



Dear Patient,

Welcome to the Fertility Center. We've teamed up with the Creator to do our very best in helping make your dreams of parenthood come true.

We have a professional, knowledgeable and experienced staff. In addition to our board-certified reproductive endocrinologists and their nurses and medical assistants, you will work closely with our embryologists. During your preparation for assisted reproduction, you will meet our cycle coordinator, our financial consultant and our lab technician as well as our massage therapist and our patient support coordinator. We have employees at the front desk and check out area to answer questions and provide assistance in making appointments and scheduling tests and procedures.

Even though we are the only full-service infertility treatment center in this region, we remain cost conscious and competitive with a focus on minimizing expenses for our patients. Please feel free to compare our fees with those of other fertility clinics. We're confident you won't find the same kind of personalized care and expertise for the same value anywhere else.

You'll have an opportunity to discuss finances early on in your experience with the Fertility Center. We are committed to helping you find a way to make assisted reproduction manageable for you. Keep in mind, too, that you have the option of financing all of our services through one of our lending partners.

Rumor has it that an in vitro fertilization cycle costs \$25,000, but that's not the case at the Fertility Center. We offer several package plans for various types of cycles, and our standard IVF Cycle Package is \$11,300. This includes all costs with the exception of medications. A list of services will be provided at your financial consultation, and a signed agreement ensures no increase in packaging pricing.

We are glad you are partnering with us to begin your family.

**Fertility Center in Chattanooga**  
**1624 Gunbarrel Road**  
**Chattanooga, TN 37421**  
**(423) 899-0500**  
**(423) 899-2411 fax**

**Fertility Center in Knoxville**  
**10413 Kingston Pike, Suite 201**  
**Knoxville, TN 37934**  
**(865) 692-3433**  
**(865) 692-3218 fax**

We hope this booklet of information concerning in vitro fertilization and other assisted reproduction technologies will be helpful to you. We offer high-tech yet personalized services, and our goal is to meet both your physical and emotional needs.

In the following pages, you will find information about consultations, tests, procedures and medications as well as cycle schedules, financial arrangements and patient support.

We work as a team of professionals who are dedicated to providing you with the best possible care. Our staff includes:

Joseph S. Bird, Jr., MD

Susan Walker, Embryologist

Mona Charlesworth, Nurse Practitioner

Deborah Harris, Medical Assistant

Jan Lambert, IVF Clinical Coordinator

Shirley Sinclair, Office Manager

Deborah Thomason, Receptionist

Tina Smith, Patient Support Coordinator

Samira Jarjoura, Medical Lab Technician

Barry W. Donesky, MD

Pat Whited, RN, On-Call Support (Knoxville)

Katie Murchison, Nurse Practitioner

Sandy Saffles, Medical Assistant

Ann Ramey, Licensed Clinical Therapist

Shelly Farnsworth, IVF Administrative Coordinator

Rachel Davis, Massage and Neuromuscular Therapist

Lisa Goulart, Insurance & Billing Specialist

Sarah Magro, Insurance & Billing Specialist

Our office hours in Chattanooga:      8:30 a.m. – 4:30 p.m. Monday – Thursday  
8:30 a.m. – 12:00 noon on Friday

Office hours vary for our satellite office in Knoxville. However, our Chattanooga staff is available to answer questions and schedule appointments for Knoxville patients during the hours posted above.

After regular business hours and on weekends, a physician is always on call. Just dial our Chattanooga office number – (423) 899-0500 – then press 8 and speak your name and phone number to have a doctor return your call.

Please let us know if we can help you in any way.

## Fertility Center in Chattanooga and Knoxville

### *In Vitro Fertilization Patient Information*

We are very pleased to provide you with a brief overview of our In Vitro Fertilization (IVF) Program. Additional information will be provided at the time of your consultation. You also can access our web site at **[MyFertilityCenter.com](http://MyFertilityCenter.com)**.

