Patient information from the BMJ Group

Endometriosis

In this section

Endometriosis

Endometriosis is a condition that affects many women. It happens when small pieces of the lining of your womb (uterus) stick to other parts of your body, usually nearby. Endometriosis can be painful and you may also have difficulty getting pregnant.

We've brought together the best research about endometriosis and weighed up the evidence about how to treat it. You can use our information to talk to your doctor and decide which treatments are best for you.

What is endometriosis?

If you have endometriosis, small pieces of the lining of your womb (uterus) stick to other parts of your body, such as your ovaries or your bladder. Endometriosis can be painful and you may have problems getting pregnant.

Endometriosis can be painful and may stop you getting pregnant.

If you have endometriosis, you may get pain all the time or only sometimes. It can make you feel generally ill or exhausted.

Some women don't get any pain. They may only find out they have endometriosis when they see a doctor because they haven't been able to get pregnant.

There's no cure for endometriosis. But there are good treatments that can help with the pain. And there are treatments that can help you get pregnant if you want to. [1] [2]

Key points for women with endometriosis

- Endometriosis is very common. Up to 1 in 7 women who have not reached the menopause get endometriosis. [3] [4] [5]
- It can be harmless. You only need treatment if it's painful or if you have trouble getting pregnant.
- To find out for certain whether you have endometriosis, you have a test called a **laparoscopy**. A surgeon will look inside your body using a small camera. But not everyone needs a laparoscopy.
- Treatments for endometriosis include **hormones**, **surgery**, or a **combination of both**.
- If you have endometriosis, it's important to tell your doctor if you're trying to get pregnant. Some treatments help with pain but stop you getting pregnant.

The lining of your womb

To understand what happens when you have endometriosis, it's useful to know something about the lining of your womb.

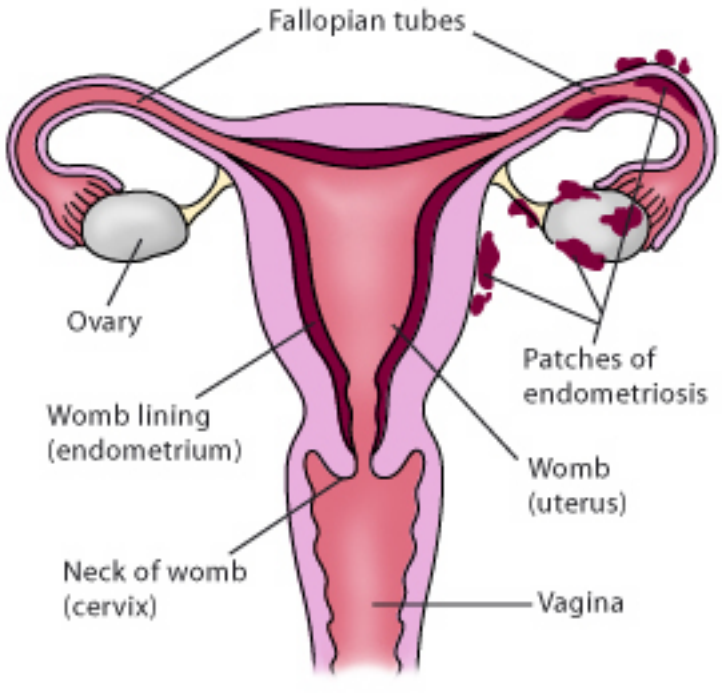
Your womb (also called your uterus) lies inside your **pelvis**. This is the area between your hips.

- The lining of your womb is called the **endometrium**.
- Each month, the lining grows thicker. It's part of your **monthly cycle**. It happens when your body starts making more of the hormone **oestrogen**.
- If you get pregnant, the baby grows in this thick lining. If you don't get pregnant that month, the womb lining comes away from your womb and you have your **period**.

To learn more about your cycle, see What happens every month .

What happens in endometriosis?

You get endometriosis when small pieces of the lining of your womb (uterus) grow on other parts of your body. [1] [2]



Endometriosis affects parts of your body around your womb. This picture shows the area from the front.

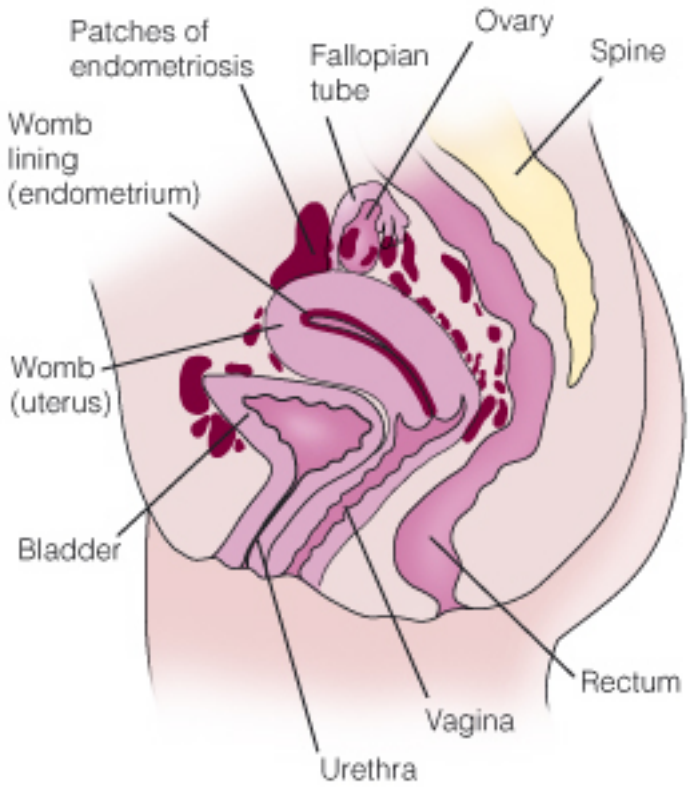
Usually it happens to parts of your body near your womb. We've described the parts that are commonly affected.

Your **ovaries** make eggs and hormones. If you have endometriosis in your ovaries, it may form small bags of fluid called **cysts**.

Your **fallopian tubes** carry eggs from your ovaries to your womb. These tubes are where eggs may join with sperm (fertilisation).

Endometriosis may grow on the **outside of your womb** or on the **lining of your pelvis**. This lining stops organs in your pelvis sticking together.

Endometriosis can grow on your **rectum** (part of your bowel) and your **bladder**.



This is the area around your womb from the side.

Endometriosis can also spread outside your pelvis, even as far as your brain. But this is extremely rare.

What happens to the endometriosis?

The patches of endometriosis look and work just like the lining of your womb.

The patches react to the different hormones your body makes during your monthly cycle. So each month, the hormone **oestrogen** makes the patches grow thicker.

And every month the patches break away and bleed, just like the lining of your womb does when you have your period.

This extra blood can't drain away quickly. Your body slowly gets rid of the blood, but it causes problems while it's inside your pelvis. The extra blood can damage the area around the patch of endometriosis. And it can stop organs working properly. You may get **scars** or small bags of fluid called **cysts**.

We don't know for sure why endometriosis makes it hard for some women to get pregnant. It may be because of damage caused to the fallopian tubes or ovaries.

What causes it?

We don't know for sure what causes endometriosis.

One theory is that it may start when a small amount of blood from your womb flows the wrong way during your period. Instead of flowing down to your vagina, the blood flows along your fallopian tubes and leaks into other parts of your pelvis. [2] [7] [8]

This is called **retrograde menstruation**. It happens to most women occasionally. [7] But only some women go on to get endometriosis.

Very rarely, endometriosis reaches the lungs or brain. Experts don't know how this happens. Cells from the lining of your womb may travel around your body in your blood. [7]

Endometriosis: why me?

We don't know why some women get endometriosis. But there are things that increase your chances of getting endometriosis. These are called **risk factors**. Your age is an important risk factor.

- The chance of getting endometriosis rises from puberty onwards and peaks at about age 40. [9]
- After the age of 40, the risk goes down. [9]
- You're unlikely to get endometriosis once you reach the menopause. After the menopause your body produces less oestrogen, the hormone that makes endometriosis grow.

You may also be more likely to get endometriosis if:

- Your periods last longer than a week each month [10]
- Your periods are fewer than 26 days apart during adolescence [10]
- You have no children or only one child [11] [12]
- You started having your periods early (before about age 12) [12]
- Someone in your family has endometriosis [13] [14]
- You're overweight. [15]

If you're taking the contraceptive pill, you're less likely to get endometriosis. And your risk stays lower for up to a year after you stop taking the pill. [9]

Stages of endometriosis

The stage of a disease means how far it has spread. There are four stages of endometriosis: [16]

- Stage 1 (very mild endometriosis)
- Stage 2 (mild endometriosis)
- Stage 3 (moderate endometriosis)
- Stage 4 (severe endometriosis).

To find out what stage disease you have, you'll need to have a laparoscopy. A surgeon will look inside your body using a small camera. See More about laparoscopy .

A surgeon will look at:

- Where your endometriosis is
- How big the patches are
- How deep they go
- How stuck together nearby organs are.

For each of these questions, the surgeon will give a number. The higher the total number, the higher the stage of your disease. If your score is more than 40, you have severe endometriosis (stage 4).

The stage of your disease has nothing to do with your symptoms. It's possible to have bad pain with stage 1 (very mild) disease.

Also, staging doesn't tell you: [17]

- How well a treatment will work
- What sort of treatment you need
- The chances of endometriosis coming back after treatment.

What are the symptoms of endometriosis?

Endometriosis affects different women in different ways. The two main symptoms are pain and difficulty getting pregnant. But some women don't have any symptoms.

Symptoms tend to get better or go away completely when you stop having periods after the menopause.

Pain

Pain is the most common symptom of endometriosis. But how much it hurts, when it hurts, and where it hurts varies among women. [1] [2]

Most women with endometriosis get pain in the area between their hips and above the tops of their legs. This part of your body is called your **pelvis**. Pain here is sometimes called pelvic pain.

The pain can be severe, and some women get pain all the time. Or it may just be a dull ache. You may get pain only at certain times, such as when you have sex, when you empty your bowels, or during your period. [1]

Doctors don't know why endometriosis causes pain. But endometriosis that is deep inside your pelvis seems to hurt more. [2]

Having severe pain can be distressing. Some women fear that it means they have cancer. But endometriosis isn't cancer.

Pain during your periods

This is very common. The pain starts a few days before your period and gets worse when the bleeding starts. The pain is like an ache. For some women, the pain is so bad it makes them double over.

Most women who get this pain feel it deep inside their pelvis. Some also feel pain low down in their back. The pain eases off towards the end of your period. If your periods start to be painful when they never were before, it's possible that you have endometriosis.

Pain during sex

Some women feel pain deep inside when they have sex. The pain may stay for a while afterwards. Doctors call this **dyspareunia**.

Pain when you empty your bowels

Endometriosis can stick to your bowel. If this happens, it may hurt when you empty your bowels.

Pain at other times

Some women have a dull ache in their lower abdomen, pelvis, or lower back most of the time.

Problems getting pregnant

Many women with endometriosis get pregnant naturally. But about one-third of women who have been diagnosed with endometriosis need medical help to get pregnant. [19]

If you've been trying to get pregnant for at least a year, doctors call it **infertility**. Some women only discover they have endometriosis when they have tests for infertility.

Read more about Fertility problems and endometriosis .

Other symptoms

If you have endometriosis, you may also:

- Feel tired or exhausted
- Feel generally unwell
- Have trouble sleeping.

Doctors don't know why endometriosis makes some women feel this way.

Bear in mind that the symptoms of endometriosis are very similar to the symptoms of some other illnesses. Some of these conditions can also affect your chances of getting pregnant, such as pelvic inflammatory disease , which is an infection in the organs in your pelvis. To learn more, see Other illnesses with symptoms like endometriosis .

How do doctors diagnose endometriosis?

Doctors often don't spot endometriosis straight away. Many women see several doctors, over many months or years, before they find out they have endometriosis and get treatment.

There are several reasons why endometriosis is hard to spot. [26] [37]

- The symptoms are very different in different women.
- Some other illnesses have the same symptoms as endometriosis. [25] Many girls and women go to the doctor because they have painful periods. Only about half of them turn out to have endometriosis. [21] To learn more, see Other illnesses with symptoms like endometriosis .
- There's no simple test for endometriosis. You need to have a type of surgery for doctors to know for certain whether you have endometriosis. It's called a **laparoscopy**. A surgeon looks inside your body using a small camera. See below for more information.
- If you have painful periods but no other symptoms, your doctor may recommend that you try treatments such as painkillers or the contraceptive pill, before choosing to have a laparoscopy. If the treatment works, you may not need to have a laparoscopy. See Simple treatments for painful periods .

Also, some women have no symptoms at all.

