**In Vitro Fertilization (IVF)** is one of the most technical and highly successful forms of treatment for infertile couples. To aid you as you plan or experience this process, this sheet has been written to inform you of what you should expect during a routine IVF cycle. Your own cycle plan may differ somewhat from what is included here.

## Pre-Cycle Requirements for IVF (full cycle, Minimal, and Simply IVF)

All couples scheduled to undergo an IVF cycle must undergo the following if they have not already done so **within the past year:**

* **Semen analysis in our laboratory with strict morphology (± anti-sperm antibodies)**
* **Baseline hormonal testing for women (AMH and Cycle Day 2-5 FSH, LH, estradiol, DHEAS, testosterone, prolactin, TSH, etc.)**
* **Prenatal lab tests (e.g., HIV, Hepatitis B, Hepatitis C, RPR, Rubella, Blood type, etc.)**
* **Multivitamin / prenatal vitamin supplementation (men and women)**
* **Physical exam with Pap smear within the last year**
* **Uterine assessment (e.g., sonohysterogram, hysterosalpingogram, hysteroscopy)**
* **Ovarian assessment (antral/resting follicle counts, ovarian volumes, r/o cysts with pelvic ultrasound)**
* **Uterine depth measurement (sounding; may be done just prior to stimulation)**
* **In addition, we encourage both partners to quit smoking and work towards achieving their ideal body weight or normal body mass index (BMI) to improve your IVF success rates (see BMI chart to help with your calculations)**

## Preparation Cycle

Medical treatment for IVF begins during the menstrual cycle prior to stimulation. Most women will take oral contraceptive pills **(OCP, e.g., Orthocyclen)** beginning on the third day of their menstrual period in the month before stimulation and take in continuous fashion (active pill daily skipping the placebo pills if needed). For example, women scheduled to undergo stimulation in April will take OCPs in March. Please call on of our IVF Coordinators, to leave a message regarding the start of menses before beginning OCP. Not all women will take the usual 21 days of hormonally active pills. The actual number will be assigned to you by the IVF Coordinator will be based on scheduling availability.

During the last week of OCP, women may also begin daily subcutaneous (SQ, i.e., beneath the skin) injections of **Lupron** to shut down pituitary signals to the ovaries **(Lupron luteal phase down regulation cycle).** These daily Lupron injections continue up through the last day of stimulation (see below). Menses usually ensues within five days of the last OCP pill and you may still be bleeding when you start your gonadotropin injections. Some women with lower ovarian resolve or over 35 will be stimulated with a micro-dose flare (MDF) Lupron stimulation with twice daily injections **(Flare cycle).** Younger women with higher ovarian reserve or with PCOS may use **Antagon or Cetrotide** for their pituitary down regulation and these SQ injections are usually started after gonadotropins are begun and the follicles have started to grow and you will be instructed on when to start daily injections of these medications **(Antagonist cycle).**

## Stimulation Cycle (follow your IVF stimulation protocol given at your orientation)

Generally, women undergo **vaginal ultrasound examination** within 3-5 days of menses to look for any ovarian cysts. A **blood estradiol level** is also checked that day to check for adequate ovarian suppression. If an ovarian cyst is present or the estradiol level is too high, women may be scheduled for a repeat ultrasound and estradiol level one week later while continuing Lupron or OCP’s. Uterine depth (sounding) may be measured if not already recorded.

If the ultrasound and estradiol levels are consistent with ovarian suppression, couples are given the go ahead to begin stimulation. At present, we prescribe **subcutaneous (SQ) gonadotropin injections (Gonal-F, Follistim, Menopur)** given as a once daily dose or as morning and evening doses (12 hours apart, depending on the amount of medications to be used) to start on an assigned day (Day 1 of stimulation). These daily injections will continue until Day 5 of stimulation, at which point women return for their next ultrasound and estradiol level. You may also take low dose hCG (LDhCG) as a daily SQ injection to help stimulate your ovaries in combination with use of gonadotropins. A nurse or doctor will call that afternoon to discuss changes in your doses if needed and schedule the next ultrasound and estradiol appointment if it has not already been scheduled.

