

# **COLUMBUS CENTER FOR REPRODUCTIVE ENDOCRINOLOGY & INFERTILITY**

## **IN VITRO FERTILIZATION AND EMBRYO TRANSFER**

### **PATIENT INFORMATION**

#### **INTRODUCTION**

We recommend that you read these instructions entirely as soon as you can, making notations in the margins about any area where you have questions. As you approach each step, we recommend that you re-read that particular section and ask any questions at that time. This will prevent you from becoming confused with too many answers at one time.

It is important to remember that each patient has her own unique response to the medications she receives and that each ART cycle is different. This means, not only are you unlikely to respond as others do, but you may actually respond differently from one cycle to the next. For this reason, you will find that your treatment and testing differs from those of other patients. Please do not compare your test results and medication plans with other patients here, please keep in mind that IVF is a very private matter and that some patients do not feel comfortable discussing this.

The schedule you find here is to guide you through your treatment cycle. Time changes and other adjustments will frequently be made in order to individualize and optimize your treatment.

In-vitro fertilization and embryo transfer (IVF-ET) is a procedure designed to enhance the likelihood of conception in couples for which other fertility therapies have been unsuccessful or are not possible. It involves multiple steps resulting in the insemination and fertilization of oocytes (eggs) in the laboratory. The embryo(s) created in this process are placed into the uterus for implantation. Each stage of the procedure has specific risks, which are outlined below.

#### **BENEFIT OF THERAPY**

IVF may provide a couple that has been otherwise unable to conceive with a chance to establish a pregnancy.

#### **PRE-CYCLE COUNSELING**

We recommend that when your period begins, on the cycle preceding the one you choose to undergo IVF that you contact the IVF nurse coordinator at (706) 653-6344 for approval to start. At this time, arrangements will be made to complete any pre-cycle testing, provide you with the necessary prescriptions for medications, complete the appropriate informed consent documents and review and clarify your financial

obligations. All consent forms must be signed by you and your partner before initiating your treatment cycle. You are to avoid the possibility of pregnancy during this cycle by using contraception.

## **MAXIMIZING CHANCES FOR SUCCESS**

### Females:

- Avoid all medications other than Tylenol. If you are taking other prescription medications check with us prior to beginning your treatment cycle.
- No smoking or alcohol use. Studies show both can result in lower pregnancy rates and a greater risk for miscarriage. Why put yourself through this if you are not doing everything YOU can to insure your success.
- No more than two caffeinated beverages per day.
- Avoid change in diet or weight loss or fad diets during an IVF cycle. A healthy well balanced diet works best.
- Refrain from intercourse three to four days before egg retrieval and following embryo replacement until pregnancy determination is made.
- Normal exercise may continue unless enlargement of your ovaries produces discomfort.
- Avoid hot tubs or saunas.

### Males:

- Fever greater than 100.4 one to two months before IVF treatment may adversely affect sperm quality. Be sure to let us know. If you are sick, please take your temperature and report any febrile illnesses.
- Sitting in hot tubs and saunas is not recommended. Even a single episode in the hot tub can adversely affect sperm function. Please refrain from this for at least three months before treatment.
- Drugs, alcohol and cigarette smoking should be avoided for three months prior to treatment and at all times during the ongoing IVF treatment cycle to get the best results.
- If you have a history of genital herpes infection, you must report any pre-herpes symptoms, active lesions, or healing herpes lesions. In either the male or the female, each of these stages will require cessation of the IVF treatment.
- Do not begin any new exercise, sport or marathon training within three months of planning IVF. If you are a runner, please decrease jogging to a total of less than 20 miles a week.
- Refrain from wearing tight underwear.
- Abstain from intercourse from at least three days, but not more than seven days before collection of semen for egg collection and during treatment.

## **IVF CYCLE**

Treatment begins during the menstrual cycle before your planned treatment. You will be asked to report to the office for a trial transfer and a hysteroscopy during mid-cycle. The trial transfer is to determine the direction and length of the uterine cavity prior to your treatment cycle. This procedure minimizes trauma to the uterine lining during your actual IVF treatment cycle and may enhance pregnancy rates. The hysteroscopy is a mini camera that is inserted into the uterus to evaluate the integrity of the uterine cavity. This is done to ensure that the cavity is free of any anomalies that may impinge on the implantation of an embryo.