Questions your doctor may ask

Your doctor (either your GP, a specialist, or both) may ask you about your symptoms and how they affect you. You may be asked questions about your sex life and your periods. These questions might include:

- When did your periods start?
- Do you get painful periods? Where is the pain? When does it happen exactly?
- How many different people have you had sex with in the last few months?
- Does it hurt when you have sex? If so, where does it hurt?
- Have you ever had a sexually transmitted disease ?
- Have you had difficulty getting pregnant?

Physical examination

Your doctor (your GP, a specialist, or both) may examine the area between your hips (your pelvis), so you may need to get undressed.

You may also have an **internal examination**. Your doctor will put a gloved finger in your vagina, and a hand on your tummy. This lets your doctor feel your internal organs from the outside. It's best to do this during the first two days of your period. The doctor is feeling for: [2]

- Bulges or tight areas (to see if parts of your body are stuck together)
- The position of your womb (it should lean forward not backward)
- Tender areas (this might mean you have endometriosis in these places)
- Signs of other illnesses that might be causing your symptoms (see Other illnesses with symptoms like endometriosis).

However, even if your doctor doesn't find anything wrong, you could still have endometriosis. You need a laparoscopy to be certain.

Sometimes an internal examination may be a bit uncomfortable. If you're nervous, take someone with you.

You don't have to have an internal examination. Your doctor will skip it if you're too young, too nervous, or don't want it.

Laparoscopy

This is the main test for endometriosis. It's the only test that can definitely say whether you have the disease. [2] [1] [38] The test involves a trip to hospital for a small operation.

Not everyone with painful periods needs this test. If you have painful periods and no other symptoms, your doctor may suggest that you try a simple treatment , such as painkillers, before you have a laparoscopy. [1] If the simple treatment cures your pain, you may never need a laparoscopy.

A laparoscopy is minor surgery. A surgeon looks inside you using a small camera. It doesn't take long, and you can normally go home the same day. You'll probably need to be asleep during the surgery, so you'll have a general anaesthetic .

To read more, see More about laparoscopy .

If you have endometriosis, the surgeon will look carefully to see how much you have, where it is, and whether there's any damage to your organs. This is called **staging**.

To learn more, see Stages of endometriosis .

Your surgeon may be able to treat the endometriosis there and then. The surgeon will talk to you about this before you have the test.

Other tests

Other tests for endometriosis are simpler, but they can't say for certain whether you have the condition. [2] [39]

Pelvic ultrasound

A doctor puts a probe (shaped a bit like a small torch, with a round end) in your vagina. The probe uses sound waves to make an image on a screen. It's harder to see endometriosis with this test than with a laparoscopy. It's mainly used to look for cysts (small bags of fluid) on your ovaries.

Magnetic resonance imaging

Magnetic resonance imaging (or MRI for short) is a bit like an x-ray . It gives clear images of the inside of your body. It's a better test than an ultrasound, but not as good as a laparoscopy.

Blood tests

If you have a large amount of a substance called **CA 125** in your blood, you may have endometriosis. The worse your endometriosis is, the more CA 125 you'll have in your blood. [39]

But other conditions (including ovarian cancer) and some infections, as well as pregnancy and your periods, can also increase your levels of CA 125. So a blood test can't tell you for certain whether you have endometriosis.

How common is endometriosis?

Endometriosis is very common.

It's hard to give precise figures because lots of women with endometriosis have no symptoms, so it's never diagnosed. Also, doctors can only find endometriosis by doing a type of surgery called laparoscopy . And you'll probably only have this test if your endometriosis is very painful or you are having problems getting pregnant.

This is what we know from the research:

- Between 2 and 22 in 100 women may have endometriosis without getting any symptoms. [21] [27] [28] [29] These figures are guesses based on the number of women whose disease is discovered by accident during surgery
- Between 40 and 60 in 100 women with painful periods have endometriosis [21] [22] [23]
- Between 20 and 30 in 100 women who go for infertility treatment have endometriosis. [21] [22] [23]

What treatments work for endometriosis?

If you have endometriosis, the tissue that normally lines your womb (uterus) grows in other places outside the womb, such as your ovaries and part of your bowel. It can be painful and may make you feel sick. It can also make it harder for you to get pregnant.

Key points about treating endometriosis

- There isn't a cure for endometriosis. But treatments can help.
- If you have painful periods, you might first try painkillers or other simple treatments .
- Other options for pain include hormone treatments, such as contraceptive pills, and surgery. But be sure to tell your doctor if you're trying to get pregnant. Some treatments for pain can stop you getting pregnant.
- If you are having difficulty becoming pregnant because of endometriosis, there are several treatments that can help, including hormone injections plus insemination (injecting sperm directly into the womb), IVF (in vitro fertilisation), and surgery for endometriosis.

Treatments for endometriosis

We have divided the treatments for endometriosis into two categories.

- Treatments for women who have pain
- Treatments for women who have problems getting pregnant

Treatment Group 1

Treatments for women who have pain

Pain is the most common symptom of endometriosis. But how much it hurts, when it hurts, and where it hurts varies between women. Fortunately, there are good treatments that can help.

Key points for women who have pain

- If you have painful periods, you could try simple treatments such as painkillers first.
- If you don't want to get pregnant, contraceptive pills may be the best choice of treatment. They can stop the endometriosis growing and relieve the pain. You can also take them as long as you want.
- A hormone treatment called medroxyprogesterone works well for pain. You can take it as tablets or as an injection.
- Other hormone treatments such as danazol, goserelin, nafarelin, and gestrinone also work, but they have unpleasant side effects.
- Surgery to remove your endometriosis is also likely to help relieve pain. Having hormone treatment afterwards may stop your endometriosis growing back again.
- The pain can come back, whatever treatment you have.
- Tell your doctor if you're trying to get pregnant. Some treatments for pain can stop you getting pregnant.

Which treatments work best?

We've looked at the best research and given a rating for each treatment according to how well it works.

For help deciding which treatment is best for you, see How to use research to support your treatment decisions.

Treatments for women who have pain

Treatments that work

- Contraceptive pills : These pills are usually used to stop you getting pregnant, but they can also stop endometriosis growing. Combined contraceptive pills contain the hormones oestrogen and progestogen. Some brand names are Femodene, Marvelon, and Ovranette. More...

- Medroxyprogesterone : This is a hormone treatment for endometriosis. You can take it as tablets (brand name Provera) or as an injection (Depo-Provera). More...

Treatments that are likely to work

- Surgery to remove endometriosis : A surgeon removes patches of endometriosis and repairs any damage. The surgeon may also cut some of the nerves in your womb. More...

- Hormone treatments after surgery : You take these drugs for six to nine months after surgery to remove endometriosis. They stop remaining patches of endometriosis growing. Examples include danazol (Danol), goserelin (Zoladex), leuprorelin, and contraceptive pills. More...

- Surgery on your ovaries : If endometriosis forms lumps called **cysts** on your ovaries, you can have surgery to take them out. More...

Treatments that work, but whose harms may outweigh benefits

- Hormone treatments : These are medicines that stop your endometriosis growing. Examples (followed by brand names) include danazol (Danol), goserelin (Zoladex), leuprorelin (Prostap), nafarelin (Synarel), and gestrinone (Dimetriose). More...

Treatments that need further study

- Hormone treatments before surgery : Taking hormone treatments before surgery to remove endometriosis might make the operation easier. More...

- Surgery to remove your womb and ovaries followed by HRT : An operation to remove your womb and ovaries can get rid of the pain you get from endometriosis. But this operation will also bring on early menopause, so you may be offered hormone replacement therapy (HRT). More...

Treatment Group 2

Treatments for women who have problems getting pregnant

If you have endometriosis, the cells that normally grow in the lining of your womb (the endometrium) are also growing in other places outside your womb. They might grow around the ovaries and fallopian tubes or the bowel. Doctors aren't sure why endometriosis lowers the chances of a woman getting pregnant. It may damage the reproductive system. Treatments can help.

Key points about treating women with endometriosis

- Hormone injections plus insemination (injecting sperm directly into the womb) improve the chance of pregnancy. Hormone injections can have side effects.
- IVF (in vitro fertilisation) is likely to help you get pregnant but also has side effects.
- Surgery for endometriosis may improve your chances of pregnancy.
- Drugs to treat endometriosis will not help you get pregnant.

Which treatments work best?

We've looked at the research and given each treatment a rating according to how well it works.

For help in deciding which treatment is best for you, see How to use research to support your treatment decisions.

Treatments for women who have problems getting pregnant

Treatments that are likely to work

- Hormone injections and insemination : Injections stimulate your ovaries to release eggs. Then sperm is injected into your womb to fertilise the eggs. More...
- Surgery : Surgery can remove some of your endometriosis. More...
- IVF (in vitro fertilisation) : This is a high-tech treatment where eggs and sperm are brought together in the laboratory. More...

Treatments that are unlikely to work

- Hormone treatments : Hormone treatments are used to reduce painful symptoms from endometriosis. But they don't help you get pregnant. More...

What will happen to me?

Once you definitely know you have endometriosis, what happens depends on:

- How old you are
- How bad your symptoms are
- Whether your main problem is pain or problems getting pregnant
- Whether you want to get pregnant (now or in the future)
- Whether you've had treatment for endometriosis before
- The hospital where you're treated.

When doctors treat endometriosis, they are trying to: [30]

- Make you feel better, and relieve your pain
- Make it easier for you to get pregnant if you want to
- Control your endometriosis, so it doesn't get any worse
- Protect the parts of your body that are important if you want to start a family in the future.

If you don't get treatment

If you don't get treatment, your endometriosis could: [31] [32]

- Get gradually worse, then get better when you go through the menopause. This happens to about half the women with the disease
- Disappear on its own over the next year or so. This happens to about one-third of women with mild endometriosis
- Stay about the same, then get better when you go through the menopause.

Endometriosis isn't cancer. But women who've had endometriosis for many years have a higher risk of ovarian cancer than women who don't have endometriosis. It's hard to say how high the risk is, as there is no good research to tell us. [33] [34]

If your main problem is pain

Treatment should help, whatever kind of pain you have. Most women who have treatments such as contraceptive pills , medroxyprogesterone , and surgery to remove endometriosis get good relief from pain.

Unfortunately, the pain often comes back sooner or later. [25] Doctors call this a relapse. We don't know how to predict who will get a relapse and who won't. But if your pain comes back, you can have more treatment. [35]

Patches of endometriosis bleed when you have your period. So treatments that make you stop ovulating can make your endometriosis better. Contraceptive pills can help in this way. They also make your periods lighter, shorter, and less frequent. And most women with endometriosis have less pain during pregnancy (when they don't have periods). But the pain often comes back again a few months after the birth.

Some women have surgery to remove their womb (uterus) or ovaries . This often makes the pain go away and stay away. But this kind of surgery is a last resort. It brings on the menopause and you won't be able to have children after the operation. Women who choose this treatment are usually older, don't want any more children, and have had painful endometriosis for a long time. [2]

Endometriosis gets better on its own once you reach the menopause. This is because your body produces less oestrogen , the hormone that makes endometriosis grow. And you stop having periods, so the endometriosis shrinks.

If your main problem is not being able to get pregnant

It's less clear how well treatment works for women who have problems getting pregnant. It may depend on how bad the endometriosis is and also on what treatment you have. One study showed that nearly 1 in 3 women with endometriosis were able to get pregnant after having surgery to remove areas of endometriosis. [36]

Many women with endometriosis have children without having had any treatment. We don't know how many, because many cases of endometriosis are undetected. But in the study mentioned above, nearly 1 in 5 women who had been diagnosed with endometriosis went on to get pregnant without any treatment. [36]

To find out more, see Treatments for women with endometriosis in our section on fertility problems.

Questions to ask your doctor

Questions for women with pain

- Could my pain be due to endometriosis?
- What else could it be?

- How can you tell whether it's endometriosis?
- Do I need a laparoscopy, or are there any simple treatments I can try first?
- If I have drug treatment, what side effects should I expect?
- Will I need time off work? Will I be able to take care of my home, play sport, or drive a car while I'm having tests or treatment?
- Will endometriosis make it harder for me to have a baby?
- Will the treatment affect my chances of having a baby?
- Will treatment cure my pain for good?
- What happens if the pain comes back?
- If my pain is very bad, does it mean my endometriosis is very bad, too?
- If sex hurts, should I stop having sex?

Questions for women having trouble getting pregnant

- Could endometriosis be stopping me getting pregnant?
- Will treating my endometriosis help me to get pregnant?
- Do I need surgery?
- Do I need any more tests?
- Will I need time off work? Will I be able to look after my home, play sport, or drive a car while I'm having tests or treatment?
- Would in vitro fertilisation (IVF) or other treatments for infertility help me?
- Which treatments are most likely to work?
- What is your success rate for women with endometriosis?
- If I have a baby, will it be easier to get pregnant next time?
- Could I get pregnant naturally if I keep trying?
- If you have had a laparoscopy: How far has the endometriosis spread? Is it on my ovaries or fallopian tubes?

Treatments:

Contraceptive pills to relieve pain

In this section

This information is for women who have pain caused by endometriosis. It tells you about contraceptive pills, a treatment used for endometriosis. It is based on the best and most up-to-date research.

