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## **Cervical screening (Cervical smear test)**

Cervical screening tests (smear tests) are available to women and people with a cervix aged 25–64 years in the UK. The tests are done to prevent cervical cancer by finding abnormalities that can, with relatively simple treatments, be prevented from progressing to cervical cancer. Cervical screening tests are not used to diagnose cancer.

The information below applies specifically for NHS patients in England. However, the screening programme is very similar for each country. For specific information about screening programmes in Scotland, Wales and Northern Ireland, see the Further Reading links at the end of this leaflet.

### **What is a cervical screening test?**

All eligible people who are registered with a GP (as female) automatically receive an invitation by mail. Trans men (assigned female at birth) do not receive invitations if registered as male with their GP, but are still entitled to screening if they have a cervix. During each test some cells are removed from the neck of the womb (cervix), with a plastic brush.

Cervical screening looks for the human papillomavirus (HPV) which can cause abnormal cells on the cervix. Cervical screening samples are tested for types of HPV that can cause [cervical cancer](#).

Testing for HPV first, rather than just looking at the cells using a microscope (cytology), is proven to be a more sensitive and more accurate test. It will help to find more people with cervical cell abnormalities that may need treatment. If the HPV test is positive then the cells will be examined under the microscope (cytology) to look for any abnormal cells.

Most HPV infections are temporary, and slightly abnormal cells often go away on their own when the virus clears. However, if HPV persists, abnormal cells can, if left untreated, turn into cancer over time.

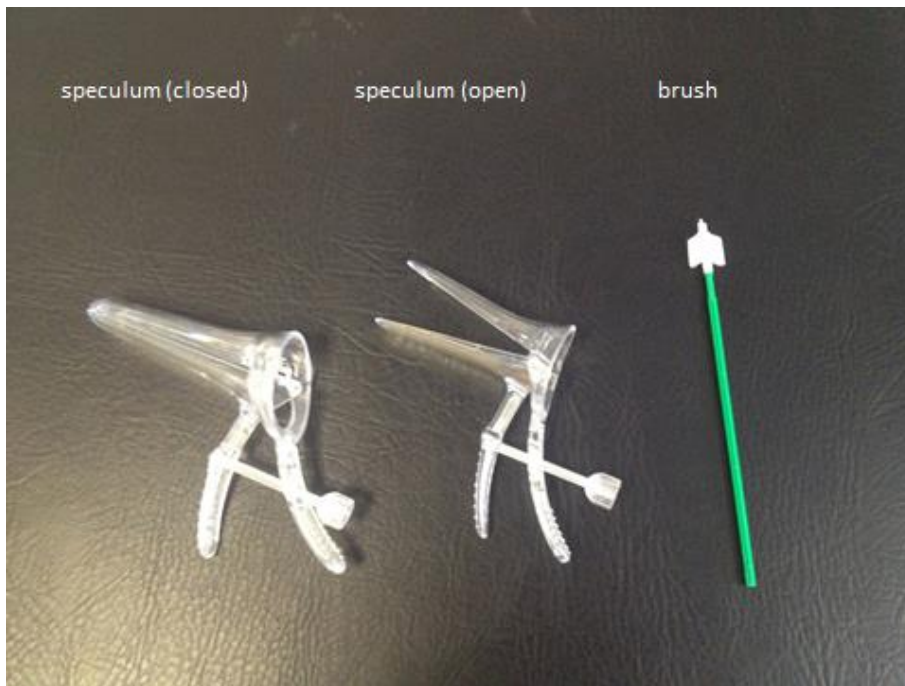
You are very unlikely to develop cervical cancer if you have regular cervical screening tests at the times advised by your doctor. If the test shows any abnormality, you will have treatment to stop you ever getting cancer of the cervix. So, an abnormal test usually does *not* mean you have cancer. It means you should have some treatment to stop you getting cancer.

The [HPV vaccination programme](#) started in 2008. If you have had this vaccination, you should still have cervical screening tests, as the vaccine does not protect against all types of HPV.

