

## Infertility evaluation and treatment\*

### How common is infertility?

After 1 year of having unprotected sex, 15% of couples are unable to *conceive*—that is, to get pregnant. After 2 years, 10% of couples still have not had a successful pregnancy.

### What are the causes of female infertility?

For about a third of couples who have difficulty conceiving, the woman is found to have the problem. In order for a woman to conceive, she needs to *ovulate* (produce and release eggs from your ovaries), have *patent* Fallopian tubes (that is, tubes free of blockages), and have a healthy uterus that can support a pregnancy. Fertility can be affected by problems with the menstrual cycle, by a disease or a condition, by lifestyle factors, and/or by age-related factors.

### What are the causes of male infertility?

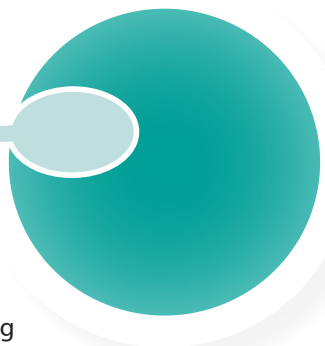
For more than a third of couples who have difficulty conceiving, the man is found to have the problem. To *impregnate* a woman, a man must have sperm that can reach and combine with a woman's egg. Sperm are made and stored in the testicles. During sex, sperm mix with *seminal fluid*, or *semen*, and are ejaculated by the penis into the woman's reproductive tract. Infertility in a man is often related to low sperm production, which may be due to a *varicocele*, an enlarged vein in the testicle. Other causes of male infertility are hormone imbalances, medication or steroid use, and blockages in the reproductive organs.

### How is female infertility evaluated?

In addition to a health history and physical exam, your healthcare provider will likely order blood tests to check for conditions such as a thyroid disorder or a high level of the hormone *prolactin*. Other blood tests may check:

- A *progesterone* level late in the second half of your menstrual cycle to tell if ovulation has occurred and if your ovaries are producing a normal amount of this hormone.
- *Follicle-stimulating hormone* and *estradiol* levels in the first few days of the menstrual cycle to evaluate ovarian function.
- *Anti-Müllerian hormone* (AMH) level to evaluate *ovarian reserve* (your remaining egg supply).

Because some of these tests must be done at specific times in the menstrual cycle and repeated for accuracy, this part of your evaluation may take several weeks.



Other tests may be done to examine your Fallopian tubes and determine if a blockage is preventing movement of the egg from the ovaries or preventing the egg and sperm from reaching each other. These tests include a *hysterosalpingogram*, *transvaginal ultrasound* (TVUS), and *laparoscopy*. TVUS can also be used to assess your ovaries, including the number of remaining follicles you have, and it can be used to assess the uterus.

### How is male infertility evaluated?

A health history and physical exam are also part of the man's evaluation. The most common lab test for male infertility is a semen analysis to assess the quantity and quality of the sperm. A man may need to provide a semen sample on more than one occasion because sperm production can vary over time, depending on his activities and stress level.

### How is female infertility treated?

Treatment options depend on the cause. If you have a problem with ovulation, you may try a medication that will help your ovaries produce and release eggs. If you have a blockage in a Fallopian tube, you may need to undergo a minor surgical procedure to remove it. If neither medication nor surgery is an option or if the treatment does not work, you may be able to use an *assisted reproductive technology* (ART) such as *in vitro* fertilization.

### How is male infertility treated?

Medication can treat problems such as hormone imbalances. Surgery can help repair blockages in the tubes that transport sperm from the testicles to the penis. Surgery can be used to repair a varicocele. If medication or surgery does not restore fertility, ART may be considered. ●

Resources: National Institutes of Health. Eunice Kennedy Shriver National Institute of Child Health and Human Development. When should I consult a healthcare provider. [nichd.nih.gov/health/topics/infertility/conditioninfo/Pages/consult.aspx](http://nichd.nih.gov/health/topics/infertility/conditioninfo/Pages/consult.aspx); How is infertility diagnosed? [nichd.nih.gov/health/topics/infertility/conditioninfo/Pages/diagnosed.aspx](http://nichd.nih.gov/health/topics/infertility/conditioninfo/Pages/diagnosed.aspx)

\*Readers are invited to photocopy Patient Education pages in the journal and distribute them to their patients.