Once ovarian follicle size and estradiol reach mature levels, the last bit of egg maturation is triggered with a timed (36 hours before retrieval) injection either intramuscular **hCG (human chorionic gonadotropin, Pregnyl, Novarel)** or subcutaneous **Ovidrel** or **Lupron/hCG** the evening/night 36 hours before the retrieval. Injection times are assigned by the IVF coordinator or weekend physician that afternoon. Once you take your nighttime trigger dose of hCG/lupron, you do not need to take any more **injection** medications till after your egg retrieval.

### Egg Retrieval

Approximately 36 hours after the hCG injection, women undergo ultrasound-guided egg retrieval in our specially modified operating room. You are asked to arrive at least **30 minutes** before the scheduled procedure time, at which point an intravenous line will be placed. **Please do not eat anything after midnight prior to the morning of egg retrieval (fasting for at least 8 hours).** With the patient sedated, the IVF physician inserts an ultrasound probe with an attached needle guide into the vagina. A single puncture through the vagina on each side is followed by puncture and drainage of all ovarian follicles. The fluid and eggs removed are then passed to the awaiting embryologists. The expected procedure time is approximately 20 minutes. After an average recovery room time of 30 minutes, patients are discharged home and should NOT work or drive for the remainder of that day.

Male partners are scheduled to provide semen specimens on the morning of egg retrieval (ideally with 2-4 days’ abstinence/ last ejaculation). Specimen collection takes place in the private rooms located within our office. Donor sperm may be used also and should be delivered to PREG from the commercial sperm bank before your IVF stimulation begins. After processing, micro-drops of sperm are placed with the eggs in the laboratory that afternoon for overnight incubation. Intracytoplasmic sperm injection (ICSI) may also be performed that afternoon for appropriate cases.

**Simply IVF (INVOcell) summary of events is listed below**

### After Egg Retrieval

Couples are contacted by phone the following morning with a fertilization report. Based on the number of fertilized eggs, recommendations for the number of embryos to be transferred and day of embryo transfer will be discussed. Simply IVF (INVOcell) will have fresh embryo transfer on day 5. Embryo cryopreservation with FET (Frozen embryo transfer) may be recommended rather than fresh transfer depending on your specific circumstances. FET will be required if doing PGS/PGD, if OHSS symptoms develop, if your serum estradiol is too high or you have a high number eggs retrieved, your progesterone rises too early in your IVF stimulation, or if a polyp is found in your endometrial cavity during the stimulation that was not seen prior.

**Medications to begin the day after egg retrieval: (follow your IVF protocol given at orientation)**

1. Progesterone supplementation 50-100 mg of progesterone in oil injected intramuscularly each morning **or** Endometrin 100 mgs vaginal inserts two or three times a day **or** Crinone Vaginal Gel 8% once or twice daily until instructed to stop by your physician.
2. Methylprednisolone 16 mgs (Medrol – a very low dose steroid) pills to be taken by mouth daily till prescription finished.
3. Doxycycline 100 mgs (an antibiotic) should be taken twice a day by mouth till prescription finished.
4. Estrogen patches or oral/vaginal estrace **MAY** be prescribed per your protocol until instructed to stop by your physician.
5. Continue prenatal vitamins (or Folic acid supplementation) and baby aspirin (81 mgs) daily.

### Embryo Transfer

Three to six days after the egg retrieval, embryos are ready for transfer. The exact starting time for the procedure is determined by the Embryologist and the IVF Team. Patients are asked to arrive 30 minutes before their scheduled time with a moderately full bladder. Bladder filling helps to straighten the uterus, thereby aiding embryo transfer. It is recommended that women eat only a light breakfast that morning since they are likely to spend a moderate amount of time lying with their heads tilted down (see below). You will be pre-medicated with Valium 5 mg and Feldene 10 mg (similar to Motrin and Advil) which is taken orally one hour prior to embryo transfer to help relax you and your uterus and prevent cramping.

