

Patient information from the BMJ Group

Pelvic inflammatory disease

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Pelvic inflammatory disease

If you have pelvic inflammatory disease you need to get treated quickly. Otherwise the disease may cause serious health problems, including damage to your reproductive organs that may stop you having a baby in the future. The disease is caused by an infection and can be cured with antibiotics.

We've brought together the best research about pelvic inflammatory disease 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 pelvic inflammatory disease?

Pelvic inflammatory disease (called PID for short) only happens to women. It means you've got an infection in your reproductive organs. These organs include your womb (uterus), your ovaries, your fallopian tubes (which carry the eggs from your ovaries to your womb), and surrounding parts of your pelvis.



PID can cause fertility problems and make it hard for you to get pregnant.

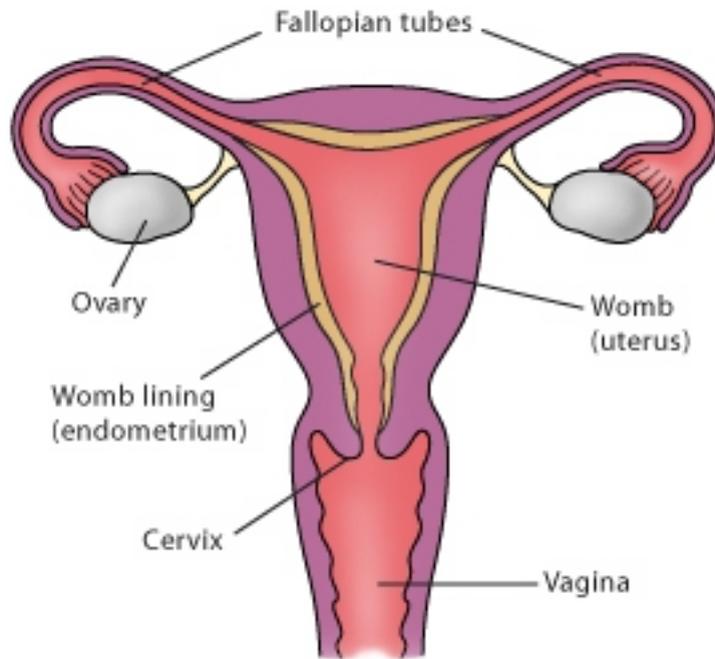
Although PID is quite common, it isn't always easy to tell whether you have it. This is because the symptoms you get at the time can be mild. Or you may not feel ill at all.

But if you've got PID you will need to be treated quickly with **antibiotics**. If you're not treated quickly your reproductive organs may get damaged, or it could lead to other

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serious problems including long-term pain in the pelvis, abscesses in the ovary, or ectopic pregnancy.

PID is almost always caused by an infection that you get from having sex (a sexually transmitted infection). PID happens when an infection that starts in your vagina affects your cervix (the neck of your womb) and then travels further to your womb, your fallopian tubes, and your ovaries. The infection can make your reproductive organs inflamed (swollen).



PID is caused by an infection in your reproductive organs.

If your fallopian tubes get inflamed, scar tissue may be produced, and this can eventually block the tubes. The scar tissue can stop your eggs travelling from your ovaries to your womb. This makes it hard for you to get pregnant. And if you do get pregnant, the baby may start growing part way along your fallopian tube instead of in your womb. This is called an ectopic pregnancy. ^[1]

PID is often caused by sexually transmitted bacteria. These bacteria cause the sexually transmitted diseases called gonorrhoea and chlamydia. But other bacteria also may cause PID. ^[1]

Any sexually active woman can get PID. But some women are more at risk than others. You're most likely to get PID if: ^[1]

- You are younger than 25 years
- You've had a sexually transmitted infection before
- You've had PID before

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- You have more than one sex partner (the more partners you have, the higher your chances of PID)
- You've recently had an intrauterine contraceptive device (called IUD or coil for short) put in.

What are the symptoms of pelvic inflammatory disease?

It's not easy to tell if you've got pelvic inflammatory disease (PID). This is because the symptoms can be mild, or you may not feel ill at all.

You may have PID if you have these symptoms: ^[2] ^[3]

- Pain in the lower part of your abdomen
- Pain during sex, which you feel deep inside your body
- Bleeding between your periods
- A discharge from your vagina, which is different from normal and may smell bad.

