Fertility and breast cancer treatment

breast cancer care

This information is by Breast Cancer Care.

We are the only specialist UK-wide charity that supports people affected by breast cancer. We've been supporting them, their family and friends and campaigning on their behalf since 1973.

Today, we continue to offer reliable information and personal support, over the phone and online, from nurses and people who've been there. We also offer local support across the UK.

From the moment you notice something isn't right, through to treatment and beyond, we're here to help you feel more in control.

For breast cancer care, support and information, call us free on **0808 800 6000** or visit **breastcancercare.org.uk**

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Introduction

Having breast cancer treatment may mean you have to think about your fertility sooner than you had planned. This is because some treatments, such as chemotherapy, can affect your ability to become pregnant. While your main concern is probably treating your breast cancer, if having children of your own is important to you then fertility preservation can be offered before your breast cancer treatment.

It's natural to have concerns about how breast cancer treatment may affect your fertility, and addressing these is an important part of your treatment and care. This booklet should help you discuss any fertility issues with your specialist team.

Some women may face the possibility of losing their fertility, and this might be as difficult to accept as the cancer diagnosis itself. It can be hard to make a decision about whether to have fertility preservation and you may feel under pressure to decide quickly. You may find it helpful to talk to someone about how you feel. You'll find more information about the support available on page 27. You can also call our free Helpline on 0808 800 6000.

Some of the options described in this booklet are not suitable for all women and some may not be available in every fertility clinic. The Human Fertilisation and Embryology Authority (HFEA) oversees fertility treatments in the UK and has a list of fertility clinics on its website hfea.gov.uk

You may also find it useful to read our booklet **Younger women with breast cancer**. Our booklet **Your body, intimacy and sex** also outlines how the physical and emotional changes after a breast cancer diagnosis can alter the way you feel about your body, and how this may affect sex and intimacy.

Breast Cancer Care has developed a **Fertility toolkit** for healthcare professionals, to help ensure younger women are offered the chance to discuss fertility preservation with a specialist. The toolkit can be ordered from breastcancercare.org.uk/fertility-toolkit

‘When I was diagnosed and discovered that it had been caught at a stage which meant it could be treated effectively, my thoughts turned immediately to children and the possibility of one day being a mother.’

Jackie

‘I was told on the day of the initial diagnosis that there could be effects on my fertility, but there was so much information to take in that day that I didn’t take it in.’

Laura

Discussing fertility before treatment begins

> ‘Taking time to process information and make decisions is really crucial.’
>
> **Gail**

Some breast cancer treatments can affect your ability to become pregnant in the future. This can depend on your age and the type of treatment (see page 12).

It’s important to discuss any fertility concerns with your specialist team before you begin your treatment.

Your specialist team should offer you a referral to a fertility specialist to discuss the option of preserving your fertility.

Take time to think about questions you may want to ask to get the information you need. If you have a partner, it’s helpful to include them in this discussion. It’s important to make the right decision for you.

The following are some questions you might want to ask your specialist team or at the fertility clinic:

- Can I check if I’m fertile before treatment starts?
- How will my age affect my fertility?
- What are my chances of getting pregnant after treatment?
- How long after treatment will I have to wait to find out if I’m still fertile?
- How can I keep my fertility?
- Will having treatment to preserve my fertility delay my cancer treatment?
- Will I be able to have fertility treatment on the NHS (including embryo or egg storage)? If not, how much will it cost?
- What does fertility treatment involve?
- How successful are the different methods of preserving fertility?
- Is it safe for me to have fertility drugs?
- Can I use a sperm donor?
- Would a future pregnancy affect the chances of cancer coming back?
- Could my cancer treatment affect the health of any children I might have in the future?
- Assuming I can still have children, how long after treatment should I wait?

If you would like to see a fertility specialist and this hasn't been offered to you, ask your specialist or breast care nurse as soon as possible after your diagnosis to reduce any possible delays to your treatment. You can ask to be referred to a fertility clinic that has experience in helping women having cancer treatment.

For a list of fertility clinics in the UK, see the Human Fertilisation and Embryology Authority (HFEA) website hfea.gov.uk

'I would urge anyone facing breast cancer to just ask. It's OK to look to life beyond treatment. It's OK to take hormones in a controlled environment for a limited time. It's OK to want to be a mother. And, it's OK to not feel confident or OK about the process. It's big. It's frightening. But, ask me if I'd do it again and I'd say, absolutely!'

Jackie

NICE guidelines

NICE (National Institute for Health and Care Excellence) is an independent organisation that provides evidence-based guidance on effective ways to prevent, diagnose and treat ill health.

NICE guidance only applies to England. Assessment and treatment may be different in Wales, Scotland or Northern Ireland and your specialist team can tell you more about this.

