Cervical Cancer Overview

The information that follows is based on the more detailed information in our document, *Cervical Cancer*.

What is cancer?

The body is made up of trillions of living cells. Normal body cells grow, divide into new cells, and die in an orderly way. During the early years of a person's life when they are growing, normal cells divide faster. Once the person becomes an adult, most cells divide only to replace worn-out, damaged, or dying cells.

Cancer begins when cells in a part of the body start to grow out of control. There are many kinds of cancer, but they all start because of this out-of-control growth of abnormal cells.

Cancer cell growth is different from normal cell growth. Instead of dying, cancer cells keep on growing and form new cancer cells. In most cases the cancer cells form a tumor. Cancer cells can also grow into (invade) other tissues, something that normal cells can't do. Being able to grow out of control and invade other tissues is what makes a cell a cancer cell.

Sometimes cancer cells spread to other parts of the body. There they begin to grow and form new tumors. This process is called *metastasis*.

No matter where a cancer spreads, it is named (and treated) based on the place where it started. For instance, breast cancer that has spread to the liver is still breast cancer, not liver cancer. Likewise, prostate cancer that has spread to the bones is still prostate cancer, not bone cancer.

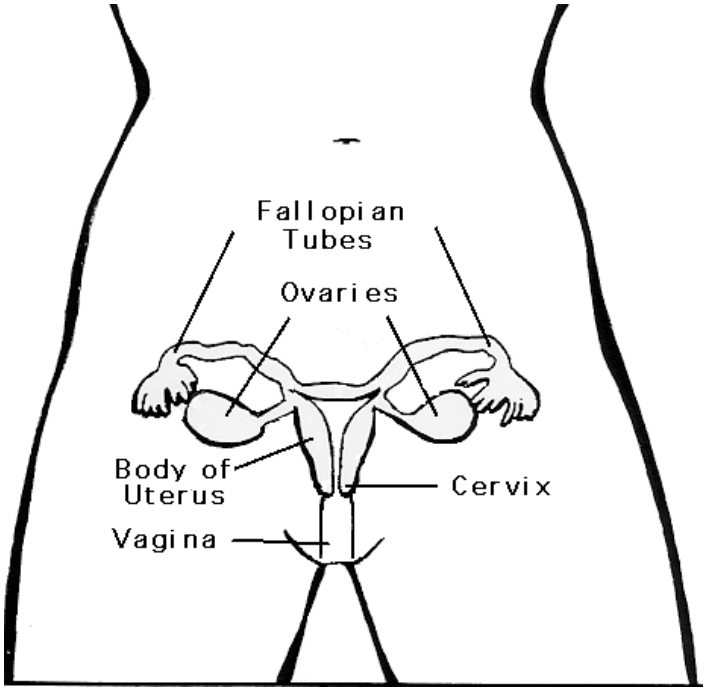
Different types of cancer can behave very differently. They grow at different rates and respond to different treatments. This is why people with cancer need treatment that is aimed at their own kind of cancer.

Not all tumors are cancer. Tumors that aren't cancer are called *benign*. Benign tumors can cause problems – they can grow very large and press on healthy organs and tissues.

But they can’t grow into other tissues. Because of this, they also can’t spread to other parts of the body (metastasize). These tumors are almost never life threatening. .

What is cancer of the cervix?

The cervix is the lower part of the uterus (womb). The uterus has 2 parts. The upper part, called the *body of the uterus*, is where a fetus grows. The cervix, in the lower part, connects the body of the uterus to the vagina, or birth canal.



Cancer of the cervix (also called *cervical cancer*) begins in the cells lining the cervix. These cells do not suddenly change into cancer. Instead, the normal cells of the cervix first slowly change into pre-cancer cells that can then turn into cancer. These changes may be called *dysplasia*. The change can take many years, but sometimes happen faster. These changes can be found by the Pap test and treated to prevent cancer (see "*Can cancer of the cervix be prevented?*").

There are 2 main types of cancer of the cervix. About 8 to 9 out of 10 are *squamous cell carcinomas*. Under the microscope, this type of cancer is made up of cells that are like squamous cells that cover the surface of the cervix.

Most of the rest are *adenocarcinomas*. These cancers start in the gland cells that make mucus. Less often, the cancer has features of both types and is called *adenosquamous* or *mixed carcinoma*.

