



Cancer Association of South Africa (CANSA)

Fact Sheet on Cervical Cancer

Introduction

The cervix is the lower, narrow end of the uterus (the hollow, pear-shaped organ where a foetus grows). The cervix leads from the uterus to the vagina (birth canal) below. The cervix is sometimes referred to as the *uterine cervix*. The part of the cervix closest to the body of the uterus is called the *endocervix*. The part next to the vagina is the *exocervix*.

Worldwide, cervical cancer is the third most common type of cancer in women. It is much less common in developed countries like the United States of America because of the routine use of Pap smears by most women (PubMed).

Cervical cancer tends to appear during midlife. Over half of the women diagnosed are between the ages of 35 and 55. It rarely occurs in women under 20 and only 20% of the infected women are over 65 years of age (CervicalCancer.org).

According to the National Cancer Registry (2003) the lifetime risk of developing cervical cancer is as follows:

All females	1 : 40
Asian females	1 : 87
Black females	1 : 34
Coloured females	1 : 47
White females	1 : 59

Cervical cancer is a disease in which cells in the cervix become malignant (cancerous). The two main types of cells covering the cervix are *squamous cells* (on the *exocervix*) and *glandular cells* (on the *endocervix*). The place where these two cell types meet is called the *transformation zone*. Most cancers start in the transformation zone of the cervix (American Cancer Society; National Cancer Institute).

Cervical Cancer

Cervical cancer is cancer that forms in tissues of the cervix. It is usually a slow-growing cancer that may not have immediate symptoms but can be found with regular Pap smear tests (a procedure in which cells are scraped from the cervix and looked at under a microscope). Cervical cancer is almost always caused by human papillomavirus (HPV) infection (National Cancer Institute; PubMed).

Cervical cancer starts as a pre-cancerous condition called dysplasia. This pre-cancerous condition can be detected by a Pap smear and is 100% treatable. That is why it is so important for women to get regular Pap smears done. Most women who are diagnosed with cervical cancer today have not had regular Pap smears or they have not followed up on abnormal Pap smear results.

Undetected pre-cancerous changes can develop into cervical cancer. From there it can spread to the bladder, intestines, lungs, and liver. It can take several years for pre-cancerous changes to turn into cervical cancer. Patients usually start experiencing problems when the cancer is already advanced and has spread (PubMed).

Causes of Cervical Cancer

Almost all cervical cancers are caused by HPV. HPV is a common virus that is spread through sexual intercourse. There are many different types of HPV. Some strains lead to cervical cancer. Other strains may cause genital warts, while others do not cause any problems at all (PubMed).

Risk Factors for Cervical Cancer

Even though HPV infection is the major cause of cervical cancer, several risk factors linked to the development of cervical cancer.

A risk factor is something that affects a person's chance of getting a particular disease. Different cancers have different risk factors. Having a risk factor, or even several risk factors, does not mean that a person will get the disease. Not having any risk factors does also not mean that someone will not get the disease (American Cancer Society).

Risk factors for cervical cancer include:

- Having sex at an early age
- Having many sexual partners
- Having first sexual intercourse at a young age
- Smoking tobacco
- Using oral contraceptives
- Having a weakened immune system
- Poor economic status (may not be able to afford regular Pap smears or have limited access to screening services)
- Sexual partners who have multiple partners or who participate in high-risk sexual activity
- Women whose mothers took the drug DES (diethylstilbestrol) during pregnancy in the early 1960's to prevent miscarriage

(National Cancer Institute; PubMed).

Staging of Cervical Cancer

A very important factor in determining the prognosis of cervical cancer is how early the cancer is detected to determine how far it has spread. Regular pelvic examinations and Pap smear screening improves the chances of detecting any abnormality or pre-cancerous lesions. A patient's chances of survival decreases if the cervical cancer is not detected early enough and commenced spreading to other parts of the body.

The various stages of cervical cancer also affect the chance of recovery or prognosis of the patient.

The four (4) stages of cervical cancer are as follows:

Stage I	The cancer is confined to the cervix area
Stage II	The cancer has spread beyond the cervix but is confined to the pelvic area
Stage III	The cancer has spread to the pelvic wall or lower part of the vagina
Stage IV	The cancer has spread to other organs or parts of the body

Some clinicians use a system of staging where various sub-groups are introduced to differentiate staging further.

