

Evaluating Infertility

This Patient Education Pamphlet was developed under the direction of the Committee on Patient Education of the American College of Obstetricians and Gynecologists. Designed as an aid to patients, it sets forth current information and opinions on subjects related to women's health. The average readability level of the series, based on the Fry formula, is grade 6-8. The Suitability Assessment of Materials (SAM) instrument rates the pamphlets as "superior." To ensure the information is current and accurate, the pamphlets are reviewed every 18 months. The information in this pamphlet 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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ACOG PATIENT EDUCATION

Many couples who want to have a child are not able to do so. About 15% of couples in the United States are infertile. Couples may be infertile if they have not been able to conceive after 12 months of having sex without the use of birth control.

If you and your partner are trying to have a child and can't, you may want to have an infertility evaluation. Tests can be done to find the cause of the problem. Based on the results of these tests, treatment may be needed.

This pamphlet will explain:

- What an infertility evaluation involves
- Testing for infertility
- Treatment options



If you have not been able to conceive after 12 months of having sex without the use of birth control, you may want to think about having an infertility evaluation.

Glossary

Cervix: The lower, narrow end of the uterus, which protrudes into the vagina.

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.

Luteinizing Hormone (LH): A hormone produced by the pituitary glands that helps an egg to mature and be released.

Masturbation: Self-stimulation of the genitals, usually resulting in orgasm.

Pap Test: A test in which cells are taken from the cervix and vagina and examined under a microscope.

Progesterone: A female hormone that is produced in the ovaries and makes the lining of the uterus grow. When the level of progesterone decreases, menstruation occurs.

Sexually Transmitted Disease (STD): A disease that is spread by sexual contact, including chlamydial infection, gonorrhea, genital warts, herpes, syphilis, and infection with human immunodeficiency virus (HIV, the cause of acquired immunodeficiency syndrome [AIDS]).

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

Vagina: A passageway surrounded by muscles leading from the uterus to the outside of the body, also known as the birth canal.

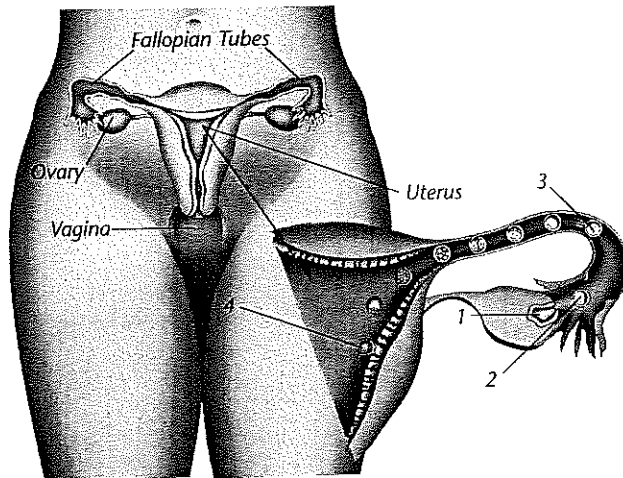
Conception

For healthy, young couples, the odds are about 20% that a woman will conceive (become pregnant) during any one menstrual cycle. This figure starts to decline in a woman's late 20s and early 30s and decreases even more after age 35. A man's fertility also declines with age, but not as early.

Ovulation is the release of an egg from one of the ovaries. In an average 28-day menstrual cycle, ovulation occurs about 14 days after the first day of your last period. Once an egg is released, it is able to be fertilized for about 12–24 hours. Conception can occur if you have sex during or near the time of ovulation.

When the man ejaculates during sex, his semen is released into the *vagina*. Semen is the fluid that carries the sperm. Sperm travel up through the *cervix* and out into the tubes. Sperm can live in the woman's fallopian tubes for 3 days or more. If the sperm and egg join, fertilization occurs.

The fertilized egg then moves through the tube into the *uterus*. It becomes attached there and begins to grow. All of these events must take place



Each month during ovulation an egg is released (1) and moves into one of the fallopian tubes (2). If a woman has sex around this time, an egg may meet a sperm in the fallopian tube and the two will join (3). This is called fertilization. The fertilized egg then moves through the fallopian tube into the uterus and becomes attached there to grow during pregnancy (4).

for pregnancy to occur. If there is a problem in this chain of events, infertility may result.

Testing

Infertility may be caused by more than one factor. Some causes are easily found and treated, while others are not. In some cases, no cause can be found in either partner.

You and your partner will receive care as a couple. The decision to begin testing depends on a number of factors. These include the age of the couple and how long the couple has been trying to get pregnant.

The basic workup of an infertility evaluation can be finished within a few menstrual cycles in most cases. Ask your doctor about the costs involved. Find out whether they are covered by your insurance.

The workup includes:

- Physical exam
- Medical history
- Semen analysis
- Check for ovulation
- Tests to check for a normal uterus and open fallopian tubes
- Discussion about how often and when you have sex

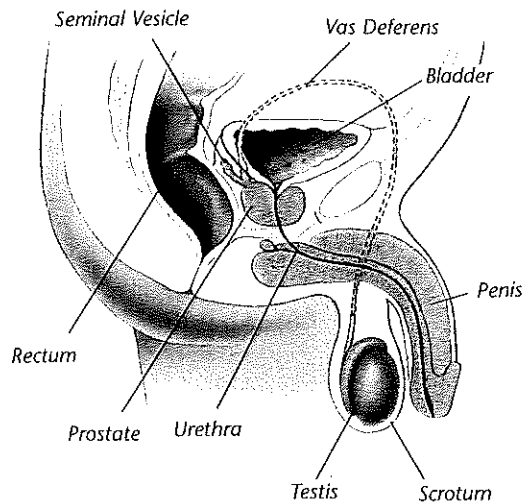
Basic Workup for the Man

A semen analysis is a key part of the basic workup. It may need to be done more than once. The sample is obtained by *masturbation*. Sometimes it can be obtained at home. Sometimes it is obtained in a lab. Your doctor will give you instructions.

