



Fact Sheet

From ReproductiveFacts.org



The Patient Education Website of the American Society for Reproductive Medicine

Risks of In Vitro Fertilization (IVF)

Serious complications from the medications and procedures required for in vitro fertilization (IVF) are rare. However, as with all medical treatments, there are some risks.

Medication

Fertility medications called gonadotropins are typically prescribed during an IVF cycle to stimulate the ovaries to produce multiple follicles. A more detailed discussion of fertility medications can be found in the ASRM booklet, *Medications for Inducing Ovulation*.

Possible side effects of ovarian stimulation drugs include:

- Mild bruising and soreness at the injection site. Using different sites for the injections can help.
- Allergic reaction, gastrointestinal distress, headache or mood changes.
- Ovarian hyperstimulation syndrome (OHSS). This is a condition in which the ovaries produce many follicles and fluid may leak from the blood vessels into the abdominal cavity and lungs. Usually, symptoms of OHSS are mild and resolve without treatment. However, in severe cases, OHSS can result in very enlarged ovaries, dehydration, fatigue and the collection of large amounts of fluid in the abdomen and lungs. Very rarely (in fewer than 1% of women undergoing egg retrieval through IVF), OHSS can lead to blood clots and kidney failure. For a more extensive discussion of OHSS, see the ASRM fact sheet *Ovarian Hyperstimulation Syndrome*.
- Despite previous reports suggesting a link between ovarian cancer and the use of fertility medications, more recent studies show no such link.

Egg Retrieval

During egg retrieval, your doctor uses vaginal ultrasound to guide the insertion of a long, thin needle through your vagina into the ovary and then into each follicle to retrieve eggs. Patients are usually sedated.

Possible risks for this procedure include:

- Mild to moderate discomfort (during or after the procedure).
- Injury to organs near the ovaries, such as the bladder, bowel, or blood vessels. Rarely, injury to adjacent structures such as the bowel or blood vessels can be a severe complication and may require blood transfusions and surgery for repair.
- Pelvic infection (mild to severe). Such infections are very rare. However, if they do occur, they may be severe and typically are treated with intravenous antibiotics. Rarely, surgery may be required to remove one or both of the ovaries and tubes and/or uterus. Individuals with prior pelvic infections are at greater risk.

Embryo Transfer

A speculum is placed in the vagina and a catheter containing the embryos is used to gently place them into the uterus under

ultrasound guidance. Patients may experience mild cramping when the catheter is inserted through the cervix into the uterine cavity. Very rarely, an infection may develop, which can be treated with antibiotics.

Multiple Pregnancy

Your doctor has probably talked to you about the risk of multiple pregnancy (twins or more) with IVF. The more embryos that are transferred into the uterus, the greater the risk. Multiple pregnancies carry significant risks, including:

- Preterm (early) labor (with possible risks to the infant)
- Preterm (early) delivery
- Maternal hemorrhage
- Cesarean delivery
- Pregnancy-induced high blood pressure
- Gestational diabetes

Your doctor should transfer the minimum number of embryos necessary to provide a high likelihood of pregnancy with the lowest risk of multiple pregnancy. If you do become pregnant with three or more fetuses, you should consider having a consultation with a maternal-fetal medicine specialist. This type of doctor is specially trained in high-risk pregnancies and can provide information and guidance about complications that can occur during a multiple pregnancy. You may also wish to consider reducing the number of embryos you are carrying.

Birth Defects

Babies conceived by IVF may be at slightly increased risk of birth defects. The risk of birth defects in children conceived naturally is 2-3% whereas the risk of birth defects in children conceived by IVF is estimated to be 2.6-3.9%. Also there may be an increased risk of sex chromosome abnormalities, hypospadias (urinary opening not at the tip of the penis) imprinting disorders when intracytoplasmic sperm injection (ICSI) is performed along with IVF.

Miscarriage and Ectopic Pregnancy

The rate of pregnancy loss or miscarriage following IVF is similar to the rate following natural conception, with the risk increasing with the mother's age. The rate of miscarriage may be as low as 15% for women in their 20s to more than 50% for women in their 40s.

There is a 2% to 4% risk of an ectopic (tubal) pregnancy. If an ectopic pregnancy occurs, you will need medication to end the pregnancy or surgery to remove it. If you are pregnant and experience a sharp, stabbing pain; vaginal spotting or bleeding; dizziness or fainting; low back pain or low blood pressure (from blood loss), call your doctor immediately. These are all signs of a possible ectopic pregnancy.

Revised 2012

For more information on this and other reproductive health topics, visit www.ReproductiveFacts.org