If you have these symptoms it is important that you see a doctor.

You may also have these symptoms: ^[4]

- Chills
- Increased pain during your period
- Bleeding after sex
- Pain in your lower back
- Tiredness
- Loss of appetite
- Nausea or vomiting.

Your periods may stop or you may pass urine more often or get pain when you do pass urine.

Your doctor will ask about your symptoms. He or she will probably examine your lower abdomen and the inside of your vagina. During this examination your doctor will check for these signs of PID:

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- Tenderness in the lower part of your abdomen
- Tenderness in your reproductive organs.

Your doctor will also check your temperature. A temperature of more than 38 degrees Celsius (100.4 degrees Fahrenheit) means you are more likely to have an infection. Your doctor may also take a sample of your blood and a swab from your **cervix** to check for signs of infection.^[3]

If it's possible that you might be pregnant, you will be offered a pregnancy test.^[2] This is because if you are pregnant, treatment for PID is usually done in hospital.^[3]

Your doctor can't tell for certain from these checks whether you have PID. But delaying treatment could risk the infection damaging your fertility. So your doctor will probably start you on **antibiotics** straight away if:^[3]

- You're a young, sexually active woman or you're at risk of **sexually transmitted infections**
- You've got tenderness and signs of infection.

The results of the swab test may help confirm the diagnosis. But if the treatment doesn't make you better, or if there are serious worries about the diagnosis, you may have to go to hospital for more checks, such as a **laparoscopy**. This is an operation to help your surgeon see inside your pelvis, to get a good view of your reproductive organs.

You can have PID without having any symptoms at all. But although the disease may not be making you feel ill, it can still damage your reproductive organs.

You may not realise you've got PID until you get more serious problems. For example, if you're having problems getting pregnant, you might find that your **fallopian tubes** are blocked. This can be caused by PID. Most women with blocked fallopian tubes caused by PID don't know that they had PID.^[5]

How common is pelvic inflammatory disease?

We don't know exactly how many women get pelvic inflammatory disease (called PID for short). Doctors probably underestimate the true numbers because women with mild symptoms, or with no symptoms at all, may never be diagnosed.

In the UK, PID affects at least 165,000 women every year. That is nearly 2 in 100 women of childbearing age.^[6]

Here are some reasons why you may be more likely to get PID.^[7] ^[8]

- You're younger than 25. Your **cervix** is more likely to be damaged by an infection when you're young.

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- You've had a sexually transmitted infection before. This may have already started to damage your reproductive organs, so you're more likely to get PID if you get another infection.
- You've had PID before.
- You have more than one sex partner, or your sex partner has other partners.

What treatments work for pelvic inflammatory disease?

Antibiotics are good at treating pelvic inflammatory disease (called PID for short). You probably won't need any other treatment. But you may still have long-term problems if your reproductive organs were damaged by PID before you started the treatment.

Key points about treating pelvic inflammatory disease

- PID may be caused by more than one type of bacteria . So you'll be given a combination of antibiotics that work against different bacteria.
- The commonly used combinations of antibiotics all seem to be equally good at curing PID.
- Your doctor will probably prescribe the antibiotics without waiting for your test results to confirm that you have PID. This is because delaying treatment by three days or more may harm your fertility. ^[21]
- Even if you're successfully treated with antibiotics, you may still have long-term problems. ^{[22] [23]}
- Taking antibiotics as a precaution before having an intrauterine contraceptive device (also called IUD or coil) fitted doesn't seem to protect against getting PID. ^[24]

Antibiotic combinations for pelvic inflammatory disease

In the UK, doctors are advised to treat women with pelvic inflammatory disease (PID) who don't need to go to hospital with one of the following combinations of antibiotics . ^[25]

- An injection of ceftriaxone into a muscle straight away. Then tablets of doxycycline plus tablets of metronidazole (brand name Flagyl). The tablets should be taken twice a day for 14 days.
- Tablets of ofloxacin (brand name Tarivid) plus tablets of metronidazole (brand name Flagyl). The tablets should be taken twice a day for 14 days. If you are at high risk of PID because of an infection with gonorrhoea , your doctor will probably not choose

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ofloxacin. The **bacteria** that cause gonorrhoea have developed resistance to ofloxacin and similar treatments (a group of antibiotics called quinolones).^[26] Because of the resistance, quinolones may no longer work, or may not work as well.

