



BASIC INFORMATION

DESCRIPTION

- Some infertility tests are for women only, others are for men only, and still others cannot be done without the cooperation of both partners.
- An initial workup for a woman can take as little as six to eight weeks, or as much as three months or longer because some of the tests may have to be repeated for verification at different specific times in her menstrual cycle.
- The initial workup of a man usually can be done faster both because men have no monthly cycles—and because there are fewer tests for men.
- Diagnostic surgical procedures may be suggested for both men and women to look directly at reproductive structures and to obtain small tissue samples for laboratory analysis.

FEMALE'S TESTS

These tests are more varied and extensive than for males and generally begin with an analysis of if and when the woman is ovulating.

Basal body temperature:

One of the most popular techniques for pinpointing ovulation relies on the typically slight rise in resting body temperature midway in the menstrual cycle, signaling that ovulation has recently occurred. A woman's body temperature fluctuates throughout her menstrual cycle, and she is instructed to record these fluctuations on a chart after taking her temperature each morning before getting out of bed. If the chart—called a basal body temperature, or BBT, chart—indicates that the woman has been ovulating, it can often be used to predict when ovulation will happen during subsequent menstrual cycles. The couple can then use the information to attempt to time conception. Several urine test kits for sale over the counter can be used to supplement the temperature chart.

Hormone tests:

Laboratory blood and urine studies to measure hormones that play a role in fertility. Tests may be done at the start of the menstrual cycle, in the middle or at the end. Progesterone increases in plasma after ovulation. It can be measured to confirm that ovulation has occurred. Luteinizing hormone (LH) and follicle-stimulating hormone (FSH) help stimulate ovulation. If their levels are low or high, or if they do not fluctuate properly, infertility can occur. Other hormones measured include prolactin, testosterone and thyroid-stimulating hormone (TSH). In addition, blood studies can detect the presence of antibodies to sperm.

Cervical mucus:

Other methods widely used to predict ovulation rely on examinations of the cervical mucus, which undergoes a series of hormone-induced changes at various times in the menstrual cycle. Some versions of these tests require a health professional's expertise. There are, however, versions of them that some women—with a physician's guidance—can learn to do themselves.

Endometrial biopsy:

A long, hollow tube is passed into the patient's uterus late in her menstrual cycle, and a little of the lining is scraped off and examined with a microscope. The examination helps the physician tell whether the development of the egg and of the lining are in proper phase with each other. In most cases, the scraping is done in a physician's office and because it is only very briefly painful no anesthetic is used.

Ultrasound:

This technology relies on sound waves to produce images of internal structures. It is used, often in combination with one or more of the tests already discussed, to find the presence or absence of follicles that contain and release the eggs. Ultrasound is also used to detect abnormalities in the ovaries or uterus.

Hysterosalpingogram:

This is an x-ray study of the uterus and fallopian tubes. It is done just after a woman's menstrual period so there is no danger of her being pregnant and thereby exposing the fertilized egg or embryo to radiation. A dye containing iodine—technically called a contrast medium—is injected through the cervix. It spreads into the uterus and the fallopian tubes, allowing them to be visualized on x-ray. Among other things, this study often enables the physician to determine if the fallopian tubes are open. It is usually done without an anesthetic in the x-ray department of a hospital or clinic.

Hysteroscopy:

The patient's uterus is filled with a liquid or gas, instilled through the cervix. A small lighted telescope called a hysteroscope is then inserted into the uterus through the cervix, enabling the surgeon or physician to look directly inside. Many hysteroscopes have a separate channel through which instruments can be passed, often making it possible to immediately correct any abnormalities. Patients undergoing hysteroscopy are usually given an anesthetic, which may be local or general.

Laparoscopy:

A laparoscope, like a hysteroscope, is a small lighted telescope. It is slipped into the abdominal cavity through a small incision in or near the navel. For a clearer view of the woman's reproductive tract, the cavity is filled with gas during the procedure, and a colored solution—usually blue—is injected into the uterus and fallopian tubes. A general anesthetic is required. Advanced operative techniques may allow the repair of defects in the reproductive tract to be made at the same time as the examination.

INFERTILITY TESTS

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MALE'S TESTS

Semen analysis:

It is almost always the first test done on men and is usually repeated several times. After abstaining from intercourse for about 48 hours, the man collects a semen sample in a container. The sample is microscopically examined to determine the number, activity and shape of individual spermatozoa (sperm cells) and the characteristics of the fluid part of the semen. A healthy, potent ejaculate typically contains 1.5 to 5 cubic centimeters (5 cc = 1 teaspoon) of semen and each cc will contain an average of 70 million sperm that look to be of normal size, shape and behavior. If the specimen markedly differs on any of these factors, further tests may be done to determine whether infection, hormonal imbalance, or another problem could be the culprit.

Testicular biopsy:

This is a minor operation—performed with a local or general anesthetic—in which a small amount of tissue from the testes is removed for laboratory studies. Since even men with sperm counts well below 70 million per cubic centimeter sometimes father children, this test is ordinarily done only when the count is zero. If damage to one or both of the vas deferens is known or suspected, an x-ray examination may also be ordered. As an iodine-containing solution has to be injected into the tubes to make them visible on x-rays, the patient is first given a local or general anesthetic. If the examination discloses damage, surgical repairs are often attempted at the same time the diagnosis is made.

Other special tests:

May be ordered if none of the tests already mentioned seems to explain the man's infertility. They may help in some cases, but results are uncertain in others. In the bovine (cow) mucus test, mucus from the cervix, or neck of the uterus (where it opens into the vagina) is placed in a special glass column. Samples of the man's semen are applied to the column, and measurements are made of how well the sperm are able to enter and swim through the mucus, giving some indication of their ability to swim through human cervical mucus. In the hamster-oocyte penetration test, some of the man's semen is mixed with hamster egg cells that have had their outer shells (membranes) removed. If the sperm are functioning normally, they will penetrate the hamster eggs, an indication that they are also capable of fertilizing human eggs. However, failure of the sperm to penetrate the hamster eggs does not always mean that they are incapable of fertilizing human eggs.

COUPLE'S TESTS

Postcoital test:

This test requires participation of both partners, as it has to be done after intercourse, which has to take place at the most fertile time in the woman's cycle. During the test at a doctor's office, 2 to 12 hours after intercourse, several samples of cervical mucus are taken. Laboratory analysis determines whether sperm and mucus have been able to properly interact.

Other tests:

There are also a variety of tests that are used when the doctor suspects that infertility may be due to the man's forming antibodies against his own sperm or the woman's forming antibodies against them. The exact nature of these immunological problems is not yet well understood, but their detection is sometimes helpful in explaining why a couple is having reproductive difficulty. Some of these tests require the participation of both partners; others, either one or the other.

NOTE

A final word about all infertility tests: It is always best to ask in advance why they are being suggested, what they may show, how definitive they are, what the possible remedies are for any problem they may disclose, and what side effects or complications are possible from a given test. Many of these tests have potential risks as well as potential benefits.



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You are interested in more information about infertility tests.