Embryo transfer involves a speculum exam followed by passage of a flexible, 2 mm catheter through the cervix into the endometrial cavity under abdominal ultrasound guidance. After transfer, the catheter is removed, flushed, and inspected by the embryologists to ensure that it does not contain any residual embryonic tissue. Your bladder will then be usually drained and you will be transferred to the recovery room and rest for 15 minutes. After discharge, patients remain on modified bedrest at home until the following morning.

**Blood pregnancy tests are scheduled 10-12 days after the embryo transfer.** **DO NOT DISCONTINUE ANY MEDICATIONS UNTIL TOLD TO DO SO, EVEN IN THE PRESENCE OF BLEEDING.** Depending on the results of the pregnancy test, repeat lab testing is usually done in 2 to 7 days. Progesterone levels will also be measured and progesterone doses adjusted accordingly. Good Luck!!

**Simply IVF** is a revolutionary new Assisted Reproductive Technology (ART) treatment that allows our fertility specialists to provide In Vitro Fertilization (IVF) at approximately half the cost of traditional IVF with similar pregnancy rates. Using a milder ovarian stimulation protocol (lower medications amounts and doses) and performing **Simply IVF** using the INVO cell device, many of the office visits, ultrasounds, lab work and expensive procedures normally done inside the IVF lab can be bypassed. **Simply IVF** can therefore be a more convenient and affordable family building option for many patients.

The **Simply IVF** procedure ….

* Milder ovarian stimulation protocol to try and grow and develop around **2-8 eggs**
* Generally, only **1-2 office visits** (with labs and ultrasounds) to monitor for follicles (eggs) growth
* Egg retrieval performed under intravenous (IV) sedation and removal of eggs from patient
* Placement of mature eggs with sperm (fresh sperm sample from partner) in to the INVO cell device
* INVO cell device placed into upper vagina for incubation for **5 days (not 3)**
* INVO cell device removed on the **5th day,** the embryos are evaluated and the **single best quality embryo (and in select cases, possibly 2 embryos)** are then transferred into uterus that same day
* If there are still good quality embryos available that **are not transferred,** then they can be **frozen for future use**

There are many benefits to the **Simply IVF** and the INVO cell device. Here are just a few:

* Simpler procedure, when used in conjunctions with milder ovarian stimulation, reduces the cost per cycle by approximately one half compared to traditional IVF.
* Reduces the risk of the very rare error of possible wrong embryo being transferred since the embryos are never separated from the patient.
* Promotes greater involvement by couples in both the treatment and process of conception (fertilization of egg by sperm).
* Can create a more natural and environmentally stable incubation than traditional IVF incubation in a laboratory.

**Alternative to Artificial Inseminations (partner or donor sperm): Simply IVF**

* For a very successful alternative for patients or couples doing donor sperm intrauterine inseminations treatments, we at PREG are now offering Simply IVF and the INVO cell device.
* This is a simpler and lower cost IVF option as an alternative to traditional IVF.  With pregnancy rates generally around 10-15% with each donor insemination, Simply IVF pregnancies rates can be as high as 40-50% resulting in a 3-5 times increase chance in achieving pregnancy.
* In addition, with costs of doing donor inseminations (with fertility medications and ultrasound monitoring) being around $1,500 or more per cycle, doing 3-4 donor insemination cycles would about equal the cost of doing Simply IVF which can result in a much higher chance of success and getting to pregnancy sooner.