NICE guidelines for assessing and treating people with fertility issues recommend that women with breast cancer should:

- have the chance to discuss the impact of cancer and its treatment on future fertility with their cancer team at the time of diagnosis
- be offered appropriate procedures to preserve fertility if their breast cancer treatment may lead to infertility, as long as they're well enough to have the procedures, this won't worsen their condition and there's enough time before cancer treatment begins.

The usual conditions for deciding whether someone can have fertility treatment shouldn't apply to people with cancer.

- If you're not offered these choices, you can talk to your GP (local doctor).
- If you're still not happy, you can make a complaint to your local Clinical Commissioning Group (CCG). You can find your local CCG on the NHS website nhs.uk
- If you're unhappy with the decision from the CCG you can complain to the independent Parliamentary and Health Service Ombudsman.

Fertility in women

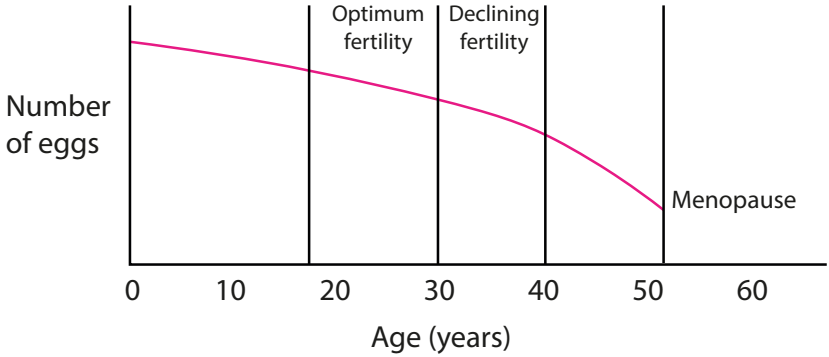
To understand how breast cancer treatments might affect fertility, it can be useful to know some basic facts about fertility in women.

Women are born with a set number of eggs in their ovaries (you don't produce new ones). By the time a woman reaches puberty, the number of eggs she has will have already decreased, and the number continues to decrease as she gets older. Generally, the quality of the eggs also reduces as a woman ages, which can affect fertility.

Every month, a woman's ovaries release at least one egg. Pregnancy occurs if an egg is fertilised by a man's sperm and implants itself in the womb. If an egg is not fertilised, you have a period.

The ovaries stop releasing eggs, and monthly periods stop, when a woman reaches the menopause. Most women reach the menopause around the age of 51, though studies show that women with an altered breast cancer (BRCA) gene will experience an earlier menopause.

The graph below shows how the average woman's fertility declines with age until she reaches the menopause. The rate at which this happens will vary from person to person, and will depend on what treatment you have had.



Graph showing decline of fertility with age. Source: mskcc.org

How breast cancer treatments can affect fertility

Several treatments for breast cancer can have an effect on future fertility.

Chemotherapy

Chemotherapy can cause infertility in women who are pre-menopausal (have not been through the menopause). It can affect the functioning of the ovaries, reducing the number and/or quality of eggs.

The likelihood of you becoming infertile depends on the type of drugs used, the dose given, your age and your current fertility. You can usually take time to consider your options for preserving fertility before starting treatment. If you want to have children in the future, discuss this with your breast cancer team.

The chemotherapy drugs most likely to cause infertility are a group called 'alkylating agents'. One of these (cyclophosphamide) is commonly used in combination with other chemotherapy drugs to treat breast cancer.

The effect of some other chemotherapy drugs, such as taxanes (docetaxel and paclitaxel), on fertility has not been as widely studied, but evidence suggests that they will also have a negative effect on fertility.

Chemotherapy can also cause your periods to stop (amenorrhoea). This may be temporary or permanent. In general the younger you are when having treatment, and particularly if you're under 35, the more likely it is that your periods will return. Women over 35 are more likely to lose their fertility after chemotherapy.

It's possible to stop having periods temporarily during treatment and to start having them again later, months or occasionally even a few years after treatment has finished.

Even if your periods return after chemotherapy, the menopause is likely to happen sooner (up to 5–10 years earlier) than it would have done if you hadn't had chemotherapy. This may mean you have a shorter time than normal to try to get pregnant.

If your periods do return, it doesn't necessarily mean your fertility has been unaffected, so it's important to speak to your specialist team if you have any concerns.

For more information on chemotherapy, see our **Chemotherapy for breast cancer** booklet.

‘I had heard that chemo could affect fertility and I didn’t want to be that statistic. So, I started asking questions to ensure I could give myself the best possible chance of having a family. My hospital was hugely supportive.’

Jackie

Hormone treatment

Hormone treatments are used in women whose breast cancer is oestrogen receptor positive (ER+). This means the breast cancer has receptors within the cells that bind to the female hormone oestrogen and stimulate the cancer to grow.

Some of the most commonly used hormone drugs for pre-menopausal women with breast cancer are:

- tamoxifen
- goserelin (Zoladex)
- aromatase inhibitors (anastrazole, letrozole and exemestane) used alongside goserelin.

