and abnormal Hair Growth. Symptoms of polycystic ovarian syndrome may include:

- infertility
- irregular or absent ovulation (anovulation)
- amenorrhea (absence of monthly menstrual cycles) or oligomenorrhea (irregular monthly menstrual cycles)
- recurrent miscarriage
- abnormal hair growth, also known as Hirsutism on the upper lip, chin, around the nipples, or on the abdomen
- acne, especially oily skin and hair
- male pattern balding
- obesity
- the presence of polycystic ovaries during ultrasound examination
- insulin resistance
- high levels of androgens also known as hyperandrogenism
- elevated levels of the hormone LH (making at-home ovulation test difficult to use)

You do not need to have every symptom above to be diagnosed with PCOS, and PCOS does not present itself the same way for every woman. For example, many women with PCOS do not have abnormal hair growth and are at a healthy weight. Some women with PCOS may not have a menstrual cycle for months at a time, while other women with PCOS may only have slightly irregular cycles.

Because PCOS is diagnosed by looking at the greater picture, and by excluding other potential diseases that can cause similar The abnormal hormone levels associated with PCOS lead to problems with ovulation. These irregularities in ovulation are the main cause of infertility. PCOS is also associated with a higher risk of early miscarriage. Research on PCOS has shown that the miscarriage rate may be as high as 20% to 40%, which is twice as high as in the general population. It's not exactly clear why miscarriage is more common in women with PCOS, but some theories include the following:

- poor egg quality, related to premature or late ovulation
- insulin resistance
- a less-than-favorable environment for an embryo to implant in the uterine lining (due to abnormal hormone levels associated with PCOS)

The most commonly used diagnostic criteria currently being used requires **two out of three** of the following to apply:

- irregular or absent menstrual cycles, caused by chronic anovulation
- either blood test confirmation or outward signs of high levels of androgens (abnormal hair growth, acne)
- the presence of polycystic ovaries, as seen by ultrasound examination

In addition, other potential causes of anovulation or high androgen levels must be eliminated. This usually includes testing for congenital adrenal hyperplasia, androgen-secreting tumors, and hyperprolactinemia.

Test like Blood work will be ordered to check hormone levels, blood sugar levels (for insulin resistance), and lipid levels. Transvaginal ultrasound may be ordered, in order to see if the ovaries appear polycystic. Tracking a detailed history is also an important part of PCOS diagnosis. Your doctor will want to know about how regular your menstrual cycles are, and ask about unwanted hair growth. You may be tempted not to mention unwanted hair growth because of embarrassment, but it's important that you tell your doctor about this problem if you have it.

Potential treatments for PCOS

Treatment for PCOS will depend on whether or not you're trying to get pregnant. If pregnancy is not a priority, Birth Control pills may be ordered to help regulate your cycles and help reduce acne and unwanted hair growth.

Some acne treatment are not safe to be used when you're trying to get pregnant, so be sure to tell your doctor if you are. For those trying to get pregnant, the treatment for PCOS is similar to the treatments used for treating anovulation. The first line of treatment is usually Clomid which is used to help stimulate ovulation.

Metformin (also known as Glucophage), a drug usually used to treat insulin resistance, is sometimes used for treatment, even if you do not have insulin resistance.

If these medications do not help, then gonadotropins (fertility drugs that are taken by injection) may be tried. If drugs alone do not work, or if there are multiple factors leading to infertility, IVF treatment may be recommended. Some studies have shown that women who are overweight with PCOS may be able to restart ovulation naturally by losing just 10 % of their current weight. A healthy diet and regular exercise may also help bring back regular ovulation in some, but not all, women with PCOS.

BMI over 25: A body mass index (BMI) over 25 can decrease the chances of Clomid working successfully.

Hyperprolactinemia: Women with HYPERPROLACTINEMIA may not respond well to Clomid, without also treating This condition, there are times when it's not clear why Clomid is not helping induce ovulation.

Options in Treating Clomid Resistance

For women with PCOS, treatment with the insulin resistance drug Metformin , also known as Glucophage, may help. Ideally, Metformin would usually be prescribed for a period of three to six months before trying Clomid again. Some studies have shown that besides improving ovulation rates, taking Metformin and Clomid together may also increase the pregnancy rate and decrease the risk of miscarriage.

OVARIAN DRILLING is an older method of treating Clomid resistance in women with PCOS, but is not commonly used today because of the risks. If your doctor suggests ovarian drilling, you may want to question the reason for that choice, when there are other options that can and should be tried first. If your BMI is over 25, your doctor may suggest that you lose some weight before retrying Clomid. Losing just 10% of your current body weight may improve Clomid's effect.