**OTHER IMPORTANT INFORMATION AND FACTS:**

To all women attempting to conceive, it is recommended by our office and by the American College of Obstetricians and Gynecologists (ACOG):

* To be on a prenatal vitamin or a multivitamin with at least 800 micrograms of Folic Acid daily.
* Discontinue any tobacco products (both partners) before attempting pregnancy for at least 1- 2 months prior if possible. Cigarette smokers and patients expose to second-hand smoke have as much as a **50% reduction in fertility success rates** as compared to non-smokers. Cigarette smoke has significant adverse effects on the ovaries and egg quality. In addition, smoking while pregnant can have damaging effects on your developing baby.
* Nicotine products (gum, patches, etc.) can be used to help with smoking cessation but hopefully discontinued as soon as possible. In general, Nicotine products are much less harmful than cigarette smoke or other tobacco products for pregnancy and success for pregnancy.
* Discontinue any illegal drug use or heavy alcohol use (consumption of more than 2 drinks/day) while attempting pregnancy for both partners.
* Try to limit caffeine consumption to no more than two caffeinated drinks per day.
* If you are on any prescription medications for any health conditions, please inform your physician.
	+ Specific medications such as **ACE inhibitors** (for high blood pressure, **Accupril, Captopril, Monpril, Prinivil**), seizure disorder medications such as **Depakot, Depakene, and Valproic Acid** should be changed to other types of medications as they should not be used in pregnancy. Please consult your family physician/prescriber concerning these medications.
	+ Anti-depressant medications such as **Prozac, Paxil (NOT ok must be changed), Zoloft, Effexor, Celexa, Lexapro, Wellbutrin, and Sarafem** are fine to continue while attempting pregnancy but should be used at the lowest dose possible (consult your PCP or prescriber) and consider stopping them once you are pregnant if possible.
* If you are on any over-the-counter hormonal or herbal supplements, please inform your physician.
* May continue with diet and exercise program to keep appropriate body weight if overweight. If underweight, we recommend decreasing any exercise program and increasing caloric intake. If you are on a weight loss medication (prescription, over the counter or herbal supplement) please inform your physician.
* It is recommended to be at an appropriate Body Mass Index (BMI) to improve your chances for pregnancy success and reduce complication of weight problems with pregnancy. In general, a BMI between 19 and 34 is within reasonable guidelines. Women with BMI over 34 have a **decreased chance for successful pregnancy** when compared to women their same age with lower BMI’s.
* To determine your BMI: divide your weight in kilograms by your height, in meters squared (kilograms/meters2). A simpler calculation can be done by multiplying your weight in pounds by 703 and then dividing that figure by your height, in inches squared, and this will give you your BMI. You might need a calculator to figure this one out!!
* For example: A 5 foot 4-inch (64 inches) person weighing 135 pounds would have a BMI of 23.2 (rounded off).

**135 (lbs.) X 703 = 94905 = 23.17 BMI**

**64 (in) X 64 = 4096**

* Good diet programs are Weight Watchers and meal replacement programs (Slim-Fast). Low carbohydrate diets work best with usually <1800 calories intake per day
* Regular exercise program in combination with diet plan works well for weight loss. Use of a pedometer (measures number of steps taken per day) can be very helpful with goal of 10,000 steps or greater per day.

# Ovarian Hyperstimulation Symptoms

All patients who undergo ovarian stimulation with the use of injectable gonadatropin medications (including patients undergoing IVF) will experience some symptoms of hyperstimulation. Our concern is the severity of symptoms and the development of severe ovarian hyperstimulation syndrome (OHSS). The greatest risk of experiencing the symptoms of severe hyperstimulation syndrome occurs at about one week after egg retrieval or an insemination procedure. It is very important to report any of the below symptoms to a nurse or MD by dialing 864-232-7734.

These symptoms are:

1. Tachycardia (rapid pulse rate of > 110 beats per minute).
2. Rapid weight gain of 2-4 pounds or more in a 24-hour period (please use same scale to weigh daily).
3. Nausea and vomiting with worsening abdominal pain and swelling.
4. Oligouria (a significant decrease in the amount of urine excreted or in the total number of times you urinate per day).
5. A noticeable increase in abdominal girth over several days.
6. Shortness of breath or chest pain.
7. Any other symptoms of concern; fever, bleeding, etc.

