NICE information for the public

St Helens and Knowsley Teaching Hospitals NHS Trust

Assessment and Treatment for people with fertility problems

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Author: NICE Information for the public,
adapted by Consultant Obstetrician & Gynaecologist for local use
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About this information

This information leaflet is adapted from the National Institute for Health and Clinical Excellence (NICE) information for the public on assessment and treatment for people with fertility problems.

This information should be used as a guide, assessment and treatment will be provided on an individual basis.

Does this information apply to me?

Yes, if:

- you have fertility problems (that is, you or your partner are having trouble getting pregnant)
- you need particular treatment or help for you or your partner to get pregnant, including if:
    - you are in a same-sex relationship and have not been able to conceive through donor insemination
    - you are unable (or find it very difficult) to have sexual intercourse, for example, because of a physical disability
    - you or your partner have a condition that means you need specific help to conceive (for example, a long-term viral infection such as HIV, hepatitis B or hepatitis C that could be passed on through unprotected sexual intercourse)
- you are preparing for cancer treatment that might affect your fertility and you wish to preserve your fertility.

Fertility problems

Around 1 in 7 heterosexual couples in the UK seek advice at some time in their lives about difficulties in getting pregnant. The time it takes to conceive naturally varies and age can be an important factor: both women's and (to a lesser extent) men's fertility gradually declines as they get older.

A woman may have fertility problems because her ovaries do not produce eggs regularly, or because her fallopian tubes are damaged or blocked and the sperm cannot reach her eggs. In men, a fertility problem is usually because of low numbers or poor quality of sperm. For up to a quarter of people, no reason can be found for their fertility problems. This is known as unexplained infertility.

Your care team

A range of professionals who specialise in different areas of treatment or support may be involved in your care. These could include GPs, practice nurses, fertility specialists and counsellors.

Working with you

Your care team should talk with you about fertility problems. They should explain any tests, treatment and support you should be offered so that you can decide together what is best for you. There is a list of questions you can use to help you talk with your care team.

Some treatments or care described here may not be suitable for you. If you think that your treatment does not match this advice, talk to your care team.

How long does it take to get pregnant?

In the general population, more than 8 out of 10 couples where the woman is aged under 40 will get pregnant within 1 year if they have regular sexual intercourse (that is, every 2 to 3 days) and do not use contraception. More than 9 out of 10 couples will get pregnant within 2 years.

For women under 40 who are using artificial insemination rather than sexual intercourse to conceive, more than half of women will get pregnant within 6 cycles of intrauterine insemination. Within 12 cycles, more than 3 out of 4 women will become pregnant.

Trying for a baby

There may be some things you can do to improve your chances of getting pregnant. Your GP should tell you more about the following.

How often to have sexual intercourse

To give yourselves the best chance of success, try to have sexual intercourse every 2 to 3 days. If you are under psychological stress, it can affect your relationship and is likely to reduce your sex drive. If this means you do not have sex as often as usual, this may also affect you or your partner's chances of getting pregnant.

Smoking

Smoking is likely to reduce fertility in women. Breathing in someone else's cigarette smoke (passive smoking) is also likely to reduce a woman's chances of getting pregnant. If you smoke, your GP should offer you help to stop if you wish. The NHS

Smoking Helpline can also provide advice and support – the phone number is 0300 123 1044 and the website is www.smokefree.nhs.uk.

For men, there is a link between smoking and poorer semen quality (though the effect of this on fertility is uncertain). Stopping smoking will improve your general health.

Alcohol

For men, your fertility is unlikely to be affected if your alcohol consumption is within the recommended limit of 3 to 4 units of alcohol per day. A pint of normal-strength beer is about 2 units, and a small (125 ml) glass of wine is about 1.5 units (for more information visit www.nhs.uk/ alcohol). Drinking excessive amounts of alcohol can affect semen quality.

In women, alcohol can harm developing babies. If you are trying to get pregnant you can cut down the risk of harming your unborn baby by drinking no more than 1 or 2 units of alcohol once or twice a week.

Body weight

The range of healthy weight is defined by the body mass index (BMI). A healthy weight is a BMI of between 20 and 25.

It can take longer to get pregnant if you are underweight (your BMI is under 19) or you are obese (your BMI is 30 or above). If you are underweight or overweight and you have irregular or no periods, reaching a healthy weight will help your ovaries to start working again.

