

Infertility

Infertility is defined as not being able to get pregnant after one year of unprotected sex. You should consider making an appointment with a reproductive/Infertility specialist, if:

- You're over age 35 and have been trying to conceive for at least six months
- You menstruate irregularly or not at all
- You have known fertility problems
- You've been diagnosed with endometriosis or pelvic inflammatory disease
- You've had more than one miscarriage
- You've had prior cancer treatment

The process of conception:

Ovulation- when a mature egg is released from the ovary, it is pushed down the fallopian tube, and is available to be fertilized by sperm. Ovulation often happens around day 14 of a menstrual cycle, although the exact timing might vary among women or even from month to month.

Fertilization- occurs when one sperm penetrates the egg, combining their genetic material. The sperm and egg, each contain 23 chromosomes holding all of the information that determines your child's sex and contributes to your child's genetic make up. Within 24 hours of fertilization, the egg, now called a zygote, divides into 2 cells. The number of cells doubles about every 12 hours as the zygote continues to move toward the uterus.

Implantation- about 3 days after fertilization, the zygote has become a ball of 32 cells. A few days later, it reaches the uterus as a ball of approximately 500 cells. On day 7 the zygote implants into the uterine wall.

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Infertility may result from a problem with any or several of these steps. Conditions that can contribute to infertility in women include:
Ovulation disorders- which hinder or prevent the ovaries from releasing eggs.

- **Polycystic Ovary Syndrome (PCOS)**- a hormone imbalance problem that can interfere with normal ovulation. PCOS is the most common cause of female infertility.
- **Functional Hypothalamic Amenorrhea (FHA)**- FHA relates to excessive physical or emotional stress that results in a lack of menstrual periods.
- **Diminished Ovarian Reserve**- This occurs when the ability of the ovary to produce eggs is reduced because of congenital, medical, surgical, or unexplained causes. Ovarian reserves naturally decline as women age.
- **Premature Ovarian Insufficiency**- POI occurs when a woman's ovaries fail before she is 40 years of age. It is similar to premature menopause.

Fallopian Tube damage or blockage- whether fallopian tubes are open, blocked, or swollen. Risk factors for blocked fallopian tubes can include a history of pelvic infection, history of ruptured appendicitis, history of gonorrhea or chlamydia, known endometriosis, or a history of abdominal surgery.

Uterine or Cervical abnormalities- including problems with the opening of the cervix or cervical mucus, or abnormalities in the shape or cavity of the uterus. Your gynecologist may use a transvaginal ultrasound to look for fibroids or other anatomic abnormalities.

Endometriosis- which occurs when endometrial tissue implants and grows outside of the uterus.

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Thyroid problems- too much thyroid hormone (hyperthyroidism) or too little (hypothyroidism), can interrupt the menstrual cycle or cause infertility.

Cancer and its treatment- female reproductive cancers often severely impair female fertility. Both radiation and chemotherapy may affect a woman's ability to reproduce.

Other conditions- such as celiac disease, Cushing's disease, sickle cell disease, kidney disease or diabetes, can affect a woman's fertility.

Certain medications- Temporary infertility may occur with the use of certain medications. In most cases, fertility is restored when the medication is stopped.

Female infertility declines due to:

- Age- Aging not only decreases a woman's chances of having a baby but also increases her chances of having a miscarriage or having a child with a genetic abnormality.
- Unhealthy lifestyle habits- including heavy alcohol use, smoking, and illicit drug use.
- Extreme weight gain or loss.
- Excessive physical or emotional stress.

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Infertility is not just a woman's problem. Both men and women can contribute to infertility. In approximately 1/3 of cases the cause of infertility involves the male, and in approximately 1/3 of cases the cause of infertility involves the female. In the remaining 1/3 of cases, the cause of infertility involves both partners, or no cause can be identified.

Infertility in men can be caused by different factors and is typically evaluated by a semen analysis. Conditions that can contribute to abnormal semen analysis results include:

- **Varicoceles-** a condition in which the veins on a man's testicles are large and cause them to overheat. The heat may affect the number or shape of the sperm.
- **Medical conditions-** including diabetes, HIV, thyroid disease, Cushing syndrome, heart attack, liver or kidney failure, and chronic anemia.
- **Unhealthy lifestyle habits-** including heavy alcohol use, testosterone supplementation, smoking, anabolic steroid use, and illicit drug use.
- **Environmental toxins-** such as exposure to pesticides or lead

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Diagnosis

In order to diagnose a fertility problem, a specialist will collect a medical and sexual history from both partners. Specific fertility tests may include ovulation testing, hysterosalpingography, ovarian reserve testing, hormone testing, and imaging tests.

To prepare for your appointment with a reproductive/infertility specialist: Provide details about your attempts to get pregnant. Your doctor will need information such as when you started trying to conceive and how often you've had intercourse, especially around the midpoint of your cycle (the time of ovulation).

Bring your personal medical information. Include any other medical conditions you or your partner has, as well as information about any previous evaluations or treatments for infertility.

Make a list of any medications, vitamins, herbs or other supplements you take. Include the doses and how often you take them.

Make a list of questions to ask your doctor.

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Treatment

Infertility may be treated with medication, surgery, intra-uterine insemination, or assisted reproductive technology depending on the underlying cause.

- **Intrauterine Insemination (IUI or artificial insemination)**- in this procedure, specially prepared sperm are inserted into the woman's uterus. Sometimes the woman is also treated with medicines that stimulate ovulation before IUI.
- **Assisted Reproductive Technology (ART)**- This includes all procedures in which both eggs and sperm are handled outside of the body. ART procedures involve surgically removing eggs from a woman's ovaries, combining them with sperm in a laboratory, and returning them to the woman's body or donating them to another woman. The most common type on ART is in vitro fertilization. ART procedures sometimes involve the use of donor eggs, donor sperm, or previously frozen embryos. ART can be an expensive and time consuming process, and may sometimes result in a multiple fetus pregnancy.
- **Surrogacy**- A surrogate is a woman who agrees to become pregnant using the man's sperm and her own egg. The child would be genetically related to the surrogate and the male partner.
- **Gestational Carrier**- A woman uses her own egg, it is fertilized by her partner's sperm and the embryo is placed inside the carrier's uterus.

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Coping with Infertility

Coping with infertility can be extremely difficult. Taking these steps can help you cope:

Be prepared. The uncertainty of infertility testing and treatments can be difficult and stressful. Ask your doctor to explain the steps he or she is planning to take so that you can prepare yourself for each one.

Set limits. Try to decide in advance how many and what kind of procedures are emotionally and financially acceptable for you and your partner. Fertility treatments may be expensive and often are not covered by insurance companies, and a successful pregnancy often depends on repeated attempts.

Consider other options. Determine alternatives — adoption, donor sperm or egg, donor embryo, gestational carrier or adoption, or even having no children — as early as possible in the infertility evaluation. This may reduce anxiety during treatments and feelings of hopelessness if conception doesn't occur.

Seek support. Locate support groups or counseling services for help before and after treatment to help endure the process and ease the grief should treatment fail.

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Try these strategies to help manage stress during infertility treatment:

Express yourself. Reach out to others rather than repressing guilt or anger. Stay in touch with loved ones. Talking to your partner, family and friends can be very beneficial. The best support often comes from loved ones and those closest to you.

Reduce stress. Some studies have shown that couples experiencing psychological stress had poorer results with infertility treatment. If you can, find a way to reduce stress in your life before trying to become pregnant.

Exercise and eat a healthy diet. Keeping up a moderate exercise routine and a healthy diet can improve your outlook and keep you focused on living your life despite fertility problems.