



Treating Infertility

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What is infertility?

Infertility is defined as not having become pregnant after 1 year of having regular **sexual intercourse** without the use of birth control (see FAQ136 Evaluating Infertility). If you are older than 35 years, an evaluation and possible treatment are recommended after 6 months. If you are older than 40 years, an evaluation and possible treatment are recommended before you reach the 6-month mark.

What causes infertility?

The most common cause of female infertility is lack of or irregular **ovulation**. The most common causes of male infertility are problems in the **testes** that affect how **sperm** are made or how they function.

Age is a major factor in infertility. For healthy couples in their 20s or early 30s, the chance that a woman will become pregnant is about 25–30% in any single menstrual cycle. By age 40 years, a woman's chance of getting pregnant decreases to less than 10% per menstrual cycle. A man's fertility also declines with age, but not as predictably.

Lifestyle factors also can play a role in infertility. In women, being underweight, being overweight, or exercising too much may be associated with infertility. In both men and women, drinking alcohol at moderate or heavy levels may be a factor in infertility.

What treatment options are available for infertility?

Your treatment options will depend on the cause of your infertility. Lifestyle changes, medication, surgery, or other approaches may be recommended. Some treatments may be combined to improve results. Infertility often can be successfully treated even if no cause is found.

What lifestyle changes may help improve my chances for pregnancy?

Staying at a healthy weight and eating a healthy diet can be helpful for both men and women with infertility. If you and your male partner smoke, use illegal drugs, or drink alcohol, you should stop.

How is surgery used to treat infertility in women?

In women, surgery may be able to repair blocked or damaged **fallopian tubes**. Surgery also may be used to treat **endometriosis**, which is commonly associated with infertility (see FAQ013 Endometriosis). Women with **polyps** or **fibroids** in the **uterus** also may have surgery.

How is surgery used to treat infertility in men?

A common problem that leads to male infertility is the enlargement of a vein in the **scrotum**. It sometimes can be treated with surgery.

How are hormone problems treated in women?

Abnormal levels of **hormones** can cause irregular ovulation or lack of ovulation. Your health care professional may check your levels of certain hormones. If a hormone problem is found, treatment often can be given to correct it. This treatment also may improve your chances of becoming pregnant.

What is ovulation induction?

Ovulation induction is the use of drugs to help your **ovaries** release an egg. This treatment is used when ovulation is irregular or does not occur at all and other causes have been ruled out. Ovulation induction may be used with other infertility treatments.

How is ovulation induction done?

Oral drugs used to induce ovulation include clomiphene citrate, aromatase inhibitors, and insulin-lowering drugs. While taking these drugs, you will be monitored to see if and when ovulation occurs. This can be done by tracking your menstrual cycle or with an ovulation-predictor kit (an at-home urine test). You may be asked to visit your doctor for a blood test or **ultrasound exam**.

What are gonadotropins?

If clomiphene citrate or other drugs are not successful, drugs called gonadotropins may be tried to induce ovulation. Gonadotropins also are used when many eggs are needed for infertility treatments.

How are gonadotropins used?

Gonadotropins are given in a series of shots early in the menstrual cycle. Blood tests and ultrasound exams are used to track the development of the **follicles**. When test results show that the follicles have reached a certain size, another drug may be given to signal a follicle to release its matured egg.

What risks are associated with ovulation induction?

Twins occur in 5–8% of women treated with clomiphene citrate and aromatase inhibitors. Triplets or more are rare. The risk of **multiple pregnancy** is higher when gonadotropins are used. Up to 30% of pregnancies achieved using gonadotropins are multiple. If too many eggs are developing, your health care professional may postpone the cycle to reduce the possibility of a multiple pregnancy.

Ovulation induction, especially with gonadotropins, can lead to **ovarian hyperstimulation syndrome**. Women undergoing ovulation induction are monitored for this condition.

Another risk of using gonadotropins is ectopic pregnancy. This is a pregnancy that begins to grow in a place other than the uterus, usually in one of the fallopian tubes. Ectopic pregnancy requires treatment with medication or surgery.

What is intrauterine insemination?

In intrauterine insemination (IUI), healthy sperm are placed in the uterus as close to the time of ovulation as possible. IUI can be used with ovulation induction. The woman's partner or a donor may provide the sperm. Sperm that has been collected earlier and frozen also can be used.

What risks are associated with IUI?

If ovulation drugs are used with IUI, multiple pregnancy can occur. If too many eggs are developing at the time of insemination, the insemination may be postponed.