Do they work?

Yes. Contraceptive pills can help with the pain of endometriosis.

Unlike other hormone treatments , you don't have to stop taking the pill after six months. This could be important, as pain often returns when you stop treatment. Contraceptive pills also have fewer unpleasant side effects than other hormone treatments.

What are they?

The pill is normally taken to prevent an unwanted pregnancy. But some women take it to relieve pain during their periods. And it can help with other pain caused by endometriosis.

If you don't want to get pregnant, your doctor may suggest you try the pill to relieve your pain. If it works, you might not need to have a laparoscopy to find out for certain whether you have endometriosis.

There are two types of contraceptive pills: combined contraceptive pills and progestogen-only contraceptive pills. Both types seem to work well at relieving pain in endometriosis. [59]

Combined contraceptive pills contain:

- Oestrogen (a female hormone)
- A progestogen.

Progestogen-only pills just contain a progestogen.

You take one pill each day for three weeks, then have a week off (or take dummy pills for a week). During the week off, you have a period. It's usually lighter and shorter than your normal period. For some kinds of contraceptive pills, you don't need to have the week off. If you don't have a week off every month, your periods stop completely.

There are many different contraceptive pills. They contain different kinds of oestrogen and progestogen, at slightly different doses. The table shows some common brands (with the types of oestrogen and progestogen they contain). [60]

Brand name	Type of oestrogen	Type of progestogen
Femodene	Ethinylestradiol	Gestodene
Marvelon	Ethinylestradiol	Desogestrel
Norinyl-1	Mestranol	Norethisterone
Ovranette	Ethinylestradiol	Levonorgestrel

Your doctor will help you find a pill that suits you.

How can they help?

Endometriosis can cause pain in the area between your hips (your pelvis). The pill reduces pain in this area.

It works for all kinds of pain, including painful periods, continuous pain, and pain during or after sex. In one study, more than half the women taking the pill got rid of their pain completely. [4] [41] [40]

The pill might not work as well as hormone treatments called GnRH analogues at reducing pain linked with endometriosis. [4] [61]

How do they work?

The pill either contains **oestrogen** and **progestogen** hormones, or just a progestogen.

These hormones stop your brain producing two other hormones called **luteinising hormone** (LH) and **follicle-stimulating hormone** (FSH). LH and FSH make your ovaries work. This is part of your monthly cycle .

If you're taking the pill, your ovaries don't produce eggs or hormones of their own. So the lining of your womb stays thin, and your periods are lighter. [62] And any patches of endometriosis will shrink, bleed less, and hurt less.

Can they be harmful?

Both combined contraceptive pills and progestogen-only pills can cause side effects. These include nausea, headaches, changes in your weight, and breast tenderness, or an increase in the size of your breasts. [42] The pill can also affect your mood. You may feel depressed or have a lower sex drive. [42]

The combined contraceptive pill has also been linked to some more serious side effects. [42] For example, it can increase your risk of a blood clot and some kinds of cancer. These side effects can be worrying, but they're rare. It's also worth remembering that the combined contraceptive pill actually helps protect against some types of cancer.

Progestogen-only pills have slightly different side effects. For example, they may be less likely to cause a blood clot. [63] But they're not as good at stopping you getting pregnant. Talk to your doctor about the best kind of medication for you.

To read more about combined pills, see Side effects of combined contraceptive pills .

How good is the research on contraceptive pills to relieve pain?

There hasn't been much research on taking the contraceptive pill to treat endometriosis pain. But the studies we found showed that it can help. [64] [4] [65] [66] [40]

One study looked at 57 women who took the pill to treat endometriosis. [4] It helped to reduce pain. Another study looked at 102 women. [40] In this study, the pill got rid of pain for about 70 in 100 women who took it.

Another study compared the combined pill with a low-dose progestogen pill. [59] It looked at 90 women who'd had surgery for endometriosis, but were still getting pain. The study found both types of the pill worked about as well as each other.

Studies have looked at both the combined pill and progestogen-only contraceptive pills. The research found that both types of pill helped to reduce pain. [64] [66]

There's also some evidence that the pill doesn't work as well at reducing pain as other hormone treatments called GnRH analogues . [4] [61]

Medroxyprogesterone to relieve pain

In this section

This information is for women who have pain caused by endometriosis. It tells you about medroxyprogesterone, a treatment used for endometriosis. It is based on the best and most up-to-date research.

Does it work?

Yes. This hormone treatment is good at relieving endometriosis that is causing pain. But medroxyprogesterone may have side effects. And you can't get pregnant while you're taking this treatment.

What is it?

Medroxyprogesterone is a hormone treatment for endometriosis. It makes the endometriosis shrink. It's like the female hormone **progesterone**. It stops you ovulating .

You can take medroxyprogesterone as a pill (called Provera) or as an injection (called Depo-Provera). For endometriosis it is normally prescribed for about three months. [67] [42] [68]

The Depo-Provera injection is also used as a contraceptive. If you don't want to get pregnant, your doctor may suggest you try medroxyprogesterone to relieve your pain from endometriosis.

There are other types of progesterone hormone treatments that are prescribed to reduce the pain from endometriosis. We haven't looked at the evidence for other progesterone treatments.

How can it help?

Medroxyprogesterone can reduce the pain of endometriosis. [67] [68] It may help you sleep better and feel happier. [68]

It works as well as contraceptive pills and other hormone treatments for pelvic pain and pain during sex. [67] It seems to work better than these treatments for period pains. [67]

How does it work?

Medroxyprogesterone is like the female hormone progesterone. It disrupts the hormones needed for eggs to grow and for the womb to get ready for a fertilised egg. So the lining of your womb shouldn't thicken as much as usual in the second half of your menstrual cycle. And any patches of endometriosis should bleed less and hurt less.

Can it be harmful?

Medroxyprogesterone has side effects. These include: [42]

- Feeling bloated
- Having tender breasts
- Putting on weight
- Feeling sick
- Feeling tired
- Having headaches
- Feeling dizzy
- Having problems sleeping.

There are other risks if you take medroxyprogesterone as an injection. [42] Your periods may not return to normal for a while after you stop the treatment. And you may not be able to get pregnant straight away. There's also a risk of thinning bones (osteoporosis). [69] [70] [71] It is important you talk to your doctor about the risks of these injections. [72]

Two studies we looked at found that women taking medroxyprogesterone had more side effects than women taking contraceptive pills together with a hormone treatment called danazol (Danol). [67] [68]

Here's what one of the studies found. Out of women taking medroxyprogesterone: [68]

- About 6 out of 10 felt bloated
- About 5 in 10 put on weight
- More than 1 in 10 got breakthrough bleeding (bleeding when it is not your period)
- About 2 in 10 had no periods at all.

How good is the research on medroxyprogesterone to relieve pain?

There is quite a lot of research on medroxyprogesterone for treating endometriosis.

We found one summary of the research (a systematic review). [67] The research shows that medroxyprogesterone works as well as danazol taken with the contraceptive pill for menstrual pain. Medroxyprogesterone didn't help as much with pain during sex or pain when not menstruating.

We also found one study that looked at how treatment helped women's lives. [68] The study included 48 women who took medroxyprogesterone, nafarelin, or a dummy treatment (a placebo) for six months. The women who took medroxyprogesterone felt better, slept better, and had less pain than women who took a placebo.

The study also found that medroxyprogesterone worked as well as the other hormone treatments .

Surgery to remove endometriosis to relieve pain

In this section

This information is for women who have pain caused by endometriosis. It tells you about surgery, a treatment used to remove areas of endometriosis. It is based on the best and most up-to-date research.

Does it work?

Probably. If your endometriosis is painful, you can have surgery to remove it. It's likely to help with the pain. One study found that surgery to remove endometriosis helped reduce pain for about three-quarters of women. But the pain may come back.

Surgery may stop the pain for longer than hormone treatments . But we can't say for certain. There hasn't been enough research to tell us.

Some women have hormone treatments before or after their operation. To read more, see Hormone treatments before surgery to relieve pain and Hormone treatments after surgery to relieve pain .

You can also have this kind of operation to help you get pregnant.

What is it?

Surgery to remove areas of endometriosis from your pelvis is called **laparoscopy**. The surgeon does the operation using **keyhole surgery**, which involves making small cuts in the skin to insert small instruments and a camera. This is quicker and less painful than **open surgery**, which needs a much larger cut in your skin.

The surgeon may use laser treatment or heat treatment to get rid of patches of endometriosis. The surgeon also cleans up any scars and separates organs that are stuck together.

To learn more, see What to expect if you have surgery to remove endometriosis .

To begin with, this operation is the same as the laparoscopy you had when you got your diagnosis . You may be able to have surgery at the same time as your diagnosis, but most women in the UK have it done later. [36]

The surgeon may also cut one or more of the nerves in your womb. These nerves carry pain messages from your womb area to your brain. [73] [74] This extra surgery isn't common.

How can it help?

A summary of the research (a systematic review) found that, overall, women who had this operation had less pain than women who did not have this operation. [75] Some studies found that:

- About 7 to 8 out of 10 women with endometriosis had less pain after this kind of surgery. [73] [76] Women said that the pain was half as bad.
- About 9 out of 10 women who felt better had less pain for a year. And more than half of the women had less pain for up to five years. [74]

The operation seems to help all kinds of pain, including pain that you get during your period and when you have sex.

Cutting some of the nerves in your womb doesn't seem to help the operation work any better. [77] [78] [79] About the same number of women are happy with their treatment, whichever kind of operation they have. [77]

How does it work?

We don't know for certain why endometriosis hurts. Some women don't feel any pain. But if endometriosis is painful, removing it by surgery seems to help.

Some doctors think that cutting certain nerves in your womb might lessen the pain even more. These nerves tell your brain about the pain in your pelvis. So cutting the nerves should stop the pain messages getting through to your brain. But we don't know for certain if this works. [77] [79]

Can it be harmful?

Most of the studies we looked at didn't look at the risks of surgery. But any operation has risks.

There are several short-term common side effects, such as: [80]

- A sore throat, from the tube that helps you breathe while you're asleep during surgery
- Pain in your shoulders (if some of the muscles in your abdomen get irritated during surgery)
- Soreness around the small cuts in your abdomen
- Feeling sick.

Some other side effects are more serious, but much less common. You may get: [81]

- Damage to your bowel or your bladder
- Bleeding inside your body
- Adhesions (tissue that sticks to organs and stops them working properly), which can make it harder to get pregnant
- An allergic reaction to the anaesthetic
- Damage to the nerves in your legs (because of the position of your legs during the operation)

- A serious infection
- Blood clots in your legs or in your lungs.

With this kind of surgery, serious problems are rare, and deaths are extremely rare. [82]

Side effects from having nerves cut

We didn't find any research that talked about the side effects of having the nerves to your womb cut. But there are two possible problems. [82] [83]

- You could get damage to other nerves in your pelvis (for example, nerves going to your bladder or bowel).
- Your womb might be more likely to slip down inside your pelvis. Doctors call this a prolapse. It happens because the muscles holding it up are weakened.

How good is the research on surgery to remove endometriosis to relieve pain?

The research about surgery for endometriosis is fairly good. We found a summary of the research (a systematic review) with three good-quality studies (randomised controlled trials) looking at whether women's pain improved after surgery. [75] Overall, it found that women who had surgery had less pain than those who did not.

Hormone treatments after surgery to relieve pain

In this section

This information is for women who have pain caused by endometriosis. It tells you about having hormone treatments after surgery for endometriosis. It is based on the best and most up-to-date research.

Do they work?

Yes. If your endometriosis is painful, you can have surgery to remove the endometriosis. This works better and for longer if you have hormone treatments afterwards. Your pain should stay away for longer, and be less severe if and when it comes back.

But we don't know which hormone treatment works best. And hormone treatments cause side effects.

What are they?

Hormone treatments can be used after surgery to stop your endometriosis growing. You usually need to take them for six months after your operation. [84]

There are lots of different kinds. Some are called **gonadotrophin-releasing hormone analogues** (GnRH analogues). Here are the most common ones (with their brand names):

- Goserelin (Zoladex)
- Leuprorelin (Prostap)
- Nafarelin (Synarel).

You can take these medicines as tablets, injections, or sprays.

Two other hormone treatments are called **medroxyprogesterone** (Provera, Depo-Provera) and **danazol** (Danol). Danazol isn't used very often.

To learn more, see Types of hormone treatment .

Your doctor may check you're not pregnant before giving you hormone treatment. These treatments usually stop you getting pregnant. But you still need to use contraception while you're taking them, just in case, because hormone treatments could harm your baby. (You can't use the contraceptive pill or other hormone contraceptives, as they can interfere with your treatment.)

Contraceptive pills can also be used after surgery to stop your endometriosis growing. There are lots of different types of contraceptive pill, and you can take them for as long as you want. (To learn more, see Contraceptive pills to relieve pain .)