You will begin therapy with oral contraceptive the month before your actual IVF treatment month. Then you will begin subcutaneous Lupron injections. This will continue anywhere from three to ten days, but maybe longer if necessary. You may be asked to return to the office for an Estradiol value and ultrasound examination. If these tests are normal, you will initiate gonadotropin injections (Repronex, Menogon, or Gonal-F) within several days.

The first day of your period will be considered day one of your cycle. All consent forms must be signed and deposits must be paid before receiving medication and further instructions. Your treatment may stop at any stage if the medical team feels that successful completion of treatment is unlikely. Specific instructions regarding drug doses and upcoming appointments will be given.

## **THE IVF-ET PROCEDURE AND ITS RISKS**

### **Step 1: Ovarian Stimulation with Fertility Medications**

The “super ovulation” techniques used in IVF are designed to stimulate the ovaries to produce several eggs (oocytes) rather than the usual single egg as in a natural cycle. Multiple eggs, and therefore multiple embryos, increase the probability of conception when placed in the uterus for implantation.

The medications required to maximize egg production may include, but not limited to the following: Lupron (a Gonadotropin Releasing Hormone agonist), Follistim or Gonal-F (FSH, or follicle stimulating hormone), Humegon (combination of FSH and LH or luteinizing hormone), and Pregnyl or Profasi (HCG, human chorionic gonadotropin). Each is administered by injection only. Lupron, Follistim and Gonal-F are given subcutaneously (beneath the skin), and the others are intramuscular injections (into the muscle). Risks associated with these routes of administration include, but are not limited to:

1. Tenderness at the injection site.
2. Infection at the injection site.

3. Hematoma or bruising at the injection site.

Risks associated with the medications themselves include, but not limited to:

1. Allergic reactions
2. Hyperstimulation of the ovaries (mild, moderate, or severe)
3. Failure of the ovary to respond
4. Cancellation of the treatment cycle

There are situations that can occur during a stimulation that may require cancellation of the cycle and stopping treatment for a period. These situations usually occur because the patient has produced too many or too few eggs with the dose of medication selected. Although we realize that this can be a big disappointment, at times it is necessary to discontinue administering the medications to avoid the possibility of a prolonged hospitalization due to ovarian hyperstimulation syndrome. If canceling the cycle becomes necessary, you will be told to stop your injections. No HCG injection will be given. You will be asked to schedule an appointment with your physician to make decisions for future treatment cycle.

During the use of ovulation medications, the ovaries are pushed to produce more than one egg to the point of maturity. Consequently, hormone levels of estrogen and progesterone reach higher than normal values. When the estrogen level becomes mildly to moderately elevated, side effects that may be experienced include, but not limited to:

1. Fluid retention with slight, transient weight gain
2. Nausea
3. Diarrhea
4. Pelvic discomfort due to enlarged, cystic ovaries
5. Breast tenderness
6. Mood swings
7. Headache
8. Fatigue

If the estrogen level rises excessively and HCG is administered to trigger final maturation of the eggs and ovulation, the following more serious complications may result from severe ovarian hyperstimulation syndrome:

1. Excessive fluid retention with fluid in the abdomen and / or chest cavity
2. Thrombosis of arteries and / or veins (formation of blood clots) which may lead to stroke, embolus, or potentially fatal complications
3. Excessively enlarged ovaries which have the possibility of rupturing or twisting

Any of these three problems may require prolonged hospitalization.

Because of the potential for these severe complications, it is important that we carefully monitor your response to these medications. This monitoring also allows your physician to determine when the eggs are ready for the next stage, oocyte (egg) retrieval.