This document describes the stages of an IVF cycle, explains the responsibilities of couples who participate in our IVF program, summarizes micromanipulation services, lists the significant and foreseeable risks of procedures, and gives possible alternatives to IVF.

#### INTRODUCTION

In order for a pregnancy to occur, an egg has to be released from the ovary and unite with a sperm. Normally this union, called fertilization, occurs within the fallopian tube. When this process cannot take place in the body, it can be accomplished in the laboratory by using the IVF technique. The technique involves uniting an egg(s) collected from a woman's ovary with sperm collected from her partner under laboratory conditions. The resulting normal embryo(s) may be transferred to the uterus (womb) for continued growth. These IVF and embryo transfer procedures give a couple who may be unable to achieve a pregnancy on their own an opportunity to overcome their infertility.

#### WHO WILL BENEFIT FROM IVF?

- IVF is of demonstrated value for patients with absence or blockage of the fallopian tubes. IVF is also recommended for those for whom surgical tubal repair has either failed or is not deemed advisable.
- Couples with infertility related to severe male factor (such as low sperm count or motility, anti-sperm antibodies or hostile cervical mucous) may benefit from IVF.
- Those who have other causes of infertility (such as endometriosis or unruptured follicle syndrome) or who have unexplained infertility also may be candidates for IVF cycles.

There is no specific age limit for couples who may be considered for IVF in our program. However, patients above age 40 (especially over age 43) have a decreased chance for success unless they are using donor eggs.

## DESCRIPTIONS, RISKS AND RESPONSIBILITIES

There are seven major steps in the IVF process, and all of the procedures involved may be accomplished through the Fertility Center's facilities:

- Consults
- Preliminary Testing
- Egg Stimulation
- Egg Retrieval and Sperm Collection
- Egg Incubation and Fertilization
- Embryo Transfer
- Egg or Embryo Cryopreservation

## IVF CONSULT

During your first scheduled visit, either Dr. Bird or Dr. Donesky will complete a patient history and physical examination. He will discuss with you what he recommends for your fertility plan. It's very helpful if you bring copies of your old medical records, lab results or other available test results with you at the time of your initial appointment. You can fax documents to either our Chattanooga office or our Knoxville office ahead of time, if you wish.

You also will meet with a member of our IVF Team to learn more about what's involved in the IVF process, how cycles are scheduled, what medications may be prescribed, and when procedures are performed. Team members are always willing to talk with you and help put you at ease about your journey through assisted reproduction.

## FINANCIAL CONSULT

You'll need to make an appointment with one of our financial consultants who will talk with you about the financial aspects of doing an IVF cycle, help you understand the expectations of the Fertility Center, answer any questions you may have about finances or insurance, and create a written financial agreement with you for your treatment.

The Fertility Center accepts insurance compensation for IVF, if applicable. In the case that insurance does not pay, your payment responsibility will be outlined in your agreement for a package that includes everything your doctor will need to do during your cycle.

**The package does not include any diagnostic tests nor does it include the medication needed for IVF.**

PLEASE NOTE that it is each patient's responsibility to know the details of insurance coverage. Please do not rely on our office for this information, although we will be contacting your insurance company for verification of benefits. Any information you can provide about your insurance will expedite the process.

Our doctors believe that your chances for success are better when financial arrangements are taken care of early on in the process. As a result, our office requires prepayment for any and all patient-responsible payments relating to IVF. This includes all co-pays or any percentage that your insurance company will require from you (if coverage applies) and 100 percent of the “package” agreement price (if there is no insurance coverage).

Prepayment is a prerequisite to admission into the IVF program and is due before your medication will be ordered by your doctor or nurse.

If you require financial assistance, you may wish to contact one of our financial partners listed below. Applying for assistance requires several days to complete the appropriate forms.

Medical Financing at 888-502-8085 or **[medicalfinancing.com](http://medicalfinancing.com)**

My Medical Loan at 800-788-0711 or **[mymedicalloan.com](http://mymedicalloan.com)**\*

\* Patients who apply to My Medical Loan through the link on the Fertility Center's website can avoid the \$9.95 fee for credit report processing.

