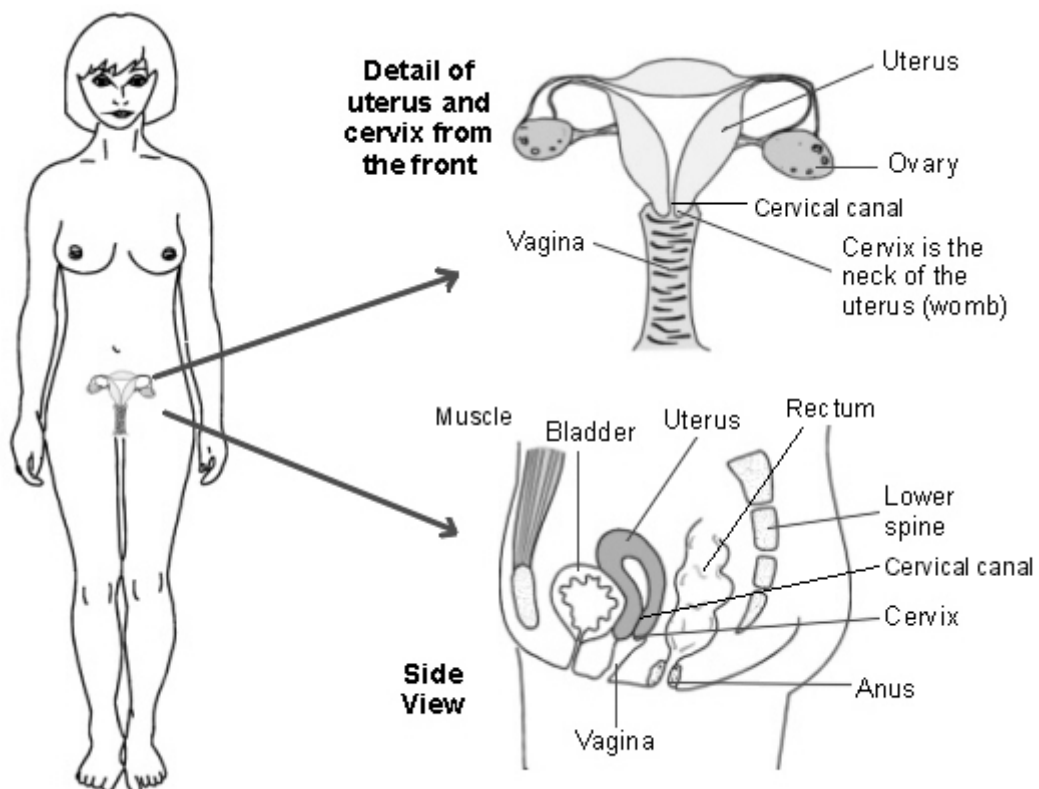


# Cervical Cancer

The most common early symptom of cervical cancer (cancer of the cervix) is abnormal vaginal bleeding. Most cases develop in women in their 30s or 40s. If cervical cancer is diagnosed at an early stage, there is a good chance of a cure. Regular cervical screening tests can detect 'pre-cancer' which can be treated before cancer develops.

## What is the cervix?

The cervix is the lower part of the uterus (womb) which extends slightly into the top of the vagina. The cervix is often called 'the neck of the womb'.



A narrow passage called the cervical canal (or endocervical canal) goes from the vagina to the inside of the uterus. This is normally kept quite tightly shut, but allows blood to flow out from the uterus during a period, and sperm to travel inside if you have sex. It opens very wide during labour if you have a baby. The surface of the cervix is covered with skin-like cells. There are also some tiny glands in the lining of cervical canal which make mucus.

## What is cancer?

Cancer is a disease of the cells in the body. The body is made up from millions of tiny cells. There are many different types of cell in the body, and there are many different types of cancer which arise from different types of cell. What all types of cancer have in common is that the cancer cells are abnormal and multiply 'out of control'.

A malignant tumour is a 'lump' or 'growth' of tissue made up from cancer cells which continue to multiply. Malignant tumours invade into nearby tissues and organs which can cause damage.

Malignant tumours may also spread to other parts of the body. This happens if some cells break off from the first (primary) tumour and are carried in the bloodstream or lymph channels to other parts of the body. These small groups of cells may then multiply to form 'secondary' tumours (metastases) in one or more parts of the body. These secondary tumours may then grow, invade and damage nearby tissues, and spread again.