To assess daily for the above symptoms, the patient should:

1. Count your pulse below the base of the thumb on either hand for 15 seconds

 and multiply times 4 to get the number or beats per minute.

 **Report 110 beats or more**

2. Weigh at the same time each day with the same amount of clothes (or no clothes)

 **Report a greater than 2-4 pound weight gain in 24 hours.**

3. Keep a tally of the number of cups of liquids you drink during the day and also the

 number of times you urinate (i.e. 12 cups of liquid and 10-12 times to urinate).

 Compare each day to the original tally.

 **If intake remains the same and a continued decrease occurs in the number of times**

 **you urinate, report this finding.**

1. You should also report a noticeable increase in your abdominal girth. This is significant when comfortable loose fitting jeans can go longer be buttoned or zipped.

**If any of these symptoms occur please call 864-232-7734 and if after-hours have the answering service call the physician on call to report these symptoms. If this is an emergency then either call 911 or go to the nearest hospital and have the emergency room contact the PREG physician on call as soon as possible.**

**Body Weight and ART Success**

There is a large body (no pun intended) of scientific data showing that extremes of body weight (either too underweight or overweight) has been associated with difficulty in achieving pregnancy. In addition, underweight women have an increase in the incidence of preterm (early) delivery and smaller babies. Overweight women have been shown to increase in rate of caesarian deliveries. We at PREG certainly encourage patients to adopt healthy lifestyles, with good diet and exercise program, to help achieve their ideal body weight and improve their chances for a pregnancy, and ultimately, a healthy baby.

We have complied data over the past 5 years on IVF pregnancy success as related to body weight, measured by the most accepted medical standard, Body Mass Index (BMI). BMI is calculated by dividing your weight, in kilograms, by your height, in meters squared (kilograms/ meters2). A simpler calculation can be done by multiplying your weight, in pounds by 703 and then dividing that figure by your height, in inches squared, and this will give you your BMI. You might need a calculator to figure this one out!!

For example: A 5 foot 4 inch (64 inches) person weighing 135 pounds would have a BMI of 23.2 (rounded off).

**135 (lbs.) X 703 = 94905 = 23.17 BMI**

**64 (in) X 64 = 4096**

Below is a graph of IVF pregnancy rates verses BMI. By determining your BMI you can see where your pregnancy rate might be. We hope that this information may be helpful for in trying to achieve your best pregnancy success rate. Also realize that there are other factors besides BMI that play a part in your IVF success such as your age, smoking, and infertility reasons for needing IVF.

**In addition, due to PREG being a free-standing IVF center (not within a hospital), we are limited by our anesthesia staff and facilities to not being able to sedate and consequently do egg retrievals on any patient with a BMI greater than 40. This is for both patient safety and medical legal issues. Please feel free to discuss this and other issues with your physician.**

**Pregnancy Rates and BMI**

**HOW MANY EMBRYOS TO TRANSFER??**

**Our goal at PREG is to help you have a healthy pregnancy.**

This goal is met by trying to give you the highest pregnancy rate possible with the lowest multiple pregnancy rate possible. The complications associated with multiple pregnancies are the biggest risk associated with IVF. Any pregnancy with more than 1 baby is considered high risk and the greater the number of babies the more the risk. Multiple pregnancies commonly result in premature deliveries. Premature delivery is fraught with potential short-term complications. Short-term problems may include breathing difficulty requiring ventilation, feeding difficulties and increased chance of infection. Long-term complications may include cerebral palsy, vision loss, lung problems and death. In addition, increased complications exist during the pregnancy such as high blood pressure, pregnancy-associated diabetes and early labor and need for confined bed rest with any multiple pregnancy.

In general, multiple pregnancies occur in approximately 30% of all IVF pregnancies with the majority of these being twins. However, there is about a 5 - 8% risk of triplets or higher, depending on the number of embryos transferred back. This multiple birth rate holds even true for the older female patient despite usually transferring back more embryos.