IVF Treatment and Assisted Reproductive Technologies

IVF Treatment is not easy to go through, but it may provide the best (or only) chance of success for some couples. Learn everything you need to know about IVF , including IVF basics, IVF step by step, IVF pregnancy, IVF costs, the chances for IVF success, and more. You can also learn about other assisted reproductive options available with IVF, like ICSI, PGD, assisted hatching, and more.

Starting IVF treatment can be an exciting but nerve wracking experience. Usually, IVF treatment is pursued once other treatments have failed, following months of trying to get pregnant unsuccessfully. IVF treatment is the very first treatment tried when an egg donor is being used, there are severe cases of male infertility or a woman's fallopian tubes are blocked. Still, this often comes after years of trying to get pregnant, followed by a slew of fertility testing.

IVF treatment is often successful, though, it may take more than one try. Studies show that the potential for success with IVF treatment is the same for up to four cycles. Generally, the live birth rate for each IVF cycle is 30 to 35% for women under age 35, 25% for women between the ages of 35 and 37, 15 to 20% for women between the ages of 38 and 40 and 6 to 10% for women after age 40. (When an egg donor is used, however, success rates remain high even at age 40, with a 45% success rate.) If you're feeling overwhelmed, don't feel bad. IVF treatment is quite stressful. Just looking over the schedule of ultrasounds, blood work, injections and so on can have you feeling fragile. (And that's before the drugs have a chance to mess with your moods!)

IVF Treatment Step By Step

You may be wondering how everything will come together. While every clinic's protocol will be slightly different and treatments are adjusted for a couple's individual needs, here is a step-by-step breakdown of what generally takes place during an IVF treatment cycle.

The cycle before your IVF treatment is scheduled, you may be put on Birth Control pills. This may seem backward, actually, though, using birth control pills before a treatment cycle has been shown to decrease your risk of ovarian hyper stimulation syndrome and ovarian cysts and may even improve the odds of success.

Another possible option your doctor may ask you to look out for is going by your ovulation (either by Basal body Temperature charting or with an ovulation predictor kit). Let your doctor know as soon as you detect ovulation. Sometime after ovulation, the fertility clinic may then have you start taking a GnRH antagonist or a GnRH agonists, such as Lupron. This is so they can have complete control over ovulation once your treatment cycle begins.

Another possibility, if you rarely get cycles on your own, is taking progesterone, such as Provera, to bring on your period. In this case, your doctor will probably ask that you start taking the GnRH agonist or antagonist about six days or more after your first Provera pill. Again, though, this may vary. Always follow your doctor's instructions.

Step Two: The first official day of your treatment cycle is the day you get your period. (Even though it may feel like you've already begun with the medications you've started before in step one.) On the second day of your period, your doctor will likely order blood work and an ultrasound This is referred to as your baseline blood work and your baseline ultrasound. In your blood work, your doctor will be looking at your estrogen levels, specifically your E2 or estradiol. This is to make sure your ovaries are "sleeping," the intended effect of the Lupron shots or GnRH antagonist.

The ultrasound is to check the size of your ovaries, and look for ovarian cysts. If there are cysts, your doctor will decide how to deal with them. Sometimes your doctor will just delay treatment for a week, as most cysts will resolve on their own with time. In other cases, your doctor may aspirate, or suck, the cyst with a needle.

Usually, these tests will be fine. If everything looks OK, treatment moves on to the next step.

Ovarian Stimulation and Monitoring Step three

If your blood work and ultrasounds look normal, the next step is ovarian stimulation with fertility drugs. Depending on your treatment protocol, this may mean anywhere from one to four shots every day, for about a week to 10 days.

You'll probably be a pro at self-injection by now, as Lupron and other GnRH agonists are also injectables. Your clinic should teach you how to give yourself the injections, of course, before or when your treatment begins. Some clinics offer classes with tips and instruction.