It's also possible to have an **intrauterine device (IUD)** fitted into your womb that releases hormones. An IUD is sometimes called a coil.

How can they help?

Hormone treatments after surgery may help you stay better for longer. [85] [86] [87] [88] [89] [90]

- Some hormone treatments, such as goserelin (Zoladex) and nafarelin (Synarel), can relieve your pain for about twice as long as surgery on its own. This could mean an extra year without pain. [86] [87]
- They probably work best if you take them for more than three months. [91] [92] [93]
- If your pain comes back after surgery, it's likely to be less bad if you're taking a hormone treatment. [88] [89]

- Contraceptive pills may not help as much as other hormone treatments after surgery, but they cause fewer and milder side effects. [94] [95]

- Two small studies shows that an IUD can reduce painful periods for women who've had surgery for endometriosis. [96] [97] Although these studies are promising, we need more research to be sure.

How do they work?

Surgeons can't always clear your pelvis of all the endometriosis. Bits often get left behind because they are too small to see or too difficult to remove. Hormone treatments after surgery slow down the growth of whatever is left, and stop it bleeding.

These hormone treatments stop your body from making a hormone called oestrogen .

Your ovaries make oestrogen every month. It's an important part of your monthly cycle . Oestrogen makes your womb lining grow thicker. So it also makes your endometriosis grow.

If you take hormone treatments, your endometriosis will stop growing. And it won't bleed so much (if at all). It's the bleeding that causes the pain.

To learn how the different types work, see Types of hormone treatment .

Can they be harmful?

Yes, all hormone treatments have side effects. You and your doctor (usually a gynaecologist) should discuss them before deciding which treatment is best for you.

It's unlikely that you'll be able to get pregnant while you're taking hormone treatments, as they stop you producing eggs (ovulating) each month. But you should start ovulating again about one month or two months after stopping treatment.

Most of these treatments may cause the same kinds of symptoms that you normally get at the menopause . This happens because your body makes much less oestrogen. These side effects include: [98]

- Hot flushes

- Putting on weight

- A dry vagina

- Mood swings

- Headaches.

The side effects of hormone treatments usually go away when you stop taking the treatment. Or they may go away gradually over time. To learn more, see Side effects of hormone treatments .

How good is the research on hormone treatments after surgery to relieve pain?

The research on hormone treatment after surgery for endometriosis isn't very good.

We found a summary of the research (a systematic review) that looked at more than 800 women who took hormone treatments after surgery. [107] Taken together, hormone treatments after surgery didn't help to reduce women's pain. But some individual studies have found more promising results for particular kinds of hormone treatments.

Other research found that taking a combination of different hormones after surgery could reduce the risk of endometriosis coming back. [85]

Four other studies found that taking hormone treatment for six months after surgery did reduce the amount of pain women had. [89] [108] [109] [110] Women in these studies took danazol, medroxyprogesterone, nafarelin, or goserelin. But hormone treatments after surgery might not help if you only take them for three months. [93] [111] [112] [113]

Another study found that women who took hormone treatment for six months were in less pain 12 months after surgery than those who took a dummy treatment (a placebo). [114]

Two small studies shows that an IUD can reduce painful periods for women who've had surgery for endometriosis. [96] [97] Although these studies are promising, we need more research to be sure.

Surgery on your ovaries to relieve pain

In this section

This information is for women who have pain caused by endometriosis. It tells you about surgery to remove or drain cysts on the ovaries from endometriosis. It is based on the best and most up-to-date research.

Does it work?

Probably. If you have endometriosis on your ovaries , it may form small bags called **cysts**. If you have an operation to take out the cysts, you're less likely to have pain.

You can either have the cysts drained of fluid or removed completely. It's probably better to have them removed completely.

This kind of surgery may also help if you have trouble getting pregnant.

What is it?

Endometriosis sometimes forms cysts on your ovaries. These are tiny bags (like balloons) that fill up with fluid. They often fill with blood, because the endometriosis bleeds into the cysts.

Cysts on your ovaries can cause pain during your period, during sex, and at other times. If cysts hurt, or get too big, you may need surgery.

Surgeons can remove the cyst, or they can make a hole in it and suck out the fluid so it shrinks. They usually do this through **keyhole (laparoscopic) surgery**, which involves inserting tiny instruments and a camera through small cuts in your skin.

See What to expect if you have surgery on your ovaries .

How can it help?

You'll probably have less pain after surgery. The pain may go away altogether. One study found that more than 8 in 10 women had no pain two years after an operation to remove their cysts. [115]

Taking the cyst out is better at relieving pain than just draining it. [116] In one study, women who had cysts taken out had no pain (or only mild pain) for an average of 19 months afterwards. [117] Women who had their cysts drained but not removed had pain back again in less than a year.

How does it work?

Doctors don't know why destroying the cyst relieves the pain. And researchers aren't sure why taking out the whole cyst works better than just draining it. It doesn't make any difference to your chances of getting another cyst. [115] [116] [117]

Can it be harmful?

There are several common side effects of this operation, such as: [118]

- A sore throat, from the tube that helps you breathe while you're asleep during surgery
- Pain in your shoulders (if certain muscles in your abdomen are touched during surgery)
- Soreness around the small cuts in your abdomen
- Nausea.

Some other side effects are more serious, but much less common. You may get:

- Damage to your bowel or your bladder
- Bleeding inside your body
- Adhesions (tissue that sticks to organs and stops them working properly), which can be painful and make it harder to get pregnant
- An allergic reaction to the anaesthetic
- Damage to the nerves in your legs (because of the position of your legs during the operation)
- A serious infection
- Blood clots in your legs or in your lungs.

With this kind of surgery, serious problems are rare, and deaths are extremely rare. [82]

Having surgery on your ovaries should not reduce your chances of getting pregnant later on. It may even make it easier to get pregnant. [117]

How good is the research on surgery on your ovaries to relieve pain?

We found one summary of research (a systematic review) that looked at two studies (randomised controlled trials) into treatments to get rid of cysts on your ovaries. [116] [117] [119] But both of these studies were quite small.

One study looked at 100 women. [119] Of women who had their cysts removed, 85 percent had less pain two years after their operation. Another study looked at 64 women. It also found that about 85 percent of women had less pain after their operation. [117]

Surgery to remove cysts on your ovaries seems to work better than surgery to drain fluid out of the cysts. Draining the cysts helps about 45 percent of women have less pain. [116]

Hormone treatments to relieve pain

In this section

This information is for women who have pain caused by endometriosis. It tells you about hormone treatments for endometriosis. It is based on the best and most up-to-date research.

Do they work?

Yes. If your endometriosis is painful, hormone treatments can help. But hormone treatments have side effects.

These treatments may get rid of your pain completely. But the pain may come back when you stop taking the treatment. Between 3 out of 10 and 7 out of 10 women get pain again within five years.

What are they?

Hormone treatments stop your endometriosis growing.

There are many different types. Here we look at two kinds of hormone treatment: **gonadotrophin-releasing hormone analogues** (GnRH analogues) and **danazol**.

Here are the most common GnRH analogues (with their brand names):

- Goserelin (Zoladex)
- Leuprorelin (Prostap)
- Nafarelin (Synarel).

The brand name for danazol is Danol. A hormone called gestrinone (Dimetriose) works in a similar way to danazol.

Your doctor may check you're not pregnant before giving you any of these treatments. Hormone treatments usually stop you getting pregnant. But you still need to use contraception while you're taking them, just in case, because hormone treatments could harm your baby. You can't use the contraceptive pill or other hormone contraceptives, as they can interfere with your hormone treatment.

In the UK, it's not recommended that you take hormone treatments for endometriosis for more than six months. [120]

You can take them as tablets, injections, or sprays. To learn more, see Types of hormone treatment .

We've looked at two other hormone treatments used for endometriosis separately. They are contraceptive pills and medroxyprogesterone .

How can they help?

Hormone treatments can take away the pain of endometriosis, or make it bearable. They can work for all kinds of pain. But they don't work for everybody. [121] [122] [123] [4] [40]

Hormones treatments called GnRH analogues may work better at reducing pain than contraceptive pills, which are also often used for endometriosis. [4] [61]

To learn more about the different kinds of pain, see What are the symptoms of endometriosis?

Hormone treatments can also make your patches of endometriosis smaller. [25] And they may help you sleep better and feel happier. [68]

There is a hormone treatment called dydrogesterone (brand name Duphaston) that we couldn't find enough evidence about. We don't know for certain whether it works.

How do they work?

These hormone treatments stop your body making a hormone called oestrogen.

Your ovaries make oestrogen every month. It's an important part of your monthly cycle. Oestrogen makes your womb lining grow thicker. So it also makes your endometriosis grow.

If you take hormone treatments, your endometriosis will stop growing. And it won't bleed so much (if at all). It's the bleeding that causes the pain.

For more about how the different types work, see Types of hormone treatment.

Can they be harmful?

Yes, all hormone treatments have side effects. You and your gynaecologist should discuss them before deciding which treatment is best for you. You can't usually get pregnant while you're taking these treatments, as they stop you producing eggs (ovulating) each month. But you should start ovulating again about one month or two months after stopping treatment.

These treatments may cause the same kind of symptoms that you normally get at the menopause. This happens because your body makes much less oestrogen. These side effects include: [67]

- Hot flushes
- Weight gain
- Thinning bones (osteoporosis)
- A dry vagina

- Mood swings
- Headaches.

Most of the side effects of hormone treatments go away when you stop taking the treatment. Or they may go away gradually over time.

Goserelin, leuprorelin, and nafarelin

If you're taking goserelin (Zoladex), leuprorelin (Prostap), or nafarelin (Synarel), you can treat the side effects by taking hormone replacement therapy (HRT) that contains oestrogen, progestogen, or tibolone.[99] [100] [101] The HRT could reduce your hot flushes by as much as a half.

Thinning bones (osteoporosis) is the most serious problem with goserelin, leuprorelin, and nafarelin. Taking HRT that contains oestrogen or progestogen alongside hormone treatment can help stop bone loss.[61] [124]

Danazol

If you're taking danazol (Danol) or gestrinone (Dimetriose), you're likely to get extra side effects. These happen because these drugs are similar to testosterone (the male sex hormone). The side effects include:[121] [123]

- Weight gain: 2 kilograms to 4.5 kilograms (5 pounds to 10 pounds) over three months
- Bloating
- Acne
- Greasy skin
- Extra hair
- Voice changes (which may be permanent)
- Your breasts getting smaller
- Changes in appetite (feeling hungrier than normal)
- Irritability
- Aches and pains
- Tiredness.

Danazol doesn't cause thinning bones. [124]

In studies, some women who took danazol got headaches and felt sick. But so did some women who didn't take it. So we don't know for certain whether danazol causes these problems.

Danazol can increase your cholesterol level. You may want to consider a different treatment if you already have high cholesterol or heart disease.

How good is the research on hormone treatments to relieve pain?

There's lots of research that shows that hormone treatments such as danazol, goserelin, leuprorelin, and nafarelin can help with endometriosis. But some of the studies were small or didn't follow up people for very long. So the results may not be reliable. And these treatments can have side effects.

We found several large summaries of the research (systematic reviews). [121] [67] [125] [4] Women took hormone treatments for six months. All the reviews found that hormone treatments helped reduce pain caused by endometriosis.

There's also some evidence that hormone treatments work better than the contraceptive pill at reducing pain. [4] [61]

Some hormone treatments can cause your bones to become thinner. One study found that danazol didn't cause this problem. [126] Two studies found that you may be able to prevent this side effect by taking hormone replacement therapy (HRT) at the same time as hormone treatments for endometriosis. [61] [126]

Hormone treatments before surgery to relieve pain

In this section

This information is for women who have pain caused by endometriosis. It tells you about having hormone treatments before surgery for endometriosis. It is based on the best and most up-to-date research.

Do they work?

We don't know. Taking hormone treatments before you have surgery to remove endometriosis may make the surgery easier to perform. And if you have hormone treatments first, surgery may work better in the long run.

But there isn't enough research to say for certain whether it helps.

You can also take hormone treatments on their own or after surgery .

What are they?

Some doctors suggest that women take hormone treatments for three to six months before they have surgery to remove their endometriosis. You may be offered this treatment if you have bad endometriosis that has caused a lot of damage.

Nafarelin (Synarel) is a hormone treatment that has been tested in women who are waiting for surgery. [127] Nafarelin is a nasal spray that stops your ovaries producing oestrogen or eggs. This slows down the growth of endometriosis. It also stops your periods so your endometriosis stops bleeding every month. This means less damage and less scarring in your pelvis.

Goserelin (Zoladex) has also been tested in women before they have surgery for endometriosis. [128] You take goserelin as monthly **implants**. Doctors use a special needle to put a tiny container of the drug under the skin on your abdomen. The drug is slowly released into your blood. You can have implants every month for six months.

