

PATIENT EDUCATION



The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Treating Infertility

Infertility is a common problem. In the United States, about 12 in 100 heterosexual couples have trouble getting pregnant. Experts recommend an infertility evaluation if you have not gotten pregnant after 1 year of having regular **sexual intercourse** without using **birth control**. If you are older than 35, an evaluation is recommended after 6 months of trying. If you are older than 40, talk with your **obstetrician-gynecologist (ob-gyn)** now about an evaluation.

Treatment is available for many causes of infertility. In some cases, infertility can be treated successfully even if no cause is found.

This pamphlet explains

- causes of infertility
- things to consider before having treatment
- treatment options

Causes of Infertility

Infertility in opposite-sex couples may be caused by many factors. Female factors are the cause of infertility about one third of the time, and male factors about one third of the time. For the remaining couples, infertility may be caused by a combination of factors in both partners. Sometimes no cause is found. This is called unexplained infertility.

The most common cause of female infertility is a problem with **ovulation**. The most common cause of male infertility is a problem with **sperm** cells and how

they function. Other factors that may affect fertility include:

Age

For healthy couples in their 20s or early 30s, the chance that a woman will get pregnant is about 25 to 30 percent in any single **menstrual cycle**. This percentage starts to decline in a woman's early 30s. It declines more rapidly after age 37. By age 40, a woman's chance of getting pregnant drops to less than 10 percent per menstrual cycle. A man's fertility also declines with age, but not as predictably.

Lifestyle

Women who are underweight, overweight, or exercise too much may have a harder time getting pregnant. In women, drinking alcohol at moderate or heavy levels and smoking may reduce fertility. In men, smoking, heavy drinking, and using marijuana can reduce sperm count and movement.

Health Conditions

In women, several health problems can affect fertility, including

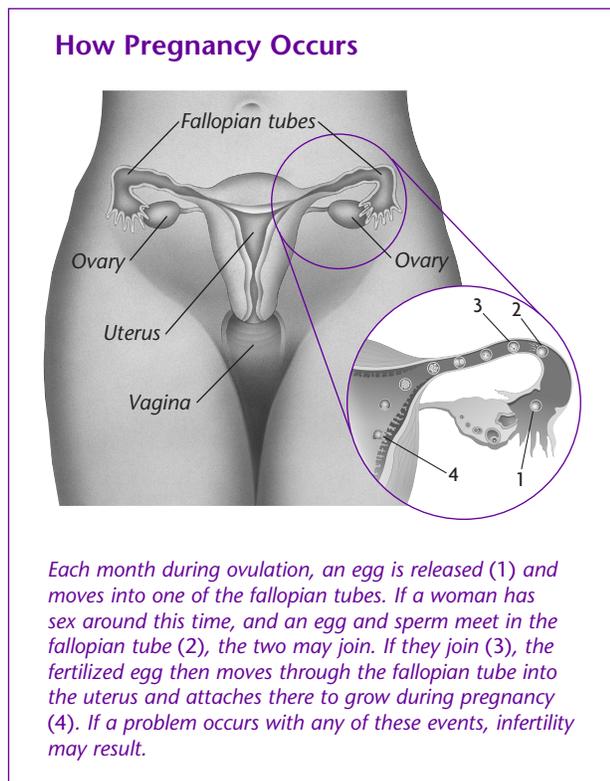
- problems with the reproductive organs or **hormones**
- scarring or blockages of the **fallopian tubes** (from past **sexually transmitted infections [STIs]** or **endometriosis**)
- problems with the **thyroid gland** or **pituitary gland**

Men also can have physical problems that affect fertility. For example, infertility can be caused when the tubes that carry sperm from the **testicles** are blocked.

Things to Consider

Before deciding to have treatment, you should be aware of what is involved. It may take a lot of time and effort. Some treatments are expensive and may not be covered by insurance.

When you seek treatment for infertility, you may start with your ob-gyn, or you may see a **reproductive endocrinologist** (an ob-gyn with special training in infertility). Men may see a **urologist**. It is important to find a specialist you are comfortable with.



Multiple pregnancy is a risk with many infertility treatments. A pregnancy with more than one **fetus** can lead to serious risks and **complications** for both a woman and her fetuses. Risks increase with the number of fetuses. Talk with your specialist about ways to prevent multiple pregnancy during infertility treatment.

Treatment Options

Your treatment options will depend on the type of problem found. Lifestyle changes, surgery, medication, or other approaches may be recommended. Some treatments may be combined.