Some cancers are more serious than others. Some are more easily treated than others (particularly if diagnosed at an early stage). Some have a better outlook (prognosis) than others.

So, cancer is not just one condition. In each case it is important to know exactly what type of cancer has developed, how large it has become, and whether it has spread. This will enable you to get reliable information on treatment options and outlook. See separate leaflet called '*Cancer - What are Cancer and Tumours*' for further details about cancer in general.

## What is cervical cancer?

There are two main types of cervical cancer:

- **Squamous cell cervical cancer** is the most common. This develops from a skin-like cell (a squamous cell) that covers the cervix which becomes cancerous.
- **Adenocarcinoma cervical cancer** is less common. This develops from a glandular cell (a cell that makes mucus) within the cervical canal which becomes cancerous.

Both types are diagnosed and treated in a similar way. Most cases develop in women in their 30s or 40s. Some cases develop in older and younger women. However, it is rare in women under 25 years.

Cervical cancer is the second most common type of cancer in women in the UK. It kills just over 1,000 women every year in the UK. However, the number of cases diagnosed each year has fallen over recent years. This is because cervical cancer can be prevented by regular cervical screening tests.

## What is the cervical screening test?

Women in the UK are offered regular cervical screening tests. During each test some cells are taken from the surface of the cervix. These cells are sent to the laboratory to be looked at under a microscope. In most tests the cells seen are normal. Dyskaryotic cells (cervical dyskaryosis) are seen in some cases.

Cervical dyskaryosis is not cervical cancer. Cervical dyskaryosis means that some cells of the cervix are abnormal, but are not cancerous. The abnormal cells are sometimes called 'pre-cancerous' cells or dysplastic cells. Depending on the degree of the abnormality of the cells, cervical dyskaryosis is classed as:

- Mild dyskaryosis. This is when there are only slight cell changes. This is sometimes called CIN 1. CIN stands for cervical intraepithelial neoplasia.
- Moderate dyskaryosis (or CIN 2).
- Severe dyskaryosis (or CIN 3). This is when the cells are very abnormal, but are still not cancerous.

In many cases the abnormal (dyskaryotic) cells do not progress to become cancerous. In some cases, they revert back to normal. However, in some cases, often years later, the abnormal cells turn cancerous.

If you have just slight abnormal changes (mild dyskaryosis or CIN1), you may simply be offered another test much sooner than normal - after a few months or so. In many cases,

slightly abnormal cells revert back to normal within a few months. Treatment may be offered if the abnormality persists. For women with moderate or severe abnormal changes, treatment can clear the cervix of the abnormal cells **before** they develop into cancer.

See separate leaflet called '*Cervical Screening Test*' for more details. But the 'take-home message' is.... you are very unlikely to develop cervical cancer, IF...you have regular cervical screening tests at the times advised by your doctor, AND ...you have treatment when advised if abnormal cells are detected.

## What causes cervical cancer?

A cancerous tumour starts from one cell. It is thought that something damages or alters certain genes in the cell. This makes the cell very abnormal and multiply 'out of control'. (See separate leaflet called '*Cancer - What Causes Cancer*' for more details.)

In the case of cervical cancer, the cancer develops from a cell which is already abnormal - see above. In most cases, abnormal cells are present for years before one of the abnormal cells becomes cancerous and starts to multiply out of control into a cancerous tumour. The initial 'pre-cancerous' abnormality of cervical cells is usually caused by a prior infection with the human papilloma virus.

### Human papilloma virus (HPV) and cervical cancer

There are many strains of HPV. Two types, HPV 16 and 18, are involved in the development of most cases of cervical cancer. (Note: some other strains of HPV cause common warts and verrucas. These strains of HPV are not associated with cervical cancer.)

The strains of HPV associated with cervical cancer are nearly always passed on by having sex with an infected person. An infection with one of these strains of HPV does not usually cause symptoms. So, you cannot tell if you or the person you have sex with are infected with one of these strains of HPV.

In some women, the strains of HPV that are associated with cervical cancer affect the cells of the cervix. This makes them more likely to become abnormal which may later (usually years later) turn into cancerous cells. Note: within two years, 9 out of 10 infections with HPV will clear completely from the body. This means that most women who are infected with these strains of HPV do not develop cancer.