Goserelin is similar to a natural hormone called **gonadotrophin-releasing hormone** (GnRH). This hormone is normally made by your brain. Goserelin is much stronger than the natural hormone. Goserelin and GnRH stop your body making two other hormones, called **follicle-stimulating hormone** (FSH for short) and **luteinising hormone** (LH). This stops your ovaries releasing eggs or making oestrogen.

Doctors call nafarelin and goserelin **gonadotrophin-releasing hormone analogues** (GnRH analogues). To learn more about other these and other kinds of treatment, see Types of hormone treatment .

Your doctor may check you're not pregnant before giving you hormone treatment. These treatments usually stop you getting pregnant. But you still need to use contraception while you're taking them, just in case, because hormone treatments could harm your baby. You can't use the contraceptive pill or other hormone contraceptives, as they can interfere with your treatment.

How can they help?

We're not sure if they do help. Surgeons had thought that having hormone treatment before surgery might make the surgery less difficult and therefore more successful. But this doesn't seem to be the case. Surgery seems to work as well without hormone treatment. [127] [128] [129]

How do they work?

The idea is that the hormone treatment slows down the growth of your endometriosis and repairs some of the damage. In theory, this should make it easier for a surgeon to remove the rest of the endometriosis. [127]

Hormone treatment slows the growth of endometriosis by stopping your ovaries producing oestrogen. Oestrogen makes endometriosis worse.

Can they be harmful?

Yes. All hormone treatments have side effects. After surgery, women in the study of **nafarelin** said they had: [127]

- Hot flushes (92 in 100 women got these)
- Poor sex drive (36 in 100)
- A dry vagina (32 in 100)
- Headaches (20 in 100)
- Difficulty sleeping (4 in 100)
- Weight gain (about 2 kilograms or 4 pounds).

Almost two-thirds of the women in the study of **goserelin** said they had hot flushes. [128] And almost one-third also said they had headaches when they took this hormone treatment while waiting for surgery.

These side effects are similar to symptoms of the menopause. They stop once you stop taking the treatment.

These hormone treatments can cause bone loss (osteoporosis) if they are used for a long time. This isn't likely to happen if you take them for a short time before surgery to remove your endometriosis.

How good is the research on hormone treatments before surgery to relieve pain?

There hasn't been much research on having hormone treatments before surgery to remove endometriosis.

We looked at one summary of the research (a systematic review) that found that hormone treatment before surgery made women's endometriosis slightly better. But this review didn't look at whether women had less pain. [130]

Two other studies found that hormone treatment before surgery didn't make any difference. [131] [132]

Surgery to remove your womb and ovaries followed by HRT to relieve pain

In this section

This information is for women who have pain caused by endometriosis. It tells you about surgery to remove your womb and ovaries followed by hormone replacement therapy (HRT). It is based on the best and most up-to-date research.

Does it work?

The pain you get from endometriosis is unlikely to come back if you have surgery to remove your ovaries and womb. But this operation will also bring on an early menopause. So you may be offered hormone replacement therapy (HRT).

Doctors have wondered if having HRT could bring back your endometriosis. We don't know the answer to this for certain because there hasn't been enough research. But the research so far suggests that your pain is unlikely to come back after this kind of surgery, whether you have HRT or not.

There are some small but serious risks with taking HRT. To learn more, see HRT in our section on the menopause.

What is it?

Some older women with very bad pain from endometriosis and who do not want children choose to have surgery to remove their ovaries and sometimes their womb as well. (If you have your womb removed it is called a hysterectomy.) This treatment tends to be a last resort. [133] [1]

Having your ovaries, or womb and ovaries, removed is a serious operation. You need to stay in hospital at least overnight, but often much longer. With some kinds of surgery, your life is disrupted for four to six weeks. This may mean you can't work, look after the home, drive, or enjoy social activities for this time.

For more information, see What to expect if you have surgery to remove your womb or ovaries.

If you have this operation, it may bring on an early menopause. If you no longer have your ovaries, you stop making the female sex hormone oestrogen. This may bring on symptoms of the menopause such as hot flushes and vaginal dryness. Doctors may offer you **hormone replacement therapy** (HRT) to treat them. HRT replaces oestrogen, the hormone your ovaries would normally make.

There are many different types of HRT. To learn more, see HRT in our section on the menopause.

How can it help?

Removing your ovaries and your womb gets rid of the pain caused by endometriosis. [133] Very rarely, the disease comes back.

Some doctors thought that the hormones in HRT could make your endometriosis more likely to come back.

One study said the evidence was not clear either way, but that women who needed HRT should be offered it. [134]

How does it work?

If you have your ovaries taken out, your body stops making a hormone called **oestrogen**. This is the hormone that makes your endometriosis worse. Without it, the disease shrinks or disappears.

But taking hormone replacement therapy (HRT) could, in theory, bring your endometriosis back, because it replaces the oestrogen you no longer make. [2] We don't know for certain whether this happens.

Can it be harmful?

Yes. There are some small but serious risks if you take HRT. You will need to talk to your doctor to weigh up the risks and benefits for you as an individual.

There may be an increased risk of: [135]

- Blood clots
- Breast cancer
- Strokes.

You may also get unwanted, but less serious, side effects with HRT. Sometimes they go away when you have been on HRT for a while. Sometimes a change of product helps.

These side effects include unexpected bleeding, tender breasts, headaches, and mood swings. To learn more, see HRT in our section on the menopause.

Surgery to remove your ovaries and womb also has risks. And remember that you can't have children after this operation.

These are common side effects soon after surgery:

- Infections in your urine are very common (up to half of women have an infection after this kind of surgery)
- Light bleeding from the vagina

- Pain.

The following side effects are more serious, but much rarer:

- Severe bleeding from the vagina
- A serious infection
- Blood clots in your legs or lungs
- Injury to other organs in your pelvis, such as your bladder or your gut.

Other rare problems that may happen some time after surgery include:

- A prolapse, when your bladder, vagina, or rectum drops down slightly (you may need extra surgery to treat this)
- Patches of scar tissue around your bowel that may lead to a blockage there (you may need surgery to treat this)
- A short vagina can happen after a surgeon has taken your womb out through your vagina. A short vagina can hurt during sex.

How good is the research on surgery to remove your womb and ovaries followed by HRT to relieve pain?

Some doctors think that taking hormone replacement therapy (HRT) after an operation to remove your womb and ovaries could make your endometriosis more likely to come back.

We found one summary of the research (a systematic review). [134] It looked at two good-quality studies (called randomised controlled trials) of surgery followed by HRT. The summary said there was not enough evidence to be sure whether endometriosis pain was more likely to come back if women took HRT. The studies in the summary didn't find any evidence of that, but they were too small to be sure.

Hormone injections and insemination for problems getting pregnant

In this section

This information is for women who have problems getting pregnant because of endometriosis. It tells you about hormone injections and insemination, treatments used for these types of fertility problems. It is based on the best and most up-to-date research.

Do they work?

Yes. If you've not been able to get pregnant because you have a condition called endometriosis, having both hormone injections and your partner's sperm put directly into your womb will increase your chances of having a baby.

Having the hormone injections before the sperm are put in gives you a better chance of getting pregnant than just having the sperm put in. But it increases your risk of having a multiple pregnancy.

What are they?

Doctors treat the woman with hormones to boost her egg supply. Then around the time she is ovulating, doctors inject sperm from the male partner into her womb.

Hormone injections

Hormone injections contain hormones that are very similar to the hormones that your body makes normally.

You have your first injection when your monthly cycle starts. Then you have injections every day for up to 12 days. You or your partner will be taught how to give the injections. They are easy to do and are usually given in your thigh.

These are the types of hormone injections (and their brand names) you can have:

- Follitropin alfa (Gonal-F)
- Follitropin beta (Puregon)
- Menotrophin (Menopur).

Insemination

This is when doctors put sperm directly into the womb. Doctors call it **intrauterine insemination** (or IUI for short). You should be offered up to six cycles of insemination, because this increases the chance of pregnancy.

IUI is not routinely offered to women with mild endometriosis. Women with mild endometriosis are advised to try getting pregnant for two years, before being offered IVF instead of IUI. [20]

Here's what happens:

- The man will be asked to masturbate to produce a sample of semen in the clinic

- The semen is washed and treated to remove unwanted cells
- Doctors monitor the woman with an ultrasound probe to see if she is ovulating
- Using a fine tube, they inject the treated semen up through the vagina and into the womb at around the time that the woman is ovulating.

How can they help?

If you have fertility problems because of endometriosis, you will be more likely to get pregnant and have a baby if you take hormones and get sperm put into your womb (intrauterine insemination), compared with doing nothing or just getting insemination. [136] [137]

In one study, more than 1 in 10 women who had hormones plus insemination got pregnant each cycle, compared with about 1 in 50 who just had insemination. [137]

Having sperm put into your womb once during a cycle when you're having hormone injections works just as well as having sperm put in twice. [138]

How do they work?

If you have endometriosis, your chances of getting pregnant may be lower. Doctors aren't sure why.

Hormone injections can help you ovulate. They're designed to boost the number of eggs that are released during ovulation.

When sperm are ejaculated into the vagina, only a small number swim up to the womb. So reducing their journey by putting them directly into a woman's womb may increase their chances of fertilising an egg.

Can they be harmful?

Hormone injections have some side effects. They happen because your ovaries overreact to the extra hormones. This is called **ovarian hyperstimulation syndrome** (OHSS). It can be mild or severe.

You may have mild symptoms such as:

- Having swollen legs or arms
- Putting on weight
- Feeling bloated.

Some more severe symptoms are:

- Feeling sick or vomiting
- Being out of breath
- Having problems with your kidneys or liver.

But these side effects are rare. [136] [137] [139]

In very serious cases of OHSS, you may have heart and circulation problems. This can be dangerous and you may need to go to hospital. With hormone injections this is very rare.

This treatment can cause you to have more than one baby (for example, twins or triplets). In one study, 1 in 5 women who took hormone injections had more than one baby. [137]

How good is the research on hormone injections and insemination for problems getting pregnant?

Two good studies (called randomised controlled trials) looked at about 150 couples with infertility caused by endometriosis. [136] [137] During some cycles, women got hormone injections plus sperm put directly into their womb (intrauterine insemination). During other cycles, they got no treatment or just insemination.The women who got hormones plus insemination were more likely to get pregnant each cycle.

In one study, more than 1 in 10 women got pregnant, compared with about 1 in 50 who just had insemination. [137]

One of the studies found that about one-quarter of the women who got pregnant after hormones plus insemination had a miscarriage. [137]

Another study found that this treatment worked about the same whether the sperm were injected into the womb once or twice during the woman's cycle. [138]

Surgery for problems getting pregnant

In this section

This information is for women who have problems getting pregnant because of endometriosis. It tells you about surgery to remove tissue damaged by endometriosis, a treatment used for these types of fertility problems. It is based on the best and most up-to-date research.

Does it work?

If you have a condition called endometriosis, having surgery is likely to improve your chances of getting pregnant and having a baby. Surgery is more likely to help if your endometriosis is less widespread.

If you're deciding whether to have surgery for endometriosis, you need to consider the risks as well as the possible benefits.

What is it?

If you have endometriosis, it means that some of the tissue (the endometrium) that normally makes up the lining of your womb is growing around your ovaries or your fallopian tubes. This extra tissue can cause damage and scarring and can lower your chances of getting pregnant.

Surgery aims to take out the damaged tissue.

If your endometriosis isn't too widespread, doctors may be able to remove the damaged tissue through small cuts in your abdomen. This is called keyhole surgery or laparoscopic surgery.

See What to expect if you have surgery to remove endometriosis .

How can it help?

Surgery to remove your endometriosis is likely to increase your chances of getting pregnant and having a baby. Here's what the research tells us.

- About 3 in 10 women who have surgery to remove their endometriosis go on to get pregnant. This compares with less than 2 in 10 women who don't have surgery. [75]
- One advantage of having surgery is that surgeons may find and treat other problems (such as scarring) that may be affecting your fertility. [75]
- Keyhole surgery and regular surgery work equally well for treating endometriosis. [140]

Surgery for endometriosis may work better than hormone treatments . [140]

How does it work?

Doctors aren't sure why having endometriosis makes it less likely that you'll get pregnant. It may affect the egg or sperm. Or it may make it more difficult for the sperm to reach the egg.

By carefully removing damaged tissue around the ovaries or fallopian tubes, surgeons hope to improve a woman's chance of getting pregnant.

Can it be harmful?

Any kind of surgery has risks. When you have surgery, there's a small chance that you'll get:

- An infection
- Problems with bleeding.

If you have a general anaesthetic, there's a small added chance of:

- Problems with your breathing or circulation
- Blood clots
- An allergic reaction to the anaesthetic.

You may also get some scarring with this type of surgery. This is more likely if you have regular surgery rather than keyhole surgery.

Some people do die during or after surgery, but this is very rare. [82]

How good is the research on surgery for problems getting pregnant?

There is some good evidence that surgery for endometriosis can slightly increase the chances of a women getting pregnant.