(CervicalCancer.Org; CancerHelp UK).

Cervical Cancer Survival Rates

There are many different factors that affect the prognosis (outlook) of cervical cancer including the stage of the cancer, the age of the patient, and general health of the patient. Use of mostly made of the 5-year survival rate. This rate refers to the percent of patients who live at least 5 years after their cancer is found. Many of these patients live much longer than 5 years (American Cancer Society).

The following 5-year survival rate is based on figures obtained from the United States of America (CervicalCancer.Org). They can, however, provide some valuable information for individuals who have a particular interest in wanting to know what the possible 5-year survival rate is.

Stage IA	95% of affected women will be alive 5 years after diagnosis
Stage IB	85 to 90% of affected women will be alive 5 years after diagnosis
Stage IIA	75 to 80% of affected women will be alive 5 years after diagnosis
Stage IIB	75% of affected women will be alive 5 years after diagnosis
Stage III	50% of affected women will be alive 5 years after diagnosis
Stage IVA	20% of affected women will be alive 5 years after diagnosis
Stage IVB	less than 10% of affected women will be alive 5 years after diagnosis

Overall about 7 out of 10 women (70%) will remain alive 5 years after diagnosis. Younger women have a higher survival rate than older women. Some studies indicate that adding chemotherapy to treatment plans increases survival rates by 50% for locally invasive cervical cancer.

Many developing nations have an overall survival rate of less than 40% (CervicalCancer.Org).

Signs and Symptoms of Common Gynaecologic Problems

Early on, cervical cancer may not cause signs and symptoms. Advanced cervical cancer may cause bleeding or discharge from the vagina that is not normal, such as bleeding after sex. If any of these signs are present, a medical doctor should be consulted. The cause may be something other than cancer, but the only way to know is to consult a medical doctor.

Gynaecologic Cancer Symptoms					
Symptoms	Cervical Cancer	Ovarian Cancer	Uterine Cancer	Vaginal Cancer	Vulvar Cancer
Abnormal vaginal bleeding or discharge	☐	☐	☐	☐	
Pelvic pain or pressure		☐	☐		☐
Abdominal or back pain		☐			
Bloating		☐			
Changes in bathroom habits		☐		☐	
Itching or burning of the vulva					☐
Changes in vulva colour or skin such as a rash, sores, or warts					☐

(Centers for Disease Control and Prevention).

Signs and Symptoms of Cervical Cancer

Approximately 75% of patients are diagnosed with *squamous cell* cervical cancer and approximately 10% have *adenocarcinoma* cervical cancer. A much smaller number of patients develop a form of cancer containing elements of both types (CervicalCancer.Org).

Early signs and symptoms of cervical cancer

In women who receive regular Pap screening, the first finding of the disease is usually an abnormal Pap test result (CervicalCancer.Org).

Early symptoms that may occur can include

- Abnormal vaginal bleeding between periods, after intercourse, or after menopause
- Any bleeding after menopause
- Continuous vaginal discharge, which may be pale, watery, pink, brown, bloody or foul-smelling
- Periods becoming heavier and last longer than usual

(PubMed)

Signs and symptoms of progressed cervical cancer

- Some of the common symptoms observed during the later stages of cervical cancer are:
- Vaginal bleeding after sexual intercourse
- Pelvic pain
- Pain during sexual intercourse
- Offensive vaginal discharge may occur (pink, pale, brown, blood streaked, and foul-smelling)
- Abnormal bleeding between menstrual periods

- Heavy bleeding during menstrual period
- Increased urinary frequency
- Bleeding after menopause
- Painful urination
- Pelvic pain that is not related to the normal menstrual cycle
- Low back pain
- Leg pain
- Single swollen leg
- Bone fractures
- Weight loss
- Urethritis or urinary infection can be a sign of cervical cancer

(Mayo Clinic: CervicalCancer.Org; About.com; PubMed).

Diagnosis of Cervical Cancer

The following procedures may be used:

Pap smear – This is a procedure whereby cells from the surface of the cervix are collected. The cells are viewed under a microscope, after staining, to find out if the cells are abnormal. This procedure is also called a Pap test. It is short for Papanicolaou (1947) in reference to George Nicholas Papanicolaou (1883-1962), a Greek-born United States anatomist who developed the technique of staining and examining collected cells to test for cervical cancer (Dictionary.Com).