Other types of cancer also can develop in the cervix. These other types (such as melanoma, sarcoma, and lymphoma) happen most often in other parts of the body. If you have cervical cancer, ask your doctor to explain exactly what type of cancer you have.

This information is only about the more common types of cervical cancer, not the rare ones.

How many women get cancer of the cervix?

The American Cancer Society's estimates for cancer of the cervix in the United States for 2015 are:

- About 12,900 new cases of invasive cervical cancer (cancer that has spread beyond the cervix)
- About 4,100 deaths from cervical cancer

Cervical pre-cancers are much more common than true, invasive cancers.

Most cases of cervical cancer are seen in women younger than 50. Women over 50, however, still get cervical cancer.

Cervical cancer was once one of the most common causes of cancer death for American women. But the death rate from cervical cancer has gone down a lot over the last 30 years. The main reason for this change is the use of screening to find cervical cancer early. (Please see the section "*Can cancer of the cervix be prevented?*")

What are the risk factors for cancer of the cervix?

A risk factor is anything that affects a person's chance of getting a disease like cancer. Some risk factors, such as smoking, can be controlled. Others, like a person's age or race, can't be changed. But having a risk factor, or even several, does not mean that you will get the disease. Women without any risk factors for cervical cancer rarely get it. But, while these risk factors increase the odds of getting cervical cancer, many women with these risks do *not* get this disease.

In looking at risk factors, it helps to focus on those that can be changed. Those that can't be changed serve to remind women about the importance of getting screened for cervical cancer.

Cervical cancer risk factors include:

- Human papilloma virus (HPV) infection: this is the most important risk factor for cervical cancer
- Smoking
- Weak immune system: from HIV (human immunodeficiency virus) infection or medicines
- Taking birth control pills
- Chlamydia infection
- Having 3 or more full-term pregnancies
- Giving birth before age 17
- Your mother taking the drug DES (diethylstilbestrol) while she was pregnant with you
- Having a mother or sister who had cervical cancer
- Being overweight or obese increases the risk of one kind of cervical cancer (adenocarcinoma)

For more information about these risk factors, see our document *Cervical Cancer*.

What is HPV?

HPV is a group of related viruses that can infect the cells lining the genitals (including the surface of the cervix), anus, mouth and throat. It can also infect the skin. Some types of HPV cause warts, with certain types causing genital warts. These types are called *low risk* HPVs because they are rarely linked to cancer. Other types are called *high-risk* because they are strongly linked to certain cancers, including cancer of the cervix. In fact, doctors believe that a woman must be infected by HPV before she develops cervical cancer.

HPV is passed from one person to another by skin-to-skin contact. Sex, including vaginal, anal, and oral, is the most common way to get infected with HPV.

Most people who are infected with HPV are able to fight the infection and it goes away without any treatment. But in some women, the infection lasts and can cause certain cancers, including cervical cancer.

The Pap test can find cell changes that are caused by HPV infection. Other tests look for the infections themselves by finding genes (DNA) from HPV in the cells. For some women, the HPV test is used along with the Pap test as a part of screening.

Even though HPV is an important risk factor for cervical cancer, most women with this infection do **not** get cervical cancer. Doctors believe other factors must come into play for this cancer to start.

More information about HPV can be found in our document *HPV and HPV Testing*.

Can cancer of the cervix be prevented?

Most cervical cancer can be prevented. One way is to find and treat pre-cancers before they become cancer, and the second way is to prevent pre-cancers.

Finding pre-cancers before they become cancer

A well-proven way to prevent cancer of the cervix is to have testing (screening) to find pre-cancers. These can be treated so that they don't turn into cancer. The Pap test (Pap smear) and the human papilloma virus (HPV) test are the tests used for this.. Most cervical cancers are found in women who have not had cervical cancer screening when they should.

The Pap test (or Pap smear) is a procedure used to collect cells from the cervix so that they can be looked at under the microscope to find cancer and pre-cancer. These cells can also be used for HPV testing. A Pap test can be done during a pelvic exam, but not all pelvic exams include a Pap test.

For information about finding and treating cervical pre-cancers, see our document *Cervical Cancer Prevention and Early Detection*. This document also has information about the work-up of abnormal Pap test results.

