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Infertility - a Basic Understanding

About 1 in 7 couples can have some problems conceiving a baby. However, over 8 in 10 couples having regular sex (every two to three days) will conceive within one year if the woman is aged under 40 years. In addition, of those couples who do not conceive in the first year, about half will do so in the second year.

There are various causes of infertility, both in men and in women. However, there will be no reason found for the infertility in about 3 in 10 cases. In around 4 out of 10 cases disorders are found in both the man and the woman.

Some reasons are easier to treat than others. This leaflet gives some general advice for couples trying to conceive and outlines the reasons why some couples have problems.

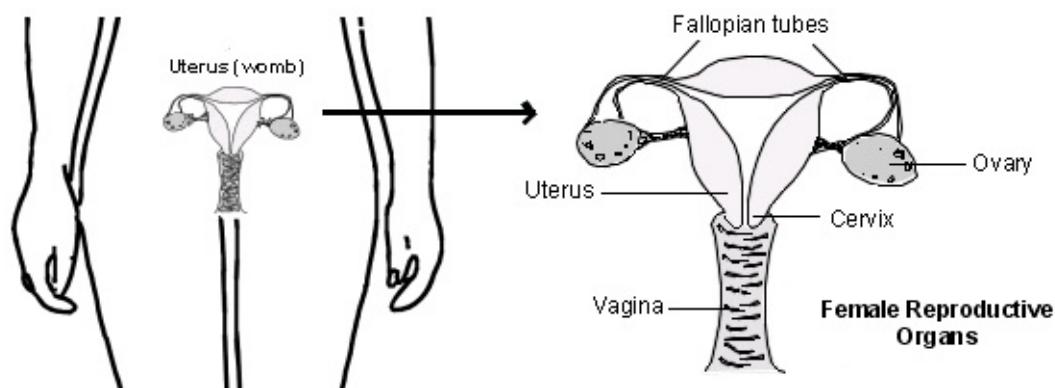
What is infertility?

Infertility means difficulty in conceiving (becoming pregnant) despite having regular sex when not using **contraception**. There is no definite cut-off point to say when a couple is infertile. Many couples take several months to conceive. About 84 couples out of 100 conceive within a year of trying. About 92 couples out of 100 conceive within two years. Looking at this another way, about 1 in 7 couples do not conceive within a year of trying. However, more than half of these couples will conceive over the following year, without any treatment.

Doctors usually say that a couple is infertile if they have not conceived in two years, despite regular sexual intercourse.

It is usually worth seeing a GP if you have not conceived after one year of trying. A GP can check for some common causes, talk things over, and discuss possible options. You may want to see your GP earlier, if the woman in the couple is over the age of 36 or if either partner has a history of fertility problems.

A quick review of how pregnancy occurs



To conceive, an egg (ovum) from the woman has to combine with a sperm from the man. An ovum is released from an ovary when a woman ovulates. This usually occurs once a month between 12 and 16 days from the start of her last period if she has a regular monthly cycle of 28-30 days. The ovum travels down a Fallopian tube to the middle of the womb (uterus) over 12-24 hours.

Sperm lie next to the neck of the womb (cervix) when a man comes (ejaculates) during sex. The sperm travel up past the cervix to get into the main part of the uterus, and into the Fallopian tubes. If there are sperm in the Fallopian tubes then one may combine with (fertilise) the ovum to make an embryo. The tiny embryo travels down into the uterus and attaches to the lining of the uterus. The embryo then grows and matures into a baby.

What can cause fertility problems?

Ovulation problems in women

Not producing eggs (ovulating) is the cause of problems in about 3 in 10 couples. In some women this is a permanent problem. In some it only happens from time to time: some months ovulation occurs, and some months it doesn't. There are various causes of ovulation problems including:

- Early (premature) **menopause**.
- Polycystic ovary syndrome (PCOS). This can also cause excessive hair growth, acne, and period (menstrual) problems, and is associated with being overweight (obesity). See separate leaflet called **Polycystic Ovary Syndrome** for more detail.
- Hormone problems - for example, too much prolactin hormone. This hormone is produced by the pituitary gland that lies just beneath the brain and helps with milk production. Too little or too much thyroxine hormone (produced by the thyroid gland in the neck) also affects fertility.
- Being very underweight or overweight. This can affect your hormone balance which can affect ovulation. In particular, women with anorexia nervosa often do not ovulate.
- Excessive exercise (such as regular long-distance running) can affect your hormone balance which can affect ovulation.
- Long-term (chronic) illnesses. Some women with severe chronic illnesses, such as uncontrolled **diabetes**, cancers and kidney failure, may not ovulate.
- A side-effect from some medicines is a rare cause. Medicines that sometimes cause this include **chemotherapy** medicines. Some street drugs such as cannabis and cocaine can also affect your ability to ovulate.
- Various other problems with the ovary such as certain genetic problems. Genetic means that you are born with it and it is passed on through families through special codes inside cells called genes.

