

INFERTILITY



One of the primary functions of the human body is to reproduce and ensure the survival of our offspring. In order to accomplish this, our body systems must work together to maintain good health. The sexual and parenting instincts are among the strongest of our basic drives. In this century, sexual behavior has changed with the availability of reliable contraception and many couples delay having children until later in their lives when fertility begins to decline. A whole new science has been developed to help these couples become parents.



INFERTILITY

Infertility is defined as not being able to produce offspring. This depends on the condition in one or both partners and may be permanent or reversible.

There have been many important advances in the medical community's understanding and treatment of infertility. Older techniques have been improved and new procedures and products are helping more couples than ever before. Insurance carriers and managed care organizations reimburse infertility treatment differently than other health benefits. It often requires significant out-of-pocket expenses. For this reason, an infertility workup is usually not considered for at least one year after actively trying to conceive. Infertile couples should read their insurance contract carefully before going ahead with a costly treatment plan since the costs are significant.

The conception of a baby depends on the coordination of many factors in both the man and woman. A woman must produce an egg (ovulate), a man must produce healthy sperm and ejaculate, the sperm and the egg must meet in the fallopian tube, and a healthy embryo from this union must travel to the uterus and implant in the uterine lining, allowing the pregnancy to progress.

CAUSES OF INFERTILITY

Infertility can be caused by both the male and the female and the evaluation should always be considered for both partners. The problems can include the sperm, the egg, difficulties encountered in their union, or from sexual dysfunction. Infertility is defined as the inability to become pregnant after one year of frequent sexual intercourse without the use of contraception. Infertility is not the same as sterility. Sterility means the inability to conceive a child under any circumstance, and may be a "symptom" of infertility. Infertility may be due to biological factors which interfere with conception. These factors often respond well to medical intervention, allowing a pregnancy to occur.



■ MALE FACTORS

Erection or Ejaculation Factors If the male is incapable of delivering sperm to the woman by erection and ejaculation, artificial insemination is the only alternative for fertilization.

Sperm Production Some men produce no sperm (azoospermia) or very few sperm (oligospermia). Others may have abnormally shaped sperm that have difficulty moving properly. Any of these problems can cause infertility. These problems may be due to a hormone imbalance, drugs, or illness.

Sperm Passage Factors Sperm has to make its way through the tubal systems in the testicles (epididymis and vas deferens) before mixing with the semen. A blockage could prohibit this and may cause infertility. These blockages may be caused by infections, some of which are sexually transmitted.

Varicocele An enlargement of the veins of the scrotum may cause sperm dysfunction. This can be corrected surgically.

■ FEMALE FACTORS

Ovulation Factors Women are born with all the eggs they will ever produce. Ovulation begins around the same time as the first menstrual period. This starts a cycle that occurs every 28 to 30 days — until menopause. Ovulation does not always occur and could be due to hormone problems (lack of estrogen), poor nutrition (lack of protein), stress (excess adrenaline), endometriosis (cell tissue outside of the uterus), excessive exercise (protein going to muscles), metabolic enzyme disorders (polycystic ovary syndrome), tumors (cancer), and other rarer causes (exposure to radiation, chemicals, or smoking). Endometriosis is the most common cause of infertility in a woman. During menstruation, particles of the endometrium (lining of the uterus) shed. In endometriosis, these particles attach to the fallopian tubes and cause them to become scarred and take on an irregular shape.

Uterine Factors Tumors, scars from a prior surgery, infections, birth defects, and overgrowth of the endometrium are all conditions that have the potential for preventing pregnancy.

Cervical Factors The cervix produces a mucus that can either help or hinder the movement of the sperm. As a woman nears ovulation, mucous thins and stretches to help move the sperm through the cervix. A thick cervical mucus could block the sperm from traveling through the reproductive tract. This could be the result of a hormone imbalance, miscarriage, smoking, surgery, infections, adhesions, and endometriosis.

Fallopian Tube Factors (Tubal Occlusion) When an egg is released from the ovary, it moves through the fallopian tube and into the uterus. A “tubal occlusion” occurs when a blockage in the fallopian tube prevents the egg from moving into the uterus.



Uterus Factors The uterus may also interfere with fertility. Adhesions can form after a D&C (dilatation and curettage) or an operation on the uterus (eg, myomectomy). Infections, endometriosis, or hyperplasia (overgrowth of the endometrium) can prevent implantation of the conceptus or interfere with sperm transport.

■ COMBINED MALE AND FEMALE FACTORS

Antibodies to Sperm When the immune system malfunctions, it sees the sperm as a foreign threat and produces antibodies to fight them.

A male's immune system may form antibodies to his own sperm. This causes immobilization by making the sperm stick together.

A female's immune system may form antibodies to her partner's sperm that can block or damage the sperm.