Things to do to prevent cervical pre-cancers

There are also some things you can do to prevent pre-cancers, such as:

- Avoiding exposure to HPV
- Getting an HPV vaccine
- Not smoking

More information about ways to prevent cervical cancer and pre-cancer can be found in our document *Cervical Cancer Prevention and Early Detection*.

Signs and symptoms of cervical cancer

Early cervical pre-cancers or cancers often have no signs or symptoms. That's why it's important for women to have regular screening with a Pap test (which may be combined with a test for HPV). Symptoms often do not start until the cancer is further along and has spread to nearby areas. You should report any of the following to your doctor right away:

- Abnormal vaginal bleeding, such as bleeding after sex, bleeding after menopause, bleeding and spotting between periods, or having periods that are longer or heavier than usual. Bleeding after douching or after a pelvic exam may also occur.
- An unusual discharge from the vagina (not your normal period)
- Pain during sex

Of course, these symptoms do not mean that you have cancer. They can also be caused by something else. But you must check with a doctor to find out.

It is best to not wait for symptoms to appear. Get regular cervical cancer screening.

How is cancer of the cervix found?

Cervical cancer can be found early as the result of screening (like an abnormal Pap test). If you have an abnormal Pap test, what other tests you need depends on the results. Some results can mean you need and HPV test or to have the Pap test repeated in 6 months or a year. Some Pap test results mean that you need colposcopy (discussed below) or other tests. For details about what work-up is needed for specific abnormal Pap test results, see our document *Cervical Cancer Prevention and Early Detection*.

Cervical cancer is also sometimes found in women who have symptoms of the disease. If you are having symptoms, you should see your doctor, who will examine you, and may do a Pap test and/or a colposcopy.

Colposcopy

If you have certain symptoms that suggest cervical cancer or if your Pap test shows abnormal cells, you will need to have a test called *colposcopy*. In this test, the doctor uses an instrument called a colposcope to look at your cervix. The colposcope is an instrument that stays outside the body. It has magnifying lenses (like binoculars). It lets the doctor see the surface of the cervix closely and clearly.

Colposcopy itself is no more painful than a regular pelvic exam, has no side effects, and can be done safely even if you are pregnant. Like the Pap test, it is rarely done during your period. If something not normal is seen on the cervix, a small piece of tissue will be removed from that area (a biopsy). The tissue is sent to be looked at under a microscope.

A biopsy is the only way to tell for certain whether something is a pre-cancer, a true cancer, or neither. Although the colposcopy procedure is not painful, cervical biopsy can cause discomfort, cramping, or even pain in some women. You may also have some spotting after a biopsy.

Several different types of biopsies are used to diagnose cervical pre-cancers and cancers. Ask your doctor to explain what kind of biopsy you will have and what the results mean.

If a biopsy shows that cancer is present, your doctor may order certain tests to see how far the cancer has spread. Every patient will not need every test described below. Which tests are done is based on the results of the physical exam and biopsy.

Tests that look for cervical cancer spread

Imaging tests

If your doctor thinks that your cancer has spread, imaging tests may be used to create pictures of the inside of your body. These are not needed for early cancers

Chest x-rays: A plain x-ray of your chest may be done to see if your cancer has spread to your lungs. This is not likely unless your cancer is very advanced. If the results are normal, you most likely don’t have cancer in your lungs.

CT (computed tomography) scans: The CT scan is a special kind of x-ray. Instead of taking just one picture, a CT scanner takes many pictures as it moves around you. A computer then combines these pictures into an image of a slice of your body (think of a loaf of sliced bread).

CT scans can help tell if your cancer has spread to other places in the body. CT scans are also sometimes used to guide a biopsy needle into a place where the cancer might have spread. A biopsy (tiny sample or thin core of tissue) is removed and looked at under a microscope.

Before the first set of CT pictures is taken you may be asked to drink a liquid that helps outline structures in your body. You might also have an IV line through which you may be given a different kind of contrast dye.

The IV contrast can make you feel flushed (a feeling of warmth with some redness of the skin). A few people are allergic to the dye and can get hives. Rarely, more serious reactions, like trouble breathing and low blood pressure, can happen. Be sure to tell your doctor if you have ever had a reaction to contrast dye used for x-rays. It is also important to let your doctor know about any other allergies.

CT scans take longer than regular x-rays and you will need to lie still on a table while they are being done. Also, you might feel a bit confined by the ring-like equipment you're in when the pictures are being taken.

