

DESCRIPTION OF IN VITRO FERTILIZATION

In vitro fertilization, or IVF, is a method of assisted reproduction in which the man's sperm and the woman's eggs are combined outside of the body in a laboratory dish. If fertilization occurs, one or more of the resulting embryos are transferred to the woman's uterus, where one or more embryo(s) may implant and result in a successful pregnancy. IVF has been recommended in your case because **[INSERT REASON]**.

There are five basic steps in an IVF treatment cycle: ovulation induction, egg retrieval, insemination and culture, embryo transfer, and follow-up testing and consultation. At any point in the process, something may not go as anticipated and a woman may not be able to proceed with the treatment cycle.

1. Ovulation induction:

You will be prescribed fertility drugs to stimulate your ovaries to produce several mature eggs during your IVF cycle, rather than the single egg that ripens normally.

Often, you may be prescribed a medication **[INSERT NAME OF DRUG]** for one or more weeks to temporarily halt your ovaries' normal functioning. This makes it easier to control the timing of stimulation achieved with other fertility drugs and to ensure that the eggs are not released from the ovary before they can be retrieved for the IVF procedure.

Second, you will be prescribed an injectable medication **[INSERT NAME]** to stimulate your ovaries to mature several eggs, a process called controlled ovarian hyperstimulation. These medications must be given by **[INSERT TYPE OF INJECTION]**, starting on the **[INSERT DAY]** of your cycle and continuing for about **[INSERT NUMBER OF DAYS]**. During this time, your body's response to the medication will be monitored closely by blood tests to measure hormone levels and by using ultrasound to visualize the growing egg-containing follicles on your ovaries. Based on the results of these tests, you will be instructed in how to adjust the amount of medication you are using.

When the follicles are mature, you will be instructed to inject a carefully-timed final shot that will prepare the eggs for retrieval a specific number of hours later.

2. Egg retrieval:

Just before ovulation would occur, your mature eggs will be retrieved from your ovaries in a minor surgical procedure called transvaginal ovarian aspiration. An ultrasound will be inserted into the vagina; it produces sound waves which are used to create images of the ovaries and other nearby pelvic organs. When mature egg-containing

follicles are located, a thin needle attached to the ultrasound is inserted through the vaginal wall and into each follicle, using suction to remove its contents.

Painkillers and **[INSERT TYPE OF ANESTHESIA]** may be required for pain relief during egg retrieval, which lasts about 10-40 minutes. When all the eggs have been retrieved, you will recover for about **[INSERT NUMBER OF HOURS]** before being allowed to go home.

3. In vitro fertilization and embryo culture:

Your egg cells will be examined for maturity and placed into a laboratory dish containing a culture medium. At the appropriate time, they will be mixed with sperm that has been washed and prepared. **[INSERT MICROMANIPULATION INFORMATION, IF APPROPRIATE.]** About 18 hours later, the eggs will be examined to see if fertilization has occurred.

The resulting embryos will be kept warm in a laboratory dish containing culture medium designed to mimic the fluid found in the fallopian tube; it may be supplemented with a human blood protein that has been purified from donor blood. **[INSERT CO-CULTURE INFORMATION, IF USED.]**

4. Embryo transfer:

Embryos may be transferred into the uterus on the third day after eggs are retrieved (when they contain about 4-8 cells). Alternatively, they may be allowed to develop to a more mature stage, called a blastocyst, and are transferred on the fifth day after egg retrieval. You and your physician(s) should discuss these options and make a decision about which is more appropriate in your case.

You and your physician(s) must also make a decision about the number of embryos to transfer and whether to freeze any embryos for use in a later cycle, if needed. The choice of how many embryos to transfer will greatly affect the chance that you may become pregnant with two or more fetuses. Miscarriage and pregnancy complications are more common in multiple pregnancies. Infants from multiple births have a much higher risk of prematurity. Premature babies may suffer from several long-term medical problems that require extraordinary care or may even result in early death. Infants from multiple births also have a much higher risk of low birth weight, but even if there is only a single birth, there may still be a risk of low birth weight for infants born by in vitro fertilization. Although birth defects are rare, infants from multiple and single births by in vitro fertilization do have an increased risk for birth defects.

For the transfer, one or more embryos and a droplet of the culture fluid will be loaded into a slim tube with a syringe on one end. The tip of the tube will be inserted through your cervix into the uterus, and the embryos gently released. Rest may be advised following the transfer, and you may be prescribed **[INSERT MEDICATIONS ROUTINELY USED]**.

5. Follow-up testing and consultation:

About **[INSERT HOW MANY]** days following the transfer, you will undergo a pregnancy test. If you are pregnant, you will be advised to continue **[INSERT MEDICATIONS]** until about the **[INSERT NUMBER]** week of pregnancy. **[INSERT INFORMATION ABOUT OBSTETRICAL CARE.]**

If you are not pregnant, the treatment team (including physician(s) and laboratory personnel) will evaluate the results at each stage of your cycle, such as your response to the medications, the number and condition of eggs retrieved, whether they fertilized, and how the embryos grew in culture. This analysis should be discussed with you in a follow-up consultation; this will include any recommendations for changing the treatment protocol in a future cycle, as well as a broader discussion of your options for building a family.

6. Psychological and emotional aspects of undergoing IVF:

An IVF treatment cycle is stressful, time-consuming, and can place a particular strain on couples. During the cycle, there are predictable times of anxiety as you wait for the outcome of the next test or procedure, and you may experience a variety of emotional highs and lows as each step in the process seems to point towards eventual success or disappointment.

Your program may incorporate opportunities for counseling or emotional support to persons and couples going through IVF. To support you during the cycle, you and your partner will have the opportunity to meet with **[INSERT COUNSELING AND SUPPORT GROUP INFORMATION]**.