The HPV vaccine has recently been introduced for girls from the age of 12 in the UK. Studies have shown that the HPV vaccine is very effective at stopping cancer of the cervix developing. The vaccine has been shown to work better for people who are given the vaccine when they are younger, before they are sexually active, compared to when it is given to adults. However, even if you have had the HPV vaccine you **must** attend for cervical screening. This is because the vaccine does not guarantee complete protection against cervical cancer. See separate leaflet called '*HPV Immunisation*' for more detail.

### Other factors

Other factors that increase the risk of developing cervical cancer include the following:

- Smoking. Chemicals from cigarettes get into the bloodstream and can affect cells throughout the body. Smokers are more likely than non-smokers to develop certain cancers, including cervical cancer. In particular, if you smoke *and* have HPV infection, the risk is compounded.
- A poor immune system. For example, people with AIDS or people taking immunosuppressant medication have an increased risk. (If your immune system is not working fully then you are less able to deal with HPV infection and abnormal cells and you are more at risk of developing cervical cancer.)
- There is a possible link between the combined oral contraceptive pill ("the pill") and a slight increased risk of cervical cancer if the pill is taken for more than eight years.

## What are the symptoms of cervical cancer?

You may have no symptoms at first when the tumour is small. As the tumour becomes larger, in most cases the first symptom to develop is abnormal vaginal bleeding such as:

- Bleeding between normal periods (intermenstrual bleeding).
- Bleeding after having sex (post coital bleeding).
- Any vaginal bleeding in women past the menopause.

An early symptom in some cases is a vaginal discharge that smells unpleasant, or discomfort or pain during sex.

All of the above symptoms can be caused by various other common conditions. But if you develop any of these symptoms, you should have it checked out by a doctor.

In time, if the cancer spreads to other parts of the body, various other symptoms can develop.

## How is cervical cancer diagnosed and assessed?

### To confirm the diagnosis

A doctor will usually do a vaginal examination if you have symptoms which may possibly be cervical cancer. He or she may feel an abnormal cervix. If cervical cancer is suspected, you will usually be referred for colposcopy.

Colposcopy is a more detailed examination of the cervix. For this test a speculum is gently put into the vagina so the cervix can be seen. The doctor uses a magnifier (colposcope) to look at the cervix in more detail. The test takes about 15 minutes. During colposcopy it is usual to take a small piece of tissue from the cervix (biopsy). The biopsy sample is then examined under a microscope to look for cancer cells. See separate leaflet called '*Colposcopy*' for more details.

### Assessing the extent and spread

If you are found to have cervical cancer then further tests may be advised to assess if the cancer has spread. For example, a CT scan, an MRI scan, a chest x-ray, an ultrasound scan, blood tests or other tests. (See separate leaflets called '*CT Scan*', '*MRI Scan*' and '*Ultrasound Scan*' for more details.) This assessment is called 'staging' of the cancer. The aim of staging is to find out:

- How much the tumour has grown, and whether it has grown to other nearby structures such as the bladder or rectum.
- Whether the cancer has spread to local lymph glands (nodes).
- Whether the cancer has spread to other areas of the body (metastasised).

Exactly what tests are needed depends on the initial assessment and the results of the biopsy. For example, the biopsy may show that the cancer is at a very early stage and remains just in the surface cells of the cervix. This is unlikely to have spread (metastasised) and you may not need many other tests. However, if the cancer appears to be more advanced and likely to have spread then a range of tests may be needed.

Finding out the stage of the cancer helps doctors to advise on the best treatment options. It also gives a reasonable indication of outlook (prognosis). See leaflet called '*Cancer Staging and Grading*' for details.

## What are the treatment options for cervical cancer?

Treatment options which may be considered include surgery, radiotherapy, chemotherapy, or a combination of these treatments. The treatment advised for each case depends on

various factors. For example, the stage of the cancer (how large the primary cancer tumour is and whether it has spread), and your general health.

You should have a full discussion with a specialist who knows your case. They will be able to give the pros and cons, likely success rate, possible side-effects, and other details about the various possible treatment options for your type and stage of cancer. You should also discuss with your specialist the aims of treatment. For example:

- In some cases, treatment aims to cure the cancer. Some cervical cancers can be cured, particularly if they are treated in the early stages of the disease. (Doctors tend to use the word 'remission' rather than the word 'cured'. Remission means there is no evidence of cancer following treatment. If you are 'in remission', you may be cured. However, in some cases a cancer returns months or years later. This is why doctors are sometimes reluctant to use the word cured.)
- In some cases, treatment aims to control the cancer. If a cure is not realistic, with treatment it is often possible to limit the growth or spread of the cancer so that it progresses less rapidly. This may keep you free of symptoms for some time.
- In some cases, treatment aims to ease symptoms. For example, if a cancer is advanced then you may require treatments such as painkillers or other treatments to help keep you free of pain or other symptoms. Some treatments may be used to reduce the size of a cancer which may ease symptoms such as pain.

