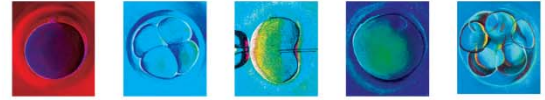


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# FERTILITY FACT SHEET

San Ramon / Orinda / San Jose

## IN-VITRO FERTILIZATION OVERVIEW

Approximately 15% of couples in the United States have difficulty conceiving a child after a year or more of trying. Except for cases where the woman has known complete obstruction of her fallopian tubes, most couples go through extensive infertility evaluation and treatment before being considered for the assisted reproductive technologies. Many of these couples can conceive with basic infertility treatments while others may require more advanced therapies. Approximately 1/3 of the infertile couples in the United States are appropriate candidates for assisted reproductive technologies.

Assisted reproductive technologies are cutting-edge procedures which involve the handling of sperm and eggs outside of the body to treat infertility. These include in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), pre implantation genetic screening (PGS) and oocyte donation (OD). The “oldest” procedure in this group is in-vitro fertilization which was first successful in 1978. IVF was developed to be used specifically for women with blocked fallopian tubes. Today, however, it is used for a variety of infertility problems with great success.

Following a consultation with the physician and initial diagnostic testing, the couple meets with our Nurse Case Manager to start to discuss their pre-cycle requirements (typically blood testing for both partners, sperm testing for the male partner, and uterine testing for the female partner). The couple is scheduled for a class prior to the start of the IVF cycle which covers IVF education and cycle overview and injection training. In addition, the woman will need to have a simple uterine evaluation in order to determine the depth and position of her uterus as well as to confirm that the uterine cavity is clear prior to embryo implantation. After all pre-cycle requirements are completed the IVF cycle may begin.

IVF involves a number of initial steps that are similar. The first involves stimulating the ovaries to produce multiple eggs. There are a number of medications and protocols that are used to stimulate ovaries. Most patients will take oral contraceptives for 2 to 3 weeks prior to IVF in order to decrease the chance of cyst formation and to allow for better scheduling of your cycle.

Once ovarian stimulation begins, subcutaneous injections of medications such as Follicle Stimulating Hormone (FSH) and Luteinizing Hormone (LH) are given daily. These hormones are very similar to the ones produced by the pituitary gland in your brain. They are taken daily for 5 days at which time a blood Estrogen level and vaginal ultrasound will be performed in our office. Based on these tests the physicians will review your cycle and make a recommendation for adjusting the dosage of medications. You will get a call in the afternoon, usually somewhere between 2:00 and 5:00 p.m., as to what dosage you will take that evening and when you will need to return to the office for additional testing. Depending on the type of protocol chosen another medication such as leuprolide (a gonadotropin releasing hormone agonist) or ganirelix (a gonadotropin releasing hormone antagonist) will be used to prevent a premature LH surge and ovulation.

Medications will continue for another day or so until the eggs are mature (based on the ultrasound and blood Estrogen level). It commonly takes 8-12 days of medication injections to mature the eggs. The egg retrieval can then be scheduled. Side effects that can occur from the medications may include cysts on the ovaries, abdominal bloating, multiple pregnancies, and a condition called ovarian hyperstimulation syndrome. This is when the ovaries get very large and may cause significant discomfort and fluid in the abdomen. Ovarian hyperstimulation syndrome is common for in-vitro fertilization cycles in its mild form, however, uncommon in its severe form. Nevertheless, if severe ovarian hyperstimulation does occur it could require admission to the hospital, careful monitoring, or aspiration of fluid from the abdomen.

When the follicles are mature, you will be asked to take your trigger injection (HCG or leuprolide) which gives the eggs their last maturational growth spurt. We will give you a very specific time to take this because the egg retrieval is scheduled to occur 36 hours later. Prior to your egg retrieval, you will be scheduled for a pre-operative examination. At that time we will go over with you details of the egg retrieval and what to expect. You will not be able to eat or drink anything after midnight before the egg retrieval and you will be instructed to arrive at our office approximately 45 minutes prior to the procedure. At that time you will be brought into the operating room where an anesthesiologist will administer intravenous sedation to make you sleepy and comfortable. Then, with the use of the ultrasound probe in the vagina, a needle will be guided into the ovaries and the eggs will be retrieved. This procedure usually last 15 to 20 minutes depending on the number of eggs you have.

The risks of this procedure are low but can include infection, (we give you an antibiotic prior to the procedure in order to attempt to prevent any infection), bleeding (that could even necessitate a blood transfusion or a more major surgery), and injuring the bowel or bladder. These events, however, are extremely rare.

Following the egg retrieval you will remain in the recovery area for an hour and then go home to rest for the remainder of the day. You may have very small amount of light vaginal bleeding and lower abdominal discomfort. You can use a heating pad or take Tylenol if you choose. Following your egg retrieval you will begin taking Progesterone and Estrogen which are used in order to provide the best possible uterine lining for the embryos to implant.

On the day of the egg retrieval your partner will need to produce a sperm specimen in order for the IVF laboratory to fertilize the eggs. There should be approximately a 2-6 day abstinence period prior to the day of egg retrieval. That same day the sperm will be placed together with the eggs or the sperm will be injected into the eggs using the ICSI procedure. The next day the eggs are inspected and you will be called in the morning with the fertilization results. Please make sure to be available for a call by phone that morning. Typically five days after the egg retrieval you will have your blastocyst embryo transfer. The day of your embryo transfer your physician will discuss with you how the embryos developed and will suggest the optimal number of embryos to transfer.

Following the transfer you will be asked to rest in the office for a few minutes prior to going home. Once you are comfortable at home you should rest for the remainder of the day. You can get up to go to the bathroom, but try to be reclining as much as you can for 36 hours after the embryo transfer. After this time you can resume normal activities but you should refrain from strenuous exercise or intercourse.

You will have a blood pregnancy test done in our office 14 days after your egg retrieval. On the day of this test one of the physicians will call you with results by mid-afternoon. Please try to be available on your preferred phone number for a call that day. If the results are positive your doctor will give you further instructions regarding additional testing and adjusting medications. If, however, the pregnancy test is negative you will briefly discuss the cycle with your doctor and will meet later at an office appointment to discuss the next steps.

An additional part of IVF cycles is the capability of freezing embryos. In cases where we have more good quality blastocyst embryos than the number that you wish to transfer, the extra embryos can be frozen and used at a later date (for PGS cycles all embryos are frozen from the IVF cycle to allow time to get the genetics report regarding which embryos are normal, and the normal embryos can then be transferred in the following cycle). If the woman does not get pregnant with the fresh IVF cycle or if she gets pregnant and wants to have another child in the future, the frozen embryos can be thawed and placed back into her uterus without having to undergo ovarian stimulation and egg retrieval. A frozen cycle involves taking a short course of estrogen and progesterone to prepare the uterus and is much less involved physically and financially. The cost of a frozen embryo transfer cycle is a fraction of the cost of a regular in vitro fertilization cycle.

Please note that the above are general guidelines to the assisted reproductive technologies we utilize in our office. You will get further personalized instructions depending on your diagnosis and situation.

While we try our best to have your appointments and procedures scheduled with your primary physician, it is possible that any one of the physicians on our team will perform one or more of your procedures depending on when they are scheduled. All of the physicians at RSC work as a team to ensure the best outcomes for our patients. We use the same techniques and procedures and share the same great success rates.