As part of your treatment, your specialist may ask you to address lifestyle issues. Staying at a healthy weight and eating a healthy diet can be helpful for both men and women with infertility. If you or your male partner smoke, use drugs, or drink alcohol, you should stop.

Surgery

Surgery may help women in the following situations:

- When the fallopian tubes are blocked or damaged. If the fallopian tubes are severely damaged, your specialist may recommend **assisted reproductive technology (ART)** such as **in vitro fertilization (IVF)**.
- When endometriosis affects fertility. Surgery to remove endometriosis tissue has been shown to improve pregnancy rates, but by how much is not clear. In severe cases of endometriosis, ART may be recommended.
- When **polyps** and **fibroids** are in the **uterus**. These growths can interfere with the ability of an **embryo** to implant in the lining of the uterus. Polyps and fibroids also can increase the risk of **miscarriage**. These growths can be treated with surgery.

In some cases, surgery also may help men with infertility. A common problem that leads to male infertility is swollen veins in the **scrotum**. These sometimes can be treated with surgery.

Treatment of Hormone Problems

In women, abnormal levels of hormones can cause problems with ovulation. Your specialist may check your levels of certain hormones. If a hormone problem is found, medication often can be given to correct it. This treatment also may improve your chances of getting pregnant.

Ovulation Stimulation

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

How It Is Done. Oral drugs used to stimulate ovulation include clomiphene citrate and aromatase inhibitors.

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 have a blood test or **ultrasound exam**.

If these drugs are not successful, drugs called gonadotropins may be tried to trigger ovulation. Gonadotropins also are used when many eggs are needed for ART or other infertility treatments. 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 **follicles**. When test results show that follicles have reached a certain size, another drug may be given to signal a follicle to release its matured egg.

Risks. Twins occur in 5 to 8 percent 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 percent of pregnancies achieved using gonadotropins are multiple. If too many eggs are developing, your specialist may postpone the cycle to reduce the chance of a multiple pregnancy.

Ovulation stimulation, especially with gonadotropins, can lead to **ovarian hyperstimulation syndrome**. Most cases of this condition are mild. In severe cases, a hospital stay may be needed. Women taking medication to stimulate ovulation are monitored for this condition.

Intrauterine Insemination

In **intrauterine insemination (IUI)**, healthy sperm is placed in the uterus as close to the time of ovulation as possible. IUI can be used with ovulation stimulation. The woman's partner or a donor may provide the sperm.

How It Is Done. Insemination may be done in a health care office. When the woman ovulates, either naturally or with ovulation drugs, the sperm is placed in the uterus through a small tube.

Risks. 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. Sometimes, IVF can be done instead.

Assisted Reproductive Technology

ART includes all fertility treatments in which both eggs and sperm are handled. ART usually involves IVF. In IVF, sperm is combined with the egg in a laboratory, and the embryo is transferred to the uterus. IVF may be done for the following causes of infertility:

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

IVF involves many steps. There are different ways of doing these steps that can increase your chance of pregnancy, depending on the cause of your infertility. Note that donor eggs and sperm can be used for IVF.

How It Is 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.

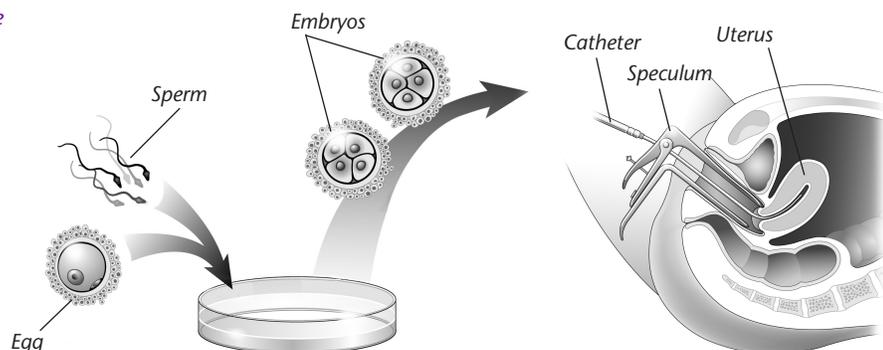
When your specialist determines that your eggs are ready to be retrieved, a procedure is performed. A hollow needle is inserted through the vaginal wall and into the ovary. Ultrasound is used as a guide. The eggs are withdrawn through the needle. Pain relief or a sedative usually is used during this procedure.