One summary of the research (called a systematic review) involved more than 500 women with endometriosis. [75] All of the women had keyhole surgery (laparoscopy) to look at their endometriosis. But only half of them had their endometriosis removed.

The women who had their endometriosis removed had about a 3 in 10 chance of getting pregnant afterwards, compared with less than a 2 in 10 chance for women who just had laparoscopy.

Two other summaries mainly looked at cohort studies, which are less good-quality studies. [140] [98] These studies included about 4,000 women with endometriosis.

- Women who had surgery for endometriosis were more likely to get pregnant than women who took hormone treatments to reduce their endometriosis or who had no treatment.
- Open surgery and keyhole surgery worked about the same.

IVF for problems getting pregnant

In this section

This information is for women who have problems getting pregnant because of endometriosis. It tells you about in vitro fertilisation (IVF), a treatment used for these types of fertility problems. It is based on the best and most up-to-date research.

Does it work?

Probably. There hasn't been a lot of research on in vitro fertilisation (IVF) for endometriosis, but there's some evidence that IVF is likely to help you get pregnant if you have this condition. How well IVF works depends in part on the clinic you go to and on the woman's age. As women get older, they're less likely to get pregnant.

IVF is a very demanding treatment and it can have side effects.

What is it?

IVF stands for in vitro fertilisation. It's the most common form of **assisted reproductive technology** (or ART for short). This means that scientists in a laboratory use human eggs and sperm to help a couple have a baby.

Doctors normally suggest IVF when other treatments haven't worked. IVF can help people with infertility caused by different reasons. [141]

Scientists mix the man's sperm with the woman's eggs in a laboratory. The sperm are allowed to join with the eggs. This is fertilisation. 'In vitro' means that it happens in a laboratory. Doctors then put back a fertilised egg (now called an embryo) into the woman's womb so that it can grow, just as in a normal pregnancy.

How can it help?

We don't know how well IVF works if your infertility is caused by endometriosis. But we do know quite a lot about IVF in general.

- One study of couples with all types of infertility showed that IVF increases the chances of having a baby. [142] But it may not work the first time. You may need to try IVF several times.

- National figures show that infertile couples who have IVF have a 1 in 5 chance of having a baby after one attempt. [143] But we don't know how many of these women might have had a baby without IVF. Remember that this is an average, and your individual chances will depend partly on the clinic where you are having treatment.

- If possible, you should go to a big fertility clinic for IVF. Larger clinics (giving more than 200 treatment cycles a year) have higher rates of pregnancy than smaller ones. [143]

- IVF works best for women between the ages of 25 and 37. The chances of it working drop quickly once the woman has reached 37. [143]

- If you've had fertility problems for several years or have never been pregnant, you have less chance of having a baby with IVF. [144]

How does it work?

When a woman gets pregnant naturally, one of her eggs is fertilised by a man's sperm as the egg travels down her fallopian tube. The fallopian tubes carry eggs from the ovaries to the womb.

If the ovaries or tubes are blocked or damaged because of endometriosis, the egg may not be able to leave the ovary. Or the sperm may not be able to reach the egg.

By taking eggs out of a woman's ovaries and fertilising them in a laboratory, surgeons can bypass the damaged tubes or ovaries. The fertilised egg can go straight into her womb, where they can grow as normal.

Even if endometriosis does not affect the tubes or ovaries, there may be other ways it affects a woman's chances of getting pregnant. Having IVF may help.

Can it be harmful?

IVF can have some serious side effects for the woman. You and your partner need to talk to your doctor about these side effects before deciding to try IVF.

Most of the symptoms happen because of the extra hormones that a woman needs to take before IVF to help her produce extra eggs. Some common symptoms include:

- Feeling swollen or puffy

- Putting on weight

- Feeling bloated

- Having mild nausea.

These symptoms normally last only a week and you may feel better if you drink more fluid.

You may also have more serious side effects such as:

- Vomiting
- Pain in your abdomen
- Feeling out of breath.

If you have these symptoms, your doctor may advise you to rest and drink more fluid.

About 1 in 50 women (2 percent) who have IVF have serious problems that can affect their heart and circulation, lungs, liver, or kidneys. [145] Sometimes this is dangerous and you'll need to go into hospital.

Multiple pregnancy

If you have more than one embryo put into your womb, the chances of IVF working are increased. However, more than one embryo might grow and so you may give birth to more than one child. [143] This increases the chance of the IVF working, but more than one embryo might grow. Guidelines for doctors now say only one embryo should be put into the womb at the first attempt, unless there are no good quality embryos. Doctors working in the NHS are told not to put more than two embryos into the womb in one cycle of IVF.

Some couples might welcome having more than one baby, rather than seeing it as a problem. But if you have three, four, or more babies, there is a high risk of premature birth and the babies dying.

Premature birth

Children born after IVF are more likely to be premature and with a low birth weight.

But this is probably due to the greater number of multiple pregnancies and the older age of women having IVF, rather than due to IVF itself. There is no evidence that babies born after IVF are more likely than average to be born with birth defects. [146]

A big study that looked at the health of children born after IVF showed most children were healthy. But they were slightly more likely to need to go to hospital than children not born after IVF. [147]

How good is the research on IVF for problems getting pregnant?

The main evidence for IVF comes from one high-quality study (called a randomised controlled trial) that included 399 couples with infertility caused by different reasons, including endometriosis. [142] Some of the couples had IVF straight away. Others waited six months before having IVF.

More women in the group having IVF straight away got pregnant. But the figures are hard to compare, because some of them got pregnant before they were scheduled to start treatment.

- Of the women in the group having IVF straight away, 10 in 100 got pregnant after treatment. Another 7 in 100 got pregnant before starting treatment.
- In the other group, 8 in 100 women got pregnant while awaiting treatment.
- There were more babies born in the group that had IVF. But that's partly because some of them had twins or quadruplets.

So the study shows that women having IVF were more likely to get pregnant. But it's not easy to say exactly by how much treatment improved their chances of having a baby. There hasn't been any good-quality research looking at IVF for women just with endometriosis.

We did find two studies that looked back at women who had IVF. This type of study is called a cohort study. [148] [149]

- Women with endometriosis were just as likely to get pregnant with IVF as those with infertility due to other reasons.
- Women with more severe endometriosis were just as likely to get pregnant as women with mild endometriosis.

Hormone treatments for problems getting pregnant

In this section

This information is for women who have problems getting pregnant because of endometriosis. It tells you about hormone treatments to slow down the spread of endometriosis. It is based on the best and most up-to-date research.

Do they work?

No. Hormone treatments to slow down the spread of endometriosis will not help you become pregnant. Also, these drugs have unpleasant side effects.

What are they?

Hormone treatments are used to help ease painful symptoms in women who have endometriosis.

You take a course of drugs, usually lasting about six months. The treatment stops your ovaries releasing eggs or producing hormones. This slows down the growth of the endometriosis.

There are many different types of hormone treatment. They include contraceptive pills. Some other examples (followed by brand name) are:

- Danazol tablets (Danol)
- Goserelin injections (Zoladex)
- Leuprorelin injections (Prostap 3, Prostap SR)
- Medroxyprogesterone tablets and injections (Provera, Depo-provera)
- Nafarelin nasal spray (Synarel).

How can they help?

They won't help. If you have endometriosis that is stopping you becoming pregnant, taking hormone treatments won't improve your chances of getting pregnant afterwards. [98]

And taking these drugs could waste valuable time when you might have become pregnant naturally.

How do they work?

Hormone treatments slow down the spread of endometriosis. So doctors thought that a course of these hormones might increase the chances of a woman getting pregnant afterwards. But this doesn't happen.

The drugs used to treat endometriosis work in different ways. But they all stop your ovaries releasing eggs or producing hormones.

Can they be harmful?

If you take these hormone treatments, you can get symptoms that you normally get during the menopause. These side effects happen because your body stops making oestrogen. The side effects include: [98]

- Hot flushes
- Putting on weight
- Thinning bones (osteoporosis).

Women who take danazol (Danol) are likely to get extra side effects, because the drug is similar to the male hormone testosterone. These effects include: [150]

- Putting on weight (2 to 4.5 kilograms or 5 to 10 pounds over three months)

- Acne
- Greasy skin
- Growing extra hair
- Voice changes
- Feeling irritable
- Aches and pains
- Feeling tired.

Most of these effects go away when the treatment stops.

While you're taking these hormone treatments, you can't get pregnant. This is a major drawback, especially if you're older and your chances of getting pregnant are less anyway. But you should start ovulating within a month or two of stopping treatment.

How good is the research on hormone treatments for problems getting pregnant?

We found one large summary (a systematic review) that looked at many high-quality studies called randomised controlled trials. [98]

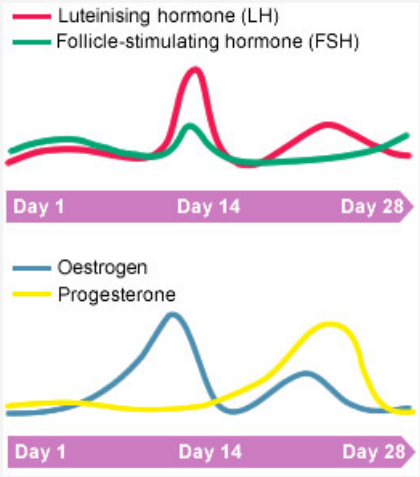
Women who took hormone treatments to slow down the growth of their endometriosis were no more likely to get pregnant than women who took no treatment. And women who took hormones had side effects like weight gain, hot flushes, and thinning of the bones.

Further informations:

What happens every month

Your menstrual cycle lasts about 28 days but it can be shorter or longer. It's controlled by your hormones. The cycle has three stages. [6]

Early cycle



These graphs show how the levels of different hormones change during your monthly cycle.

- Your cycle begins on the first day of your period. At this time, you have low levels of hormones.
- In the first few days, part of your brain starts making a hormone called **gonadotrophin-releasing hormone** (or GnRH for short).
- GnRH tells another part of the brain to produce two more hormones. They're called **luteinising hormone** (LH) and **follicle-stimulating hormone** (FSH).
- LH and FSH travel in your bloodstream to your ovaries. Here, the hormones tell some eggs to start growing.
- The growing eggs make two more hormones called **oestrogen** and **progesterone**.
- One egg grows faster than the others. This egg keeps growing and the others shrivel up. This tends to happen in alternate ovaries each month.

Mid cycle

- In the middle of your menstrual cycle, there's a big increase in the amount of **luteinising hormone** (LH) in your body.
- This helps the growing egg move out of your ovary into your fallopian tube. This is called **ovulation**.
- Tiny hairs in the tube push the egg along the tube, towards your womb (uterus).

Late cycle

- At the end of your cycle, your body prepares for pregnancy.
- Your ovary starts to make large amounts of a hormone called **progesterone**.
- This hormone makes the lining of your womb thicker, ready for a fertilised egg to arrive. If an egg arrives, it joins to the lining of your womb. This lining is called the endometrium.

After your cycle

Two things can happen at the end of your cycle:

- You get pregnant. The levels of hormones in your body stay high to continue your pregnancy.
- You don't get pregnant. Hormone levels start to drop. Without hormones, the lining of your womb begins to break down and fall towards your vagina. This is when you have your period. When your period has finished, hormone levels start to rise and the cycle starts again.

More about laparoscopy

A laparoscopy is usually a short operation. You normally don't have to stay in hospital overnight. You can go back to work or school after a couple of days.

You'll probably have a general anaesthetic. This means you're asleep during the operation. Or you might have a local anaesthetic instead. A local anaesthetic means you stay awake, or have a mild sedative to make you drowsy. But most people prefer to be asleep. [18]

The surgeon makes a small cut just under your belly button. Your abdomen is then filled with a harmless gas through a small tube. This separates your organs and makes everything easier to see. A small camera and light go in next, through the same cut. This lets the surgeon see the inside of your pelvis on a television screen.

The surgeon makes another cut just below the first. This is for a special instrument that helps the surgeon get a good look around.

After the operation, the gas is let out and the small cuts are sewn up.

You may feel some pain the next day. Many women get pain in their shoulders. This is because the tips of your shoulders share the same nerve supply as one of the breathing

muscles in your abdomen (the diaphragm). If this muscle gets irritated or stretched during surgery, you'll feel pain in your shoulders after the operation.

Staff at the hospital will advise you about what painkillers to take at home, if you need them.

Fertility problems and endometriosis

Doctors don't know exactly how endometriosis can reduce your chances of getting pregnant. But there are some theories.

To read more about the causes and treatment of infertility, see our articles on fertility problems .

Damage to ovaries and tubes

If you have endometriosis, the patches of tissue outside your womb (uterus) bleed every month when you have a period. This bleeding means your fallopian tubes or your ovaries may stick together and stop working properly. If this happens, you may find it harder to get pregnant.

Pain during sex

Some people who have endometriosis get pain when they have sex. So they might have sex less often. Less sex means a lower chance of getting pregnant. If you're trying to get pregnant, you should have sex every two to three days. [20]

How bad does endometriosis have to be to affect my chances of getting pregnant?