***To maximize pregnancy rates and minimize multiple pregnancies, PREG strictly follows the recommendations of the Society of Assisted Reproduction (SART) for the number of embryos to be transferred. In addition, your insurance may also impose specific guidelines. Please ask the IVF coordinator or your IVF nurse for additional information.***

Although a couple may always choose to transfer less embryos than recommended, a request to transfer more embryos than recommended will generally not be honored unless there exists very special circumstances.

These are the recommendations for the maximum number of embryos to be transferred in a patient undergoing her first IVF attempt or a patient with a previous successful IVF attempt. If a patient has had several failed attempts at IVF, then these figures may not apply. Note that the older the age of the female, the more embryos transferred back due to the age-associated decrease in pregnancy rates.

**NUMBER OF EMBRYOS TO TRANSER:Below are The American Society for Reproductive Medicine (ASRM) recommended limits on number of embryos to transfer (PREG’s practice is to follow these recommended guidelines):**

**Day 2 or 3 embryos Age <35 Age 35–37 Age 38-40 Age>40 (Female age)**

**Favorable\* 1 or 2 2 3 5**

**Unfavorable\* 2 3 4 5**

**Day 5 or Blastocyst\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Favorable 1 2 2 3**

**Unfavorable 2 2 3 3**

**\*Favorable: Undergoing 1st cycle of IVF (or previous IVF cycle pregnancy success) with good quality embryos to transfer and excess embryos available for cryopreservation (freezing).**

**\*\*Unfavorable: None of the above favorable factors.**

A “good quality” embryo is usually defined by the number of cells (how many cells that have divided) in the embryo and the amount of fragmentation (small pieces or fragments of cells present in the embryo) **or** the extent of development of the embryo into the blastocyst stage. The quality of your embryos will be discussed with you prior to transfer. The recommended number of embryos to be transferred may increase in patients with previously failed attempts at IVF or couples with poor quality embryos, but transferring more than 5 embryos is essentially never done at PREG.

**Day 3 embryo quality grading:**

* Graded from 1 to 5
* Grade 1 and 2 are considered excellent to good quality embryos
* Grade 3 and 4 considered average to fair quality
* Grade 5 considered poor quality

**Blastocyst (Day 5 or 6 embryo) quality grading:**

* An Expanded Blastocyst is consider the most highly developed embryo
* Full blastocysts and early blastocysts are still very high quality embryos
* Morulas are compacting embryos that can continue development to the blastocysts stage by cavitation (forming a blastocoele cavity)
* In general, it is recommended to transfer between 1 to 2 blastocysts depending on the patients’ age, infertility factors and history as well as the development of the blastocyst stage
* **In general, only Full and Expanded blastocysts are cryopreserved (frozen)**

**\*\*Normal embryo development:**

The Zygote (fertilized egg) divides to become a two-cell embryo then a four-cell to an eight-cell embryo. Continued cell development and division will lead to a Morula (cells start compacting together) then cavitation begins with formation of blastocoele cavity (now considered an early blastocyst). Further development leads to a Full blastocyst (with formation of Inner Cell Mass or ICM which will eventually become the fetus) then continuing growth to an Expanded Blastocyst (a highly developed embryo). All these events happen usually within the first 5 to 7 days after fertilization of the egg.

The day of embryo transfer (Day 3 versus Day 5 or blastocyst transfer) is generally dependent on the number of embryos formed and their quality. Our embryology laboratory is a good place for embryos to grow (temperature, humidity, pH, culture medias, etc.) but the uterus is by far a much better place. If there appears to be low numbers of embryos available (usually less than 3) for transfer then your embryo transfer will usually be performed on either Day 2 or Day 3. In order to have a blastocyst embryo transfer (Day 5) there generally needs to be at least four (4) high quality embryos (see definition of embryo quality above) available on Day 3. This will allow us to be able to choose the best quality embryo(s) for transfer.