## How is the test done?

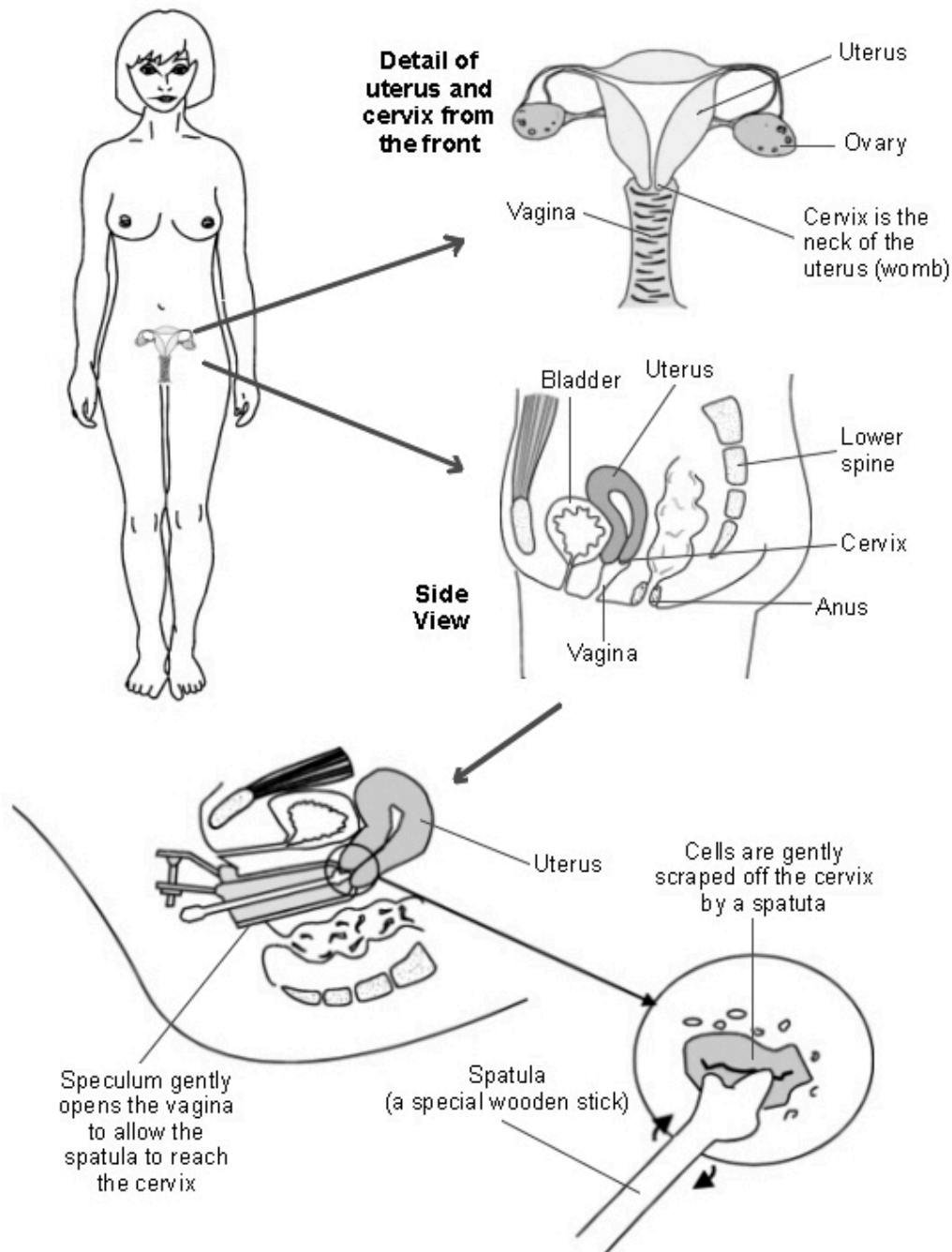
The cervix is the lowest part of the womb (uterus). It is often called the neck of the womb. It is inside the vagina. If you were to put a clean finger into your vagina as far as it will go, you might be able to feel your cervix deep inside.