### EMBRYOLOGY CONSULT

Embryologist Susan Walker will share pictures and provide information regarding the steps involved in taking eggs and sperm and combining them to make embryos. More information can be found in later sections of this book. When you schedule an appointment with our embryologist, she also will review consent forms with you and your spouse relating to all the special procedures involved with retrieving and fertilizing eggs and transferring embryos.

### SUPPORT CONSULT

You will have an opportunity to meet Tina Smith, a former patient of the Fertility Center, who experienced first-hand many of the steps you are taking with assisted reproduction. She's happy to share her story and perspective, answer questions and listen to your fears, frustrations and concerns. Tina is available in the Chattanooga office part-time and takes appointments on alternate days, as needed.

You also have the option of meeting with Ann Ramey, our licensed clinical therapist. Her professional counseling experience spans the gamut from marriage to grief. Ann is in the Chattanooga office on a flexible schedule as needed. Both Tina's and Ann's support services are free to you, so be sure to schedule an appointment or call either of them directly.

Keep in mind that you can contact the medical assistants, nurses and IVF team members in our offices any time you have questions about medications or procedures or need to speak with a doctor. Just ask our receptionist to put you in touch with the appropriate support person.

## IMPROVING FERTILITY

Suggestions for preparing your body to be the most receptive to fertility treatments include: avoid all tobacco products and limit alcohol; stay out of tanning beds and hot tubs and off of bicycles; minimize exposure to chemicals; and enjoy frequent sexual activity every two to four days. Women should take daily prenatal vitamins that include at least 1 mg of folic acid, and men need daily supplements of vitamin C (1,000 mg) and vitamin E (400 units). Ask your doctor about the adverse affects any of your prescription medications may have on fertility.

## PRELIMINARY TESTING

All blood work and cultures testing is usually completed prior to initiating an IVF cycle. If the results of any of the screening procedures are not satisfactory, you may be denied participation in the IVF program, or it may be necessary to delay your IVF cycle in order to treat identified problems. This requirement for IVF Profile Labs helps us to maintain the health and safety of participants as well as to provide the optimal environment for successful cycles. All blood studies must be current within one year.

An appointment is necessary to have a semen analysis or a saline-infused ultrasound, so please call the office to schedule these tests. Semen analyses can be scheduled at any time during regular office hours that is convenient for you, but a saline-infused ultrasound should be done between days 6 and 11 of your menstrual cycle. An HSG is scheduled through one of our offices but is actually done at a separate facility nearby by either Dr. Bird or Dr. Donesky. The best time to schedule this test is between days 7 and 11 of your cycle.

Your IVF Profile testing will include the following:

HIV, RPR (Syphilis), Hepatitis B and C, Blood Type & Rh Factor – female and male

Rubella Screen, Cystic Fibrosis Carrier Screen, Cytomegalovirus (CMV) Titer – female only

Other tests that may be recommended are: Activated Partial Thromboplastin Time, Complete Blood Count, Anti-Sperm Antibody, Chlamydia, Mycoplasma, Ureaplasma, Gonorrhea, Sperm Penetration Assay, Antiphospholipid Antibodies and Thrombophilia Panel.

## Semen Analysis

Semen analysis is an evaluation of sperm using two methods. The first step is a basic analysis which tells us how many total sperm are present (for example, 25 million), how many sperm are moving (motility), and how fast they are moving. The second step is strict criteria morphology which helps us determine how many sperm (reported in %) are shaped normally. Results typically are available within two weeks. Information about sperm is very important in an IVF cycle and helps ensure that everything is done at the proper time to help achieve fertilization of the eggs at the time of retrieval. Other semen tests may be ordered by your doctor, if necessary. Many semen analyses are considered diagnostic tests and may be covered by insurance, depending on your policy.

