

INFERTILITY

Patient Information Fact Sheet

›What is infertility?

The true definition of infertility is a total absence of any reproductive function. This is fairly rare and the term subfertility is more factually correct for most people who are having difficulty conceiving. However, in practice the term infertility is more commonly used and is usually taken to mean an inability to conceive after regular unprotected intercourse for 12 months or more. Many doctors will not start investigations until after this time. However, if there are risk factors, such as female age >35 years or a history of pelvic inflammatory disease (PID), earlier investigation may be warranted.

›What causes infertility?

There are many pre-existing conditions that may lead a woman to suspect that she may be infertile without the need to try to conceive for 12 months or more, including:

- Past or current PID, which can lead to blockage of the fallopian tubes (PID can result if chlamydia infection is left untreated)
- Endometriosis—a condition in which the cells that make up the lining of the uterus (womb) also grow outside the uterus, causing severe pain and in some cases leading to blockage of the fallopian tubes
- Large fibroids in the uterus, which may prevent the implantation of a fertilized egg
- Severe weight problems such as obesity, which can alter the normal hormonal balance of the body
- Anorexia, which can lead to the absence of periods
- Polycystic ovaries
- Hormonal imbalance

Fertility also declines with age. At 35 a woman is half as fertile as a woman of 21 and by 40 she has a one in three chance of being infertile. An early menopause will cause fertility to be lost at an earlier age than normal.

Age can also be relevant to male fertility but men usually remain fertile for most of their lives. Undescended testes can cause fertility problems as can any previous radiation treatment for cancer. Other causes of male infertility include insufficient hormone levels, which may affect sperm production, and structural problems in the route through which sperm travels, which may be caused by infection, injury, hernia or prostate surgery. In some cases the mucus in a woman's vagina may be hostile to her partner's sperm and prevent it from entering the cervix. In some cases the cause of infertility may not be identifiable.

›What tests confirm a diagnosis of infertility?

There are several tests for infertility, some of which may be carried out by your general practitioner before referral to a gynecologist or infertility clinic. In most cases the first step will be a pelvic examination to check the cervical mucus and the size and position of the uterus and to check

for the presence of fibroids or cysts or any pelvic tenderness. Ovulation prediction tests may also be recommended to see if the ovulation pattern is normal. Further tests will be recommended depending on your individual circumstances. These may include female hormone analyses and semen analysis. In addition, there are a number of tests that can be used to check that the fallopian tubes are working properly:

Hysterosalpingography (HSG)—in this test a dye that shows up on x-ray is introduced into the uterus via the cervix. This allows the doctor to see if there are any blockages in the tubes and also to see if there are any abnormalities in the shape of the uterus. This test does not require an anesthetic.

Hysterosalpingo-contrast sonography—this test is similar to HSG except that it uses ultrasound to show the flow of the dye rather than x-ray.

Laparoscopy—this requires a general anesthetic but can often be carried out as same-day surgery. The procedure involves the insertion of a laparoscope (a fiber-optic tube that relays images back to a video monitor) into the abdomen through a tiny incision in the navel to enable the doctor to view the ovaries and fallopian tubes. A dye may also be introduced in order to check that there are no blockages in the tubes.

Hysteroscopy—in this test a hysteroscope (a fiber-optic tube that relays images back to a video camera) is inserted into the uterus via the cervix. This allows the doctor to examine the inside of the uterus. This test may be carried out under a general anesthetic or using a local anesthetic and mild sedation.

►How is infertility treated?

Treatment is aimed at the cause of the infertility, if it is known. If there is a problem with a blockage in the fallopian tubes, then surgery may be the first treatment option. If endometriosis is affecting the tubes, surgery or drug treatment may be appropriate. In many cases fertility problems are hormonal and caused by problems with ovulation. Hormone therapy has a good success rate and is a simple and effective method of treating infertility. The usual drugs prescribed are estrogen antagonists such as **clomiphene** (Clomid). These drugs stimulate ovulation and are usually only given for three months.

In other problems relating to the ovaries, **gonadotropins** such as **follicle stimulating hormone (FSH)** (Bravelle, Gonal-F), **luteinizing hormone (LH)** (Luveris) and **human chorionic gonadotrophin (hCG)** may be prescribed. These may be used for women who have underactive pituitary glands and are usually given in injection form. **Dopamine agonists** such as **bromocriptine** (Parlodel) and **cabergoline** reduce prolactin levels in women who have higher levels than usual (hyperprolactinemic infertility). Gonadotropins are also used to stimulate the ovaries prior to assisted reproductive techniques and can result in multiple pregnancies. Conception can be assisted in various ways.

Artificial insemination using either the partner's sperm or sperm from a donor involves the introduction of sperm into the cervical canal. The sperm may also be introduced directly into the uterus

bypassing the cervical mucus. **GIFT** (Gamete Intra-Fallopian Transfer) is a procedure in which the sperm and egg are introduced together into the fallopian tubes prior to fertilization. In **IVF** (In Vitro Fertilization) the egg is fertilized prior to being placed in the uterus. Both GIFT and IVF require ovarian stimulation and subsequent surgical techniques to collect the eggs produced as a result of the stimulation. If there are religious or other objections to the creation and discarding of embryos, then GIFT may be the preferred option. If fertilization does not take place after IVF it is possible to observe what might be stopping a successful implantation; with GIFT no observations are possible. Therefore, as both require similar techniques, IVF is often the better option.

› **Further information**

The National Women's Health Information Center:

<http://www.womenshealth.gov/publications/our-publications/fact-sheet/infertility.cfm>

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