The semen sample is studied in a lab. The doctor will study the sperm for:

- Number
- Shape
- Movement
- Signs of infection

The man may be referred to a urologist (a doctor with special skill in treating problems of the



Normal male anatomy.

urinary tract). The urologist will perform an exam, and tests may be done.

Basic Workup for the Woman

The workup begins with a physical exam and health history. The health history will focus on key points:

- Menstrual function, such as irregular bleeding and pain
- Pregnancy history
- **Sexually transmitted disease (STD)** history
- Birth control

Other tests, such as a **Pap test** and blood tests, may be done.

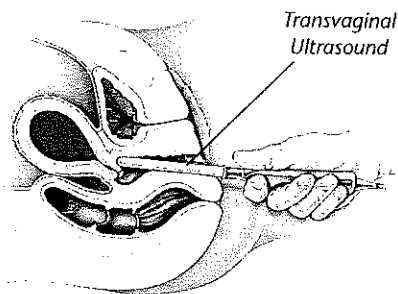
Tests. There are many ways to see if ovulation occurs. Some tests are done by the woman, and others are done by the doctor.

- **Urine Test.** A way to predict ovulation is by using a urine test kit at home. This test measures **luteinizing hormone (LH)**, a hormone that causes ovulation to occur. If the test is positive, it means ovulation is about to occur. Sometimes these kits are used with basal body temperature charts.

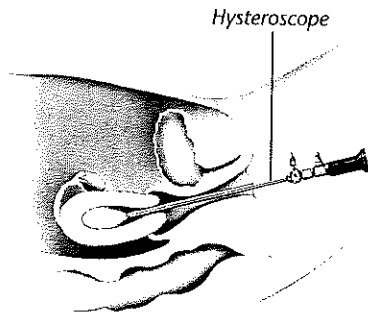
- **Basal Body Temperature.** After a woman ovulates, there is a small increase in body temperature. To measure basal body temperature, a woman takes her temperature by mouth every morning before she gets out of bed and records it on a chart. This record should be kept for 2–3 menstrual cycles to see if ovulation occurs.
- **Blood Test.** After a woman ovulates, the ovaries produce the hormone progesterone. A blood test taken in the second half of the menstrual cycle can measure **progesterone** to show if ovulation has occurred.
- **Endometrial Biopsy.** The lining of the uterus (endometrium) changes at ovulation. Sometimes a biopsy (a sample of the tissue) is done in this area to find out whether and when ovulation has occurred. A small plastic tube is inserted into the vagina and through the cervix. A sample of the lining is taken to check for ovulation and tissue response. This sample is studied in a lab.

Procedures. Other tests may be done to look at a woman's reproductive organs. These tests check if the uterus is normal and tubes are open. The tests you have depend on your factors and symptoms. You may be given pain relief for some of these procedures.

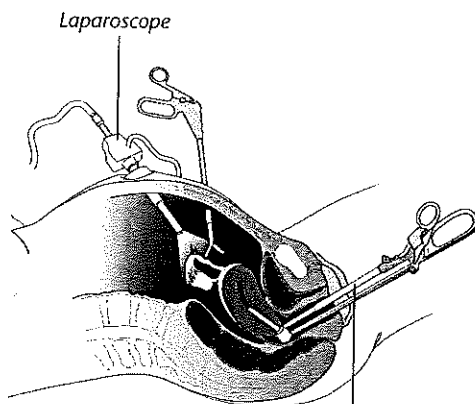
- **Hysterosalpingography (HSG).** This test is an X-ray that shows the inside of the uterus and fallopian tubes. In most cases, it is done right after the menstrual period. A small amount of dye is placed in the uterus through a thin tube inserted through the cervix. Then, an X-ray is taken. The fluid outlines the inside of the uterus and shows (by a spill of the fluid out of the tubes) whether they are open.
- **Transvaginal Ultrasound.** Ultrasound uses sound waves to produce images of pelvic organs. The device is inserted into the vagina. Sometimes fluid may be used in the uterus. This checks the ovaries and uterus.
- **Hysteroscopy.** A thin telescope-like device, called a hysteroscope, is placed through the cervix. The inside of the uterus may be filled with a harmless



Transvaginal
Ultrasound



Hysteroscope



Laparoscope

Uterine Manipulator

To help find the cause of infertility, your doctor may use transvaginal ultrasound, a hysteroscope, or a laparoscope to look for problems with the reproductive organs.

gas or liquid to provide more information. With the hysteroscope, the doctor can see the inside of the uterus. During this procedure, the doctor can correct minor problems, get a sample of tissue for study, or decide whether another procedure is needed.

- **Laparoscopy.** A small telescope-like device, called a laparoscope, is inserted through a small cut (about 1/2 inch or less) at the lower edge of the navel. The doctor can look at the tubes, ovaries, and uterus. The doctor can look for pelvic problems, such as *endometriosis* or scar tissue. Fluid is placed into the uterus to see if the fluid spills from the ends of the tubes. This shows if the tubes are open or blocked.

Treatment

Infertility often can be treated with lifestyle changes, medication, surgery, or assisted reproductive technologies. It depends on the cause. After your evaluation, talk with your doctor about the treatment options for you and your partner.

Finally...

If you have not been able to conceive after 12 months of having sex without the use of birth control, you may want to think about having an infertility evaluation. Certain tests may help find the cause of the infertility. If a problem is found, steps can be taken to treat it.