Monitoring includes frequent blood drawing for Estradiol (estrogen) and possibly progesterone, LH and FSH levels. These blood tests will take place over approximately a 12-day period. Risks associated with blood drawing include:

1. Pain
2. Tenderness or infection of the skin
3. Bruising or scarring of the site of blood draw
4. Development of a blood clot in the vein (thrombosis, thrombophlebitis)

The second portion of the monitoring phase involves the use of ultrasound to measure follicular growth. The eggs develop inside fluid-filled cysts of the ovaries called follicles, which enlarge as the eggs mature. Ultrasound studies usually begin after an estrogen response has been measured and continue on a daily basis until oocyte (egg) retrieval. The ultrasound studies are performed using a vaginal probe. Vaginal sonograms carry no appreciable risk but may cause slight discomfort, particularly as you near the point of ovulation.

Ovarian stimulation with the fertility medications causes multiple follicles to develop. This is desirable in IVF because as the number of eggs increases, the chance for success increases. Multiple embryos can also increase the risk of multiple pregnancies. Approximately 20-25% of pregnancies with IVF will be multiple. Most of these will be twins but triplets, quadruplets or even greater multiple pregnancy can occur. A procedure called “selective reduction of pregnancy” has been performed in several medical centers across the country in selected cases of triplets or more. More information on this procedure is available upon request.

A possible association between the use of fertility drugs and an increased risk of developing ovarian cancer has been raised by some investigators. The exact risk, if any, is unknown at this time due to the problems associated with conducting such studies. The Food and Drug Administration, as well as other national agencies and medical organizations, do not advocate a change in prescribing these fertility drugs at this time.

## **Step 2: Oocyte (Egg) Retrieval**

For IVF, collection of eggs is usually performed transvaginally under ultrasound guidance. A needle is inserted through the vaginal wall into the ovaries using ultrasound to locate each follicle. The follicular fluid is suctioned to collect the eggs. Although patients are given pain medications intravenously, some women may experience some discomfort during the procedure. Generally, the oocyte

(egg) retrieval takes 30-60 minutes. Patients are usually discharged home within a couple of hours after the retrieval. Risks of oocyte (egg) retrieval include:

1. Potential reactions from the drugs and procedures used in the administration of anesthesia.
2. Risks associated with the passage of the needle through the vagina into the ovaries, including infection, bleeding, damage to the bowel, bladder, blood vessels, ureter, uterus or ovary (ies), and adhesion formation (internal scarring) following the procedure. Although uncommon, significant bleeding or damage to bowel may occur, and surgery may be required to repair such damage. This is a very uncommon event. Rarely, infection may become severe enough to require hysterectomy and/or removal of one or both ovaries.

You should have nothing to eat or drink in the eight hours before your retrieval. This procedure begins in the same fashion as vaginal ultrasound. You will receive small doses of medication given intravenously, which will make you relaxed and sleepy. Recovery from these medications, for most patients, is rapid and generally, nausea is minimal. Your vagina will be cleansed to minimize the risk of infection. The vaginal transducer is inserted and the eggs are retrieved with a needle inserted through the vaginal wall under guidance of ultrasound. No abdominal incisions are required.

## **PRE-RETRIEVAL INSTRUCTIONS**

Report to the IVF Center at your assigned time. **DO NOT EAT OR DRINK ANYTHING AFTER MIDNIGHT.** This also means not to chew gum.

Please make sure to arrive without jewelry, nail polish, make-up or contact lenses. You may wear your wedding rings.

Please note that while you are in the preparation area try to empty your bladder completely. After the IV line is started, you will be taken in to the procedure room or a stretcher and asked to move onto the procedure table. Shortly after that, you will receive medication to make you feel relaxed and drowsy. The procedure will last about 25 to 45 minutes.

Your husband will be asked to provide a sperm specimen during the time of your retrieval.

Following your initial recovery, your husband may be with you. The time you will be required to remain for observation will vary between patients but is generally one half hour after the procedure. When the nurse feels that your condition is stable, you will be discharged. Patients are not allowed to drive themselves home after the retrieval. Following your retrieval, you may eat or

drink when you feel well enough. At this point, following your procedure, you should begin taking antibiotics for duration of five days.