You will be asked to remove your clothing from the waist down. If you wear a loose skirt, you may only need to remove your knickers. You will be asked to lie on your back on the examination couch. You should bend your knees, put your ankles together and let your knees fall open. A doctor or nurse will put an instrument called a speculum into your vagina. The speculum is put in while it is shut. The doctor or nurse then gently opens it. This opens the vagina and allows the cervix to be seen (at the top of the vagina). The doctor or nurse then uses a thin plastic stick with a small brush at the end to gently scrape some cells from the surface of the cervix. The cells that are obtained on the brush are sent away to be examined in the laboratory.



**By Dr Mary Harding (Own work), Patient.info©**

Cervical screening tests are not painful, although some people find the speculum uncomfortable. It generally helps if you can relax - this makes the experience better for you and easier for the person taking the sample. The newer disposable plastic specula are also a lot less cold than the older metal ones! The sample taken from your cervix is put into some liquid to be sent to the laboratory for testing.



## Why are cervical screening tests advised?

Cervical cancer is a disease that can often be prevented. Early changes can be detected in the neck of the womb (cervix), which indicate that cancer may develop. Since screening started, the numbers of cases of cervical cancer have dramatically dropped, and so have the number of deaths from it. Cancer of the cervix is now only the fourteenth most common cancer in the UK, whereas across the world it is the third or fourth most common cancer. This is because of the screening programme. It is one of the few types of cancer which can be detected and stopped before it ever begins.

**The cervical screening test is not a cancer test. The test is used to detect early abnormalities of the cervix which, if untreated, could lead to cervical cancer in the future.**

For most people the smear test will be normal. An abnormal result does **not** mean cancer in the vast majority of cases but it does mean that further testing or treatment will be required. Treatment can be given to prevent cancer from developing in people with abnormal cells.

## **Where do I go for a cervical screening test?**

In the UK most people have the test at their GP surgery. It is usually done by the practice nurse. You can have it done at a family planning clinic if you prefer. A copy of the result is usually sent to you, your GP and the health authority. This takes about two weeks. Ask at your GP surgery for the result of the test if you do not receive it.

### **The NHS Cervical Screening Programme**

The NHS Cervical Screening Programme in the UK invites all women for regular tests automatically. You need to be registered with a GP, as this is how the programme obtains your name. It is therefore important that your GP has the correct address details for you.

A computer system is used. Your record on the computer is updated when you have a test so it knows when your next one is due. You should receive a letter asking you to make an appointment to have a test when it is due. Computerised recall systems are good – but not foolproof. Contact your GP if you think you should have had a cervical screening test but have not yet received an invitation to have one.

Cervical screening is a free service on the NHS. Depending on which country you live in, you may be called at different ages for cervical screening:

- First invitation for screening is sent six months before a 25th birthday.

- Routine recall (repeat screening test):
  - Three-yearly tests from age 25 to age 49 years.
  - Five-yearly tests from age 50 to 64 years. Screening stops at age 65.
- Age over 65 years if:
  - they have not had a cervical screening test since the age of 50.
  - A recent cervical screening test has been abnormal.
- Cervical screening does not stop simply due to age until anyone with a previously abnormal cervical screening test has had three negative results.

## Why is the cervical screening test important?

**Cervical cancer** is not uncommon. In recent years the number of cases has fallen due to cervical screening tests. However, there are still around 3,000 new cases of cervical cancer diagnosed each year in the UK. Most of these occur in those people who have never had a screening test, or who have not had one for many years. Cervical cancer can be prevented if you have regular screening tests. It is estimated that over 4,000 people are prevented from developing cervical cancer every year in the UK, due to cervical screening.

## What do the results of the cervical screening test mean?

The initial test looks for human papillomavirus (HPV). This is a type of wart virus that can be passed on by having sex. It is involved in the development of nearly all cases of cervical cancer. However, most infections with HPV will clear completely from the body within two years. This means that most people who are infected with HPV do not develop cancer.

