

Patient information from BMJ

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Cervical cancer

Cervical cancer can nearly always be cured if it's caught early. But when it's diagnosed in its later stages it's often fatal. Cervical cancer screening helps prevent deaths by finding cervical cancers before they spread.

You can talk with your doctor to find out more about screening and if you have any questions about cervical cancer.

What is cervical cancer?

The cells that make up the organs in our bodies usually grow, die off, and replace themselves in a regular way. But when cells grow out of control they can form clumps called **tumors**. This is what we call cancer.

Cervical cancer is one of the most common types of cancer in women. The most commonly affected age group is women in their 40s.

The cervix is the lower part of the uterus (womb). It sits between the lower part of the uterus and the vagina. The cervix:

- allows menstrual blood out of the uterus, and
- funnels sperm from the vagina into the uterus during sex.

Cervical cancer is almost always caused by a virus called **human papillomavirus**, or **HPV**. HPV is spread through sexual contact. HPV and cervical cancer are more common in women who:

- become sexually active at a younger age, and
- have multiple sexual partners.

Using condoms gives some protection against HPV, but the virus can spread through general sexual contact, such as touching the genitals, as well as through intercourse.

There are more than 100 types of HPV, but only a few cause cervical cancer. Most women will have some kind of HPV infection during their lives. But there aren't any symptoms and your immune system usually fights off the infection without you knowing it's there.

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Many countries have **vaccination programs** to protect against the most dangerous types of HPV. In the US, girls are offered the vaccine in two stages starting at about age 11.

Boys are also vaccinated in the US. This helps to prevent the spread of HPV, and also to prevent some other cancers that can affect both sexes.

If you are the parent of a young person who didn't get vaccinated around age 11, talk with your doctor about vaccination.

Many countries also have **cervical cancer screening programs** that help detect cancers in their early stages. In the US:

- women aged 21 to 29 are invited for screening every 3 years, and
- women aged 30 to 65 are invited for screening every 3 to 5 years depending on what type of test they have. Some women have a test for cancer, while some women are only tested for HPV, and some have both tests. Your doctor can explain the options to you.

In cervical cancer screening (what is sometimes called a "PAP smear" or "PAP test") a small sample of cells is taken from the cervix and tested for cancer.

The test can be a bit uncomfortable, but it shouldn't hurt. Most women are more worried about feeling awkward and embarrassed than about pain. The test only takes a few minutes and the end result is usually peace of mind.

Cervical cancer is almost always caused by HPV infection. But some things can make it easier for the infection to trigger cancer. These include:

- smoking
- having a poor diet
- taking the oral birth control pill, and
- having a weak immune system.

If you have cervical cancer your specialist cancer doctor (an oncologist) will classify your cancer using "staging". Staging is a system of letters and numbers that describes how far your cancer has spread. It helps doctors decide which treatments would be the most useful for each person's cancer.

It's a complicated system, but the basics are that:

- stage 1 cancer is only in the cervix
- stage 2 cancer has spread beyond the cervix into nearby tissues
- stage 3 cancer has spread further outside the cervix - for example, into the vagina - but not to other major organs or to distant parts of the body
- stage 4 means that the cancer has spread beyond the pelvis into other organs, such as the bladder or rectum. Cancer that has spread a long way is called **metastatic** cancer.

What are the symptoms?

Early-stage cervical cancer often has no symptoms. But some women notice symptoms including:

- pelvic pain
- pain during sex
- bleeding from the vagina after sex, or other abnormal vaginal bleeding
- vaginal discharge
- back pain
- changes in menstrual periods.

Many symptoms of cervical cancer, such as abnormal bleeding, can be caused by other things. So having these symptoms doesn't usually mean that you have cancer. But if you have any of them it's best to see your doctor.

If your doctor thinks you might have cervical cancer he or she will arrange for you to have a test called a **colposcopy**. This involves a specialist using a microscope with a light to look inside your vagina through to your cervix.

The specialist then coats the cervix with special fluid, which shows up anything unusual. A sample of any unusual tissue can then be taken and tested. This is called a **biopsy**.

What treatments are available?

The treatment you need will depend on how far your cancer has spread.

For example, very small cancers that have not spread beyond the cervix can almost always be cured with surgery. But most metastatic cancer, where the cancer has spread beyond the pelvis and into other parts of the body, are very hard to cure.

Whatever treatments you have, you should ask your treatment team any questions you want to at any stage of your treatment. And remember, all decisions about your treatment should reflect your wishes.

Very small tumors

Very small, early-stage cervical cancers are sometimes called **microinvasive cancers**. These can almost always be cured by surgery to remove the cancer cells. Some women also need to have some nearby glands (called lymph nodes) removed.

Broadly speaking, this is what your oncologist would call stage 1 cervical cancer.