Women who need to be in hospital may be treated first by injection of an antibiotic into a vein and then, after their condition has improved, with tablets. Doctors are advised to prescribe one of the two combinations below.

- A drip (also called an IV or an **intravenous infusion**) of cefoxitin three times a day and doxycycline twice a day into a vein. Then tablets of doxycycline plus metronidazole (brand name Flagyl). The tablets should be taken twice a day for 14 days.
- A drip (IV) of clindamycin (brand name Dalacin) three times a day plus gentamicin three times a day into a vein. Then either capsules of clindamycin four times a day for 14 days, or tablets of doxycycline plus metronidazole, taken twice a day for 14 days.

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

Treatment Group 1

Treatments for pelvic inflammatory disease

Treatments that are likely to work

- [Combinations of antibiotics](#)

Treatments that need further study

- [Taking antibiotics before getting an IUD inserted](#)

Other treatments

We haven't looked at the research on this treatment in as much detail as we've looked at the research on most of the treatments we cover. (To read more, see Our method.) But we've included some information because some women with PID will have this treatment.

- [Laparoscopy](#)

What will happen to me?

You can probably be cured of pelvic inflammatory disease (called PID for short) by taking antibiotics, either at home or in hospital. But PID can do serious damage to your health and fertility if you don't get treatment straight away.

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It's important to see your doctor as soon as you notice any symptoms that might be symptoms of PID.

Treatment at home

If your doctor suspects you have PID, you'll be started on **antibiotic** treatment straight away. A delay in treatment, even by a few days, can make your PID more severe. This can increase your chance of getting serious long-term problems. ^[9] ^[10]

You may be able to stay at home while you're taking the tablets. About 3 in 4 women with PID can stay at home for treatment. ^[11]

PID may be caused by more than one type of infection. So your doctor will prescribe at least two antibiotics to work against the different types of **bacteria**. ^[11] You'll probably be given the tablets for 14 days.

If you've had a contraceptive coil (IUD) fitted, you might need to have it removed. This depends on how bad your PID is. If it is mild, your doctor might decide that you can leave it in place. ^[12] If you have had sex in the last seven days and need to have your IUD removed, you will probably be offered emergency contraception (the 'morning after pill'). ^[9]

Your symptoms may go away before the infection is cured. Even so, it's very important that you finish taking the medicine, to make sure the infection is completely cured. ^[11] If you don't take all the tablets, the infection might come back.

Your doctor will want to see you again a few days after starting treatment to check the medicine is working. If you haven't got better you may need to go to hospital for tests or more treatment.

Treatment in hospital

About 1 in 4 women with PID need to stay in hospital during treatment. ^[11]

You may need to go to hospital if: ^[10] ^[12]

- Your doctor thinks you may need an operation
- You're quite unwell (for example, you are feverish and vomiting)
- You have an abscess (a swelling full of pus) inside your **pelvis**
- You've been taking antibiotic tablets but they haven't worked or have caused side effects
- You are pregnant.

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In hospital you'll probably be given antibiotics by a drip (also called an IV or an intravenous infusion). Then, when your condition improves, you'll be given antibiotic tablets or capsules.

If you go to hospital, you may also need to have a [laparoscopy](#). This is an operation that helps your surgeon see inside your pelvis, to get a good view of your reproductive organs.

You might need this operation to confirm that you've got PID and not another disease. Other conditions that could be mistaken for PID include: ^[12]

- **Ectopic pregnancy** (this is when you are pregnant but the baby starts growing in your fallopian tube rather than inside your womb)
- [Appendicitis](#) (this is when your appendix is inflamed)
- [Endometriosis](#) (where tissue, such as the lining of your womb, grows in other parts of your pelvis)
- A **cyst** in one of your **ovaries**.

A laparoscopy can also help your surgeon see how much damage the PID has done to your reproductive organs. The surgeon may find an abscess in your pelvis. They can then use surgical instruments to drain away fluids or cut through scar tissue, during the same operation. ^[12]

Avoiding another infection

PID is usually caused by **sexually transmitted infections**. So it's important that the sex partner you have now, or your recent sex partners, get checked for signs of infection.