A few screening test samples are inadequate and need to be repeated. Inadequate simply means no result can be given, as not enough cervical cells were present for examination under the microscope. If the HPV test result is unavailable or cytology is inadequate at any screening episode, a sample is repeated in no less than three months.

If HPV is not found (normal test result):

- You will be offered a further routine screening test appointment in 3-5 years (depending on your age).

If the test shows that HPV is present then the same smear sample is looked at under the microscope to see if HPV has caused any abnormal cell changes:

- If HPV is found but there are no abnormal cells: a follow-up screen is arranged for 12 months' time. This will check to see if your immune system has cleared the virus.
- If the repeat test at 12 months is still positive for HPV but there are still no abnormal cells: a further follow-up screen is arranged for 12 months' time. This will check to see if your immune system has cleared the virus.
- If the smear remains HPV-positive, with normal or abnormal cells, or an inadequate smear sample at the further recall (24 months after the initial HPV positive test): you will be referred for colposcopy.
- If HPV-negative at 12 months: return to routine recall, ie you will be offered a further screening test in 3-5 years (depending on your age).

If HPV is found and there are abnormal cells at any time during routine screening or 12-month review then you will be referred for colposcopy (see below).

### **Abnormal cells**

There is a range of changes that may occur. **In nearly all cases, these changes do not mean cancer.**

Dyskaryosis is a medical term used to describe abnormal cell changes, seen with cervical screening. Dyskaryosis is not cancer. About 9 out of 10 cases of dyskaryosis revert back to normal on their own, without treatment. Nearly all abnormal tests show no more than small changes in the cervical cells.

*Borderline change* is the mildest abnormality seen on cervical screening. About 3-4 in 100 results are borderline. Whilst the cells are not quite normal, they are not abnormal enough to be categorised as dyskaryosis.

*Mild dyskaryosis* is a common abnormal result from cervical screening. About 2 tests in every 100 show mild abnormalities of the cervical cells. Most of these changes go back to normal without any treatment.

*Moderate or severe dyskaryosis.* About 1 in every 100 smear tests shows either one of these abnormalities. If your test shows moderate or severe dyskaryosis it is still very unlikely that you will have cervical cancer. The main difference is that these changes are less likely to return to normal by themselves. You will probably need some treatment and this will happen at colposcopy.

*Invasive or glandular neoplasia* is a more serious abnormality which shows in fewer less than 1 test in 1,000. Neoplasia means new growth of cells. Invasive neoplasia suggests cervical cancer *might* be present. This is *not* proven until a sample of cervical tissue (a biopsy) has been taken at colposcopy. *Glandular neoplasia* is another significant abnormality that can be seen on cervical screening. It suggests that there is an abnormality in the lining of the womb (the endometrium), rather than on the cervix. This is because glandular cells (found lining the womb) are different to the ones normally found on the cervix. Glandular neoplasia again does not necessarily mean cancer, but cancer needs to be excluded. You will probably need to have a colposcopy and may need to have a small camera passed into the womb (called [hysteroscopy](#)).

It is important to remember that it is rare for cervical cancer to be found on cervical screening. Screening is designed to find early changes that *could* become cancer in the future, if left untreated.



## What is colposcopy?

Colposcopy is a more detailed examination of the neck of the womb (cervix). An instrument called a colposcope is used to magnify the cervix so it can be seen in more detail.

You may be referred for a colposcopy if you have one of the higher grades of abnormality on your test. You may also be referred for colposcopy if you have had three inadequate or borderline results in a row, or if you have had three abnormal results (of any grade) within a 10-year period.

The laboratory that reports the cervical screening results will determine whether you need to be referred for colposcopy (based on the current result and your past results). Usually in the UK the laboratory will refer you directly to colposcopy, and they will let you know and send you an information leaflet about the process. [Read more in the separate leaflet called Colposcopy and Cervical Treatments.](#)

## Can abnormal cells be treated?

Yes. A minor abnormal change often goes away by itself. This is why a repeat test after 3–12 months may be all that is needed. If the cells remain abnormal, or the changes are more marked, treatment is offered. This will stop cancer from developing in the future. Treatment, if needed, is simple and almost 100% effective. Treatment is done at the colposcopy session. Abnormal cells are removed or destroyed by freezing, burning, laser or cutting them away.