In most pre-menopausal women who take tamoxifen, the ovaries continue to work. When you start taking tamoxifen it may stimulate ovulation (release of the egg from the ovary) making you more fertile.

For some women, continued use of tamoxifen means periods become less regular, lighter or disappear altogether. Generally, your periods will start again once you stop taking tamoxifen, as long as you haven’t gone through the menopause naturally while taking the drug. However, it may take four to five months for your periods to become regular again.

Goserelin works by switching off the production of oestrogen from the ovaries. It is often combined with other hormone therapies used to treat breast cancer, such as tamoxifen or aromatase inhibitors. Aromatase inhibitors are normally only recommended for post-menopausal women but can be given to pre-menopausal women alongside goserelin.

Hormone treatment is usually taken for five years or longer. While you’re taking hormone treatment you will be advised not to get pregnant as it

may harm a developing baby. Even if your periods stop while you are taking hormone treatment you could still get pregnant.

Because of the length of time it's taken for, the side effects of hormone treatment may hide the signs of a natural menopause. It may only be when you finish taking it that you realise you have started your menopause.

If you want to have children and you're in your 30s or early 40s, taking hormone treatment for five years or more may be an issue you want to discuss with your specialist team. A trial called the POSITIVE trial (Pregnancy Outcome and Safety of Interrupting Therapy for Women With Endocrine Responsive Breast Cancer) is looking into the safety of interrupting hormone treatment to try to get pregnant.

For further information about this treatment, see our individual hormone therapy booklets.

Removal of the ovaries (oophorectomy)

Some women may have their ovaries removed as part of their breast cancer treatment, or as risk-reducing treatment if they have an altered gene. If you have this operation you will be left infertile, but can consider egg or embryo donation in the future. See page 26 for more information.

Contraception during and after treatment

Generally, women are advised not to get pregnant while having treatment for breast cancer. This is because treatment for breast cancer can damage an unborn baby at the early stages of development.

If you're sexually active with a man, it's important to discuss contraception with your specialist team. They may refer you to a family planning clinic or your GP, who can advise you on the most appropriate contraception for you.

Women having treatment for breast cancer (including the hormone treatment tamoxifen) are recommended to use non-hormonal methods of contraception, such as condoms, Femidoms or a diaphragm.

It may also be possible to use a coil (IUD or intrauterine device). However, you would need to discuss this with your specialist as not all types are suitable for women with breast cancer.

The contraceptive pill is less commonly advised after a diagnosis of breast cancer. This is because the hormones in the contraceptive pill could possibly stimulate any remaining breast cancer cells. However, the morning-after pill can be used in emergencies as it's a single dose of hormones and unlikely to affect your breast cancer. Speak to your specialist team if you have any concerns.

You should use reliable contraception before and throughout your treatment. After treatment your decisions about contraception will depend on how you feel about getting pregnant. Generally, you should assume that you could still get pregnant unless you haven't had a period for at least a year after completing your treatment if you're 40 or over, or two years if you're under 40. However, this is a general guide and varies for each person.

See page 25 for more information about pregnancy after breast cancer.

Options for preserving fertility before and during cancer treatment

A number of options are available that may preserve your fertility and increase the chance of you having your own children in the future.

Your options include:

- waiting to see if your fertility returns after treatment
- having fertility preservation procedures – freezing embryos, eggs or ovarian tissue – before starting treatment
- protecting the ovaries during chemotherapy.

If you want to discuss ways of trying to preserve your fertility, talk to your oncologist and fertility specialist team before your breast cancer treatment begins.

Deciding if you want to have fertility preservation

Before you start your breast cancer treatment you will need to decide if you want to take steps to preserve your fertility, or if you would prefer not to have any fertility treatment.

Some women are very clear about what they want to do, while others have a harder time making a decision. Your religious or moral beliefs may also affect how you feel about fertility preservation. There's no 'right' or 'wrong' answer – it's important to choose what's right for you.

Talking to a fertility specialist and finding out what options are available can help you come to a decision. It might also help to talk everything through with your partner (if you have one), breast cancer team, family and friends.

A few women may consider declining chemotherapy if they're concerned about their fertility. Talk to your consultant about the benefit of having chemotherapy or the effects that different chemotherapy combinations may have on your fertility.

No fertility preservation ('waiting and seeing')

Some younger women choose to start their cancer treatment and wait to see if fertility returns when treatment is over. This is sometimes referred to as 'waiting and seeing'. Very young women who are more likely to maintain their fertility after breast cancer treatment may want to discuss this option with their specialist team. Your fertility specialist can do some blood tests and an ultrasound scan to assess your fertility before your breast cancer treatment begins.

Fertility preservation procedures

Several procedures may be available before you start your breast cancer treatment. Not all of the procedures described on the following pages are available in every fertility clinic, and success rates can vary. Not all procedures are available on the NHS and there may also be costs involved – see page 23 for more information.