Fertilization of eggs by the sperm can be done in two ways: 1) the sperm can be added to the eggs in a laboratory, or 2) a single sperm can be injected into each egg. You and your specialist will discuss these different techniques and decide which one is best for you.

The eggs are checked the following day to see if they have been fertilized. If a couple is known to be at risk of a specific **genetic disorder**, the embryos can be tested for that disorder. If an embryo is found to have a problem, it will not be transferred to the uterus.

In Vitro Fertilization

In vitro fertilization involves the use of sperm to fertilize eggs outside the body. An embryo then is transferred to the woman's uterus to grow. In some cases, more than one embryo can be transferred.



A few days later, one or more embryos are placed in the uterus through the *vagina*. This step is called embryo transfer. Healthy embryos that are not transferred may be frozen and stored for later use.

Risks. 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 specialist also may limit the number of embryos transferred to your uterus.

Finally...

Infertility often can be treated. Medication, surgery, or ART may be used. Treatment takes time and can have high costs. It takes a big commitment from both partners. Talk with a specialist about treatment options for you and your partner.

Glossary

Assisted Reproductive Technology (ART): Treatments or procedures that are done to start a pregnancy. This may include handling eggs and sperm or embryos.

Birth Control: Devices or medications used to prevent pregnancy.

Complications: Diseases or conditions that happen as a result of another disease or condition. An example is pneumonia that occurs as a result of the flu. A complication also can occur as a result of a condition, such as pregnancy. An example of a pregnancy complication is preterm labor.

Egg: The female reproductive cell made in and released from the ovaries. Also called the ovum.

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

Endometriosis: A condition in which tissue that lines 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.

Fetus: The stage of human development beyond 8 completed weeks after fertilization.

Fibroids: Growths that form in the muscle of the uterus. Fibroids usually are noncancerous.

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

Genetic Disorder: A disorder caused by a change in genes or chromosomes.

Hormones: Substances made in the body that control the function of cells or 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.

Infertility: The inability to get pregnant after 1 year of having regular sexual intercourse without the use of birth control.

Intrauterine Insemination (IUI): A procedure in which a man's semen is placed in a woman's uterus.

Menstrual Cycle: The monthly process of changes that occur to prepare a woman's body for possible pregnancy. A menstrual cycle is defined as the first day of menstrual bleeding of one cycle to the first day of menstrual bleeding of the next cycle.

Miscarriage: Loss of a pregnancy that is in the uterus.

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

Obstetrician–Gynecologist (Ob-Gyn): A doctor with special training and education in women's health.

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

Ovaries: Organs in women that contain the eggs necessary to get pregnant and make important hormones, such as estrogen, progesterone, and testosterone.

Ovulation: The time when an ovary releases an egg.

Pituitary Gland: A gland located near the brain that controls growth and other changes in the body.

Polyps: Abnormal tissue growths that can develop on the inside of an organ.

Primary Ovarian Insufficiency: A condition that causes a woman's ovaries to stop working before age 40.

Reproductive Endocrinologist: An obstetrician-gynecologist with special training to manage disorders related to hormones of the reproductive system. These specialists also treat infertility.

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

Sexual Intercourse: The act of the penis of the male entering the vagina of the female. Also called "having sex" or "making love."

Sexually Transmitted Infection (STI): An infection that is spread by sexual contact. Infections include chlamydia, gonorrhea, human papillomavirus (HPV), herpes, syphilis, and human immunodeficiency virus (HIV, the cause of acquired immunodeficiency syndrome [AIDS]).

Sperm: A cell made in the male testicles that can fertilize a female egg.

Testicles: Paired male organs that make sperm and the male sex hormone testosterone. Also called “testes.”

Thyroid Gland: A butterfly-shaped gland located at the base of the neck in front of the windpipe. This gland makes, stores, and releases thyroid hormone that controls the body’s metabolism and regulates how parts of the body work.

Ultrasound Exam: A test in which sound waves are used to examine inner parts of the body. During pregnancy, ultrasound can be used to check the fetus.

Urologist: A physician who specializes in treating problems of the kidneys, bladder, and male reproductive system.

Uterus: A muscular organ in the female pelvis. During pregnancy, this organ holds and nourishes the fetus.

Vagina: A tube-like structure surrounded by muscles. The vagina leads from the uterus to the outside of the body.

This information was designed as an educational aid to patients and sets forth current information and opinions related to women’s health. It is not intended as a statement of the standard of care, nor does it comprise all proper treatments or methods of care. It is not a substitute for a treating clinician’s independent professional judgment. Please check for updates at www.acog.org to ensure accuracy.

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