## Uterine Cavity and Fallopian Tube Evaluation

One way to evaluate the uterus interior is by doing a test known as a hysterosalpingogram (HSG). This test involves injecting dye into the uterus by means of a tiny catheter threaded through the cervix. The dye is observed filling the uterus and the tubes. Your doctor will watch to see if the dye spills out the ends of the tubes or if there is a blockage anywhere. The best time to schedule an HSG is just after your period is over, but before you may ovulate, usually between days 6 and 11 of your cycle. Many insurance policies will cover this diagnostic test.

You will be given instructions from our office on how to prepare for the test, which will be done in Chattanooga at either Physician's Surgery Center on Spring Creek Road or at Chattanooga Imaging next door to our office. In Knoxville, the procedure is usually done at Fort Sanders Parkwest. Your doctor will be present and will do the test himself.

Another procedure that is done to evaluate the uterus is a saline-infused ultrasound, which is done in one of our offices. A saline solution is injected into the uterus by way of a tiny catheter placed through the cervix. Then the filling of the uterus is observed on ultrasound to identify any irregularities, such as fibroids, polyps or septums. The procedure is relatively painless, but if cramping is experienced, Ibuprofen may be helpful. This is a diagnostic test and is usually covered by insurance.

If you've had an HSG or saline-infused ultrasound in the past year, please obtain a copy of your test results and bring them with you for your initial office visit.

## Baseline Blood Work

On day 2 or day 3 of your menstrual cycle, you may need to schedule Day 3 Labs, which establish your body's levels of serum estradiol (E2), follicle stimulating hormone (FSH) and luteinizing hormone (LH). These results are helpful in determining how responsive your ovaries may be to stimulation and what quality of eggs you might produce. This test is optional and based on your doctor's discretion, although usually recommended for women over age 30.

## Orientation

IVF cycles are scheduled nearly every month at the Fertility Center. Once you choose to participate in an upcoming cycle, members of our IVF Team will work with you and your spouse to help you better understand testing, procedures and monitoring. You'll both learn how to give medication injections and retrieve voicemail messages after labs and scans. You'll also have a chance to tour the procedure and recovery rooms and be given tips to prepare for retrievals and transfers. The IVF Team strives to keep you informed and wants you to feel as comfortable and confident as possible about your cycle.

## EGG STIMULATION

Prior to an IVF cycle, you'll be given prescriptions for prenatal vitamins as well as baby aspirin to prepare your body for conception, balance out nutrition deficiencies and help minimize the chances of miscarriage. You also will take birth control pills to regulate your menstrual cycle. In addition, you and your spouse will each take five days of oral antibiotics as a preventative measure. To control the timing of egg maturation and to increase the chance of collecting more than one oocyte or egg, fertility drugs such as Bravelle, Follistim, Gonal-F, Menopur or Repronex will be used to stimulate your reproductive system. The drugs and doses vary between patients, depending on medical conditions and related factors. Other medications used within this program typically include the following: Ganirelix, hCG, Ovidrel, Estrogen and Progesterone. Lupron and Novadrel are used on occasion. A brief overview of each is given below to help you understand the actions, functions, route of administration and potential side effects of these drugs.

BRAVELLE, FOLLISTIM, GONAL-F, MENOPUR and REPRONEX are administered by subcutaneous injections and contain FSH. The ovaries are stimulated by these hormones to produce follicles (the sac containing the egg), to promote follicular growth and maturation, and to develop eggs. Patients receiving this and other stimulation medications may experience symptoms of Ovarian Hyperstimulation Syndrome. This condition causes the patient to have swollen and painful ovaries. Fluid may accumulate in the abdominal cavity and chest, and the patient may feel bloated or nauseated and may experience vomiting or lack of appetite. **It is REQUIRED for your well being and safety that you are frequently monitored by ultrasounds and blood tests while taking these medications. Once you begin taking stimulation medication, it is essential that you avoid traveling out of town (with the exception of day trips) and stay in frequent contact with the Fertility Center staff.** These precautions help minimize your risk of hyperstimulation and the development of complications. About 10 to 20 percent of patients undergoing ovulation enhancement will have a mild case of hyperstimulation syndrome.