Some techniques are well researched in the general population but haven't been fully researched in women who've had breast cancer. None of the methods for preserving fertility can guarantee you'll get pregnant and have your own baby after breast cancer treatment.

However, lots of research into methods of preserving fertility is being carried out, and this is leading to improvements in the procedures currently available.

Your specialist fertility clinic will be able to advise you further. Your oncologist and fertility specialist should work together to help you decide on the right option for you.

You can find out more about the availability of fertility procedures on the HFEA website hfea.gov.uk

> 'It was all very overwhelming, but necessary. And I'm glad I've done it because I have that safety net.'
>
> **Kerry**

Stimulating the ovaries to produce more eggs

Fertility preservation can involve stimulating your ovaries to produce eggs. This is known as ovarian stimulation. Collecting more eggs will increase the chances of pregnancy in the future.

You will need daily injections of hormones to make your ovaries produce more eggs than normal. This will stop natural ovulation so that the eggs can be collected in the timeframe required by the fertility specialist.

The hormone injections increase the amount of oestrogen produced by your body. Some women worry about the effect this might have on their breast cancer. Initial studies have not shown that ovarian stimulation affects the growth of breast cancer cells, but further research is needed before this can be proven.

Breast cancer drugs like letrozole and tamoxifen are often used along with the hormone injections. Using letrozole and tamoxifen increases the number of eggs produced and reduces the level of hormones circulating in the body during fertility treatment.

You can discuss any concerns you have with your fertility specialist. Once ovarian stimulation is complete, your embryos (eggs that have been fertilised with sperm) or eggs will be frozen.

Freezing embryos – in vitro fertilisation (IVF)

Embryo freezing is the most effective way of preserving fertility.

In vitro fertilisation (IVF) involves taking hormone drugs to stimulate the ovaries (ovarian stimulation). Several eggs are then removed, fertilised with sperm from your partner or a donor, and stored as embryos. These embryos can be frozen and stored for 10 years or longer before being implanted in the womb.

Once embryos are created using your eggs and your partner's sperm they legally belong to both of you. You will both need to give consent to store and use any embryos. If you separate in the future and your partner withdraws his consent, you will not be able to use the embryos and they would have to be destroyed. Some women in new relationships store eggs as well as embryos to keep options available for the future.

If you are single or in a same sex relationship you may choose to use donor sperm. However, finding a suitable donor may not be easy and could cause a delay to your treatment. The staff at the fertility clinic can discuss this with you further.

The organisations listed on page 29 can provide more information about sperm donors.

The IVF process can occasionally delay chemotherapy for a short time. However, new fertility practices mean that the process can often be started at any time during a woman's menstrual cycle and chemotherapy can usually go ahead as planned or with a minimal delay.

'We opted to freeze embryos because we were advised that this would be the most logical step for a couple in our position.'

Jackie

Freezing eggs

If you don't have a partner and don't want to use donor sperm, you may want to freeze your eggs. Eggs are collected after ovarian stimulation. These eggs are then frozen. Frozen eggs can be stored for 10 years or longer. They can then be thawed and fertilised with sperm from a partner or donor before being implanted in the womb when you want to get pregnant.

This is a very delicate procedure and eggs are easily damaged in the freezing and thawing process. A method of freezing called vitrification has led to fewer eggs being damaged, but not all fertility clinics currently offer this technique.

Although the survival rate for eggs after thawing is improving, the current success rate of this technique is lower than when frozen embryos are used. The availability of egg freezing varies across the UK.

Stages of egg or embryo freezing

These are the likely steps at the fertility clinic if you choose egg or embryo freezing. The techniques can vary according to your individual circumstances and the approach of your local clinic.

Step one: stopping the natural menstrual cycle

Many fertility clinics use a 'random start', which means that fertility treatment can begin at any point during the menstrual cycle. You may be given a short course of medication to temporarily stop your natural menstrual cycle, so that eggs can be collected in the timeframe required by the fertility specialists.

Step two: boosting the egg supply

Once your natural cycle is stopped, you will be given a fertility hormone called follicle stimulating hormone (FSH). This is a daily injection you give yourself, usually for about 10–12 days. You will be offered an appointment with a specialist nurse who will discuss how to give yourself the injections.