**It is very important to realize that not all eggs are “good” eggs and that not all eggs will fertilize to form embryos. In addition, not all embryos will be “good” embryos and not all “good” embryos will become pregnancies.**

**Previous studies have shown that only 20% to up to 40% of embryos may make it to the blastocyst stage. This will also affect the number of embryos that may be available for freezing (cryopreservation) since we only freeze embryos that have developed to the Full or Expanded blastocyst stage (see above for definitions).**



**Can Alternative Therapies Help With IVF?**

In a study of 160 women, 80 women received acupuncture as a part of the embryo transfer process and 80 women did not receive acupuncture. The results were amazing. 42.5% of the women who received acupuncture achieved clinical pregnancy (determined six weeks after transfer) compared to 26.3% of the women who had no acupuncture. (Fertility and Sterility vol. 77 No.4, April 2002) That is a 61.5% improved success rate.

The 5,000-year old Chinese art of acupuncture involves the stimulation of specific points on the body by a variety of techniques, usually hair-thin metallic needles, to treat or prevent illness or to tonify deficient areas of the body. It is relatively new to this country, but it is rapidly gaining acceptance for many ailments. In 1997, after looking at thousands of studies and interviewing leading researchers, a panel of experts convened by the National Institutes of Health concluded that acupuncture is an effective treatment by itself and can also be helpful in combination with other therapies.

*What does treatment involve?*

The course of treatment using an IVF protocol involves meeting with an acupuncturist, once or twice to receive and become familiar with acupuncture. You will receive acupuncture treatments just before and immediately after your embryo transfer.

*How does it work?*

Researchers believe that acupuncture can increase the blood flow to the uterus and regulate endocrine activity. Also, an acupuncture treatment is widely known to be very calming and relaxing. All of these are important factors in creating the best possible environment for a successful embryo transfer.

*Does it hurt?*

Acupuncture needles are fine and flexible, no bigger that a human hair. Generally, when inserted, the needle produces little or no sensation at all. When the needle is at the right depth, you may feel a tingling or dull heavy sensation for a moment or two, but overall acupuncture treatments are very relaxing.

*How safe is it?*

It is very safe. Acupuncturists use only single-use, disposable needles to ensure sterile conditions and prevent the spread of infection. And it has been deemed safe and effective with few occurrences of side effects by the National Institutes of Health.

**Fertility Acupuncturists**

**Liz Roseman**

Sustainable Health

36 Clayton Street

Asheville, NC

828-333-4614

http://acupuncture-in-asheville.com/

**Betty Shuford**

(Located inside Corporate Square Offices)

S. Pine Street, Suite B-130

Spartanburg, SC

864-541-9645 or betty@pinestreet-lac.com

http://pinestreet-lac.com/

Cassandra Nelson

Acupuncture Center of Greenville

Greenville, SC

864-363-6404

www.acugreenville.com

**Sande Triponey**

Greenville Natural Health

1901 Laurens Road, Suite E

Greenville, SC

864-370-1140

www.greenvillenaturalhealth.com

**Simon Cairns**

Acupuncture Solutions, LLC

220 Freeman Farm Road Duncan, SC

864-848-1548 or acu.solutions@att.net

**We offer acupuncture in office at time of the IVF embryo transfer. Ask your IVF nurse for more information!!**

**Stress and Infertility**

Stress is defined as any event that a person perceives as threatening or harmful. Stress can result in the heightened activity of many body organs. The increased activity is offset by hormones secreted by the adrenal glands and through the nervous system. Acute stress can result in increased heart rate, blood pressure and respiration, as well as sweaty palms and cool, clammy skin. Chronic stress can also cause depression and result in changes in the immune system and sleep patterns.

Stress Causing Infertility

Although infertility is a highly stressful experience, there is very little evidence that infertility can be caused by stress. In rare cases, high levels of stress in women can change hormone levels and cause irregular ovulation. Some studies have shown that high stress levels may also cause fallopian tube spasm in women and decreased sperm production in men.