Human Papillomavirus (HPV) Test – A laboratory test used to check DNA for certain types of HPV infection. Cells are collected from the cervix and checked to find out if an infection is caused by a type of HPV that is linked to cervical cancer. It is also called the HPV DNA Test.

Colposcopy – A procedure in which a colposcope (a lighted, magnifying instrument) is used to check the vagina and cervix for abnormal areas.

Biopsy – A sample of tissue is cut from the cervix and viewed under a microscope by a pathologist to check for signs of cancer, often referred to as *cone biopsy*.

Endocervical curettage (ECC) to examine the opening of the cervix

Pelvic Examination – An examination of the vagina, cervix, uterus, fallopian tubes, ovaries, and rectum.
(National Cancer Institute)

Once a woman is diagnosed with cervical cancer, the medical practitioner will order more tests to determine how far the cancer has spread. This is part of staging and may include:

- Chest X-ray
- Computed Tomography (also called Computerised Axial Tomography or CT scan)
- Cystoscopy
- Intravenous Pyelogram (IVP)

- Magnetic Resonance Imaging (MRI)
(PubMed)

Treatment of Cervical Cancer

Treatment of cervical cancer depends on:

- The stage of the cancer
- The size and shape of the tumour
- The woman's age and general health
- Her desire to have children in the future

(PubMed)

Treatment of early-stage cervical cancer may include:

- Cervical Conization – it involves removing a cone-shaped piece of tissue from the cervix and cervical canal. The overall size of the tissue removed will vary depending on the severity of the cancer
- Loop Electrosurgical Excision Procedure (LEEP) – use is made of a thin, low-voltage electrified wire loop to cut out abnormal tissue
- Cryosurgery – used for cervical dysplasia or abnormal cells on the cervix. If left untreated, these abnormal cells may develop into cervical cancer. Cryosurgery kills pre-cancerous and cancerous cells by freezing them
- Total hysterectomy
- Internal Radiation Therapy (Brachytherapy)

(CervicalCancer.Org; University of Maryland Medical Center: CancerAbout.Com).

Treatment for more advanced cervical cancer may include:

- Radical hysterectomy – where the uterus and much of the surrounding tissues,, including lymph nodes and the upper part of the vagina is removed surgically
- Pelvic exenteration – an extreme type of surgery in which all of the organs of the pelvis, including the bladder and rectum, are removed surgically

(PubMed; University of Maryland Medical Center)

Radiation Therapy may be used to treat cancer that has spread beyond the pelvis, or cancer that has returned:

- Internal radiation therapy – where use is made of a device filled with radioactive material, which is placed inside the woman's vagina next to the cervical cancer – the device is removed before she is discharged to go back home
- External radiation therapy – where high-powered energy beams of radiation from a radiation device is focused onto the body where the cancer is located – it is also called *brachytherapy*

(Mayo Clinic; PubMed; Cancer Treatment Centers of America)

Chemotherapy uses drugs to kill the cancer cells:

Chemotherapy drugs, which can be used alone or in combination with each other, are usually injected into a vein. Sometimes radiation and chemotherapy are used before or after surgery (PubMed; Mayo Clinic).

Follow-up Treatment

Follow-up checks will continue for some years after treatment. At first follow-up checks may be conducted every few months, becoming gradually less and less frequent.

Follow-up checks may include:

- Having a physical examination by the medical practitioner
- Pap smear
- Colposcopy
- Blood Tests for tumour markers
- X-rays
- CR Scan or MRI scan

(CancerHelp UK)

Prevention of Cervical Cancer

Cancer prevention is action taken to lower the chance of getting cancer. Cervical cancer can be prevented by:

- Having regular Pap screening tests
- Having a Human Papilloma Virus (HPV) test
- Getting an HPV vaccine
- Not to smoke
- If smoking, to quit smoking
- Not having unprotected sexual intercourse
- Limiting the number of sexual partners
- Not to become sexually active at a young age

(National Cancer Institute; Centers for Disease Control and Prevention)

CANSA Support

The Cancer Association of South Africa (CANSA): www.cansa.org.za

Toll free line (08:00 to 16:30 on weekdays): 0800 22 66 22

E-mail: info@cansa.org.za

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