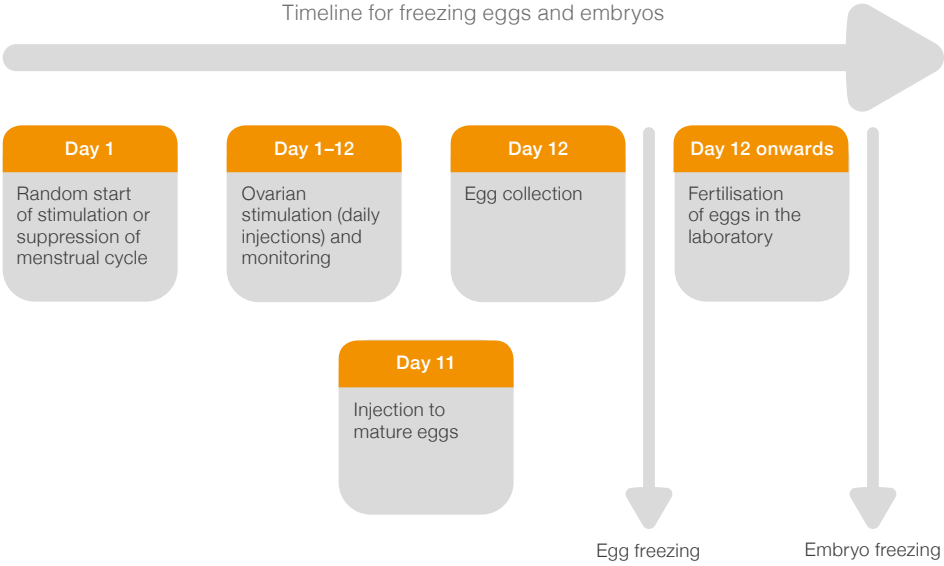
FSH increases the number of eggs your ovaries produce in a given month. This means more eggs can be collected and possibly fertilised. You are also likely to receive the breast cancer medication letrozole or tamoxifen to reduce the levels of oestrogen in your body.

Step three: checking progress
You will have transvaginal ultrasound scans (where a scan probe is gently placed inside the vagina) to check your ovaries, and sometimes blood tests. About 34–38 hours before your eggs are due to be collected, you'll have a final hormone injection that helps your eggs to mature.

Step four: collecting the eggs
You'll be sedated and your eggs will be collected using a needle that's passed through the vagina and into each ovary under ultrasound guidance. This takes about 15–20 minutes and some women experience cramps after this procedure. If you are freezing your eggs, they are then frozen.

Step five: fertilising the eggs (if you are freezing embryos)
The collected eggs are mixed with your partner's or the donor's sperm in a laboratory. The fertilised eggs (embryos) continue to grow in the laboratory for one to six days before being frozen.

The diagram below shows these steps in the form of a timeline.



Freezing ovarian tissue

This technique is still in the early stages of research. A section of tissue from the ovaries is removed and frozen. This procedure involves an operation. It can be carried out as a day case, which means you won't have to stay in hospital overnight, but must be done before chemotherapy begins. The tissue can be thawed at a later date and can either be re-implanted onto the ovary to start functioning and allow natural conception, or at a different site in the body so the process of IVF can take place. Ovarian tissue freezing is not an option for women at high risk of developing ovarian cancer.

This procedure is not widely available and only a few babies in the world have been born using this method.

In vitro maturation (IVM)

This is a newer technique and is not widely available. It involves removing immature eggs from ovaries that have not been stimulated by the use of hormone drugs. These are then matured in the laboratory before being fertilised from either a partner's or donor's sperm, and then frozen. The embryos are then transferred to the womb at a later date.

Pre-implantation genetic diagnosis (PGD)

Women who are known to have inherited an altered gene that increases the risk of breast cancer and are concerned about passing this on to future children may want to talk to their genetic counsellor about the possibility of pre-implantation genetic diagnosis (PGD). This involves going through an IVF cycle and checking the embryos for the inherited altered gene before freezing them. Only the embryos that are not affected by the altered breast cancer gene are used. For more information about inherited breast cancer see our booklet **Family history, genes and breast cancer**.

Possible risks

You may want to ask your fertility specialist what the risks are with each fertility treatment option. Many children have been born from stored embryos and there doesn't seem to be any health risk to the child. We don't know yet if there is any risk with egg and ovarian tissue freezing as

these are fairly new techniques, but specialists believe any risk is likely to be very small.

Currently there is no evidence that fertility preservation increases the risk of breast cancer coming back, but research in this area is ongoing.

Protecting the ovaries during chemotherapy

Ovarian suppression can be used to try to protect the ovaries during chemotherapy. It temporarily 'shuts down' the ovaries (which means your periods will stop). It involves monthly injections with a drug like goserelin (Zoladex), starting before chemotherapy and continuing throughout your chemotherapy treatment.

Your periods should usually start again within three to six months of stopping the hormone treatment, unless your natural menopause has occurred during your treatment. However, even if your periods do return this doesn't necessarily mean you have preserved your fertility.

Some experts believe that ovarian suppression may have an effect on how well chemotherapy works.

The effectiveness of ovarian suppression for preserving fertility is still debated and it's not considered as effective as egg and embryo freezing. As the evidence about ovarian suppression is mixed, we need more research to establish whether it can preserve fertility.

For more information, see our **Ovarian suppression** and **Goserelin (Zoladex)** booklets.