If blood tests show that your body's E2 level is greater than 4000pg/ml, it may be necessary to freeze all embryos from the retrieval of the cycle. Once hyperstimulation has been resolved, the embryos can be thawed and transferred into the uterus. Odds for achieving pregnancy are about the same with either fresh or frozen embryos. Less than one percent of all patients that experience ovarian hyperstimulation have a case severe enough to require hospitalization. The condition tends to resolve itself within a couple of weeks, unless pregnancy occurs. If pregnancy does occur, the condition is usually aggravated by the increase in pregnancy hormones. Ironically, Ovarian Hyperstimulation Syndrome is less common in IVF pregnancies than in unassisted conceptions, most likely because the follicles are emptied of fluid and cells during the egg retrieval.

GANIRELIX combined with HCG or human chorionic gonadotropin hormone is given by subcutaneous injection to control ovulation, first by rapidly suppressing the production and action of the luteinizing and follicle-stimulating hormones and then triggering the release of the eggs in the ovaries. HCG also is the hormone produced by an embryo shortly after conception. Possible side effects include abdominal pain, nausea, vomiting, weight gain, vaginal bleeding and headaches.

LUPRON is given by subcutaneous injection to control ovulation by briefly increasing and then suppressing the production and action of the luteinizing and follicle-stimulating hormones. Possible side effects include hot flashes, headaches and vaginal dryness.

OVIDREL and NOVAREL are given as subcutaneous injections to trigger the follicles to release from the ovary walls. Administration is calculated thirty-five to thirty-six hours PRIOR to egg retrieval to enhance the maturation of the eggs within the follicles. Possible side effects may include headaches, fatigue and/or pain at the site of injection.

ESTROGEN and PROGESTERONE are hormones which stimulate the growth of the lining of the uterus and help the embryo implant within the uterine wall. Progesterone also fosters gestation, helping to achieve and maintain pregnancy. Estrogen typically is administered as a skin patch. Vaginal suppositories often are used to supplement progesterone, but this hormone also may be given by intramuscular injections. Potential side effects include fluid retention, breast tenderness, vaginal bleeding or spotting, bloating, nausea, headaches and allergic rashes. If injectable progesterone is used, then discomfort or bleeding at the site of injection may occur. Though the FDA issued a warning in 1977 that progesterone may increase the risk of birth defects, our own research data, as well as the experience in our practice and the work of other researchers, suggests that there is no increased risk. In fact, some data suggests that progesterone may prevent birth problems by inhibiting pre-maturity.

*NOTE: There are always potential side effects from any medications. The severity of a reaction is dependent upon the individual response to the medication. A few years ago, a report suggested an increased risk of developing ovarian cancer with the use of fertility drugs. The long-term effects are currently unknown and the potential risks are under investigation. To date, there is no consistent data to support these suspicions. Studies have confirmed that pregnancy reduces the risk of ovarian cancer.*

An ultrasound examination of the ovaries (a painless method of seeing the image of the enlarging follicles containing the eggs) is used to monitor follicular development. Hormone levels are also checked by measuring levels in a series of blood samples. The combinations of ultrasonography and blood levels are utilized to predict the expected time of ovulation or egg retrieval. Associated with blood drawing and injections of medications are mild discomfort and possibly bruising, bleeding, infection or scarring at the needle sites.

### Therapeutic Massage

Relaxation is an important factor during your IVF cycle. Our doctors have incorporated massage into our protocol after seeing better success rates with cycles that include this service. Therapeutic massage assists the effectiveness of medication and helps you maintain a more optimistic outlook during treatment. Rachel Davis is our licensed therapist on staff in Chattanooga, and most of our IVF packages include two free massages from her.