The most commonly prescribed fertility drugs include:

- Clomid; Serophene: - Is often the first drug tried when treating ovulatory dysfunction.
- Femera-Femera o Letrozole: isn't actually meant to be a fertility drug, but is intended to treat postmenopausal women with breast cancer. Still, Femera has been shown to be as effective as Clomid when inducing ovulation. It is being used with less frequency, however, because studies show an increase in birth defects when taken during pregnancy. Doctors who use Femera for ovulation induction argue that the drug isn't taken during pregnancy when used during fertility treatments. It's taken before pregnancy has occurred. Therefore, they say it shouldn't be considered risky to the baby's health.
- Follistim, Gonal F: Follistim and Gonal-F are fertility drugs which mimic the hormone FSH in your body. They are created in a lab using recombinant DNA technology. As you may recall, FSH is the hormone which tells the oocytes in your ovaries to grow and mature. These drugs are taken via injection, which you do yourself, and may be used during IVF or IUI Treatment(Intrauterine insemination) or with timed sexual intercourse at home.
- Bravelle, Fertinex: – These hormonal fertility drugs are also FSH, except instead of being artificially created in the lab, the hormone is extracted and purified from the urine of post-menopausal women.

These drugs are considered less potent than FSH created using recombinant DNA technology, but they are less expensive. They are taken via injection, usually at home.

- Oxidrel, Novarel, Pregnyl: – These drugs are meant to mimic the hormone LH in the body. You might remember LH is the hormone that triggers ovulation. These drugs are made of hCG, which is extracted from the urine of pregnant women. The hormone hCG is similar to LH in the body. These fertility drugs are injectables, and they are often used after FSH treatment, as well as during IVF or IUI treatment.
- Antagon Cetrotide: – These fertility drugs are GnRH antagonist. This means that they work against the hormones LH and FSH in the body, suppressing ovulation. This seems backwards, but these drugs are often used during IVF treatment, to prevent the eggs being ovulated and “lost” inside the body before they can be retrieved.
- Lupron, Synarel, Zoladex: – These fertility drugs are what are known as GnRH agonist, or gonadotropin releasing hormone agonists. They cause an initial surge in FSH and LH production, but then cause the body to stop producing FSH and LH, preventing ovulation and limiting the amount of estrogen. These drugs are usually used during IVF treatment, allowing the doctor to control ovulation with other fertility drugs (like the ones mentioned above).
- Pergonal Humegon, Renpornex, Menopur:– These fertility drugs are combined LH and FSH, also known as human menopausal gonadotropins (hMG). They are not used frequently, but may be used in some special cases. They are injectables.

They may also be used during IUI treatment, or if a couple will not be able to have sex during the fertile window (an ill-timed business trip, for example). Also, they may be used to reduce the risk of ovarian hyperstimulation syndrome, if estrogen levels are too high.

During ovarian stimulation, your doctor will monitor the growth and development of the follicles. At first, this may include blood work every few days, to monitor your estradiol levels, and ultrasounds, to monitor the oocyte growth. Monitoring the cycle is important, as it helps your doctor decide whether or not the medications need to be increased or decreased in dosage.

Once your largest follicle is 16 to 18mm in size, your clinic will probably want to see you daily

Step Four- Final OOCYTE MATURATION in your IVF treatment is triggering the oocytes to go through the last stage of maturation, before they can be retrieved. This last growth is triggered with human chorionic gonadotropin (hCG). Brand names for this include: Ovidrel, Novarel, and Pregnyl.

Timing this shot is vital. If it's given too early, the eggs will not have matured enough. If given too late, the eggs may be “too old” and won't fertilize properly. The daily ultrasounds at the end of the last step are meant to time this trigger shot just right. Usually, the hCG injection is given when four or more follicles have grown to be 18 to 20mm in size and your estradiol levels are greater than 2,000pg/ML.

This shot is typically a one-time injection. The timing of the shot will be based both on your ultrasounds and blood work and when your clinic schedules your retrieval.

If not enough follicles grow or if you're at risk for severe ovarian hyper stimulation syndrome, your treatment cycle may be canceled and the hCG shot will not be given. If treatment is canceled because your ovaries didn't respond well to the medications, your doctor may recommend different medications to be tried on the next cycle. While not common, a cycle may also be canceled if ovulation occurs before retrieval can take place. Once the eggs ovulate on their own, they can't be retrieved. Cancellation happens in 10 to 20% of IVF treatment cycles. The chance of cancellation rises with age, with those older than age 35 more likely to experience treatment cancellation

Step Five : Egg retrieval: About 34 to 36 hours after you receive the hCG shot, the egg retrieval will take place. It's normal to be nervous about the procedure, but most women go through it without much trouble or pain.

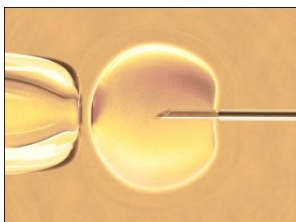
Before the retrieval, an anesthesiologist will give you some medication intravenously to help you feel relaxed and pain free. Usually, a light sedative is used, which will make you "sleep" through the procedure. This isn't the same as general anesthesia, which is used during surgery. Side effects and complications are less common.