What happens at a fertility clinic?

The first appointment at the fertility clinic is often quite long and you will normally be given verbal and written information. If you have a partner, it's recommended that they come with you. You will have the opportunity to ask questions and will be offered specialised counselling. You will be able to discuss the options for preserving fertility, the likely success of any fertility treatments, what the procedure involves and the risks.

If you are currently taking the oral contraceptive pill, you may be asked to stop this soon after diagnosis. However, it is still important to use contraception – see page 15 for alternative methods.

If you decide to go ahead with fertility preservation, you will need to have some tests. This will include blood tests for HIV, hepatitis B and hepatitis C.

Sometimes a blood test will be done to check the level of a hormone called AMH (anti-mullerian hormone). You may also have a transvaginal ultrasound scan, where a scan probe is gently placed inside your vagina. This can check your current fertility.

These tests may happen at your first appointment. The results of these tests will help the fertility team decide whether you will be able to have the fertility treatment suggested.

If you are hoping to freeze embryos, your partner will also need to have blood tests and give a sperm sample.

Before any fertility treatment starts, you (and your partner) will need to complete a number of consent forms. You will have to state what you would like to happen to the eggs or embryos if you or your partner were to die or lose the mental ability to make your own decisions. As the egg donor, if you wish them to be donated for the treatment of others you must complete a consent form.

Will I have to pay for fertility treatment?

While the usual conditions for funding fertility preservation on the NHS may not apply when you have breast cancer, there may be some parts of the treatment that you will need to pay for. This can depend on:

- where you live
- if either you or your partner already has children
- your age.

If you've been told that you'll need to pay for some or all of your fertility treatment, you can discuss this during your appointment with the fertility specialist. It may also be possible for you and your doctor to apply for 'exceptional funding' if you don't meet the funding criteria.

If you have health insurance, check whether your cover includes such treatment. Paying for treatment privately may also be an option for you.

You might have to pay to store your eggs or embryos.

Fertility after treatment

It's difficult to predict exactly how your fertility will be affected by breast cancer treatment. Generally, you should assume you could still get pregnant unless you haven't had a period for at least a year after completing your treatment if you're 40 or over, or two years if you're under 40. Even if your periods haven't started again, you may still be producing eggs and could become pregnant. However, if your periods have returned this doesn't necessarily mean that your fertility hasn't been affected.

A number of women will conceive naturally after finishing their breast cancer treatment, but if you're concerned about your fertility you can ask to be referred to a fertility clinic.

Checking your fertility after treatment

After your treatment has finished, there's no totally reliable way of checking how it has affected your fertility.

To check if your ovaries are working, your specialist will ask about your periods, whether they've started again and whether you have any menopausal symptoms. A series of blood tests to check the levels of a hormone called FSH (follicle stimulating hormone) can be taken. The results of these can show whether you have gone through the menopause. Sometimes a blood test will also be taken to check the level of a hormone called AMH (anti-mullerian hormone) as this may give more accurate information about how your ovaries are working. An ultrasound scan of the ovaries may also be helpful and is offered in some fertility centres.

You may not be able to find out straightaway after your treatment has finished if you're still fertile. For example, you may have to wait three to six months after your chemotherapy before your blood FSH levels can be tested. If you're taking tamoxifen, it may be possible to test FSH levels. However, your specialist team may recommend that you stop taking tamoxifen for a number of weeks before checking blood levels as there are concerns that the tamoxifen could make the test results less reliable.

Even when fertility returns after chemotherapy, the menopause is likely to occur earlier than would usually be expected. Women who have had chemotherapy are often referred to a fertility clinic after six months

of trying to get pregnant because of the chance of early menopause. Some women trying to become pregnant use ovulation prediction kits sold in chemists to find out when they are ovulating. If you're having periods this can be a quick way to check if and when you're ovulating.

Pregnancy after breast cancer

For many women, deciding whether to try to get pregnant after a diagnosis of breast cancer is difficult.

If you're able to become pregnant and have a baby after your breast cancer treatment, there's no evidence that you're at increased risk of the cancer returning. There's also no evidence that there are any health risks for children born after breast cancer treatment.

Many specialists advise women to wait for at least two years before becoming pregnant. This is because the possibility of the cancer coming back can lessen over time, and you may be at greatest risk in the first two years after diagnosis.

Waiting for this long may not be appropriate for every woman. If you're thinking about getting pregnant before this two-year period is up, talk to your specialist. They can help you make an informed choice. You may want to discuss your own individual risk of the cancer coming back as well as other relevant factors, including your age, what treatment you have already received and any that's ongoing.

If you're offered hormone therapy, it's usually taken for five to ten years, by which time you may be facing a natural menopause. Therefore, some women choose to take a break from hormone treatment if they want to try to get pregnant.