Fallopian tube, neck of the womb (cervix) or womb (uterine) problems

These are the cause in about 2 in 10 couples with infertility. Problems include:

- **Endometriosis**, which causes about 1 in 20 cases of infertility. See separate leaflet called Endometriosis for more detail. Tissue that normally lines the womb (uterus) - called the endometrium - is found outside the uterus. It is trapped in the pelvic area and can affect the ovaries, uterus, and nearby structures. It often causes lower tummy (abdominal) pain and/or painful periods.
- Previous infection of the uterus and Fallopian tubes (pelvic inflammatory disease (PID)) is another common cause. Chlamydial infection can be a cause of PID. PID can cause scarring and damage which can affect fertility. For example, scar tissue may block the egg (ovum) from travelling down the Fallopian tubes. See separate leaflet called **Pelvic Inflammatory Disease** for more detail.
- Previous surgery to the Fallopian tubes, cervix or uterus.
- Large fibroids, which may also cause problems, although this is debated by some experts. A fibroid is a benign (non-cancerous) growth of the uterus. See separate leaflet called **Fibroids** for more detail.

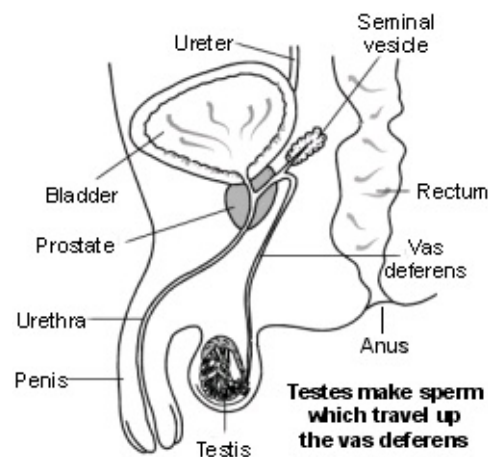
Male problems

These occur in about 2 in 10 cases. Some men are born with testicles (testes) that do not make any sperm or they make very few sperm. Some are born without testes or without a vas deferens.

The most common reason for male infertility is a problem with sperm, due to an unknown cause. The sperm may be reduced in number, less mobile (less able to swim forwards), and/or be abnormal in their form.

There are a variety of factors that may affect sperm production and male infertility. These include:

- Current or past infection of the testes (eg, **mumps**).
- **Tumours of the testes**.
- Testes that haven't dropped (descended) properly.
- Side-effects of some medicines and street drugs. These include: sulfasalazine, nitrofurantoin, tetracyclines, cimetidine, colchicine, allopurinol, some chemotherapy drugs, cannabis, cocaine and anabolic steroids.
- Although there is an association between an increased scrotal temperature and reduced semen quality, it is still uncertain whether wearing loose-fitting underwear actually improves fertility.
- A varicocele may possibly affect male fertility. A varicocele is common and is like a varicose vein in the scrotum (the skin that covers the testes). Varicoceles are found in just over 1 in 10 men with normal sperm and 1 in 4 men with abnormal sperm. See separate leaflet called **Varicocele** for more detail.
- Certain hormone problems (eg, problems with the pituitary gland in the brain leading to **Cushing's disease** or **hyperprolactinaemia**).



Unknown

No cause can be found in about 3 in 10 couples with infertility.

Age can be a factor

Older women tend to be less fertile than younger women. The fall off of fertility seems to be greatest once you are past your middle 30s. For women aged 35-39, the chance of conceiving is about half that of women aged 19-26. It is also thought that men over the age of 35 are half as likely to achieve a pregnancy when compared with men younger than 25.

Stress can be a factor

If the male or the female partner is stressed, this can affect libido and how often the couple has sex.

Looking into the problem

Most GPs are happy to talk through any difficulties that you may have concerning fertility. It is best for both partners to see the GP together. It is quite usual for GPs to do the following:

- Ask how long you have been trying to get pregnant and if you have been pregnant before (this includes asking the male partner if any previous partner of his has been pregnant before).
- Go over your general health and discuss any past illnesses and infections.
- Ask about any medication or recreational drugs that you may be taking.
- Ask if you smoke and how much alcohol you drink. Your GP may also discuss your weight.
- Ask about your occupation.
- Ask if either partner is feeling stressed at present.
- Talk about sex and be sure there are no sexual problems. Sometimes people ask their doctor about difficulties with fertility when the real problem is difficulty with sex.
- Examine both partners. This can include weighing both partners, a pelvic examination for a woman and an examination of the penis and scrotum for a man.

Do we need any tests?