### **Surgery**

An operation to remove the cervix and uterus (hysterectomy) is a common treatment. If the cancer is at an early stage and has not spread then surgery alone can be curative. In some cases where the cancer is at a very early stage, it may be possible to just remove the part of the cervix affected by the cancer without removing the entire uterus. This would mean that your fertility would not be affected.

If the cancer has spread to other parts of the body, surgery may still be advised, often in addition to other treatments. For example, in some cases where the cancer has spread to other nearby structures, extensive surgery may be an option. This may be to remove not only the cervix and uterus but also nearby structures which may have become affected such as the bladder and/or rectum.

Even if the cancer is advanced and a cure is not possible, some surgical techniques may still have a place to ease symptoms. For example, to relieve a blockage of the bowel or urinary tract which has been caused by the spread of the cancer.

### **Radiotherapy**

Radiotherapy is a treatment which uses high energy beams of radiation which are focussed on cancerous tissue. This kills cancer cells, or stops cancer cells from multiplying. (See leaflet called '*Radiotherapy*' for details.) Radiotherapy alone can be curative for early stage cervical cancer and may be an alternative to surgery. For more advanced cancers radiotherapy may be advised in addition to other treatments.

Two types of radiotherapy are used for cervical cancer, external and internal. In many cases both types are used.

- External radiotherapy. This is where radiation is targeted on the cancer from a machine. (This is the common type of radiotherapy used for many types of cancer.)
- Internal radiotherapy (brachytherapy). This treatment involves placing a small radioactive implant next to the cancerous tumour for a short time and then it is removed. (It is put in position via the vagina.)

Even if the cancer is advanced and a cure is not possible, radiotherapy may still have a place to ease symptoms. For example, radiotherapy may be used to shrink secondary tumours which have developed in other parts of the body and are causing pain.

## Chemotherapy

Chemotherapy is a treatment using anti-cancer drugs which kill cancer cells, or stop them from multiplying. See leaflet called '*Chemotherapy with Cytotoxic Drugs*' for details. Chemotherapy may be given in addition to radiotherapy or surgery in certain situations.

## What is the prognosis (outlook)?

The outlook is best in those who are diagnosed when the cancer is confined to the cervix and has not spread. Treatment in this situation gives a good chance of cure. For women who are diagnosed when the cancer has already spread, a cure is less likely but still possible. Even if a cure is not possible, treatment can often slow down the progression of the cancer.

The treatment of cancer is a developing area of medicine. New treatments continue to be developed and the information on outlook above is very general. The specialist who knows your case can give more accurate information about your particular outlook, and how well your type and stage of cancer is likely to respond to treatment.

## Further help and information

### Macmillan Cancer Support

Tel: 0808 800 1234 Web: [www.macmillan.org.uk](http://www.macmillan.org.uk)

Provides information and support to anyone affected by cancer.

### Cancer Research UK

Web: [www.cancerhelp.org.uk](http://www.cancerhelp.org.uk) provides facts about cancer including treatment choices.

### Jo's Cervical Cancer Trust

Tel: 020 7936 7498 Web: [www.jostrust.org.uk](http://www.jostrust.org.uk)

A charity dedicated to women, their families and friends affected by pre-cancer and cervical cancer. Its primary activity is the provision of easily accessed good information, confidential medical advice and support about all aspects of this disease.

### Other support groups

See [www.patient.co.uk/selfhelp.asp](http://www.patient.co.uk/selfhelp.asp) for a list of support groups for cancer patients.

### NICE - National Institute for Health and Clinical Excellence

Web: [www.nice.org.uk/guidance/index.jsp?action=byTopic&o=7170](http://www.nice.org.uk/guidance/index.jsp?action=byTopic&o=7170)

This link takes you to various guidelines relating to cervical cancer. Each guideline usually has a corresponding 'information for the public' to explain things in plain English.

## References

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- [Peto J, Gilham C, Fletcher O, et al](#); The cervical cancer epidemic that screening has prevented in the UK. *Lancet*. 2004 Jul 17-23;364(9430):249-56. [abstract]

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Comprehensive patient resources are available at [www.patient.co.uk](http://www.patient.co.uk)

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