Some women start taking hormone treatment again after the birth of their baby. If the length of hormone treatment concerns you, talk to your specialist team who will be able to advise you further. If you're planning to get pregnant after you have finished taking hormone treatment, it's best to wait at least two months to allow time for the drug to leave the body completely.

Generally women are not recommended to get pregnant for at least four to six months after chemotherapy treatment.

The targeted therapy trastuzumab (Herceptin) is normally given for a year and is not thought to affect fertility. However, you should avoid

becoming pregnant while taking trastuzumab and for at least six months after treatment has finished. This is because of the possibility of harm to a developing baby.

Egg donation

If your ovaries have been damaged by treatment for breast cancer, it may be possible to become pregnant using eggs donated by other fertile women. They are fertilised with sperm from a partner or donor and the embryo(s) transferred to the womb of the person hoping to become pregnant. There's a shortage of egg donors in the UK so there may be a long wait for treatment.

The procedure involves taking some hormone drugs for around two weeks to prepare the womb to receive the embryo(s). The drugs are usually continued for up to 12 weeks if a pregnancy occurs. It's not known what effects taking these hormone drugs might have. There's a concern that they might stimulate the growth of breast cancer cells, although no research has proven an increased risk of breast cancer after this procedure.

If you have a child using donated eggs, sperm or embryos, the children will have the right to access identifying information about the donor when they turn 18.

For more information about egg donation, see the Human Fertilisation and Embryology Authority (HFEA) website.

Facing permanent infertility

Some women who've had breast cancer treatment will face the possibility of permanent infertility. This can be devastating and difficult to come to terms with, especially if it comes at a time when you were planning to start a family or before you have completed your family. It may change how you feel about yourself as a woman and you may feel intense grief at the loss your cancer has caused.

If this is the case for you, you may find it helpful to talk to a specialist infertility counsellor. Your breast care nurse or oncologist may be able to arrange this for you.

You might also find it useful to talk to one of the specialist organisations listed at the back of this booklet. As well as offering emotional support they may be able to offer information on other options such as surrogacy, adoption or fostering.

Surrogacy involves another woman carrying a baby for you. This can be an option for women who don't want to take a break from their hormone treatment to become pregnant because they have a higher risk of breast cancer recurrence. The Human Fertilisation and Embryology Authority (HFEA) has information about surrogacy on its website.

Some women choose to adopt or foster a child. There are many children waiting to be adopted or fostered in the UK and from abroad, and this may be an option for some people. However, adoption and fostering can be a difficult and lengthy process. See page 30 for organisations that offer information and support for people interested in fostering and adoption.

Some women choose not to have fertility treatment, surrogacy or to adopt a child and go on to enjoy life without being a parent.

Finding support

Whatever your feelings, you don't have to cope on your own. Involving your partner, family and friends can be helpful. Your specialist team and breast care nurse are there to provide information and support for you. Finding support can help you take control and help you manage some of the emotional challenges.

> 'I felt like decisions that take couples years were being fast-tracked. I felt like it was something squeezed between losing a breast and tummy fat and starting chemo.'
>
> **Jackie**

You may find it helpful to share your feelings with another woman whose fertility has been affected by breast cancer treatment. Breast Cancer Care has a service called Someone Like Me which can put you in touch with someone who has had a similar experience. Call **0345 077 1893** or email **someonelikeme@breastcancercare.org.uk**

At a Younger Women Together two-day residential event, you can meet other women under 45 diagnosed with primary breast cancer. You'll hear from expert speakers on treatment, fertility, relationships, and

sex and intimacy. These events are held regularly across the UK, with food and accommodation provided free. Call **0345 077 1893** or email **youngerwomen@breastcancercare.org.uk**

> ‘I went to a Younger Women Together event, and that was the best thing I could have done. I met a lot of women in the same situation.’
>
> **Kerry**

There is a private Facebook group set up by younger women diagnosed with breast cancer called Younger Breast Cancer Network (YBCN) – facebook.com/YoungerBreastCancerNetwork – many of their members have had to make decisions about fertility preservation. To access the private group you will need to have a Facebook account and send a private message to the group.

You can also seek professional support and counselling by speaking to a fertility counsellor, psychologist or your GP.

For more information about early menopause and the options available for younger women, see our **Younger women with breast cancer** and **Menopausal symptoms and breast cancer** booklets.

> ‘I turned to the Younger Breast Cancer Network on Facebook to speak to people who understood and could share my sense of isolation.’
>
> **Jackie**

Useful organisations

Fertility organisations

British Infertility Counselling Association
Website: bica.net

A charity providing counselling and support to people affected by infertility. You can also find a counsellor in your area.

Human Fertilisation and Embryology Authority (HFEA)
Finsbury Tower,
103–105 Bunhill Row,
London EC1Y 8HF

Website: hfea.gov.uk
Email: enquiriesteam@hfea.gov.uk
Telephone: 020 7291 8200

This organisation monitors and licenses all IVF clinics in the UK. It produces a list of centres providing IVF and leaflets on IVF, egg donation and egg freezing.