## EGG RETRIEVAL and SPERM COLLECTION

The transvaginal ultrasound-guided method is used in the egg retrieval process. The night before your retrieval is scheduled, you must abstain from eating or drinking after midnight. You should arrive at the Fertility Center in **Chattanooga** about one hour prior to your scheduled retrieval. Your spouse (or a friend or relative) will need to accompany you to the office and drive you home. You will change into a hospital gown, and anesthesia will start an IV in your arm. You will walk to the operating room while your spouse waits for you in the recovery area. During the time you are in the operating room, he can collect his semen specimen for the lab. Alternatively, he has the option of collecting his specimen just prior to leaving home that morning and bringing it to the office or sending it with you.

The egg retrieval only takes about 20 to 30 minutes. Once you are in the operating room, you will be sedated and asleep while your doctor cleans the vaginal canal with sterile saline, inserts the ultrasound vaginal probe with attached needle guide, locates the ovaries on the ultrasound, and aspirates the ovarian follicles. The fluid aspirated from the follicles is examined under a microscope in the IVF lab, which adjoins the operating room, and searched for eggs. You will know before you go home how many eggs were retrieved. You will awaken within a few minutes and be moved by stretcher back to the recovery area. You will be observed for about an hour to allow you to wake up some from the anesthesia before you are discharged to go home. You will receive written instructions regarding activity restrictions, medications, etc. Most patients report very little discomfort after the procedure, although some complain of having a "bruised" feeling. Tylenol or Extra-Strength Tylenol is fine to take for pain. You may be given a prescription for Darvocet if you need something stronger. The retrieval is considered an invasive procedure. There is a risk of infection, internal and/or vaginal bleeding, and possible damage to internal organs. You will be observed for signs of complications after the retrieval, and you will be prescribed antibiotics prior to retrieval to prevent infection. Progesterone injections will be started the day of your retrieval to aid in the embryo implantation process.

You can request that any eggs which won't be transferred during this IVF cycle be frozen prior to fertilization. See section on Egg and Embryo Cryopreservation.

## EGG INCUBATION and FERTILIZATION

The eggs and sperm will be placed together in a special culture fluid and kept in incubators in our IVF lab. This process is called insemination. The eggs will be monitored closely for fertilization, and you will receive a voicemail report the day after your retrieval from the embryologists to let you know how many of your eggs have fertilized. Steps for communicating with the IVF lab and the embryologists will be explained to you at the time of your egg retrieval. Plans for embryo transfer and/or cryopreservation also will be discussed.

## EMBRYO TRANSFER

Three to five days after the retrieval, you and your spouse will return to the Fertility Center in **Chattanooga** for an embryo transfer. At this time, your doctor will explain the status of your embryos and will discuss which embryos and how many can be safely transferred into your uterus. The process of the embryo transfer is painless and does not require anesthesia. You will arrive at the Fertility Center about 15 minutes prior to your transfer. For the best view of your uterus on the ultrasound, we prefer that your bladder be fairly full. You will undress from the waist down before being taken to the procedure room. Blood will be drawn to check your progesterone level. You will recline on the procedure table with your feet in stirrups. The vaginal canal will be washed with warmed sterile saline to remove all cervical mucous. The interior of your uterus will be located with the abdominal ultrasound, and the embryos will be painlessly inserted by a tiny catheter through the cervix and deposited into the uterus. The catheter will be inspected under the microscope to make sure no embryos remain there. You will move over to a stretcher and recline for about 20 minutes. Instructions regarding activities, medications, etc. will be given before discharge. **It is HIGHLY recommended that for the following 72 hours, you rest and relax as much as possible since this is the time period when the embryos are most likely to implant.** Nine to eleven days from your embryo transfer will be your pregnancy test, depending on whether your transfer was on Day 3 or Day 5.

## MICROMANIPULATION SERVICES

While “standard” in vitro fertilization can effectively treat the majority of infertile couples, there are some cases that may require more advanced procedures on eggs and sperm or on the fertilized embryo itself. The Fertility Center is pleased to offer a full range of micromanipulation procedures as part of our commitment to providing comprehensive infertility services. As these procedures require specialized equipment and a considerable amount of additional time and effort on the part of laboratory personnel, it is necessary to charge for these services separately.