Once the medications take their effect, your doctor will use a transvaginal ultrasound to guide a needle through the back wall of your vagina, up to your ovaries. She will then use the needle to aspirate the follicle, or gently suck the fluid and oocyte from the follicle in to the needle. There is one oocyte per follicle. These oocytes will be transferred to the embryology lab for fertilization.

The number of oocytes retrieved varies but can usually be estimated before retrieval via ultrasound. The average number of oocytes is 8 to 15, with more than 95% of patients having at least one oocyte retrieved.

After the retrieval procedure, you'll be kept for a few hours to make sure all is well. Light spotting is common, as well as lower abdominal cramping, but most feel better in a day or so after the procedure. You'll also be told to watch for signs of ovarian hyper stimulation syndrome, a side effect from fertility drug use during IVF treatment in 10% of patients

While you're at home recovering from the retrieval, the follicles that were aspirated will be searched for oocytes, or eggs. Not every follicle will contain an oocyte. Once the oocytes are found, they'll be evaluated by the embryologist. If the eggs are overly mature, fertilization may not be successful. If they are not mature enough, the embryology lab may be able to stimulate them to maturity in the lab.



Fertilization of the oocytes must happen within 12 to 24 hours. Your partner will likely provide a semen sample the same morning you have the retrieval. The stress of the day can make it difficult for some, and so just in case, your partner may provide a semen sample for backup earlier in the cycle, which can be frozen until the day of the retrieval.

Once the semen sample is ready, it'll be put through a special washing process, which separates the sperm from the other stuff that is found in semen. The embryologist will choose the "best looking sperm," placing about 10,000 sperm in each culture dish with an oocyte. The culture dishes are kept in a special incubator, and after 12 to 24 hours, they are inspected for signs of fertilization.

With the exception of severe male infertility, 70% of the oocytes will become fertilized. In the case of severe male infertility, ICSI (pronounced ick-see) may be used to fertilize the eggs, instead of simply placing them in a culture dish. With ICSI, the embryologist will choose a healthy-looking sperm and inseminate the oocyte with the sperm using a special thin needle.

About three to five days after the retrieval, the fertilized eggs will be transferred. The procedure for embryo transfer is just like IUI Treatment. You won't need anesthesia. During the embryo transfer, a thin tube, or catheter, will be passed through your cervix. You may experience very light cramping but nothing more than that. Through the catheter, they will transfer the embryos, along with a small amount of fluid.

The number of embryos transferred will depend on the quality of the embryos and previous discussion with your doctor. Depending on your age, anywhere from two to five embryos may be transferred. Recent studies have shown success with just one embryo transferred. After the transfer, you'll stay lying down for a couple hours (bring a book) and then head home.

If there are "extra" high-quality embryos left over, you may be able to freeze them. This is called "embryo cryopreservation." They can be used later if this cycle isn't successful, or they can be donated.

ICSI, is an acronym for intracytoplasmic sperm injection. In regular IVF treatment, an egg is placed in a petri dish, along with lots of sperm, in hopes that one of the sperm will fertilize the egg on its own. With ICSI, an individual sperm is injected directly into an egg using a specialized needle. ICSI may be used in severe cases of male infertility, like when the sperm shape is impaired (aka abnormal sperm morphology) or in cases of very low sperm count. ICSI must be used if testicular sperm extraction (TESE) is used.

Progesterone support.

On or after the day of your retrieval, and before the embryo transfer, you'll start giving yourself progesterone supplements. Usually, the progesterone during IVF treatment is given as an intramuscular self-injection as progesterone in oil. Sometimes, though, progesterone supplementation can be taken as a pill, vaginal gel or vaginal suppository.



Besides the progesterone, there really isn't much going on for the next two weeks. In some ways, *the two weeks after the transfer may be more difficult emotionally* than the two weeks of treatment. During the previous steps, you will have visited your doctor perhaps every other day. Now, after transfer, there will be a sudden lull in activity.

All you can do is wait the two weeks and see if pregnancy takes place. It can help to keep busy with your life during this wait time and avoid sitting and thinking about whether or not treatment will be successful.

About nine to twelve days after the embryo transfer, a pregnancy test is ordered. This is usually a serum pregnancy test (more blood work) and also will include progesterone levels testing. The test may be repeated every few days.

If the test is positive (yeah!), you may need to keep taking the progesterone supplementation for another several weeks. Your doctor will also follow up with occasional blood work and ultrasounds to monitor the pregnancy and watch for miscarriages or ectopic pregnancies. During **IVF** treatment, miscarriage occurs up to 15% of the time in women under age 35, 25% of women age 40 and up and 35% of the time after age 42.