If you are overweight, taking part in a group exercise and diet programme gives you a better chance of getting pregnant than trying to lose weight on your own.
Men who have a BMI of 30 or above are likely to have reduced fertility.

Your work

At work, some people are exposed to X-rays, pesticides or other things that may affect their fertility. Your GP should ask you about the work that you do and should advise you about any possible risks to your fertility.

Medicines and drugs

Some prescription and over-the-counter medicines can interfere with your fertility. Your GP should ask you about any medicines you are taking and offer you appropriate advice. They should also ask you about recreational drugs (such as cannabis, cocaine and anabolic steroids) as these can also interfere with your fertility and damage a developing baby.

Other factors

Other actions that people try to improve their fertility include reducing their caffeine intake (from drinks such as tea, coffee and cola) and using complementary therapies. However, it is not clear if there is an association between caffeine intake and fertility, and complementary therapies are not recommended because there has not been enough research looking at whether they improve fertility.
Men also sometimes try wearing loose-fitting underwear to help fertility. Higher temperatures in the scrotum can reduce semen quality, but it is not clear whether wearing loose-fitting underwear improves fertility.

Preparing for pregnancy

Folic acid

Women who are trying to get pregnant should take folic acid tablets (0.4 mg a day). Taking folic acid when you are trying for a baby and for the first 12 weeks of pregnancy reduces the risk of having a baby with neural tube defects (where parts of the brain or spinal cord do not form properly), such as spina bifida. If you have previously had a child with a neural tube defect, are taking medication for epilepsy, or have diabetes, you should take a larger dose of 5 mg a day.

Rubella (German measles)

Women should be offered a test to find out whether you are immune to rubella. If you are not immune you should have a rubella vaccination before you try to become pregnant, because infection with rubella can harm unborn babies. You should avoid pregnancy for 1 month after your rubella vaccination.

Cervical smear tests

Your GP should ask you when you last had a cervical smear test and what the result was. If a cervical smear test is due, you should have this test before you try to get pregnant.

If you are concerned about your fertility

If you are concerned that you may have a fertility problem, your GP should ask you about your lifestyle, general health and medical history. They should ask how long you and your partner have been trying to get pregnant and about aspects of your sexual health and history that could be affecting your chances of having a baby.
If you and your partner have been trying to get pregnant for more than 1 year, you should both be offered tests (see tests for men and tests for women).

If you are using artificial insemination rather than sexual intercourse to conceive (using either donor sperm or your partner's sperm) and you are not pregnant after 6 cycles, you should be offered tests. If you are having artificial insemination using your partner's sperm, your partner should also be offered tests.

If you or your partner has a long-term viral infection (such as HIV, hepatitis B or hepatitis C) that could be passed to your partner through unprotected sexual intercourse or passed to your baby, you should be referred to a centre that has the expertise to provide your investigations and treatment safely (also see HIV, hepatitis B and hepatitis C).

For couples who want to have a baby but are unable or find it very difficult to have sexual intercourse (for example, because of a physical disability), your GP should talk to you about your options for conceiving and advise you on any further assessments you might need and possible treatments that could help you.

What you can expect from your care

During your care and treatment, your healthcare team should give you information about fertility problems and treatments to help you make informed decisions. Any investigation of your fertility problems should take place in an environment that enables you to discuss sensitive issues, such as sexual abuse, if you wish.

If you and your partner are having difficulty conceiving, any decisions you make about investigations and treatment will affect both of you. You should therefore be seen together whenever possible.

Tests for men

You should be offered a semen test to measure the quantity and quality of your sperm. Occasionally there is an abnormal result on the first semen test. If this happens a repeat test should be offered, ideally 3 months later. However, if it looks as though your sperm count is very low or you have no sperm at all, the test should be repeated as soon as possible.

Tests for women

A woman's fertility declines with age. This means that the chances of getting pregnant, both naturally and through fertility treatment, fall as you get older.
If you have regular monthly periods (every 26 to 36 days), you are likely to be ovulating. You should not be advised to use charts of your body temperature (known as basal body temperature) to check whether you are ovulating normally, as they are not a reliable test for this.