## **POST-RETRIEVAL INSTRUCTIONS**

Following transvaginal ultrasound retrieval you may experience some pelvic area tenderness and feel tired or sleepy from the medications you have received during the procedure. You will also have some light vaginal spotting. This is usually from the vaginal wall where the needle entered. This should be scant in amount and may be red to brown in color.

Extra-strength Tylenol usually controls the discomfort. Do not take aspirin or anti-inflammatory medications (Anaprox, Motrin, etc.)

The medications used during your egg collection may not be eliminated by your body for up to 24 hours. You may feel “hung over” or just not your normal self. We ask that you do not:

1. Drive a car or operate machinery or power tools
2. Drink any alcoholic beverages
3. Make any important decisions

You may eat whatever you like after the egg collection, as long as you are not nauseated. If you experience nausea, restrict your diet to clear liquids and crackers until the nausea subsides. It is usually best to avoid spicy foods for at least 24 hours.

Antibiotic therapy is administered to minimize the risk of infection following this procedure. Antibiotic therapy is given twice a day for five days.

Progesterone is a hormone produced by the remains of the ruptured follicles (corpus luteum). Progesterone helps the lining of the uterus becomes thick and is therefore, essential for the implantation of the embryo. As estrogen levels are higher in stimulated ovarian cycles, it is necessary to administer progesterone supplements to establish a normal estrogen/progesterone ratio. Therefore, HCG or additional progesterone supplements may improve the uterine lining and enhance the possibility of implantation.

You will be contacted by the doctor on the day following the retrieval and given the status report on your eggs and sperm. At this time fertilization will be seen in most cases, but embryo replacement can only be confirmed when the fertilized egg divides normally, usually after one additional day. As you know, although rare, one of the risks of IVF is lack of fertilization. Sometimes the reason for this is understood but many times no reasons are apparent. If this occurs, monitoring will be discontinued.

You should abstain from sexual intercourse for two weeks after treatment. You should also abstain from strenuous physical activity during those two weeks. If you have any questions about a particular activity, please contact the nurse.

**Please contact the doctor if any of the following occur:**

- **Fever greater than 100.4 that lasts for more than two hours.**
- **Excessive vaginal bleeding.**
- **Unusual and increasing pelvic area discomfort.**
- **Difficulty with urination or change in bowel activity.**
- **Nausea, vomiting or diarrhea.**
- **Sharp or shooting pains.**
- **Pain or burning during urination.**
- **Abdominal swelling.**
- **Unusual back pain.**

### **Step 3: Sperm Collection and Preparation**

Each man/partner will be asked to provide a semen sample by masturbation on the day of the oocyte (egg) retrieval. This is usually obtained one to two hours after the completion of the retrieval. We ask for abstinence from ejaculation for two to five days before providing this semen specimen. The sperm will be prepared for inseminating the collected eggs in our laboratory. A second sample of fresh semen may be needed the day of or the day after egg retrieval to inseminate egg(s) that were not mature or did not fertilize with the first semen specimen. Because this can be a stressful time for men, the man/partner may be unable to produce a specimen when needed. If this occurs, any eggs collected will be discarded. Men who feel that they may have difficulty producing a semen specimen have the opportunity to have their specimens frozen by our laboratory ahead of time for use in this situation.

### **Step 4: Insemination of Eggs and Development of Embryos**

After the eggs have been retrieved, they are immediately transferred to the adjacent laboratory for identification, evaluation, and preparation for insemination. In the process of collecting the follicular fluid, many eggs are usually obtained. It is recommended that all of these eggs be inseminated to maximize the number of embryos available to the couple undergoing therapy. Any objection(s) to the insemination of all retrieved eggs should be stated in writing and attached to the ICF-ET consent form. Otherwise, the prepared sperm will be added to each egg and they will be allowed to incubate overnight under controlled laboratory conditions. The next day, each egg is evaluated for evidence of fertilization. However, it is possible that no eggs fertilize. If this happens, the laboratory staff will re-inseminate the eggs or perform Intracytoplasmic sperm injection (ICSI) in order to obtain embryos. If fertilization still does not occur, the eggs will be discarded and the remainder of the procedure will be cancelled. In the case of severe male factor, the couple may be asked to consider the option of

using anonymous donor sperm (obtained through a licensed sperm bank) if it is not possible to obtain sufficient sperm from the partner at the time of fertilization.