Your doctor will also monitor whether or not the treatment led to a multiple pregnancy. If it's a high-order pregnancy (4 or more), your doctor may discuss the option of reducing the number of fetuses in a procedure called a "multifetal pregnancy reduction." This is sometimes done to increase the chances of having a healthy and successful pregnancy.

What to Expect During the Early Stages of IVF Pregnancy

Finally, after treatment with IVF, pregnancy has blessed your family. Here's what to expect during the early stages of an IVF pregnancy.

Feeling Excited -- But Also Scared

You've most likely been trying to get pregnant for months even years, and you may have even gone through many cycles of fertility treatments. Finally, you've achieved a pregnancy. *While you think that you should be happy, instead, you may be feeling scared. This is completely normal.* Especially if you've lost previous pregnancies through miscarriage, feeling nervous and not too hopeful about the pregnancy is understandable. Don't feel guilty for feeling scared, but do find someone -- whether a friend or a *therapist* -- to talk to about your feelings. It will help.

Continued Progesterone Support

Your doctor may keep you on progesterone hormone support if pregnancy is confirmed. How long he will continue progesterone treatment will be dependent on your particular situation.

If you're taking progesterone in oil through injections, you may be able to switch to vaginal suppositories or gel. You can ask your doctor about your options.

Continued Blood Tests for Monitoring

Your fertility doctor will also likely continue to check your hormone levels via blood work for at least a few weeks following a positive pregnancy test. There are a few reasons for this:

- to look for rising hCG hormone levels (pregnancy hormones), in order to ensure the pregnancy is healthy and to look out for very high levels (which may indicate a multiple pregnancy)
- to monitor estrogen levels, especially if symptoms of ovarian hyper stimulation syndrome (OHSS) are present
- to monitor progesterone levels

Ultrasound Follow-up

Before releasing you to a regular obstetrician, your fertility doctor will most likely order a ultrasound or two during early pregnancy. This is mainly to check for a multiple pregnancy.

Depending on what week the ultrasounds take place, you may even get to see the baby's heartbeat.

If You Have OHSS, It'll Take Time to Feel Better

If you unfortunately developed a case of OHSS during treatment, your symptoms may last several weeks, and may even get worse.

Be sure to stay in contact with your doctor, and let her know of any worsening symptoms right away. OHSS can be dangerous and life threatening if left untreated.

Release to a Regular Obstetrician

Usually an IVF pregnancy is handled by a regular obstetrician (OB), and not a high-risk obstetrician. Your fertility doctor will transfer you over to the regular OB at about the 8-week mark.

You may feel excited to be going to a normal doctor but you may also feel nervous, going from the intense monitoring of your fertility doctor to the more laid back, once-a-month visits of a regular OB/GYN.

If you're feeling extra nervous, don't hesitate to talk to your doctor. If an extra ultrasound would help calm your nerves, go ahead and ask. Your doctor knows how much you've gone through to get pregnant, and feeling nervous is completely normal and understandable.

Symptoms of ovarian hyperstimulation syndrome:

While ovarian hyper stimulation syndrome is typically mild, it can become life threatening.

Catching the symptoms early, along with careful monitoring of your treatment cycle by your doctor, can lower the risk of serious complications.

Ovarian hyperstimulation syndrome is a potential side effect of fertility drugs, particularly with gonadotropins taken during an IVF Treatment cycle. About 10% of women going through IVF treatment will experience ovarian hyperstimulation syndrome. While ovarian hyperstimulation syndrome can occur while taking **Clomid** and other fertility drugs taken orally, it's rare.

What Causes Ovarian Hyperstimulation Syndrome

Some enlargement of the ovaries is normal during fertility drug treatment. With ovarian hyperstimulation syndrome, though, the ovaries become dangerously enlarged with fluid. This fluid can leak in to the belly and chest area, leading to complications. But the majority of the fluid doesn't come from the follicles themselves. Most of it comes from blood vessels that are "leaky" due to substances released from the ovary.

Ovarian hyperstimulation syndrome can only occur once ovulation takes place. If your doctor suspects that you're at risk, he may cancel your treatment cycle. (Any fertilized embryos from an IVF treatment cycle may be frozen and saved for use during a future cycle.) Or your doctor may use medications to delay ovulation by a few days. She may prescribe a GnRH antagonist, which will prevent the body's natural LH surge, preventing or delaying ovulation. Another option may be that your doctor may simply delay administering the hCG trigger shot, a fertility drug that triggers ovulation. Delaying

ovulation to lessen the risk of ovarian hyperstimulation syndrome is sometimes referred to as "coasting." This delay of a few days can lower the risk and severity of ovarian hyperstimulation syndrome, without seriously decreasing your chances of successful pregnancy.