What is assisted reproductive technology?

Assisted reproductive technology includes all fertility treatments in which both eggs and sperm are handled. ART usually involves **in vitro fertilization (IVF)**. In IVF, sperm are combined with the egg in a laboratory, and later the **embryo** is transferred to the uterus. IVF is done for the following causes of infertility:

- Damaged or blocked fallopian tubes that cannot be treated with surgery
- Some male infertility factors
- Severe endometriosis
- **Premature ovarian failure**
- Unexplained infertility

How is IVF done?

IVF is done in cycles. It may take more than one cycle to succeed. The first step in IVF is obtaining an egg. Ovulation usually is triggered with gonadotropins so that multiple eggs are produced. The egg also may come from a donor. Eggs that have been previously frozen can be used.

When your eggs are ready to be retrieved, a procedure is performed to remove mature eggs from the ovaries. Fertilization of eggs by the sperm can be done in a laboratory in two ways: 1) the sperm can be added to the eggs, or 2) a single sperm can be injected into each egg.

The eggs are checked the following day to see if they have been fertilized. A few days later, one or more embryos are placed in the uterus. This step is called embryo transfer. The embryo also may come from a donor. Healthy embryos that are not transferred may be frozen and stored for later use.

What are the risks associated with IVF?

There is an increased risk of multiple pregnancy with IVF. Several things can be done to help prevent multiple pregnancy. If test results suggest that too many eggs are developing, the shot that triggers ovulation may be delayed or not given. Your health care professional also may limit the number of embryos transferred to your uterus.

Some studies suggest that IVF may be linked to a slightly increased risk of birth defects. Other studies show that this increase may be related to the underlying cause of infertility or to the older age at which some infertile couples have children. If you are concerned about birth defects, you may have ultrasound monitoring to look for possible problems with your pregnancy.

What else should I know about infertility treatment?

Infertility treatment takes time, and it can have high costs. It takes a big commitment from both partners. Some treatments are expensive and may not be covered by insurance.

Glossary

Assisted Reproductive Technology: A group of infertility treatments in which an egg is fertilized with a sperm outside the body; the fertilized egg then is transferred to the uterus.

Embryo: The stage of prenatal development that starts at fertilization (joining of an egg and sperm) and lasts up to 8 weeks.

Endometriosis: A condition in which tissue similar to that normally lining the uterus is found outside of the uterus, usually on the ovaries, fallopian tubes, and other pelvic structures.

Fallopian Tubes: Tubes through which an egg travels from the ovary to the uterus.

Fibroids: Growths, usually benign, that form in the muscle of the uterus.

Follicles: The sac-like structures in which eggs develop inside the ovary.

Hormones: Substances made in the body by cells or organs that control the function of cells or organs. An example is estrogen, which controls the function of female reproductive organs.

In Vitro Fertilization (IVF): A procedure in which an egg is removed from a woman's ovary, fertilized in a laboratory with the man's sperm, and then transferred to the woman's uterus to achieve a pregnancy.

Multiple Pregnancy: A pregnancy in which there are two or more fetuses.

Ovarian Hyperstimulation Syndrome: A condition caused by overstimulation of the ovaries that may cause painful swelling of the ovaries and fluid in the abdomen and lungs.

Ovaries: The paired organs in the female reproductive system that contain the eggs released at ovulation and produce hormones.

Ovulation: The release of an egg from one of the ovaries.

Ovulation Induction: The use of medications to help a woman's ovaries produce eggs.

Polyps: Growths that develop from tissue lining an organ, such as that lining the inside of the uterus or the colon.

Premature Ovarian Failure: A condition in which ovulation and the menstrual cycle stop before age 35 years.

Scrotum: The external genital sac in the male that contains the testes.

Sexual Intercourse: The act of the penis of the male entering the vagina of the female (also called “having sex” or “making love”).

Sperm: A cell produced in the male testes that can fertilize a female egg.

Testes: Two male organs that produce sperm and the male sex hormone testosterone.

Ultrasound Exam: A test in which sound waves are used to examine internal structures.

Uterus: A muscular organ located in the female pelvis that contains and nourishes the developing fetus during pregnancy.

If you have further questions, contact your obstetrician–gynecologist.

FAQ137: Designed as an aid to patients, this document sets forth current information and opinions related to women's health. The information does not dictate an exclusive course of treatment or procedure to be followed and should not be construed as excluding other acceptable methods of practice. Variations, taking into account the needs of the individual patient, resources, and limitations unique to the institution or type of practice, may be appropriate.

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