**ASSISTED FERTILIZATION** – While IVF provides effective treatment for many couples with semen abnormalities, those with the most severe problems may not achieve fertilization without additional assistance. While several methods are available, the most successful procedure has been Intracytoplasmic Sperm Injection (ICSI). A single sperm is selected and directly injected into the center of an egg. This way, the genetic material of the sperm enters the egg while bypassing the normal steps in the fertilization process. With this technique, men with non-motile sperm or very few sperm can still father a child. In some men who do not produce any sperm at all, sperm can be obtained directly from the testicle and still fertilize an egg.

**ASSISTED HATCHING** – The early embryo develops within a shell known as the zona pellucida. After about 5 days of growth and cell division, the zona should break open (hatch), allowing the cells of the embryo to make direct contact with the uterine lining to implant. In certain circumstances, hatching may not occur spontaneously. By creating a small opening in the zona prior to placing the embryos into the uterus, pregnancy rates can sometimes be improved. Couples in which the woman is over 35 years of age, those with prior IVF failures and those with embryos having an abnormally thick zona are most likely to benefit from this procedure.

## EGG AND EMBRYO CRYOPRESERVATION

The ability to freeze and store eggs and embryos has greatly increased the options for patients undergoing assisted reproduction procedures. Cryopreservation allows the transfer of fewer numbers of embryos at a time while not decreasing overall chances for ultimately having a successful pregnancy.

Most women undergoing an IVF cycle will produce multiple eggs in response to the ovary-stimulating medications. Keep in mind that not all retrieved eggs are mature enough to fertilize, and only two or three embryos can be safely transferred back into the uterus without risking high rates of multiple pregnancy (triplets and greater).

Eggs as well as embryos that aren't needed for an initial cycle transfer can be preserved to be used at a later date for subsequent cycles. Two cryopreservation and storage options are available – freezing eggs before fertilization and freezing embryos. Frozen eggs can be thawed and fertilized for future transfers; alternatively, all eggs retrieved from a cycle can be exposed to sperm and then frozen for use at another time.

Both options help couples keep all viable eggs and embryos that have been produced at considerable cost and patient inconvenience. The cost associated with the thaw and transfer of frozen eggs/embryos represents only a fraction of the expense of a complete IVF cycle. This is because the vast majority of the fees and efforts associated with IVF are encountered in the process of obtaining eggs. Egg freezing also allows couples avoid the ethical dilemmas related to disposing of excess embryos.

Your first IVF cycle may not result in a pregnancy, despite your own best efforts combined with those of our team. Consider giving yourself the option of a less expensive and less invasive second try with frozen eggs or embryos. A “frozen cycle” including thawing, fertilizing and transferring eggs/embryos is a very attractive option compared to undergoing another complete IVF cycle.

The Fertility Center has a highly successful cryopreservation program, and we strongly encourage cryopreservation of excess eggs and embryos.