## Some common questions about the cervical screening test

### How effective is the cervical screening test?

No test is 100% effective. Although a cervical screening test does not detect an abnormality every single time one occurs, overall it is a very reliable test.

### I have never had sex. Do I need a cervical screening test?

The test is recommended for all those with a cervix – even if you have never had sex. However, the risk of getting cervical cancer is very low if you have never had sex. This is because the main cause of cervical cancer is a past infection with HPV – the type of common wart virus that is normally passed on by having sex. There are other, less common types of cervical cancer, not caused by HPV, so anyone with a cervix who has never had sex is still at risk.

For more information, see the separate leaflets called [Human Papillomavirus Immunisation \(HPV\)](#) and [Cervical Cancer](#). You may decide that you do not want to have a test if you have never had sex.

### **I am a lesbian. Do I need a cervical screening test?**

Yes. If you are a lesbian, you are still advised to have cervical screening. This is because there is still a risk of cervical cancer, and HPV can still be transmitted between partners. Additionally, some lesbians may have had sexual contact with a man in the past.

### **I have had a hysterectomy – do I need to have a cervical screening test?**

This depends on the type of [hysterectomy](#), and why it was done. Your doctor will advise you on this. In general, if you have a total hysterectomy – removal of the womb (uterus) and cervix – for a reason not due to cancer, you no longer need cervical screening tests. Some types of hysterectomy leave the cervix (called subtotal hysterectomy), and some are done to remove a cancer. In these situations, a test of the cells of the remaining cervix, or of the top of the vagina (called the vault), may still be advised.

### **Does the cervical screening test really save lives?**

Yes. By studying the statistics of cancer cases since the tests began it is estimated that up to 4,500 cases of cervical cancer are prevented each year in the UK. After screening was introduced, the number of cases of cervical cancer each year dropped by almost half.

### **Wouldn't it be better to have yearly tests?**

No - yearly cervical screening is not usually recommended. This is because cervical cancer takes a long time to develop. The early changes that can occur in cervical cells often improve without treatment anyway. More frequent screening would be expensive for the NHS, is unlikely to identify or prevent any more cancers, and could cause physical or psychological harm - through over-treatment or anxiety. More frequent cervical screening is therefore not a cost-effective use of resources.

Some people will need to have more frequent cervical screening or colposcopy, after abnormal results or cervical treatment. This is an extremely important part of follow-up. Your doctor will advise you how often you need to be recalled.

### **Why isn't cervical screening offered before age 25?**

This decision was made by a panel of experts who looked at all the evidence. Their main reasons are:

- Cervical cancer is extremely rare in those under 25 years of age.
- Abnormal cervical screening test results are very common under the age of 25. Many of these changes seen revert back to normal without any treatment.
- Cervical screening in those aged under 25 may do more harm than good. People may be very anxious and worried about abnormalities that eventually go away anyway. Also, there is the potential for harm to occur, as these people might end up being over-treated. This would mean removing cells from the cervix earlier than was needed, perhaps without waiting for the problems to go away by themselves.

It is really important not to miss your first invitation for cervical screening at age 25. Otherwise, there is the potential (especially if you have been sexually active since her teenage years) for abnormalities in the cervix to become more serious. So, the main risk of starting the screening programme at age 25, is that some people might miss their first invitation. However, since this was changed, initially in England, experts have been following up the effect. There has not been a rise in cancers in this age group, so it seems safe.

### **Can I have my cervical screening test or colposcopy when I am having my period?**

It is best to have your cervical screening test when you are not having your period (menstruating). Ideally, the test is best performed mid-cycle. If you are bleeding heavily, there may be too much blood and mucus on the brush and too few cells from the cervix will be removed.

Similarly, it is probably best to delay your colposcopy examination if your period starts. It is not impossible to perform colposcopy when you are menstruating, but it can make it difficult to get a good view. You should ring up the clinic where you have your appointment to check whether they would prefer you to reschedule or not.