Even if your sex partner has no symptoms, they may still have **gonorrhoea** or **chlamydia**. This means your sex partner will need to be treated to avoid passing the infection back to you again. ^[11]

You'll need to avoid having sex until you and your partner have both finished taking the antibiotics. ^[12] This is to stop you passing the infection back and forth between the two of you.

Long-term problems

Unfortunately, even if you have successful treatment, this will not undo any damage that the infection has already done to your reproductive organs. Studies show that, in women who have had PID: ^[13] ^[14]

- About 20 in 100 women have problems getting pregnant because of damage to their fallopian tubes

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- Up to 30 in 100 women get persistent pelvic pain
- Up to 1 in 100 women who get pregnant have an ectopic pregnancy. It happens because your fallopian tubes are damaged.

Your chances of getting these problems depend on how much damage your PID did before you started treatment.

There's also a chance that you will get PID again. About one-third of women who have PID will get it again. And each new infection means you're more likely to become infertile. ^[11]

There are things you can do to prevent getting PID. To read more, see [Protecting yourself from PID](#) .

Treatments:

Combinations of antibiotics

In this section

Lots of combinations of antibiotics are used to treat pelvic inflammatory disease (PID). Some of them are taken as tablets. Others are given by injection. Some are given as a drip (also called an IV or an **intravenous infusion**), usually in hospital. All of them work well.

All the studies we found showed that antibiotics, in all combinations, work well to cure PID. We found two big summaries of the research (called **systematic reviews**) that looked at 5,473 women in total. The summaries compared lots of different combinations of antibiotics. Between 88 in 100 and 100 in 100 women were cured by taking antibiotics. ^{[27] [28] [29]}

The only combination of antibiotics that seemed to work less well was metronidazole (brand name Flagyl) plus doxycycline, which cured only 70 in 100 women. ^[27] But there were problems with the quality of the studies, which means the comparisons may not be totally fair tests of the treatments.

Studies have also looked at the side effects of the different antibiotics. ^{[27] [28] [29]} Side effects that affect your stomach, such as nausea and **diarrhoea** , are quite common in people taking the following antibiotics:

- Ceftriaxone (brand name Rocephin)
- Clindamycin (Dalacin)
- Doxycycline

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But these side effects are usually mild. In the studies we found, only a few women had to stop taking the medicines because of side effects.

The studies also showed that if you take metronidazole and doxycycline you're quite likely to get a metallic taste in your mouth and feel sick. But again, these side effects are mild.

Serious side effects of antibiotic treatment are rare.^{[27] [28] [29]} But if you are taking gentamicin your doctor may check your hearing and balance, as well as your kidney function. This is because, in rare cases, gentamicin can cause damage to people's hearing or their kidneys.

Two studies compared what happened to women given antibiotics by drip (also called an IV) with what happened to women taking antibiotic tablets. Both types of antibiotic worked well. Women given IV antibiotics were slightly more likely to have side effects such as feeling sick.^{[30] [31]}

Both of these studies, and a third one, compared having treatment in and out of hospital. All three studies found that women treated in hospital and at home were just as likely to be cured by their treatment.^{[30] [31] [32]}

In practice, the combination of antibiotics that your doctor may prescribe for you depends on the local recommendations and how well you respond to the medicine.^[33] To learn more, see [Antibiotic combinations for pelvic inflammatory disease](#) .

Taking antibiotics before getting an IUD

In this section

Some women get pelvic inflammatory disease (PID) after having an intrauterine contraceptive device (also called IUD or coil) inserted into their womb (uterus). You may have a coil fitted to prevent pregnancy. But bacteria may get into your womb when the coil is inserted. So doctors have looked at whether it might help to give women antibiotics before inserting the coil. But this doesn't seem to protect women from getting PID.

One summary of the research (called a **systematic review**) looked at four good-quality studies (called **randomised controlled trials**). It found that women were no more likely to get PID whether they were given a dummy drug (called a **placebo**) before having a coil inserted or whether they were given a single dose of the antibiotic doxycycline.^[24]

But all the women in the studies were at low risk of getting PID anyway. So giving antibiotics might be helpful for women at high risk. We can't say, because we didn't find any good research into this.