Your GP may suggest a few tests. For example:

- A sperm test **sperm test (semen analysis)** of the male partner.
- A blood test to check that ovulation occurs in the female partner. This measures the hormone progesterone which is high just after ovulation. The blood sample is taken on the 21st day of a regular 28-day cycle (counting day one as the first day of bleeding).
- They may also suggest some other tests, depending on any other symptoms that you may have. For example, whether the female partner has regular periods or not, etc.

Tests are generally not suggested until you have been trying to conceive for 12 months. Referral to a doctor who is a specialist is not usually suggested until you have been trying to conceive for 18 months:

- If the female partner is under the age of 36.
- If both partners are otherwise healthy.
- If your GP has not found any problems in the examination or tests that he or she has carried out.

If any of these conditions do not apply, you may be referred earlier to a doctor who is a specialist.

Some general advice

The chance of conceiving gradually goes down over time. However, for couples where no cause is found for the problem, there is still a good chance of conceiving without treatment. In such couples, without treatment:

- About half who do not conceive within one year conceive within the following year.
- Those who do not conceive within three years still have about a 1 in 4 chance of conceiving over the following year.

Therefore, the usual pre-conception advice still applies. For example, women are advised to:

- **Take folic acid** each day to reduce the chance of a spinal cord problem in a baby.
- **Have a blood test** to check that they are immune to **German measles (rubella)**. They will be offered immunisation to rubella if they are not immune.
- **Eat a healthy diet.**

See separate leaflet called **Planning to Become Pregnant** for more detail on pre-conception advice.

In addition, the following may be relevant to some people:

- **Smoking** can affect fertility in men and women. It has been estimated that in each menstrual cycle, smokers have about two thirds the chance of conceiving compared to non-smokers. Smoking is also harmful to a developing baby if the mother smokes. Therefore, it is a good time for both partners to **stop if they are smokers.**
- **Alcohol in excess** may affect fertility. The Department of Health recommends that women trying to become pregnant do not drink any alcohol. However, the exact amount of alcohol that is safe during pregnancy is not known. This is why the advice is not to drink at all. If you do choose to drink when trying to become pregnant then limit it to one or two units, once or twice a week. (This is the equivalent of one or two glasses of wine, once or twice a week.) You should never binge drink or get drunk. This is because alcohol may harm a developing baby.
- **Weight control.** You have a reduced chance of conceiving if you are very **overweight** or underweight. For the best chance of conceiving, you should aim to have your body mass index (BMI) at between 20 and 30. If appropriate, see your practice nurse to measure your BMI and for advice about diet and weight control. Participating in a group programme involving exercise and dietary advice has been shown to lead to more pregnancies than weight loss advice alone.
- **Some street drugs** can affect fertility and should be avoided.

Sex and fertility

It is best not to try to time when you have sex to coincide with expected ovulation. This may cause anxiety, which can sometimes lead to sexual or relationship problems.

After a couple has had sex, sperm survive for up to seven days. Therefore, even though an ovum (egg) only survives 12-24 hours, having sex two or three times a week is sufficient if you are trying to conceive. Studies have shown that having sex every two to three days is likely to maximise your chance of getting pregnant. You may want to have sex more often, which is fine, but it probably will not increase your chance of conceiving. It is thought that the more relaxed and spontaneous your sex life is, the more likely that you will conceive.

The idea behind using temperature charts and ovulation kits to help predict when you are most fertile is that this can help you time when to have sex. However, using methods like this has not been shown in studies to improve your chance of conceiving. It can also cause a lot of stress within a relationship. They are therefore no longer recommended.

Doctors are used to talking about sexual problems. Any worries or concerns in this area are best talked over with your GP.

What are the treatments for infertility?

Sometimes a cause can be found for a couple's infertility. Some causes are treatable and normal fertility can be restored. For example, some cases of ovarian failure can be treated with medicines. Hormone problems can also often be treated.

If no cause is found, or the cause is not treatable, then assisted conception (in vitro fertilisation - also called IVF) is often possible. The number of techniques and the success of treatments have increased in recent years.

See separate leaflet called [Infertility: a Summary of Treatments](#), which gives a brief overview of these treatments.

Further help & information

Infertility Network UK

Charter House, 43 St Leonards Road, Bexhill on Sea, East Sussex, TN40 1JA

Tel: 0800 008 7464 and 01424 732361

Web: www.infertilitynetworkuk.com

Human Fertilisation & Embryology Authority

Finsbury Tower, 103 - 105 Bunhill Row, London, EC1Y 8HF

Tel: 020 7291 8200

Web: www.hfea.gov.uk

BICA - British Infertility Counselling Association

Web: www.bica.net

Infertility Guidance Service

Fertility UK

Bury Knowle Health Centre, 207 London Road, Headington, Oxford, OX3 9JA

Web: www.fertilityuk.org

Further reading & references

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- [Braga DP, Halpern G, Figueira Rde C, et al](#); Food intake and social habits in male patients and its relationship to Fertil Steril. 2012 Jan;97(1):53-9. Epub 2011 Nov 10.
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