Symptoms of Ovarian Hyperstimulation Syndrome

As noted above, ovarian hyperstimulation syndrome can only occur after ovulation has taken place. Symptoms may occur a few days after ovulation or IVF egg retrieval or they may not show up for a week or more after ovulation.

Mild symptoms include:

- Bloating
- Mild pain or discomfort in the abdomen
- Mild weight gain
- Mild nausea
- Diarrhea

More serious symptoms include:

- Rapid weight gain, more than 10 pounds in 3 to 5 days.
- Severe abdominal pain
- Severe bloating
- Severe nausea (so much that you can't keep down any food or fluids)
- Dizziness
- Trouble with urinating
- Shortness of breath
- Rapid heartbeat

If you experience mild symptoms, you should contact your doctor as soon as possible, so he or she can monitor the situation. If you experience any of the serious symptoms, contact your doctor immediately.

Prevention and Treatment of Ovarian Hyperstimulation Syndrome

While you take fertility drugs, your doctor should monitor your body's response to the medications with blood tests and ultrasounds. Rapidly increasing estrogen levels or ultrasounds that show a large number of medium-size follicles, are all possible indicators of ovarian hyperstimulation syndrome risk.

If you develop a mild case of ovarian hyperstimulation syndrome, you probably won't need special treatment. Here are some things you can do at home to feel better:

- Take over-the-counter pain relievers, such as Tylenol.
- Don't overexert yourself; take it easy while you recover.
- While you shouldn't overexert yourself, you should maintain some light activity. Total bed rest can increase the risk of some complications.
- Put your feet up. This can help your body get rid of the extra fluid.
- Sex should be avoided until you feel better. Sexual activity may increase your discomfort, and in the worst case scenarios, may cause ovarian cysts to leak or rupture.
- Don't drink alcohol (as if you would when you're trying to get pregnant!) or caffeinated drinks, such as coffee, colas or caffeinated energy drinks.
- Do drink plenty of fluids, around 10 to 12 glasses a day. Drinks with electrolytes, such as Gatorade, are a good choice.

Your doctor will give you instructions on what to watch for and when to contact him. If your symptoms get worse, you should definitely let them know. She may ask you to weigh yourself daily, to monitor weight gain. If you find yourself gaining 2 or more pounds per day, you should call your doctor.

In rare cases, you may need to be hospitalized. Hospitalization may include receiving fluids intravenously (through an IV), and they may remove some of the excess fluids in your belly via a needle. You may also be kept in the hospital for careful monitoring until your symptoms lessen.

Usually, symptoms will decrease and go away once you get your period. If you get pregnant, though, your symptoms may be prolonged, and it may take several weeks to feel completely better. Pregnancy can also make the symptoms worse, so your doctor will want to monitor your situation carefully.

The following list of immunizations or injections are OK during a cycle:

- Flu shot
- Hepatitis Vaccine
- Chicken pox immunoglobulin
- TB Test
- Tetanus shot
- Allergy shots
- Novocaine (dental procedures)

The following is a list of medications that are OK to take before or after embryo transfer:

- Cold medications (Sudafed, Robitussen)
- Amoxicillin, Ampicillin, Erythromycin
- Bactrim - OK before pregnancy test
- Flagyl - OK before pregnancy test
- Doxycycline, Tetracycline (OK before pregnancy test)
- Nasal spray decongestants
- Tylenol Cold or PM
- Claritin D
- Valium, Prozac, Zanax, Ativan
- Benadryl
- MOM, Colace, Senekot, Immodium, Pepcid
- Headache meds: Fioricet, Fiorinal

Do NOT take the following medications:

- Echinacea, St. John's Wort, Gingko Biloba

Eastern Medicine (acupuncture) and Infertility treatments

Multiple studies show that **acupuncture and infertility** seem to be somehow linked. Under certain circumstances, women receiving acupuncture have a higher conception rate.