Laparoscopy

In this section

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You probably won't need any treatments apart from antibiotics. But if you have complications, such as an abscess (a swelling full of pus) in your fallopian tubes, you might need an operation.

Surgery is considered only in women who have severe pelvic inflammatory disease (PID).

^[34] The most common operation is called a laparoscopy. Your surgeon will make a small cut just below your belly button. Then they will push a small tube into the cut, through which they can see your pelvic organs. The surgeon may use tiny instruments, which are pushed through the tube, to drain fluid from an abscess.

Further informations:

Laparoscopy for pelvic inflammatory disease

The most accurate test for pelvic inflammatory disease (PID) is an operation called a laparoscopy. This test has to be carried out in hospital. If you have a laparoscopy you'll be given a general anaesthetic so that you will be asleep during the surgery. ^[15]

Your surgeon will insert a tiny, flexible tube with a lighted end (called a laparoscope) through a small cut just below your belly button. This allows the surgeon to have a good look at the organs inside your abdomen and take samples of tissues for further testing.

All operations have their risks. And laparoscopy: ^[16]

- Is not available at all hospitals
- Can miss some cases of PID.

Because of this, you'll probably have a laparoscopy only if your doctor wants to be sure that you don't have another disease. ^[17]

Laparoscopy can also be used to remove scar tissue or drain an abscess (a swelling full of pus). This can happen if you've got quite severe PID and treatment with antibiotics hasn't helped.

Protecting yourself from pelvic inflammatory disease

The best way to protect yourself against pelvic inflammatory disease (PID) is to prevent the sexually transmitted infections that cause it. You can do this in the following ways.

^[18] ^[19]

- Not having sex, or having sex only with one steady partner who doesn't have a sexually transmitted disease.

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- If you can't do this, you can try to have few sex partners. The more partners you have, the more likely you are to get another sexually transmitted infection.
- Choosing your sex partners carefully. For example, some people choose to be tested for **chlamydia** when starting a new relationship. The National Chlamydia Screening Programme recommends a new test when you have a new sexual partner. ^[20]
- Getting screened regularly for chlamydia (to learn more, see our information on [Chlamydia](#)).

You may also reduce your risk by using barrier methods of contraception. Using a condom consistently can greatly reduce the chance of sexually transmitted diseases. Barrier methods include:

- Male condoms
- Female condoms
- The diaphragm
- The cervical cap.

Glossary:

antibiotics

These medicines are used to help your immune system fight infection. There are a number of different types of antibiotics that work in different ways to get rid of bacteria, parasites, and other infectious agents. Antibiotics do not work against viruses.

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.

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.

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.

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.

ectopic pregnancy

An ectopic pregnancy is when a fertilised egg lodges itself outside of the womb, usually in the fallopian tube. This can be a dangerous condition.

bacteria

Bacteria are tiny organisms. There are lots of different types. Some are harmful and can cause disease. But some bacteria live in your body without causing any harm.

gonorrhoea

Gonorrhoea is an infection you can get by having sex without a condom. If you're a man, it can cause pain in the tube (the urethra) inside your penis and give you a milky discharge from your penis. If you're a woman, it may not cause you any symptoms, but it can damage your tubes and ovaries, making you infertile.

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chlamydia

Chlamydia is an infection you can get by having sex without a condom. It can cause pain or discomfort and discharge from your sexual organs. If you're a woman, it can also cause infertility or a painful infection inside your body.

pelvis

Your pelvis is the area between your hips.

intravenous infusion

When a medicine or a fluid, such as blood, is fed directly into a vein, it's called an intravenous infusion (or IV). To give you an intravenous infusion, a nurse, technician or a doctor places a narrow plastic tube into a vein (usually in your arm) using a needle. The needle is then removed and the fluid is infused (or dripped) through the tube into the vein.

cysts

A cyst is a sac or cavity that develops under your skin and is filled with fluid. Cysts are benign, which means that they are not cancerous.

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.

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.

diarrhoea

Diarrhoea is when you have loose, watery stools and you need to go to the toilet far more often than usual. Doctors say you have diarrhoea if you need to go to the toilet more than three times a day.

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.

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.

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