

Piedmont Reproductive Endocrinology Group (PREG)
In Vitro Fertilization Patient Information

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

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 (\pm anti-sperm antibodies)**
- ❑ **Baseline hormonal testing for women (Day 3 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)**
- ❑ **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 actually 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. For example, women scheduled to undergo stimulation in April will take OCPs in March. Please call the IVF Coordinator, **Dawn Whitlock (864-232-7734)**, 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. Others may use **Antagon or Cetrotide** for their pituitary down regulation and these SQ injections are usually started after gonadotropins are begun and you will be instructed on when to start daily injections of these medications (**Antagonist cycle**).

Stimulation Cycle

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 on Lupron. 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, or Bravelle)** 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 4 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 intramuscular injection of **hCG (A.P.L., Pregnyl, Ovidrel)** at night. Injection times are assigned by the IVF coordinator or weekend physician that afternoon. Once you take your nighttime dose of hCG, you do not need to take any more 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.** 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 one hour. After an average recovery room time of 30 minutes, patients are discharged home.

Husbands are scheduled to provide semen specimens on the morning of egg retrieval. Specimen collection takes place in the private rooms located within our office. After processing, microdrops 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.

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.

Medications to begin the day after egg retrieval:

1. Progesterone supplementation 50 mg (1 cc) of progesterone in oil injected intramuscularly each morning till 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 (0.1 mg patch to be placed on your lower abdomen and changed every other day) till 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.

Approximately 3 to 4 days after embryo transfer, women are scheduled for an office visit to check for any signs of ovarian hyperstimulation and to measure blood estrogen and progesterone levels to ensure they are adequate. **Blood pregnancy tests are scheduled 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!!