We know that if you have severe endometriosis, it lowers your chances of getting pregnant. Doctors think that mild endometriosis may also make it harder for you to get pregnant, although there's no proof. (See Stages of endometriosis .)

About one-quarter of women who have tests for infertility have some kind of endometriosis. [21] [22] [23] And many of these women have mild endometriosis.

Mild endometriosis may stop your ovaries working properly. But we don't know exactly how. [24] It's possible that something else is causing infertility in women with mild endometriosis.

Bear in mind that the symptoms of endometriosis are very similar to the symptoms of some other illnesses. Some of these conditions can also affect your chances of getting pregnant, such as pelvic inflammatory disease , which is an infection in the organs in your pelvis. To learn more, see Other illnesses with symptoms like endometriosis .

Other illnesses with symptoms like endometriosis

There are many illnesses that cause similar symptoms to endometriosis. [25] [26]

If you have pain low down in your abdomen, it may be caused by:

- A condition called pelvic inflammatory disease . This is an infection in your womb (uterus)
- Organs getting stuck together (doctors call these adhesions)
- An ovary becoming twisted (your ovaries are the parts of your body that make your eggs)
- Cancer in your womb, ovaries, or the neck of your womb (cervix)
- A condition called irritable bowel syndrome . This causes symptoms such as stomach pain, bloating, diarrhoea, and constipation
- A trapped nerve
- A condition called pelvic congestion syndrome . This is when blood backs up in the veins inside your pelvis. It's similar to varicose veins in the legs.

Pain during sex can also be caused by:

- Muscle tension in your vagina
- Constipation
- Irritable bowel syndrome
- An infection in the parts of your body that carry urine (cystitis)
- Dryness in your vagina
- Pelvic congestion syndrome.

Painful periods can also be caused by:

- An infection
- A narrow cervix
- Fibroids

- Pelvic congestion syndrome.

There are many reasons why you may have difficulty getting pregnant. These links are for pages in our Fertility problems section:

- Problems ovulating
- Blocked or damaged fallopian tubes (these are the tubes that carry eggs from your ovaries to your womb)
- Infertility in your partner (this could be from problems with sperm, problems getting sperm to the right place, and sperm antibodies, which destroy or damage sperm).

Simple treatments for painful periods

If you have painful periods but no other symptoms, your GP may suggest that you try these treatments as a first step. [1] [2] If they work, you may never need to go for tests to see if you have endometriosis.

Painkillers

Painkillers can reduce your pain, or get rid of it completely. But they don't get rid of your endometriosis; they just relieve the pain. When you stop taking the painkillers, your pain will probably come back.

Examples of painkillers that you can buy from chemists are:

- Paracetamol
- Aspirin
- Ibuprofen.

You can also get stronger painkillers on prescription.

Painkillers can have side effects. For example, they may upset your stomach. And some painkillers can have more serious side effects if you take high doses regularly for a long time. It's a good idea to talk to your doctor if you need to take painkillers for more than a few days.

Painkillers won't help if you're having problems getting pregnant. If you've been trying to get pregnant for 12 months or more, you should talk to your GP about what to do next.

The contraceptive pill

If you have painful periods, taking the contraceptive pill can help with the pain. [40] [41] This is because the pill makes you stop ovulating. Your periods will also be lighter and shorter. Your pain will probably come back when you stop taking the pill. But you can take it for many years if you need to.

Of course, you shouldn't take the pill if you're trying to get pregnant.

There are lots of different types of pill. They contain different kinds of hormones at slightly different doses. They all work equally well. Here are some examples (and the types of hormones they contain):

- Ovranette (ethinylestradiol and levonorgestrel)
- Marvelon (ethinylestradiol and desogestrel)
- Femodene (ethinylestradiol and gestodene).

Your GP will help you find a pill that suits you. To read more, see Contraceptive pills .

Side effects of combined contraceptive pills

The combined contraceptive pill can cause some side effects. Possible problems include feeling sick, getting headaches, changes in your weight, breast tenderness, or an increase in the size of your breasts. [42]

Some women get high blood pressure, feel depressed, or find they have a lower sex drive. [42]

The pill can also cause some more serious side effects. These may sound worrying, but the chance of getting a serious side effect is very small.

It's also worth remembering that the combined contraceptive pill can actually help protect against some kinds of cancer. You're less likely to get cancer of the ovaries or cancer of the womb lining (endometrial cancer) if you're taking this type of pill. [42]

Blood clots

The pill can increase your risk of getting a blood clot inside one of your blood vessels. If a blood clot forms in a vein deep in your leg, it's called deep vein thrombosis (a DVT). But the chance of this happening is fairly small. [42]

- For women who don't take the pill, each year there's about a 5 in 100,000 chance of getting DVT.

- For women who do take the pill, the chance of getting DVT is between 15 in 100,000 and 25 in 100,000, depending on the type of pill.

If a blood clot travels through your bloodstream into your lungs, it can be very dangerous. But it's very rare for women to die of DVT because of the pill. Over a year, the risk of dying of DVT because of the pill is somewhere between 2 in a million and 10 in a million. [43]

If you have a blood clot in a deep vein, you usually get pain, swelling, warmth, and redness in one of your legs. See a doctor straight away if you have any of these symptoms.

Cancer of the cervix

Taking the pill for more than five years slightly increases your risk of getting cervical cancer. However, your overall risk of getting cervical cancer is low, whether you take the pill or not. [44]

- Out of 10,000 women who don't take the pill, doctors would expect to see 38 cases of cervical cancer by the age of 50.

- Out of 10,000 women who take the pill for five years from the age of 20, doctors would expect to see 40 cases of cervical cancer. So that's two extra cases of cancer in 10,000 women taking the pill.

When you stop taking the pill, your risk of cervical cancer starts to drop back to normal. [44] About 10 years after you finish taking the pill, your chance of getting cervical cancer is the same as if you'd never taken it.

Going for cervical screening (a smear test) can cut your risk of getting cervical cancer.

A stroke

There's a small risk of having a stroke because of the pill. [45]

- Over a year, a woman not taking the pill has about a 4 in 100,000 chance of having a stroke.

- This rises to about 8 or 9 in 100,000 for a woman taking the pill.

Breast cancer

Some studies have found that the pill slightly increases a woman's chance of getting breast cancer. [46] But other studies have found no increase in risk. It's hard to make

sense of the different results. It might be that women taking the pill see their doctors more often, so are more likely to be diagnosed with and treated for breast cancer. [42]

Even if there is a small increase in your risk of breast cancer while you're taking the pill, your risk drops back to normal when you stop taking it. [42]

What to expect if you have surgery to remove endometriosis

Removing endometriosis is often done as **keyhole surgery** (laparoscopic surgery). But if your endometriosis is very bad, you may need to have open surgery, where the surgeon makes a larger cut and looks directly into your pelvis. Below, we describe keyhole surgery.

Before the operation

An anaesthetist or a nurse gives you a general anaesthetic. This sends you to sleep. [47]

Preparing for the operation

The surgeon starts by making a small cut just under your belly button. [47] [48] Through this hole, your abdomen is then filled with a harmless gas. This gas makes everything easier to see. A small camera and a light go in next, through the same cut. This means the surgeon can see the inside of your pelvis on a television screen.

The surgeon then makes two or three more small cuts for the operating instruments. The cuts are usually less than 1 centimetre (half an inch) wide. If your womb needs to be moved, the surgeon may need to place one of the operating instruments into your womb (uterus), through your vagina.

Removing the endometriosis

Most surgeons use heat from a **laser** or special heated needles (**diathermy**) to clear any endometriosis. A laser is a high-energy light beam that cuts through body tissue.

We don't know whether lasers are better than heated needles. There isn't any good research to tell us. [49]

A new way to destroy endometriosis is to use a beam of helium gas rather than lasers or needles. The National Institute for Health and Care Excellence (NICE), the organisation that advises the NHS about treatments, says that using a beam of helium seems to be safe, but there hasn't been enough research to say how well it works. [50] NICE says that this method should not be used routinely.

After the surgery, the surgeon lets out the gas in your abdomen and sews up the small cuts in your skin.

After the operation

Keyhole surgery is quicker and less painful than open surgery through a large cut. But it can still hurt. The anaesthetist should make sure you're comfortable when you wake up. You may need **painkillers** later on.

Some women go home the same day. Others need a night or two in hospital. It depends on how much surgery you needed. When you go home, make sure someone is there to help you.

It can take about two weeks to recover fully.

Types of hormone treatment

These treatments all work by stopping your body making a hormone called **oestrogen**. But they work in slightly different ways.

Hormone treatments can be used on their own to help reduce pain from endometriosis. They can also be used before surgery to make patches of endometriosis smaller, or after surgery to stop the patches growing again.

They come as tablets, injections, or sprays. Your doctor (this could be your GP or a specialist) can help you decide which treatment suits you best.

Goserelin (Zoladex)

You get goserelin as monthly **implants** with the brand name Zoladex. Doctors use a needle to put a tiny container of the drug under the skin on your abdomen. The drug is slowly released into your blood. You can have implants each month for six months.

Goserelin is similar to a hormone called **gonadotrophin-releasing hormone** (GnRH). It's normally made by your brain. These drugs are much stronger than the natural hormone. They stop your body making two other hormones, called **follicle-stimulating hormone** (FSH) and **luteinising hormone** (LH).

Leuprorelin (Prostap SR)

Leuprorelin is an injection you have every month for six months. Prostap is the brand name.

It works in the same way as goserelin.

Nafarelin (Synarel)

Nafarelin is a nasal spray. Its brand name is Synarel. You can use it for six months.

It works in the same way as goserelin.

Medroxyprogesterone

Medroxyprogesterone is like the female hormone **progesterone**. It stops you ovulating .

You can take medroxyprogesterone as a pill (called Provera) or as an injection (called Depo-Provera). If you have the injections, you'll need them every two weeks at first, then every month, and then every three months. For endometriosis, medroxyprogesterone is usually prescribed for about three to six months.

The Depo-Provera injection is also used as a contraceptive. If you don't want to get pregnant, your doctor may suggest you try medroxyprogesterone to relieve your pain from endometriosis.

Danazol (Danol)

This drug comes as a pill. Its brand name is Danol. You can take it for six to nine months.

Danazol is like the male hormone **testosterone**. It stops your body making follicle-stimulating hormone and luteinising hormone.

If your body doesn't make these hormones, your ovaries won't release eggs or make oestrogen.

Gestrinone (Dimetriose)

This drug comes in capsules. You normally take it for about six months. You take it twice a week, with three days between the first and second doses.

Gestrinone works a bit like danazol (see above). It stops your body making follicle-stimulating hormone and luteinising hormone. Taking it means your ovaries won't release eggs or make oestrogen.

The risks of contraceptive pills

If you take contraceptive pills (often just called 'the pill'), it increases your risk of getting a **blood clot** in your veins. This is called **deep vein thrombosis** (or DVT for short). DVT can be dangerous if part of the clot breaks off and travels to your lungs. A very small number of women die from deep vein thrombosis.

This is what we know from the research.

- Every year, about 1 in 5,000 women on the pill get a blood clot (although this figure is different depending on the kind of contraceptive pill you are taking). Your risk may be slightly higher if you take a pill containing the hormones desogestrel or gestodene. Women who aren't on the pill have a 1 in 20,000 chance of getting a clot. [51]

- About 1 in 500,000 women who take the pill die from a blood clot. That's about four times the number of deaths you would expect among women who aren't on the pill. [52] [43] [53] [54] But it's still a very small number.

- If you get a blood clot in your arteries, it can cause a **heart attack** or a **stroke**. But taking the pill doesn't increase your risk of getting a heart attack. [55] Taking the pill very slightly increases your chance of having a stroke. [45] It doesn't make any difference what type of pill you take. [56]

You have a higher risk of blood clots than other women if:

- You smoke
- You have high blood pressure
- You have hardening of the arteries
- You've had a blood clot in your legs or lungs before
- Other members of your family have had blood clots in their legs or lungs
- You are unable to move around (for example, if you have to stay in bed for a long period because of an injury or illness).

Taking the pill also has an effect on your risk of getting some types of cancer. [57]

- You're less likely to get **ovarian cancer** if you're on the pill.
- If you use contraceptive pills for a long time, you may be more likely to get cancer in the neck of your womb (**cervix**) or your **liver**.

Some studies have found that the pill slightly increases a woman's chance of getting breast cancer. [46] But other studies have found no increase in risk. It's hard to make sense of the different results. It might be that women taking the pill see their doctors more often, so are more likely to be diagnosed with and treated for breast cancer. [42] Even if there is a small increase in your risk of breast cancer while you're taking the pill, your risk drops back to normal when you stop taking it. [42]

What to expect if you have surgery on your ovaries

This is what happens when you have 'keyhole' (or laparoscopic) surgery on your ovaries to either drain a cyst of fluid or remove it completely. [58]

Before the operation

An anaesthetist or a nurse gives you a general anaesthetic. This sends you to sleep.