BEST (OR WORST) CONDITIONS FOR CONCEPTION.

Timing of Intercourse Conception usually takes place around the 14th day before the next menstrual period is due to begin. If you have a 28-day cycle, this would be days 13 to 15. The egg and the sperm are active (and most capable of creating a pregnancy) for approximately 48 hours.

Temperature of the Testicles Because sperm thrives in a cool environment, the man should avoid tight clothing or underwear, long hot baths, hot tubs, whirlpools, and saunas prior to intercourse.

During Intercourse All sexual positions can produce pregnancy. If the woman remains in bed following intercourse (and uses no contraceptives), the sperm have a better chance of reaching the egg.

Things to Avoid Both partners should avoid illicit street drugs, smoking (causing fallopian tube spasms), and excessive alcohol intake.

Maintain Normal Weight Women who are either extremely overweight or underweight may have problems becoming pregnant.

Exercise Women who jog or exercise for weight loss may decrease the predictability of ovulation.



FINDING MEDICAL HELP FOR INFERTILITY

A variety of physicians may be able to help find and treat the cause of infertility. Start with an obstetrician and gynecologist. She or he can perform the initial series of tests and refer you for further procedures, if needed. Although men sometimes seek the assistance of urologists, some gynecologists can also be helpful. A subspecialty of Obstetrics and Gynecology is called Reproductive Endocrinology and may be considered. A referral from an obstetrician and gynecologist is appropriate, including a copy of all records from the prior evaluation and treatment to help guide the consultant and reduce costs.

■ INFERTILITY TREATMENT

Based on the findings of a variety of tests, a plan for therapy is usually offered. Drug treatment, hormone treatment, or surgery may be suggested. If this fails, it may be possible to conceive with one of the new assisted reproductive technologies (ART).

DRUG TREATMENT

Some conditions, such as an under- or overactive thyroid, can be treated with medication. Other possible medical treatments include antibiotic therapy for any infections that may have become evident in the work up.

OVULATION INDUCTION

If ovulation is not occurring, clomiphene citrate, gonadotropin, bromocriptine, and gonadotropin-releasing hormones to induce ovulation can be used. (This is also done with ART to prompt the body to produce more than one egg at a time.) These medications are taken certain days during the menstrual cycle. Basal body temperatures, progesterone, luteinizing hormone, and ultrasound can be used. It is expected that 80 to 90 percent of women begin ovulating with these methods. The pregnancy rate, however, is lower as there are often other infertility factors working at the same time.

SURGERY

Several conditions can be treated by surgery, including blocked tubes, adhesions, and growths or defects in the uterus. The surgery may involve a traditional opening of the abdomen, or may be performed through a laparoscope and hysteroscope.

ARTIFICIAL INSEMINATION

In this method, sperm from a carefully selected donor, or occasionally from pooled ejaculated sperm of the husband, is placed into the uterus. Frozen sperm can be used from donors.

ASSISTED REPRODUCTIVE TECHNOLOGIES (ART)

In ART, the sperm and eggs taken from a man and woman are combined in the woman's body or in a lab. Depending on the cause of infertility, the egg and sperm can come from the couple or from donors. ART may not be covered by your health insurance.



ON THE HORIZON

Frozen Eggs A woman's eggs are harvested and frozen for thawing and fertilization at a later date. The procedure is still experimental and not widely available.

Frozen Ovaries Sections of the ovaries containing immature eggs can be removed and frozen. When the eggs are needed, they may be thawed and matured.

DNA Transfer To bypass an older egg's less reliable cellular machinery, the nucleus of the older egg is swapped with that of a younger egg.

Cytoplasmic Donation Cytoplasm from a younger egg can be added to an older one improving the chances that the receiving egg will develop properly.

Improved Growth Media New chemical solutions that mimic those in the female reproductive tract will make it possible to implant more mature embryos.

IF INFERTILITY TREATMENT FAILS

If treatment fails, take some time to adjust and accept the situation — some infertile couples realize that they can have a full and happy life without children. Others seek to involve children in their lives through adoption, serving as foster parents, or using a surrogate to have a baby. Adoption can be a complex process; couples who are considering adoption should seek advice from their doctors or reputable adoption agencies.

Although infertility is quite common, it may still not be emotionally comfortable. Share your emotional concerns with a caring physician or other members of your health care team. Many couples contact support groups. Sharing your thoughts and stress can be a helpful part of the healing process.

AVAILABLE RESOURCES

[The American Fertility Society](#)

1209 Montgomery Highway
Birmingham, Alabama 35216-2809
Tel: 209-978-5000

[The American College of Obstetricians and Gynecologists](#)

(Resource Center)
409 12th Street, SW
Washington, D.C. 20024-2188
Tel: 202-638-5577

[Resolve, Inc.](#)

Resolve National Headquarters
5 Water Street
Arlington, MA 02174