What is cervical cancer?

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The cervix

The cervix is part of the female reproductive system, which also includes the fallopian tubes, uterus (womb), ovaries, vagina (birth canal) and vulva (external genitals).

Also called the neck of the uterus, the cervix connects the uterus to the vagina. It has an outer surface that opens into the vagina and an inner surface that faces into the uterus.

The functions of the cervix include:

- producing moisture to lubricate the vagina, which keeps the vagina healthy
- producing mucus that helps sperm travel up the fallopian tube to fertilise an egg that has been released from the ovary
- holding a developing baby in the uterus during pregnancy
- widening to enable a baby to be born via the vagina.

The cervix is covered by two kinds of cells:

**Squamous cells:** flat, thin cells that cover the outer surface of the part of the cervix that opens into the vagina (ectocervix). Cancer of the squamous cells is called squamous cell carcinoma.

**Glandular cells:** column-shaped cells that cover the inner surface of the cervix (cervical canal or endocervix). Cancer of the glandular cells is called adenocarcinoma.

The area where the squamous cells and glandular cells meet is called the transformation zone. This is where most cervical cancers start.
Cervical cell changes

Sometimes the squamous cells and glandular cells in the cervix start to change and no longer appear normal when they are examined under a microscope. These early cell changes may be precancerous. This means there is a lesion (area of abnormal tissue) that is not cancer but may lead to cancer.

Cervical cell changes are often caused by certain types of the human papillomavirus (HPV).

There are two main types of cervical cell changes:
Abnormal squamous cells—their called squamous intraepithelial lesions (SIL), and they can
be classified as either low-grade (LSIL) or high-grade (HSIL).

SIL used to be called cervical intraepithelial neoplasia (CIN) and was graded according to how deep
the abnormal cells were within the surface of the cervix.

- LSIL, previously graded as CIN 1, usually disappear without treatment.
- HSIL, previously graded as CIN 2 or CIN 3, are precancerous. This means that although they
do not usually cause symptoms, high-grade abnormalities have the potential to develop into
early cervical cancer over about 10–15 years if they are not detected and treated. HSIL will
require treatment.

See 'A Guide To Understanding Your Cervical Screening Test Results' for more information.

Only some women with precancerous changes of the cervix will develop cervical cancer.

Abnormal glandular cells—these abnormalities always require further testing, as glandular cell
changes can be harder to interpret than squamous cell changes. Adenocarcinoma refers to glandular
cells that are cancerous.

These cervical cell changes may be found during a routine screening test. For most women, mild
cervical cell changes will go away on their own without treatment. Moderate to severe cell changes
can be treated before they develop into cervical cancer.

Your doctor will recommend one of the following options depending on the grade of the changes:

- a follow-up test in 6–12 months to monitor the cells
- a colposcopy to have a magnified look at the cervix using an instrument called a colposcope
- a biopsy taken from the cervix at the time of the colposcopy.

What is cervical cancer?

Cervical cancer is the growth of abnormal cells in the lining of the cervix.

Cancer most commonly begins in the area of the cervix called the transformation zone, but it may
spread to tissues around the cervix, such as the vagina, or to other parts of the body, such as the
lungs or liver.

The two main types of cervical cancer, are named after the types of cells that they start in.

Squamous cell carcinoma (SCC)—the most common type, accounting for about seven out of 10
(70 per cent) cases.

Adenocarcinoma—a less common type (about 25 per cent of cases), starts in the glandular cells of
the cervix. Adenocarcinoma is more difficult to diagnose because it occurs higher up in the cervix and
the abnormal glandular cells are harder to recognise.

A small number of cervical cancers feature both squamous cells and glandular cells. These cancers
are known as adenosquamous carcinomas or mixed carcinomas.

Other rarer types of cancer that can start in the cervix include small cell carcinoma and cervical
sarcoma.

About 800 women in Australia are diagnosed with cervical cancer every year. Cervical cancer
accounts for about two out of 100 of all cancers diagnosed in women. It is more common in women
over 40, but it can occur at any age. About one in 200 women will develop cervical cancer before the
age of 75.

The incidence of cervical cancer in Australia has decreased significantly since a national screening
program was introduced in the 1990s.
Symptoms of cervical cancer

In its early stages, cervical cancer usually has no symptoms. The only way to know if there are abnormal cells in the cervix, which may develop into cervical cancer, is to have a Cervical Screening Test.

If symptoms are present, they usually include:

- vaginal bleeding between periods, after menopause or during or after sexual intercourse
- pain during sexual intercourse
- an unusual vaginal discharge
- heavier periods or periods that last longer than usual.

These symptoms can also be caused by other conditions. See your general practitioner (GP) if you are worried or the symptoms are ongoing.

Causes and risk factors of cervical cancer

Most cases of cervical cancer are caused by an infection called human papillomavirus (HPV).

Infection with HPV

Human papillomavirus is the name for a group of viruses. HPV is a common infection that affects the surface of different areas of the body, such as the cervix, vagina and skin.

There are more than 100 different types of HPV, including more than 40 types of genital HPV. Some other types of HPV cause common warts on the hands and feet.

Genital HPV is usually spread via the skin during sexual contact. About four out of five people will become infected with genital HPV at some time in their lives.

Most people will not be aware they have HPV as it is usually harmless and doesn’t cause symptoms. In most women, the virus is cleared quickly by the immune system and no treatment is needed.

Approximately 15 types of genital HPV cause cervical cancer. Screening tests are used to detect these types of HPV or the precancerous cell changes caused by the virus. There is also a vaccination against HPV. See 'Finding cervical cancer early' for more information.

There are also other known risk factors.

Smoking and passive smoking—chemicals in tobacco can damage the cells of the cervix, making cancer more likely to develop in women with HPV.

Having a weakened immune system—the immune system helps rid the body of HPV. Women with a weakened immune system are at increased risk of developing cervical cancer. This includes women with the human immunodeficiency virus (HIV) and women who take medicines that lower their immunity. Ask your doctor if this applies to you.

Long-term use of oral contraceptive (the pill)—research has shown that women who have taken the pill for five years or more are at increased risk of developing cervical cancer. The reason for this is not clear. However, the risk is small and the pill can also help protect against other types of cancer, such as uterine and ovarian cancers. Talk to your doctor if you are concerned.

Exposure to diethylstilbestrol (DES)—this is a synthetic (artificial) form of the female hormone oestrogen. DES was prescribed to pregnant women from the 1940s to the early 1970s to prevent miscarriage. Studies have shown that the daughters of women who took DES have a small but increased risk of developing a rare type of cervical adenocarcinoma.

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