Checking your hormone levels

You should be offered blood tests to check your hormone levels to see if you are ovulating. These may include a test to measure a hormone called progesterone, which is produced by the ovaries after the egg is released. The timing of the test will vary depending on how regular your periods are.

If your periods are irregular, you should also be offered a test to measure hormones called gonadotrophins, which stimulate the ovaries to produce eggs.

Checking your ovaries

You may also be offered tests to see how well your ovaries might respond to fertility drugs. This involves either a blood test to measure levels of hormones (called follicle-stimulating hormone) or an ultrasound scan to count the number of follicles in your ovaries.

Checking your fallopian tubes

When the results of your tests and your partner's semen test are known, you may also be offered an examination to see whether your fallopian tubes are blocked. Depending on your circumstances and medical history, this might be done using X-rays, ultrasound, or by an operation called a laparoscopy. Before you have this procedure, you should be tested for an infection called chlamydia. Chlamydia can damage your fallopian tubes if it is not diagnosed and treated with antibiotics. If you are infected, you and your partner (or partners) should be referred for treatment. If you do not have tests for chlamydia, you may be offered antibiotics before the procedure as a precaution in case you do have the infection.

Treatments for men

Low sperm count or poor-quality sperm

If tests find that your sperm count is low or the sperm are poor quality, you and your partner should continue trying to conceive through regular, unprotected sexual intercourse because it is still possible for you to conceive naturally. After you have been trying for a total of 2 years (this can include 1 year of trying before you had your fertility tests) you may be offered in vitro fertilisation (IVF).

Treatments for women

If your ovaries are not producing eggs normally you should be offered treatment to stimulate them to produce eggs. This is known as 'ovulation induction'. The type of treatment you need will depend on what is causing the problem.

Polycystic ovary syndrome

Polycystic ovary syndrome (PCOS) is a common condition where your ovaries contain more eggs than normal, but you do not ovulate regularly.

Polycystic ovary syndrome and weight loss

If you have polycystic ovary syndrome and you are obese (your BMI is 30 or above), losing weight may restart ovulation and increase your chance of becoming pregnant without needing any further treatment. If you do need to take fertility drugs, losing weight will improve how your ovaries respond to these drugs.

If you have polycystic ovary syndrome you should be offered drugs called clomifene citrate or metformin to help you start ovulating. You may be offered one of these drugs or both together. If you are taking clomifene citrate, you should take it for a maximum of 6 months to see whether it will help you.

If you are offered treatment with metformin, your doctor should explain that it can cause side effects, such as nausea, vomiting or other digestive symptoms.

Clomifene citrate and metformin do not work for everyone. If they do not help, you may be offered treatment with gonadotrophins. However, your doctor should explain the increased risks of multiple pregnancy and ovarian hyperstimulation syndrome before you decide to start this treatment (see risks of fertility drugs).

Your doctor should tell you more about the risks, benefits and side effects of all of these treatments for polycystic ovary syndrome and methods of ovulation induction before you decide to try them.

Risks of fertility drugs

Multiple pregnancy

Ovulation induction using gonadotrophins or clomifene citrate increases your chance of becoming pregnant with more than one baby (a multiple pregnancy). Multiple pregnancies carry greater health risks for you and your babies. The babies are more likely to be premature and have low birth weight. To reduce the risk of multiple pregnancy, your response to these drugs should be monitored by ultrasound during treatment.

Ovarian hyperstimulation syndrome

There is a risk that your ovaries could 'over-react' to fertility drugs, known as ovarian hyperstimulation syndrome. Mild symptoms of this, including bloating and nausea, are relatively common, but severe ovarian hyperstimulation syndrome can be a serious condition. You should be monitored by ultrasound for this condition during your ovulation induction.

Long-term safety of ovulation induction

There are not known to be any health risks (including cancer risks) directly associated with the use of fertility drugs for ovulation induction in women or in children born as a result of treatment. However, more research is needed into long-term safety. They should also limit the drugs used in ovulation induction to the lowest effective dose and length of use.

Other ovulation disorders

If you have an ovulation disorder with low levels of gonadotrophin hormones and you have low levels of oestrogen (the female sex hormone), this is often due to low body weight or excessive amounts of exercise. Increasing your body weight (if your BMI is less than 19) and cutting down your exercise may be enough to restart ovulation.
If you have a disorder called hyperprolactinaemia you should be offered treatment with a type of drug known as a dopamine agonist, such as bromocriptine. Your doctor should discuss with you the safety of dopamine agonists for women who are intending to get pregnant.