Infertility Causing Stress

Research has shown that women undergoing treatment for infertility have a similar, and often higher, level of “stress” as women dealing with life-threatening illnesses such as cancer and heart disease. Infertile couples experience chronic stress each month, first hoping that they will conceive and then dealing with the disappointment if they do not.

Why Infertility Is Stressful

When diagnosed with infertility, many couples may no longer feel in control of their bodies or their life plan. Infertility can be a major crisis because the important life goal of parenthood is threatened. Most couples are accustomed to planning their lives. With infertility, this may not be the case. Infertility testing and treatments can be physically, emotionally, and financially stressful. A couple’s intimacy is often reduced by the infertility experience that further contributes to increased stress levels. Trying to coordinate medical appointments with career responsibilities can also increase pressures on infertile couples.

Tips for Stress Reduction

• Keep the lines of communication open with your partner.

• Get emotional support so that you don’t feel isolated. Individual or couples counseling support groups, and books on infertility can help validate your feelings and help you cope.

• Learn stress reduction techniques such as medication or yoga.

• Avoid excessive intake of caffeine and other stimulates.

• Exercise regularly to release physical and emotional tension.

• Have a medical treatment plan that both you and your partner are comfortable with.

• Learn as much as you can about the cause of your infertility and the treatment options available. Check out the ASRM website for additional information on infertility.

---------------------------------------------------------------------------------------------------------------------------------

***Fertility Related Services & Fertility Counseling***

***Psychological Services Provided by Dr. Joe Hammond- for more information or to schedule an appointment call 864-346-3467.***

*“I understand you are probably struggling with difficult circumstances. These situations can involve the most important and emotional challenges in your life, such as an unfulfilled yearning to have a child, struggling to succeed in school, confusion and anxiety due to memory loss, or conflict in families trying to sort through these issues. I approach my work with respect and empathy for you, and I appreciate the opportunity to be of help.”*

• Individual and Couple’s Counseling

• Anonymous and Know-Donor Assessment

• Gestational Carrier Screening

**Progesterone Use Choices in IVF, Frozen Embryo, and Egg Donor Cycles:**

Progesterone is usually administered starting 3-6 days before embryo transfer and will be continued until 10 weeks of pregnancy for IVF cycles, Frozen Embryo and Donor Egg cycles.

**Progesterone in Oil:**

Given once daily as intramuscular (IM) injection (usually will need someone to give injection)

Given into buttocks (usually) or into thigh

Least expensive progesterone option

Can have reaction to the oil-based solutions

Tends to have some redness and swelling and pain in injection sites, can be more painful over time

**Endometrin Vaginal Inserts:**

Taken vaginally with use of an insert three times a day initially, decreasing to twice daily

More expensive that IM progesterone

Can result in vaginal discharge

Can have more spotting and light bleeding with use in pregnancy

**Crinone Vaginal Applicators:**

Taken vaginally once or twice daily

More expensive than IM progesterone (similar in cost to use of Endometrin unless using twice daily, then more expensive than Endometrin)

Can have more spotting and light bleeding with use in pregnancy

Can result in vaginal discharge as well as clumping of residue in vagina from prolonged use

**In Frozen Embryo or Donor Egg Cycles, if using vaginal progesterone (Endometrin or Crinone) as option, will also be adding Progesterone in Oil IM injections every third day to ensure adequate progesterone levels as well.**

**Estrogen Use Choices in IVF, Frozen Embryo, and Egg Donor Cycles:**

Estrogen is usually administered starting 3-6 days before embryo transfer and will be continued until 10 weeks of pregnancy for IVF cycles, Frozen Embryo and Donor Egg cycles.

**Estrogen by Mouth (Estrace/estradiol pills):**

Taken orally twice daily.

Least expensive option.

May cause some GI upset including nausea and dyspepsia in some women.

**Estrogen Patches (Minivelle, Vivelle, estrogen patches):**

Applied to skin either below waistline or to buttocks every other day.

More expensive option.

May cause skin irritation; not ideal if allergic to adhesives.