The eggs that have fertilized will be allowed to develop for one or more additional days under controlled laboratory conditions before they are placed inside the woman's uterus. Depending upon the couple's wishes, some fertilized eggs or embryos may be frozen and stored for future use.

After the embryos are transferred to the womb, the woman will receive progesterone supplementation by a combination of oral troches and rectal/vaginal suppositories. Administration of these medications after egg collection has been shown to create a more favorable uterine environment for the embryos, which therefore increases pregnancy rates. Side effects of progesterone include:

1. Vaginal dryness
2. Bloating
3. Depression
4. Mood swings
5. Breast tenderness
6. Delay of menses

Synthetic progesterone-like medications have been associated with certain birth defects. By using only natural progesterone, the risk of drug-induced birth defects are significantly reduced. It is important to note, however, that birth defects occur in approximately 3% of spontaneously conceived pregnancies in the USA. Therefore, use of natural progesterone does not guarantee a child without a birth defect.

### **Step 5: Embryo Transfer**

Embryos are transferred into the uterus through a small tube, or catheter. This procedure does not require any anesthesia and is usually painless. The embryos are placed in a small amount of fluid inside the catheter, which is passed through the cervix at the time of a speculum examination. The embryos are deposited in a manner so they reach the top part of the uterus. The number of embryos transferred depends on individual circumstances of the couple; two to six embryos may be transferred in one treatment cycle.

Embryo transfer may cause mild cramping. During the process of transfer, the embryo(s) may be displaced through the cervix (causing loss of embryos) or into the fallopian tubes (causing possible tubal ectopic pregnancy). There is a small risk of bleeding or infection as a result of the transfer procedure.

After transfer, the woman may get dressed and leave. A pregnancy test will be done 12 to 14 days after the transfer regardless of whether you have had any uterine bleeding.

The transfer of several embryos increases the probability of success. If you do not make arrangements for embryo transfer at the time recommended, your chances for pregnancy could decrease. Multiple embryo transfer also increases the risk of multiple pregnancies. Approximately 20 to 25% of pregnancies with IVF will be a multiple pregnancy. Most of these will be twins. Triplets, quadruplets or even greater multiple pregnancy can occur. Any multiple pregnancy carries an increase risk of miscarriage(s), premature labor and premature birth as well as an increased financial and emotional cost. Pregnancy-induced high blood pressure and diabetes are more common in women pregnant with more than one fetus. Prolonged hospitalization may be necessary for these pregnant women and for the mother and babies after delivery. In the event of multiple pregnancies, the option of selective reduction will be reviewed with the couple. Tubal (ectopic) pregnancy is also possible, and a combination of normal pregnancy and ectopic pregnancy may occur. A tubal pregnancy is a condition that may require laparoscopy or major surgery for treatment. Like spontaneous (natural) conceptions, pregnancies that arise through IVF may result in miscarriage. In the event of a miscarriage, a dilatation and curettage (D&C) may be required.

Couples going through therapy must choose one of the following options for handling of any remaining embryos:

1. Freezing (cryopreservation) of remaining embryos for use by the couple in future treatment cycles. This option requires an additional charge.
2. Anonymously donating the embryos for use by another infertile couple(s), if the donating couple and the donated embryos meet the screening criteria. You will not receive any money for this donation. ARHC reserves the right to cryopreserve (freeze) any donated embryos as well as the right to discard any donated embryos if a suitable woman cannot be identified to receive the embryos.
3. Allowing the embryos to develop in the laboratory until they degenerate, at which time they would be disposed of in a manner consistent with professional ethical standards and applicable legal requirements. This usually occurs within 10 days after egg collection.

On the day of your embryo replacement, report to CCREI approximately 15 to 20 minutes prior to your scheduled embryo transfer time. While husbands are encouraged to be present, their presence is not imperative. However, you will need someone to drive you to and from the clinic.