If your fallopian tubes are swollen

If your fallopian tubes are blocked and swollen (a condition known as hydrosalpinx), you should be offered the choice of having your tubes removed through laparoscopy before IVF. This increases your chances of a successful pregnancy through IVF, but it means you will never be able to conceive naturally in the future.

Endometriosis

Since this document was originally published, NICE has published a guideline on endometriosis – please refer to this for help and advice on this topic.

Adhesions in the womb

A rare cause of fertility problems is adhesions (tissues that have joined together) in the womb causing a woman's periods to stop. If this happens you may be offered a minor procedure to clear the adhesions, which may help your periods to start again and so improve your chances of getting pregnant.

Unexplained infertility

If you have unexplained infertility, it means that no reason has been found for your fertility problems. You may feel anxious to try fertility drugs, but you should not be offered clomifene citrate (or other fertility drugs taken by mouth) because it has not been found to improve the chance of pregnancy compared with trying for a baby naturally.

If you have been trying to conceive through regular unprotected sexual intercourse for a total of 2 years (this can include 1 year of trying before you had your fertility tests) and have not become pregnant, you may be offered IVF.

HIV, hepatitis B and hepatitis C

If you or your partner is known to have HIV, hepatitis B or hepatitis C, you should receive specialist help and advice to conceive.

Couples where the man is HIV positive

For a man who is HIV positive it is possible for you to conceive with an HIV-negative woman through unprotected sexual intercourse under specific circumstances.

- If you are taking HIV drugs known as HAART (highly active anti-retroviral therapy) the risk of infection during intercourse is minimal as long as all of these conditions are met:
- You are taking your HIV drugs correctly.
- Blood tests show that the virus has been undetected (called having an undetectable viral load) in your body for the past 6 months.
- You have no other infections.
- Unprotected sexual intercourse is limited to the time of the month when the woman is ovulating. Your doctors can help you determine the best days to try.

It is very important still to use protection during the times when you are not trying to conceive, to minimise the risk of passing on the infection.

If virus is detected in your blood, you are not taking your HIV drugs correctly, or you and your partner do not want to have unprotected sexual intercourse, you may instead be offered 'sperm washing'. This involves separating the sperm from the semen, which reduces the chance of transmission because HIV is carried by the semen. The sperm is then used for intrauterine insemination or IVF.

If you can meet all the conditions in the list above, sperm washing may not reduce the risk of HIV infection any further – it is never possible to guarantee that the sperm is completely free from the virus. Sperm washing may also reduce the likelihood of becoming pregnant compared with natural conception.

If you can meet all the conditions in the list above, NICE does not recommend also using 'pre-exposure prophylaxis', in which an HIV-negative woman takes antiretroviral drugs to reduce her risk of getting the virus before having unprotected intercourse with a man who is HIV positive. This is because it has not been found to reduce the risk of infection any further.

Before you make any decisions about trying to conceive you should be offered the chance to have a discussion with both a HIV specialist and a fertility specialist.

Couples where one partner has hepatitis B

Hepatitis B is a virus which can infect and damage the liver. If one of you has hepatitis B, your partner should be offered hepatitis B vaccination because the illness can be passed on through unprotected sexual intercourse. For men with hepatitis B, you should not be offered sperm washing before having fertility treatment.

Couples where the man has hepatitis C

Hepatitis C is another type of hepatitis virus which also infects the liver. In couples where the man has hepatitis C and the woman does not, the risk of infecting your partner during unprotected sexual intercourse is thought to be low. However, you should have the opportunity to talk to both a fertility specialist and a hepatitis specialist before you make any decisions about trying to conceive. For men, this should include talking about treatment options to eliminate the virus from your body.

Assisted reproduction

Assisted reproduction is the name given to treatments that can help you get pregnant without you having sexual intercourse. There are a variety of treatments, and what is suitable for you will depend on your own circumstances. The options include:

- Intrauterine insemination (IUI)
- In vitro fertilisation (IVF)
- IVF with intracytoplasmic sperm injection (ICSI)
- The use of donor sperm (donor insemination) or eggs (egg donation)

Terms explained

Artificial insemination

A procedure that involves directly inserting sperm into a woman's womb or cervix (the neck of the womb) to help her conceive.