Acupuncture involves inserting extremely thin, sterile needles into specific points on the body to stimulate certain key "energy points" believed to regulate spiritual, mental, emotional, and physical balance. For women, it's useful for many issues, specially related to their menstrual cycle, including infertility

Acupuncture has been used by some cultures for years to help treat infertility. It is normally used with some combination of herbs such as Dong Quai, False Unicorn Root, Red Raspberry Leaves, Astragals and others. Some of the herbs have been proven throughout the years to be successful in treating infertility, others less so. The combination of acupuncture and herbs seem to make an improvement in both follicular and ovarian function. Using acupuncture for infertility has been shown to increase the flow of blood in the **endometrium** which helps make a thick lining.

How Often Should Acupuncture Be Used for Infertility Treatments?

It is usually recommended that a women receive acupuncture for a period of three to four months before insemination - which can be by natural means or in vitro fertilization.

Acupuncture is thought to perform best when used by women who have a functional problem such as irregular ovulation as opposed to women who are dealing with a structural problem. Acupuncture experts believe its benefits occur due to ***increased flow of blood to the reproductive organs and it also seems to help keep hormones level stable.***

Some women use acupuncture for infertility along with other types of infertility treatments. Acupuncture can be beneficial since it can **help women become more relaxed while they are involved with infertility treatments.** **Studies have indicated that while women are using in-vitro fertilization treatments the numbers of pregnancies increased in the studies' groups due to some women being treated with acupuncture.**

Is Acupuncture Safe for Infertility?

Acupuncture is safe as long as it is performed by a licensed acupuncturist. The National Institute of Health (NIH) has said, "There is sufficient evidence of acupuncture's value to expand its use into conventional medicine".

Studies Involving Acupuncture and Infertility

A study was performed in Germany which has some interesting results. Eighty women were involved with a combination of IVF treatments and acupuncture treatments and thirty of these women became pregnant. Eighty other women in the study had received IVF treatments and did not have acupuncture and only twenty-one of these women became pregnant. In the United States a study was performed and the results showed ***that fifty-one percent of the women who combined IVF treatments with acupuncture for infertility became pregnant while only thirty-six percent of the women who took IVF treatments without acupuncture were able to become pregnant.***

Studies have shown there are few risks concerning taking acupuncture for infertility problems.

In a study by Stener-Victorin et al from the Departments of Obstetrics and Gynecology Fertility Centre, Scandinavia and University of Gothenburg, women are encouraged to receive acupuncture treatments **pre and post embryo transfer.** Clinical observations from the Berkley ***Center for Reproductive Wellness suggest that the most effective fertility treatments involve a combination of acupuncture, herbal medicine, and traditional medical interventions.***

However, conception does sometimes occur when acupuncture and herbal medicines are used without traditional medical interventions Typically most **miscarriages occur within the first three months of pregnancy.** Therefore, treatment of patients may often last through week twelve to help prevent miscarriage.

Needles are not inserted in the abdomino-pelvic area after insemination or transfer. There are 6 contraindicated acupuncture points which should be avoided when the patient is pregnant or pregnancy is suspected. These include Gallbladder 21, Stomach 12, Large Intestine 4, Spleen 6, Bladder 60, Bladder 67 and any points on the lower abdomen.

There are minimal risks when using acupuncture for fertility treatment. A risk of miscarriage may develop if incorrect acupuncture points are used when a woman is pregnant. This is one reason why those wishing to include acupuncture in their treatment regimen should only be treated by an acupuncturist who specializes in treating fertility disorders. Acupuncture is not contraindicated for anyone regardless of their pathology or what medications they are taking.

Acupuncture can be used to treat any type of fertility disorder including spasmed tubes. (Spasmed tubes are often de-spasmed with acupuncture, though blocked tubes will not respond to acupuncture). Acupuncture is often combined with herbs to treat elevated follicle stimulating hormone (FSH), repeated pregnancy loss, unexplained (idiopathic) infertility, luteal phase defect, Hyperprolactinemia (when not caused by a prolactinoma), polycystic ovarian syndrome (PCOS) with anovulatory cycles, and male factor including men affected with sperm-DNA-fragmentation.

In a study of 160 women, published April 2002 in the reproductive journal *Fertility and Sterility*, a group of German researchers found that adding acupuncture to the traditional IVF treatment protocols substantially increased pregnancy success.

In a second study one group of 80 patients received two, 25-minute acupuncture treatments -- one prior to having fertilized embryos transferred into their uterus, and one directly afterwards. The second group of 80, who also underwent embryo transfer, received no acupuncture treatments.

The result: While women in both groups got pregnant, the rate was significantly higher in the acupuncture group -- 34 pregnancies, compared with 21 in the women who received IVF alone. Increasing the odds of IVF is not the only way acupuncture can help, it can also work to stimulate egg production in women who can't -- or don't want to -- use fertility medications to help them get pregnant.