## FACTORS AND RISKS ASSOCIATED WITH IVF

- Due to the nature of this procedure, which uses a metal needle to remove the egg(s), there is potential risk of injury to other organs: bladder, bowel, uterus, fallopian tube(s) or blood vessel(s). A minor problem or a serious complication may develop (such as internal bleeding and/or infection), which may require hospitalization and/or further surgical intervention to correct the problem(s) or to save life. Potential risk is less than 0.1 percent.
- Pelvic scarring and/or technical problems may prevent recovery of one or more eggs from the ovaries.
- Ovulation may occur before a scheduled retrieval, preventing the recovery of eggs.
- One or more eggs may not be recovered during attempted aspiration of a follicle.
- Laboratory conditions may arise which make it impossible or impractical to proceed with in vitro fertilization at the time that egg retrieval would otherwise be indicated.
- The eggs obtained may not be normal.
- The semen specimen produced may be of very poor quality (such as low count and motility) or it may not be able to be produced.
- Appropriate laboratory processing of the sperm specimen may be difficult or impossible.
- Fertilization of the eggs to form embryos may not occur.
- Cell division or growth of the embryos may not occur.
- The embryos may not develop normally. If this occurs, the doctor may recommend halting efforts to continue growth of the embryo(s). When reasonably possible, this will take place only after previous consultation with the patient and her spouse. Eggs or embryos which have failed to develop and are therefore not viable will not be transferred.
- Embryo transfer into the uterus may be technically difficult or impossible, due to unforeseen circumstances or abnormal anatomy.
- If a transfer is performed, implantation(s) may not result. This is the most common cause of no pregnancy in IVF cycles.
- If implantation occurs, the embryo(s) may not grow or develop normally.
- Equipment failure, bacterial contamination, human error and/or other unforeseen factors may result in loss or damage to eggs, sperm sample and/or embryo(s).
- Follicles containing mature eggs may not develop in the monitored cycle. This may prevent obtaining eggs or may result in obtaining immature eggs which will not fertilize.

Most infants who have been born following human in vitro fertilization have appeared normal at birth; animal offspring have usually been normal following in vitro fertilization and/or embryo transfer. At the same time, congenital abnormalities, birth defects, genetic abnormalities, mental retardation and other possible deviations from normal may occur in children born following IVF just as they may occur in children resulting from natural fertilization. At present, there does not appear to be any increased risk of birth defects related to IVF, although multiple births may be complicated by prematurity.

A pregnancy following IVF usually has a successful outcome but, like any other pregnancy, may end in miscarriage or stillbirth. There is no evidence that IVF increases the frequency of these losses. Even a tubal pregnancy is possible following IVF but less likely than in natural conception.

### ALTERNATIVES TO IVF/ET

In very rare circumstances, there are other surgical techniques available for patients with open and functional fallopian tubes. GIFT (gamete intrafallopian tube transfer) is a surgical technique performed by laparoscopy where egg(s) and sperm are placed in the fallopian tube. ZIFT (zygote intrafallopian tube transfer) involves having a transvaginal IVF procedure along with a laparoscopy the following day to place fertilized eggs in the fallopian tube. TET refers to tubal embryo transfer, which is essentially the same as ZIFT except that fertilized eggs are at a more advanced cell stage when placed in the fallopian tube via laparoscopy two days after IVF. At this time, none of these procedures are performed at the Fertility Center. *(NOTE: In GIFT, fertilization is not assured. Fertilization has already occurred with ZIFT and TET.)*

Damaged fallopian tubes may be amenable to further surgical repair. The success rate for surgical repair of severely damaged fallopian tubes or for reported surgical attempts at repair usually does not exceed 30 percent. Of those pregnancies that are thereafter conceived, there is a subsequent high rate of ectopic (tubal) pregnancies, which require further surgery to prevent or stop bleeding into the abdomen. The risks of surgical treatment for tubal factor infertility include injury to the bowel, bladder, blood vessels and uterus. In addition, infection, bleeding and anesthetic complications (including death) may occur. Some of these risks may be increased if scarring is present.

Low sperm counts or sperm motility may at times respond to drug treatments or surgical treatment for varicose veins around the testes (varicocele).

Various types of infertility due to hostile cervical mucous, immunological factors or low sperm counts have been overcome with use of inseminations of washed sperm. Placing the sperm directly into the uterus via a small plastic catheter bypasses the poor or hostile cervical mucous. A small risk of infection, uterine cramping or even blood pressure collapse may occur with inseminations, but such occurrences have been rarely reported.

In all groups, and especially in patients with infertility of unknown cause, spontaneous conception is a possibility. The severity of the cause of the infertility combined with its duration may influence the spontaneous conception rate. The IVF technique is a treatment option which, in our opinion, offers a reasonable alternative to other medical or surgical treatments.

BOOK ONE  
Revised 10/27 and copied as a PDF for website