The embryo transfer procedure is similar to a pap smear. A speculum is inserted into the vagina. Then a catheter is guided into the cervical canal and fed into the uterus. Occasionally you can feel some cramping as the catheter is placed into the uterine cavity. The embryos are then placed into the uterus. The embryologist then inspects the catheter under a microscope to make sure that all the embryos are transferred.

Embryo transfer is usually a very short procedure. There is generally very little discomfort, if any at all. So **RELAX!** Following embryo transfer, your bottom will be elevated for thirty minutes. Then you will be allowed to leave.

Following the thirty minutes, you may get dressed and be driven home. You will **NOT** be able to drive yourself home. Please relax in bed for 24 hours, getting up only to use the bathroom. Please remember that you are to continue your progesterone (and any other prescribed medications i.e. aspirin, estrogen, antibiotic, or herparin) until we have the results of your pregnancy test. Following transfer, some patients may pass a small amount of bloody fluid or air from the vagina. Please do not worry about this, it does not mean that you are expelling the embryo(s). From the time of transfer until your pregnancy test, you can resume most of your regular activities.

It is normal to blame yourself for something you may or may not have done during this time if your pregnancy test is negative. Therefore, in general, try not to do anything for which you will feel guilty about later. In general, the following guidelines are offered:

- No tub baths or swimming for 48 hours after replacement
- No douching
- No tampons
- No intercourse or orgasms until the fetal heartbeat is seen on the ultrasound, or the pregnancy test is negative
- No jogging, aerobics, tennis, skiing, mountain climbing, etc. (you get the idea)
- Do not begin any new physical activity
- Do not take any non-prescription medications or other prescribed medications without the approval of the IVF team
- No heavy lifting
- You may return to “work” after 24 hours of bed rest (getting up for bathroom and meals only) and one to two days of light activity
- Try to keep busy; remaining mentally distracted will help the 12 days to pass easier

It is not unusual for you to have some vaginal spotting or bleeding prior to your pregnancy test. **THINK POSITIVE!!** You must have the blood work drawn even if you think your period has started. Quantitative HCG (blood) pregnancy testing will be done.

### **Pregnancy Testing**

Quantitative HCG pregnancy testing will be done twelve days after the embryo transfer. If, however, this falls on a weekend, the test will be drawn on a Monday morning. Blood will be drawn at CCREI between the hours of 7:00am to 9:30am if you live out of town, special arrangements can be made.

Most of the testing reveals either a positive or a negative result; however, occasionally we see a test that is “weakly positive”. If you have this, it may be due to four situations:

1. Late but normal implantation of the embryo
2. Discontinuing pregnancy
3. Ectopic pregnancy
4. Lab error

Further HCG monitoring is extremely important in any of the above situations. Two days after an initial positive or weakly positive test, you will return for a second test. This blood work will enable us to determine if your pregnancy is beginning to progress along the normal course. We look for your HCG to double every two to three days.

An ultrasound examination will be performed approximately three to four weeks after your retrieval. This early ultrasound is critical to evaluate the possibility of miscarriage, ectopic pregnancy and multiple gestations. An ectopic (tubal) pregnancy can occur in 2 to 4% of IVF pregnancies. If diagnosed early, this unfortunate complication may be treated as an outpatient with medication.

We will monitor the pregnancy for about 10 weeks. We will then refer you back to your obstetrician once everything is progressing normally and the chances of miscarriage are low. If you do not have an obstetrician, we will be happy to make a recommendation.

If your pregnancy test is negative, you may stop taking progesterone. You will get a period within three to five days, if you have not already started bleeding. This period may be different from your normal period. If you do not get a period within one week, please call and return for blood work.

After investing so much time and money for your IVF treatment, failure to have fertilized eggs or negative pregnancy test is an abrupt shock. You may wish to make an appointment to meet with Dr. Thiruppathi to review your treatment and discuss your feelings. All that it may take to achieve your success is time and another attempt.