Fertility Network UK
Charter House,
43 St Leonards Road,
Bexhill-on-Sea,
East Sussex TN40 1JA

Website: fertilitynetworkuk.org
Email: info@fertilitynetworkuk.org
Telephone: 0800 008 7464

Provides support and information, and promotes awareness of fertility issues. Also incorporates More to Life, a national charity providing support to people who are involuntarily childless.

The Daisy Network
PO Box 183,
Rossendale BB4 6WZ

Website: daisynetwork.org.uk
Email: daisy@daisynetwork.org.uk

Voluntary nationwide support group for women who experience a premature menopause. Allows members to share information about their personal experience of premature menopause.

Adoption, fostering and surrogacy

Adoption UK
Linden House,
55 The Green,
South Bar Street,
Banbury OX16 9AB

Website: adoptionuk.org
Helpline: 0844 848 7900

Provides information about adoption and support for adoptive families.

British Association of Adoption & Fostering
Saffron House,
6–10 Kirby Street,
London EC1N 8TS

Website: baaf.org.uk
Email: mail@baaf.org.uk
Telephone: 020 7421 2600

Provides information on adoption and fostering, and works with everyone involved with adoption and fostering across the UK.

Surrogacy UK
PO Box 323,
Hitchin,
Hertfordshire SG5 9AX

Website: surrogacyuk.org

Surrogacy UK was created by experienced surrogate mothers. They wanted to form an organisation that reflected their experience of what makes surrogacy work.

Websites

Fertility Friends
fertilityfriends.co.uk

An online community discussing infertility, adoption, parenting after infertility and moving on.

National Gamete Donation Trust
ngdt.co.uk

Information mainly for those considering becoming an egg or sperm donor but also for healthcare professionals and those requiring treatment with donor eggs or sperm.

Donor Conception Network
dcnetwork.org

A supportive network for people through donor conception.

MyOncofertility.org
myoncofertility.org

An American patient information resource provided by the Oncofertility Consortium.

Further information

Green-top Guideline No.12 Pregnancy and Breast Cancer

Royal College of Obstetricians and Gynaecologists
rcog.org.uk/guidelines-research-services/guidelines/gtg12

This document aims to provide clinical guidance to healthcare professionals caring for young women with a diagnosis or history of breast cancer.

There is also a patient version.

4 ways to get support

We hope this information was helpful, but if you have questions, want to talk to someone who knows what it's like or want to read more about breast cancer, here's how you can.

Speak to trained experts, nurses or someone who's had breast cancer and been in your shoes. Call free on **0808 800 6000** (Monday to Friday 9am–5pm, Wednesdays til 7pm and Saturday 9am–1pm).

Chat to other women who understand what you're going through in our friendly community, for support day and night. Look around, share, ask a question or support others at **forum.breastcancercare.org.uk**

Find trusted information you might need to understand your situation and take control of your diagnosis or order information booklets at **breastcancercare.org.uk**

See what support we have in your local area. We'll give you the chance to find out more about treatments and side effects as well as meet other people like you.
Visit **breastcancercare.org.uk/in-your-area**

We're here for you: help us to be there for other people too

If you found this booklet helpful, please use this form to send us a donation. Our information resources and other services are only free because of support from people such as you.

We want to be there for every person facing the emotional and physical trauma of a breast cancer diagnosis. Donate today and together we can ensure that everyone affected by breast cancer has someone to turn to.

Donate by post

Please accept my donation of **£10/£20/my own choice of £** ☐

I enclose a cheque/PO/CAF voucher made payable to **Breast Cancer Care**

Donate online

You can give using a debit or credit card at **breastcancercare.org.uk/donate**

My details

Name _____

Address _____

_____

_____ Postcode _____

Email address _____

We might occasionally want to send you more information about our services and activities

☐ Please tick if you're happy to receive email from us
☐ Please tick if you don't want to receive post from us

We won't pass on your details to any other organisation or third parties.

Please return this form to Breast Cancer Care, Freepost RRKZ-ARZY-YCKG, Chester House, 1–3 Brixton Road, London SW9 6DE

About this booklet

Fertility and breast cancer treatment was written by Breast Cancer Care's clinical specialists, and reviewed by healthcare professionals and people affected by breast cancer.

For a full list of the sources we used to research it:

Phone 0345 092 0808
Email publications@breastcancercare.org.uk

You can order or download more copies from breastcancercare.org.uk/publications

For a large print, Braille, DAISY format or audio CD version:

Phone 0345 092 0808
Email publications@breastcancercare.org.uk

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When you have breast cancer, everything changes. At Breast Cancer Care, we understand the emotions, challenges and decisions you face every day, and we know that everyone's experience is different.

For breast cancer care, support and information, call us free on **0808 800 6000** or visit **breastcancercare.org.uk**

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