Comparing the pregnancy rates for an egg producing drug such as Clomid to acupuncture alone, the rates are equal -- a 50% chance of pregnancy in three months for general patients -- to those not undergoing IVF.

Acupuncture generally stimulates the growth and release of just one egg; fertility drugs used in IVF, work to produce the multiple eggs necessary to achieve success with this treatment, in this case acupuncture enhance the western treatment by creating energetic balance in the body

According to the Traditional Chinese Medicine (TCM) explanation, acupuncture stimulates and moves Qi (pronounced "Chee") a form of life energy that ancient wisdom says must flow through the body unhampered from head to toe, 24/7. When it doesn't, illness or malfunctions such as infertility arise, works to restore the flow of Qi -- your essence, your body energy -- so with regards to infertility, treatment has a calming, restorative effect that increases a sense of well-being and ultimately helps the body to accept the creation of a new life.

By placing the needles at key energy meridians linked to the reproductive organs, we moves the flow of Qi from areas where it may be too abundant, to areas that are deficient, all in a direction that encourages fertility.

To get your fertility Qi up to the balance needed, you will need about two, 30 minute treatments a week, sometimes for several months, before the effects can be seen.

In studies published in the journal *Fertility and Sterility* in 2002 note that acupuncture increases production of endorphins, the body's natural "feel good" brain chemical that also plays a role in regulating the menstrual cycle.

Acupuncture also appears to have a neuroendocrine effect, impacting a three-way axis between the two areas of the brain involved with hormone production (the hypothalamus and the pituitary glands) and the ovaries, a constellation that ultimately impacts egg production and possibly ovulation.

The National Institutes of Health in the United States have noted that many researchers are investigating the issue. Some possible theories as to just why acupuncture works include:

Changes to the central nervous system during acupuncture sessions alter the regulation of blood pressure and flow as well as well as body temperature Acupuncture stimulates the central nervous system causing neurotransmitters and neurohormones to be released, thereby boosting your body's natural ability to heal itself

Acupuncture reduces pain by releasing the endorphins, which naturally occur in the body's pain control system, into the central nervous system.

Acupuncture may also help when the lining of the uterus is too weak to sustain a pregnancy -- a problem that is also known to increase the risk of chronic miscarriage.

In a research paper published in the journal *Medical Acupuncture* in 2000, Sandra Emmons, MD, assistant professor of obstetrics and gynecology at Oregon Health Sciences University, reports that acupuncture may directly impact the number of egg follicles available for fertilization in women undergoing IVF. Probably acupuncture is changing the blood supply to the ovaries, possibly dilating the arteries and increasing blood flow, so that ultimately, the ovaries are receiving greater amounts of hormonal stimulation," says Emmons, who also uses acupuncture in her traditional medical practice.

By increasing blood flow to this area, the lining may be better able to absorb the nutrients and hormones necessary to help it grow strong enough to hold onto an implanted embryo..

It is important that you have at least a basic fertility workup before attempting acupuncture treatment, particularly if you are approaching, or you are over, the age of 40.

If it turns out you have structural problem that requires a traditional medical 'fix', then the sooner you find that out and get the proper treatment, the more likely it will be that you can get pregnant, younger women -- those in their early to mid-30s -- might want to consider acupuncture first, before investing in expensive and invasive fertility treatments.

Sometimes a few months of acupuncture will be enough to help you get pregnant on your own ,but be aware that not all protocols are equal. There is tremendous variability within the field -- with many different techniques and a great deal of the success dependant upon how much the acupuncturist knows about the treatment of infertility.

Costs can vary dramatically, ranging from several hundred dollars to several thousand or more, depending on how long you are treated. Many insurance companies cover the cost of acupuncture treatments, some don't when treatment involves infertility, so check your policy carefully.

if you are not seeing a fertility specialist do pay at least one visit to an obstetrician before seeking my help -- and make sure your obstetrician is aware of your acupuncture treatment plan. Although acupuncture often works in harmony with Chinese herbal medicine, if you are undergoing IVF or any traditional fertility treatment, I wont prescribe any herbs without the OK of your reproductive medicine specialist.

If you are undergoing an IVF protocol and acupuncture simultaneously, once you reach the implantation stage it's imperative to get a pregnancy test before proceeding with more acupuncture treatments. If you are trying to get pregnant on your own it is equally important to have your pregnancy verified by an obstetrician as soon as possible.

Acupuncture is a licensed profession in most states.

Please call me if you have any questions at 214-566-0149 or by email to: DrMendez@InternationalAcupuncture.com