### **General Concerns**

Any assisted reproduction process or technique can be psychologically stressful. Significant anxiety and disappointment may occur. We encourage you to consider short-term supportive counseling during this time and will provide you with a list of psychiatrists, psychologists, and social workers who may help you through this stressful time.

A substantial time commitment is required by both partners to complete an entire course of IVF therapy. It will be necessary for couples to adjust their schedules to undergo the required testing and therapies associated with IVF-ET. It is the responsibility of the woman to report to our office as scheduled for repeated ultrasound examinations and blood tests over several days or weeks before and after the expected time of egg collection. It is the responsibility of the man to be available to at the time identified by the physician to provide sperm.

### **Theoretical Concerns & Potential for Success**

Unfortunately, neither conception nor successful outcome of pregnancy is guaranteed by the IVF-ET procedure. There are many reasons why pregnancy may not occur with the IVF-ET procedure. In fact, there are complex and largely unknown factors, which limit pregnancy rates following assisted reproductive techniques. Some of the known reasons for failure include, but not limited to:

1. There may be a failure to recover an egg because:
  - Follicles that contain mature eggs may not develop in the treatment cycle
  - Ovulation has occurred before time of egg recovery
  - One or more eggs cannot be recovered when the follicles are suctioned
  - Pre-existing pelvic scarring and/or technical difficulties prevent egg recovery
2. The eggs that are recovered may not be normal.
3. There may be insufficient semen to attempt fertilization of the recovered eggs because the man is unable to produce a semen specimen, because the specimen contains an insufficient number of sperm to attempt fertilization or because the laboratory is unable to adequately process the specimen provided, or because the option to use a donor sperm as a “back up” was declined.
4. Fertilization of the eggs to form embryos may not occur even when the egg(s) and sperm are normal.
5. The embryo(s) may not develop normally or may not develop at all. Embryo(s), which display any abnormal development, will not be transferred.
6. Embryo(s) transfer into the uterus may be difficult/impossible or implantation(s) may not occur after transfer, or the embryo(s) may not grow or develop normally after implantation.
7. Any step in the IVF-ET process may be complicated by unforeseen events, such as bad weather, equipment failure, laboratory conditions, infection, human error and the like.

In the event the couple should die before embryo transfer, the embryo(s) will be discarded unless other provisions are made in writing.

When pregnancy does occur, often it will be a normal pregnancy. However, there is always a risk of abnormal pregnancy, miscarriage, blighted ovum, ectopic pregnancy or premature delivery. Congenital abnormalities, genetic abnormalities, mental retardation or other birth defects, which occur in approximately 3% of spontaneously conceived pregnancies might also occur in children born following assisted reproductive techniques. A large review of a subset of children born following assisted reproductive procedures found the incidence of developmental anomalies similar to a control group of children spontaneously conceived.

Women with multiple pregnancies have a much higher risk of complicated pregnancies, including the following: toxemia, pre-eclampsia, miscarriage, premature labor and delivery, stillbirth, cerebral palsy in the babies, birth defects, and other complications.

### **Alternatives to IVF-ET**

Depending upon the individual and unique cause(s) of infertility for each couple, conception through alternative means other than IVF-ET may or may not exist. Possible success rates of these alternatives may vary depending upon the type and severity of the cause of the infertility. For some couples, it may even be possible to conceive spontaneously without a physician's help. You should discuss these alternative treatment methods with your physician before you proceed with IVF-ET therapy.

### **Telephone Calls**

The answering service has been instructed not to page the doctor after hours and on weekends unless you consider your call an emergency. However, patients who have had retrievals, transfers or surgery that day or the day prior with bleeding, temperature elevation, nausea and vomiting or difficulty urinating should not hesitate to call and are considered emergencies. Calls regarding the beginning of your period and appointments are not considered emergencies.

Please keep in mind that some days are extremely busy and most phone calls will be returned as soon as possible. However, some phone calls may not be returned until after hours or the next day. Our office hours are from 7:00am to 5:00pm most days. When leaving a phone message please let us know a return number and how long you will be at that number. If your call is emergent in nature, have the receptionist page the nurse. Please remember to keep your phone line open so that we may return your call.