There are two types of operation to cure cervical cancer at this very early stage.

- **Conisation** means removing a cone-shaped section of the cervix containing the cancer cells.
- **Electrosurgical excision** means removing the cancer cells with an electrical current.

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Early-stage cervical cancer

Cancer that has grown beyond a small cluster of cells, but that is still fairly small and still within the cervix, is called early-stage cervical cancer.

Broadly speaking, this description covers many stage 1 and stage 2 cancers.

The main treatment is surgery to remove the uterus (womb) and surrounding lymph nodes. Some women also need treatment with **chemotherapy** and **radiation therapy** after this operation.

- Chemotherapy means taking drugs that kill cancer cells.
- Radiation therapy means targeting the tumor with radiation to kill the cancer cells.

Having both of these treatments works better than just having one. But they can both cause side effects. For example:

- radiation therapy can cause problems including infertility, pain when urinating, nausea, and vomiting
- chemotherapy can cause problems including hair loss, fatigue, nausea, and vomiting.

Your treatment team should explain all the possible side effects to you, as well as which ones are only temporary and will go away when your treatment stops.

Some women with small early-stage cervical cancer who want to **have children in the future** might be able to have an operation called a **trachelectomy**. In this operation the surgeon removes the cervix and some nearby tissue, but not the uterus.

Surgery is the simplest treatment for early-stage cervical cancer. But some early-stage cancers are too large and have spread too far into the cervix to remove with surgery.

Women with this type of cancer can be treated with chemotherapy and radiation therapy. Your treatment team should explain to you what this means: for example, they should explain:

- how often you will need treatment
- how long the course of treatment will last, and
- what side effects you can expect.

Locally advanced cervical cancer

Locally advanced cancer has spread beyond the cervix into nearby tissues, and sometimes into other organs, but not those a long way from the pelvis.

This description covers many cancers in stages 2, 3, and 4.

The treatment for locally advanced cervical cancer is chemotherapy and radiation therapy.

Metastatic cervical cancer

Metastatic cervical cancer has spread beyond the pelvis into organs such as the bladder, bowel, or lungs.

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All metastatic cervical cancers are classed as stage 4 cervical cancer.

The main treatment is chemotherapy with a combination of drugs. This is more effective than using just one chemotherapy drug.

Some women with metastatic cancer can have other treatments. For example, some women can have radiation therapy targeted in specific areas. And some women might be able to have surgery to remove cancer from some places it has spread to.

Unfortunately, chemotherapy is not always successful. This might be because it doesn't work to shrink some tumors, or because the side effects are so severe that some women would rather not continue with treatment.

For these women, the cancer cannot be cured, and they will be offered what's called supportive or palliative care. This means making you as comfortable as possible while not having any more cancer treatment.

There can be many aspects to this type of care, from helping with your physical, emotional, and spiritual needs to controlling pain and nausea. Your treatment team should explain everything that might happen and everything that can be done.

Cervical cancer when you are pregnant

Cervical cancer is rare during pregnancy, but it does happen.

If you are diagnosed with cervical cancer while pregnant, you cannot usually have surgery, you cannot have chemotherapy in the early months, and you cannot have radiation therapy at all.

So you will face a hard choice: having cancer treatment as soon as possible will mean losing the pregnancy. But if you choose to keep the pregnancy you will not be able to have most cancer treatments until after you have the baby.

Your treatment team should explain all the options and give you the best advice and treatment they can, whatever you choose. But the choice is yours.

What to expect in the future

After treatment to cure cervical cancer you will need follow-up tests every few months for a while, and then every year. This is to check that the cancer has not returned.

Cervical cancer can have a big effect on your life, especially if you need a lot of treatment. You might need a lot of time off work and a lot of time to recover, physically and emotionally.

You should ask your treatment team any questions that you want to. For example, many women want to know how they might feel different after surgery, or when it's okay to start having sex again.

Unfortunately, not everyone with cervical cancer can be cured. Survival largely depends on how far the cancer has spread when it's diagnosed.

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Nearly all women whose cancer was diagnosed very early, or whose tumor was very small, are alive 5 years later. (Remember, this doesn't mean that they only live for 5 years. It's just that this is how long many follow-up studies last, for practical reasons.)

In women whose cancer has spread locally, but not beyond the cervix or uterus, more than 90 in 100 will be alive 5 years later.

In women whose cancer has spread beyond the cervix or uterus into nearby lymph nodes, about 55 in 100 will be alive 5 years later.

In women whose cancer has spread to the bladder or rectum, or beyond the pelvis to other organs, only about 17 in 100 are alive 5 years later.

Many organizations provide support and information to women with cervical cancer and their families. Your treatment team might be able to direct you to a support group where you live, or you could search online.

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