Assisted reproduction

Treatments that enable people to conceive without having sexual intercourse. Methods include intrauterine insemination (IUI), in vitro fertilisation (IVF), intracytoplasmic sperm injection (ICSI), donor insemination and egg donation.

Body mass index (BMI)

The measurement used to define the range of healthy weight. Your BMI is calculated by dividing your weight in kilograms by your height in metres squared (that is, your height in metres multiplied by itself).

Chromosome

A thread-like structure found in cells that contains a person's genetic information in the form of genes.

Cycle

A single course of treatment. In IVF a 'full cycle' is one in which embryos produced from eggs collected after ovarian stimulation are replaced into the womb within a few days of their formation, with any remaining good-quality embryos frozen for use later. When these frozen embryos areused later, this is still considered to be part of the same cycle.

Egg

The female reproductive cell. A woman usually produces 1 egg in a normal monthly cycle.

Embryo

A fertilised egg.

Fallopian tubes

The pair of tubes leading from a woman's ovaries to her womb. The fallopian tube is where fertilisation of the egg by a sperm takes place in natural conception.

Follicles

A small sac in the ovary in which the egg develops.

Gonadotrophins

Hormones that a woman can take to stimulate her ovaries to produce eggs. They can be given during ovulation induction and ovarian stimulation. In men they can be used to stimulate sperm production.

In vitro fertilisation (IVF)

A technique by which eggs are collected from a woman and fertilised outside her body. One or 2 of the embryos created are then transferred to the womb. If one of them attaches successfully, it results in a pregnancy.

Intracervical insemination

A procedure in which sperm is placed into a woman's cervix (the neck of the womb) to help her conceive.

Intrauterine insemination

A procedure in which sperm is placed inside a woman's womb to help her conceive.

Laparoscopy

A 'keyhole' operation done under general anaesthetic, in which the surgeon uses a very small telescopic instrument (a laparoscope) to examine or operate on an area in a woman's pelvis.

Multiple pregnancy

A pregnancy in which the woman is carrying more than 1 baby. Multiple pregnancies carry higher health risks for both the mother and the babies.

Ovarian stimulation

The use of gonadotrophins to stimulate the ovaries to produce more than 1 egg at once as part of IVF treatment.

Ovarian hyperstimulation syndrome

A potentially serious condition that occurs when the ovaries 'over-react' to fertility drugs.

Ovaries

Two small organs in a woman's reproductive system which produce follicles and eggs.

Ovulating

See ovulation.

Ovulation

The process by which the ovaries produce eggs. In a woman's natural cycle, ovulation occurs when a mature egg is released from the ovary each month.

Ovulation induction

The use of fertility drugs to control or stimulate a woman's ovulation.

Semen

The fluid containing sperm that is produced by a man during ejaculation.

Sperm

The male reproductive cell, which fertilises a woman's egg.

Surgical sperm recovery

A minor surgical procedure to obtain sperm from the testicles in men who cannot ejaculate or have a blockage in the flow of sperm from their testicles.

Ultrasound scan

A scan that uses high frequency sound waves to provide images of the internal organs.

Sources of advice and support

- Cancer Research UK, 0808 800 4040 www.cancerresearchuk.org/about-cancer
- Fertility Friends www.fertilityfriends.co.uk
- Infertility Network UK (also includes ACeBabes and More to Life), 0121 323 5025 www.infertilitynetworkuk.com
- Stonewall (the lesbian, gay and bisexual charity), 0800 050 2020 www.stonewall.org.uk
- Terrence Higgins Trust (HIV and sexual health charity), 0808 802 1221 www.tht.org.uk

You can also go to NHS Choices or the Human Fertilisation and Embryology Authority (HFEA) website (www.hfea.gov.uk) for more information about fertility problems.

NICE is not responsible for the quality or accuracy of any information or advice provided by these organisations.

Accreditation

Whiston Hospital
Warrington Road,
Prescot, Merseyside, L35 5DR
Telephone: 0151 426 1600

/sthknhs @sthk.nhs

www.sthk.nhs.uk