



CERVICAL CANCER

This information sheet is for your general information and is not a substitute for medical advice. You should contact your doctor or other healthcare provider with any questions about your health, treatment or care.

What is the cervix?

The cervix is a cylinder-shaped extension of the uterus that connects to the vagina. The cervix is made up of two parts, the endocervix (covered with glandular cells), which is the opening of the cervix that leads into the uterus and the exocervix or ectocervix (covered with squamous cells), which is the outer part of the cervix. The place where the exocervix joins the endocervix is known as the transformation zone.

What is cervical cancer?

Most cervical cancers start in the cells in the transformation zone. Normal cells gradually develop changes – these changes are called pre-cancerous. Cervical cancer starts from cells with pre-cancerous changes, but not all pre-cancerous changes result in cervical cancer.

Who is at risk?

Human papillomavirus (HPV) infection

- Low-risk types of HPV, meaning that they are seldom linked to cancer, are those that cause warts on or around the female or male genital organs and in the anal area.
- High-risk types of HPV are strongly linked to cancers.

Sexual history

Women are at increased risk for developing HPV (which increases risk of developing cancer), if they:

- are sexually active at a young age (especially younger than 18 years old)
- have multiple sexual partners
- have one partner who is considered high risk (someone with HPV infection or who has many sexual partners).

Weakened immune system

The immune system is needed to destroy cancer cells and slow their growth and spread. A woman with a weakened immune system who has cervical pre-cancer, may therefore develop an invasive cancer faster than normal. A weakened immune system also places people at a higher risk for HPV Infections. A weakened immune system can result from:

- human immunodeficiency virus (HIV), the virus that causes AIDS
- taking drugs to suppress immune response e.g. those being treated for an auto-immune disease or has had an organ transplant.

Smoking

- Females who smoke are about twice more likely to get cervical cancer.
- The immune system also becomes less effective in fighting HPV infections if you smoke.

Chlamydia infection

- Chlamydia is an infection that impacts the reproductive system and is spread by sexual contact.
- Some studies have shown that women whose blood tests and cervical mucous showed evidence of a past or current chlamydia infection are at a higher risk for cervical cancer.
- Some studies have shown that the chlamydia bacteria promote the growth of HPV, and HPV lives on in the cervix, which may increase the risk of cervical cancer.

Long-term use of oral contraceptives (birth control pills)

Current research shows that, the longer a woman takes oral contraceptives, the risk of cervical cancer increases. However, once the oral contraceptives are stopped, the risk decreases again. Risk returns to normal many years after stopping.

Multiple full-term pregnancies

There is an increased risk of developing cancer in those women who have had three or more full-term pregnancies. This increased risk could possibly be attributed to the following factors:

- It is thought that this is related to the increased exposure to HPV infection due to sexual activity.
- Studies have also pointed to hormonal changes experienced during pregnancy. This could possibly make women more susceptible to HPV infection or cancer growth.

First full-term pregnancy at a young age

Women who have their first full-term pregnancy younger than 20 years, are at higher risk of getting cervical cancer later in life than those women who have their first full-term pregnancy at age 25 years or older.

Family history

You are at a higher risk for developing cervical cancer if your mother or sister has had cervical cancer.

Diet

A diet low in fruits and vegetables may leave you at a higher risk for cervical cancer.

What are the signs and symptoms of cervical cancer?

It must be remembered that pre-cancerous lesions, early onset of cancer and invasive carcinoma may have no symptoms. However, symptoms suggestive of cervical cancer are:

- abnormal vaginal discharge
- abnormal vaginal bleeding, which may be:
 - bleeding after vaginal sex
 - bleeding after douching
 - inter-menstrual bleeding/spotting
 - menstrual periods that are longer or heavier than normal
 - bleeding after menopause
- pain during sex
- pain in the pelvic region.

Signs and symptoms seen with more advanced disease include:

- swelling of the legs
- problems urinating or having a bowel movement
- blood in the urine.

These signs and symptoms may be caused by other conditions, however it is important to seek medical assistance anyway, as ignoring these signs and symptoms may allow cancer to grow and spread, if present.

How is cervical cancer diagnosed?

A pap smear is a screening test for cervical cancer. The pap smear is a method used to examine cells from the cervix. Your doctor will do a pelvic examination and use a brush or spatula to take cells from the cervix and transfer them onto a glass slide or add them to a preservative fluid (liquid-based cytology).

Cervical cancer is diagnosed by a pap smear and by biopsy (taking tissue sample) from the affected area and then detecting the cancer cells under the microscope, by adding a colouring agent. If the patient is diagnosed with cervical cancer, other tests such as X-rays, bone scans and blood tests will be performed to evaluate whether it has spread to other organs.

Staging: determining how far the cancer has developed

Typically, cervical cancers develop slowly over a period of several years.

Once a diagnosis of cervical cancer is made, the next step in the evaluation is to assess the 'stage' of the cancer. In cervical cancers, the stage is based on the size of the cancer and the extent of its spread into the tissues surrounding the cervix, whether the vagina, side walls of the pelvis or local lymph nodes are involved, and whether the cancer has spread to other organs (metastasized).

What is the treatment for cervical cancer?

Early detection of precancerous lesions allows treatment to take place before cancer has actually developed. The treatment may vary from only regular pap smears, excision of abnormal cells with laser surgery or removal of uterus and cervix. Cervical cancer is usually preventable with regular pap smear screening for cervical cancer. This allows the very early non-cancerous stages of the condition (called dysplasia) to be treated in time.

Treatment of more severe cervical cancer

For more severe forms of pre-cancer states, which are closer to becoming unmistakable cancer or, for carcinoma *in situ* (i.e. group of abnormal cells that have not spread from the location where they first formed), the treating doctor will advise on whether a local procedure, such as removal of part of the cervix will be best or whether more extensive surgery, such as a hysterectomy (surgical removal of the womb/uterus) should be carried out. A lot of this will depend on your age and childbearing status.

Treatment will be personalised for you by your treating doctors as treatment options will differ from patient to patient. For more invasive cervical cancer, successful treatment is radiotherapy and/or surgery to remove the cervix, uterus, fallopian tubes and ovaries together with a small segment of the vagina. There are a number of ways to administer radiotherapy: externally (external beam radiation) or placing radioactive implants into the vagina which gives local radiotherapy, to the area where it is needed most.

Chemotherapy may be needed as well. Many combinations of chemotherapy are used and some of these contain drugs such as cisplatin, ifosfamide, mitomycin, 5-fluorouracil and others.

What happens after treatment?

Treatment may remove or destroy the cancer cells for some women, however there is a risk of the cancer returning. For others, the cancer may never completely go away, therefore it is important that you go for all follow-up appointments with your doctor. These appointments will allow for monitoring outcomes of treatment, discussing any concerns or new symptoms that may be experienced and, for those cases where the cancer didn't completely go away, to monitor the state of the existing cervical cells.

General follow-up procedures may include the following:

- Physical examination every three months for the first year. Your follow-up visit interval will become longer, the longer you are disease-free – every four months for one year, every six months for three years, and then annually. This usually involves a physical examination and a pap smear (cervical cytology).
- Annual chest X-ray – there is very little data to support the benefit of annual chest X-rays and many doctors do not recommend these.
- Other radiographic studies are performed, if needed.

The cervical cancer symptoms that may require attention are pelvic pain from locally advanced disease. Diarrhoea may be a complication of treatment for this condition. Other body pains from bone metastases may cause problems, as may pain from liver or lung metastases. Metastases means that cancer spreads to a different body part from where it started.

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