Preparing for the operation

The surgeon starts by making a small cut just under your belly button. Through this hole, your abdomen is then filled with a harmless gas. This gas makes everything easier to see. A small camera and a light go in next, through the same cut. This means the surgeon can see the inside of your pelvis on a television screen.

The surgeon then makes two or three more small cuts for the operating instruments. The cuts are usually less than 1 centimetre (half an inch) wide. If your womb (uterus) needs to be moved, the surgeon may need to place one of the operating instruments into your womb, through your vagina.

Surgery on your ovaries

The surgeon either takes out the whole cyst, or drains off the fluid in the cyst and leaves behind the cyst lining.

If you have endometriosis anywhere else in your pelvis, the surgeon will clear it at the same time. Most surgeons use heat from a **laser** or special heated needles (this is called **diathermy**) to clear any endometriosis. A laser is a high-energy light beam that cuts through body tissue.

The operation usually lasts about an hour. Afterwards, the surgeon lets out the gas in your abdomen and sews up the small cuts in your skin.

After the operation

This kind of surgery is quicker and less painful than open surgery through a large cut. But it can still hurt. The anaesthetist should make sure you're comfortable when you wake up. You may need **painkillers** later on.

Some women go home the same day. Others need a night or two in hospital. It depends on how big the operation was. When you go home, make sure someone is there to help you.

What to expect if you have surgery to remove your womb or ovaries

If you have severe endometriosis, you'll probably have **open surgery**, through a cut in your abdomen. Here's what happens.

- You have a general anaesthetic so you're asleep during surgery. The surgery takes about 45 to 70 minutes.
- The surgeon makes a cut in your abdomen. The cut usually goes from side to side, between your hip bones. The surgeon removes your womb and the neck of your womb (cervix), and maybe also your fallopian tubes and both your ovaries.
- After the operation, the medical staff will make sure you're comfortable. You may need a tube in your bladder to drain your urine so you don't have to urinate for the first day or so. You may also have a small tube coming out of your wound. This is to drain away any fluid that collects inside.
- You have to stay in hospital for at least a few days. You may have to stay in longer if you get pain or bleeding.

Side effects of hormone treatments

Goserelin, leuprorelin, and nafarelin

If you're taking goserelin (Zoladex), leuprorelin (Prostap), or nafarelin (Synarel), you may get the same kinds of symptoms that you would get at the menopause. This happens because your body makes much less oestrogen. These side effects include: [98]

- Hot flushes
- Putting on weight
- A dry vagina
- Mood swings
- Headaches.

You can treat the side effects by taking hormone replacement therapy (HRT) that contains oestrogen, progestogen, or tibolone. [99] [100] [101] This could reduce your hot flushes by as much as half.

Thinning bones (osteoporosis) is the most serious problem with goserelin, leuprorelin, and nafarelin. Taking the hormones oestrogen and progestogen alongside hormone treatments can help stop thinning bones. [61] [102]

Danazol

If you're taking danazol (Danol), you're likely to get extra side effects. These happen because the drug is similar to testosterone (the male sex hormone). The side effects include: [103]

- Weight gain: 2 kilograms to 4.5 kilograms (5 pounds to 10 pounds) over three months
- Bloating
- Acne
- Greasy skin
- Extra hair
- Voice changes (which may be permanent)
- Irritability
- Aches and pains
- Tiredness.

Danazol doesn't cause thinning bones.

In studies, some women who took danazol got headaches and felt sick. But so did some women who didn't take it. So we don't know for certain whether danazol causes these problems.

Danazol can increase your cholesterol level. You may want to consider a different treatment if you already have high cholesterol or heart disease.

In one study, about one-third of women stopped taking danazol because of the side effects. [104]

Contraceptive pills

Side effects of contraceptive pills are usually mild. [4] Examples of side effects are:

- Headaches
- Weight gain

- Bloating
- Changes in your mood
- Tender breasts.

If you take the pill, you may be slightly more likely to get a **blood clot** in your blood vessels. For a very small number of women this can be dangerous.

To read more, see The risks of contraceptive pills .

Medroxyprogesterone

Medroxyprogesterone may cause the following side effects: [105]

- Bloating
- Tender breasts
- Weight gain
- Nausea
- Tiredness
- Headaches
- Dizziness
- Problems sleeping.

There are other risks if you take medroxyprogesterone as an injection. [105] Your periods may not return to normal for a while after you stop the treatment. And you may not be able to get pregnant straight away. There's also a risk of thinning bones (osteoporosis). [106] It is important you talk to your doctor about the risks of these injections. [106]

Two studies we looked at found that women taking medroxyprogesterone had more side effects than women taking contraceptive pills together with a hormone treatment called danazol (Danol). [67] [68]

Here's what one of the studies found. Out of women taking medroxyprogesterone: [68]

- About 6 out of 10 felt bloated
- About 5 in 10 women put on weight

- Over 1 in 10 got breakthrough bleeding
- About 2 in 10 women had no periods at all.

IUD (coil)

An intrauterine device (IUD) that releases hormones can also have side effects. One small study found that about half of women with an IUD had side effects such as: [90]

- Bloating
- Weight gain
- Headache
- Tender breasts
- Not feeling like having sex
- Pain in the pelvis
- Greasy skin and acne.

It's hard to say how often these problems happen. The study isn't big enough to give a clear answer.

Glossary:

menopause
When a woman stops having periods, it is called the menopause. This usually happens around the age of 50.

hormones
Hormones are chemicals that are made in certain parts of the body. They travel through the bloodstream and have an effect on other parts of the body. For example, the female sex hormone oestrogen is made in a woman's ovaries. Oestrogen has many different effects on a woman's body. It makes the breasts grow at puberty and helps control periods. It is also needed to get pregnant.

ovaries
Women have two ovaries, one on each side of their womb. They are small glands that store eggs. Inside the ovaries are hundreds of thousands of pre-eggs, called follicles. Some of these grow into eggs.

fallopian tubes
Fallopian tubes are the two tubes that come out of the top of a woman's womb. They carry eggs from the ovaries to the womb.

general anaesthetic
You may have a type of medicine called a general anaesthetic when you have surgery. It is given to make you unconscious so you don't feel pain when you have surgery.

local anaesthetic
A local anaesthetic is a painkiller that's used to numb one part of your body. You usually get local anaesthetics as injections.

cervix
The cervix is a piece of tissue that sits between a woman's womb and her vagina. It has a small opening in it that gets much bigger when a woman is having a baby.

irritable bowel syndrome
Irritable bowel syndrome (IBS) is a common condition that causes symptoms such as stomach pain, bloating, diarrhoea and constipation. Although IBS can cause long-term discomfort, it does not usually lead to serious health problems.

pelvic congestion syndrome
Pelvic congestion is when blood backs up in the veins inside a woman's pelvis. It can be painful or uncomfortable. It's similar to the varicose veins you may get in your legs.

oestrogen
Oestrogen is the name given to three female sex hormones: oestradiol, oestrone and oestriol. Oestrogen causes women's sexual development during puberty: it is needed to develop breasts, have periods and get pregnant. Oestrogen is also thought to affect women's health in other ways. It may influence their mood, cholesterol levels and how their bones grow. Men have very low levels of oestrogen in their bodies, but doctors aren't completely sure what it does. Oestrogen is an important ingredient in most types of contraceptive pill and hormone replacement therapy.

sexually transmitted infection
An infection that is spread by people having sex is called a sexually transmitted infection (STI) or a sexually transmitted disease (STD). Examples are HIV, gonorrhoea and syphilis.

pelvis
Your pelvis is the area between your hips.

X-ray
X-rays are pictures taken of the inside of your body. They are made by passing small amounts of radiation through your body and then onto film.

ovulation
To get pregnant, a woman needs to release an egg from one of her ovaries. This is called ovulation. It normally happens once every month. During ovulation, the egg leaves the ovary and moves towards the womb.

arteries
Arteries are the blood vessels that take blood that is rich in oxygen and food away from your heart. The arteries carry this blood to all the tissues in your body.

high blood pressure
Your blood pressure is considered to be high when it is above the accepted normal range. The usual limit for normal blood pressure is 140/90. If either the first (systolic) number is above 140 or the lower (diastolic) number is above 90, a person is considered to have high blood pressure. Doctors sometimes call high blood pressure 'hypertension'.

osteoporosis
Osteoporosis is when your bones get too brittle. It happens if not enough new bone tissue is growing to keep bones strong. If you have osteoporosis, the bones in your body may break easily.

systematic reviews
A systematic review is a thorough look through published research on a particular topic. Only studies that have been carried out to a high standard are included. A systematic review may or may not include a meta-analysis, which is when the results from individual studies are put together.

placebo
A placebo is a 'pretend' or dummy treatment that contains no active substances. A placebo is often given to half the people taking part in medical research trials, for comparison with the 'real' treatment. It is made to look and taste identical to the drug treatment being tested, so that people in the studies do not know if they are getting the placebo or the 'real' treatment. Researchers often talk about the 'placebo effect'. This is where patients feel better after having a placebo treatment because they expect to feel better. Tests may indicate that they actually are better. In the same way, people can also get side effects after having a placebo treatment. Drug treatments can also have a 'placebo effect'. This is why, to get a true picture of how well a drug works, it is important to compare it against a placebo treatment.

allergic reaction
You have an allergic reaction when your immune system overreacts to a substance that is normally harmless. You can be allergic to particles in the air you are breathing, like pollen (which causes hay fever) or to chemicals on your skin, like detergents (which can cause a rash). People can also have an allergic reaction to drugs, like penicillin.

anaesthetic
An anaesthetic is a chemical that blocks the ability to feel sensations like pain or heat. A local anaesthetic blocks the feeling in a specific area of the body. For example, your dentist uses a local anaesthetic like lignocaine in your gums so that you don't feel the pain of having a cavity filled. A general anaesthetic makes you completely unconscious and is usually used only in a carefully controlled environment like an operating room.

randomised controlled trials

Randomised controlled trials are medical studies designed to test whether a treatment works. Patients are split into groups. One group is given the treatment being tested (for example, an antidepressant drug) while another group (called the comparison or control group) is given an alternative treatment. This could be a different type of drug or a dummy treatment (a placebo). Researchers then compare the effects of the different treatments.

gynaecologist
A gynaecologist is a doctor who specialises in women's health. Gynaecologists are experts on problems with a woman's reproductive system. That includes her vagina, cervix, womb and ovaries.

hormone replacement therapy
Hormone replacement therapy (also called HRT) is given to women after the menopause to replace the oestrogen (the main female hormone) that is no longer made by their ovaries. It can be given either as oestrogen alone or as a combination of oestrogen and progesterone (another female hormone). It is useful to treat menopausal symptoms such as hot flushes, and to prevent brittle bone disease (osteoporosis). But there are concerns that it may increase the risk of breast cancer, heart attacks and strokes.

testosterone
Testosterone is a sex hormone. When boys go through puberty, testosterone causes the development of male characteristics like a deep voice and a muscular body. Testosterone is also known to affect men's sex drive and mood. Although testosterone is thought of as a 'male hormone', women also make testosterone (although they make much less of it then men).

cholesterol
Cholesterol is a fat-like substance made by your liver or absorbed from food. It is used by your body to make bile acids (which help your intestines absorb nutrients) and steroid hormones (like testosterone or oestrogen). Cholesterol is also an important part of cell membranes, which are the structures that surround cells. 'Good cholesterol' is called HDL; 'bad cholesterol' is LDL.

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Randomised controlled trials are medical studies designed to test whether a treatment works. Patients are split into groups. One group is given the treatment being tested (for example, an antidepressant drug) while another group (called the comparison or control group) is given an alternative treatment. This could be a different type of drug or a dummy treatment (a placebo). Researchers then compare the effects of the different treatments.

hysterectomy
A hysterectomy is an operation to take out a woman's womb (also called her uterus). Sometimes the ovaries and fallopian tubes are removed as well.

ultrasound
Ultrasound is a tool doctors use to create images of the inside of your body. An ultrasound machine sends out high-frequency sound waves, which are directed at an area of your body. The waves reflect off parts of your body to create a picture. Ultrasound is often used to see a developing baby inside a woman's womb.

ejaculation
When a man ejaculates, his penis suddenly releases semen, the white or transparent fluid that carries sperm.

kidney
Your kidneys are organs that filter your blood to make urine. You have two kidneys, on either side of your body. They are underneath your ribcage, near your back.

liver
Your liver is on the right side of your body, just below your ribcage. Your liver does several things in your body, including processing and storing nutrients from food, and breaking down chemicals, such as alcohol.

cohort study
A cohort study follows a group of people (a cohort) and records the different things that happen to them. For example, a cohort study could find out whether lung cancer is more common in people in the cohort who smoke. Prospective cohort studies (which begin at a certain time and then look at what happens to the people in the study) are more reliable than retrospective cohort studies (which look at groups of people after events have happened to them).

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