### **Can I have cervical screening when I am pregnant?**

If you are due your routine cervical screening test and you are pregnant, this should be put back until after your baby is born. Usually, it is advisable to wait until at least 12 weeks after your baby is born. This gives the cervix a chance to recover from pregnancy and childbirth. Tests performed earlier are more likely to be inadequate.

If you have had an abnormal cervical screening result and have been invited for colposcopy, it is important you attend, even if you are pregnant. Colposcopy can be safely carried out on pregnant women. As long as no major problems are found, treatments will probably be delayed until after you have had your baby. Sometimes repeat colposcopy may be done later in pregnancy. It is possible to give treatment to the cervix, if it is essential, whilst you are pregnant.

### **I have irregular bleeding – do I need to have a cervical screening test straightaway?**

No. Cervical screening is a routine test performed on people without any symptoms. The aim is to look for problems in cervical cells that could become cancer in the future. A cervical screening test would **not** be used as an investigation for irregular bleeding (but you should still attend for your cervical screening test when invited).

**Note:** if you get any of the following symptoms, you should see your GP:

- Bleeding after having sex (called postcoital bleeding).
- Bleeding between periods (called intermenstrual bleeding).
- Bleeding after the menopause (called postmenopausal bleeding).

A little bit of light bleeding or spotting for up to a day after having a smear test may sometimes happen, and is normal.

### **I am a transgender man – do I need cervical screening?**

If you were born female and have had a sex change, you need only have cervical screening if you have retained your cervix. If you have had a total hysterectomy (with removal of the cervix), you do not need to attend for screening.

### **I have HIV infection – do I need to do anything differently?**

People with [HIV infection](#) should ideally have cervical screening and colposcopy when their disease is diagnosed. Current recommendations are to have a cervical screening test every year. This is because HIV increases your risk of developing cervical cancer.

### **Does being immunosuppressed increase my risk of cervical cancer?**

Yes – people who are immunosuppressed are at an increased risk of having changes that may become cancerous. [Immunosuppressed](#) means your immune system doesn't work well. This may be because of certain diseases or medicines. The main groups affected are:

- People with [HIV – the virus that causes AIDS](#). These people need yearly cervical screening (see above).
- People with kidney failure who require dialysis (or any other disease with a high chance of needing organ transplantation) should have a cervical smear and/or colposcopy done as soon as possible after the decision for transplant or dialysis has been made. However, it is not recommended that these people have more frequent cervical screening – just that early referral to colposcopy is advisable with any abnormal screening results.

People taking cytotoxic medicines for rheumatological disorders, immunosuppressive medicines after other transplants, [chemotherapy for cancer](#), [steroids](#) or [tamoxifen](#) have not been shown to be at increased risk. They should, however, have regular screening in line with their age group.

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## **Further reading**

- [Cervical cancer – UK mortality statistics](#); Cancer Research UK
- [Population Screening Programmes \(England\)](#); GOV.UK
- [Cervical Screening Wales](#); Public Health Wales
- [Cervical screening](#); HSC Northern Ireland Public Health Agency
- [Arbyn M, Roelens J, Simoens C, et al](#); Human papillomavirus testing versus repeat cytology for triage of minor cytological cervical lesions. Cochrane Database Syst Rev. 2013 Mar 28;3:CD008054. doi: 10.1002/14651858.CD008054.pub2.
- [Koliopoulos G, Nyaga VN, Santesso N, et al](#); Cytology versus HPV testing for cervical cancer screening in the general population. Cochrane Database Syst Rev. 2017 Aug 10;8:CD008587. doi: 10.1002/14651858.CD008587.pub2.
- [Cervical Cancer and HPV](#); NICE CKS, September 2020 (UK access only)
- [Cervical screening](#); NICE CKS, September 2020 (UK access only)
- [Cervical screening](#); Public Health Scotland

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Authored by:	Peer Reviewed by: Dr Laurence Knott	
Originally Published: 19/11/2023	Next review date: 29/05/2021	Document ID: doc_4213

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