MRI (magnetic resonance imaging) scans: MRI scans use radio waves and strong magnets instead of x-rays to take pictures. MRI images are very useful in looking at pelvic tumors. They are also helpful in finding cancer that has spread to the brain or spinal cord.

An MRI scans take longer than CT scans − often up to an hour. Also, you have to be placed inside a narrow, tube-like machine, which can upset some people. Special, “open” MRI machines may be an option for some patients; the downside of these is that the images may not be as good. The machine makes a thumping noise that you might find annoying. Some places will give you headphones with music to block this out.

PET (positron emission tomography) scans: PET scans use glucose (a form of sugar) that contains a radioactive atom. Cancer cells in the body absorb large amounts of the treated sugar and a special camera can spot the cells. Some machines combine a CT scan and a PET scan to even better pinpoint the tumor. This test can help show if the cancer has spread to lymph nodes. PET scans can also be useful when your doctor thinks the cancer has spread but doesn't know where.

Cystoscopy, proctoscopy, and exams under anesthesia

These are most often done in women who have large tumors. They are not needed if the cancer is caught early.

In cystoscopy a thin tube with a lens and a light is put into the bladder through the urethra. This lets the doctor check to see if cancer is growing into these areas. Biopsy samples can also be removed. Cystoscopy can be done under a local anesthetic (the area is numbed with drugs), but some patients may need general anesthesia (drugs that put you in a deep sleep). Your doctor will let you know what to expect before and after the tests.

For proctoscopy a thin, lighted tube is used to check for spread of cervical cancer into your rectum.

Your doctor may also do a pelvic exam while you are under anesthesia to find out if the cancer has spread beyond the cervix.

How is cancer of the cervix staged?

The process of finding out how far the cancer has spread is called *staging.* Information from exams and tests is used to figure out the size of the tumor, how deeply the tumor has grown into tissues in and around the cervix, and the spread to lymph nodes or distant organs (metastasis). Staging is very important because the treatment and the outlook for your recovery depend on the cervical cancer’s stage.

The stage of a cancer does not change over time, even if the cancer keeps growing. A cancer that comes back or spreads is still referred to by the stage it was given when it was first found. But information about the current extent of the cancer is added.

A staging system is a way for members of the cancer care team to sum up the extent of a cancer's spread. The 2 systems used for staging most types of cervical cancer are the *FIGO* (International Federation of Gynecology and Obstetrics) system and the AJCC (American Joint Committee on Cancer) TNM staging system. They are very much alike. They both only use the doctor's physical examination and a few other tests that are done in some cases, such as cystoscopy and proctoscopy to decide the stage. The stage isn’t based on the findings at surgery or on imaging tests. The main factor that decides the stage of cervical cancer is the extent of the tumor.

Both of these systems label stages with Roman numerals I through IV (I-4). The AJCC system also includes stage 0. As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV (4), means a more advanced cancer. All stages (except for stage 0) are further divided into smaller groups labeled with letters and numbers.

How is cancer of the cervix treated?

This information represents the views of the doctors and nurses serving on the American Cancer Society's Cancer Information Database Editorial Board. These views are based on their interpretation of studies published in medical journals, as well as their own professional experience.

The treatment information in this document is not official policy of the Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor.

Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don't hesitate to ask him or her questions about your treatment options.

About treatment

The treatment options for cervical cancer depend mostly on the stage of the cancer. After your cancer is staged, the doctor will tell you what choices you have. If there is anything you don't understand, ask for it to be explained. Factors other than the stage of the cancer that might have an impact on your treatment decision include your age, your overall health, and your own preferences.

Common treatments for cervical cancer include:

- Surgery
- Radiation therapy
- Chemotherapy
- Targeted therapy

Some very early cervical cancers are treated with surgery alone. Most cervical cancers, though, are treated with radiation combined with chemotherapy.

It is often a good idea to get a second opinion. A second opinion can give you more information and help you feel better about the treatment plan you choose. In fact, some health plans require you to get a second opinion.

If a cure isn't likely, the goal may be to remove or destroy as much of the cancer as possible. This is to keep it from growing or spreading for as long as possible. Sometimes treatment is aimed at just relieving symptoms. This is called *palliative treatment*.

Surgery for cancer of the cervix

Surgery is most often used to treat very early cancers of the cervix.

Cryosurgery

A metal probe cooled with liquid nitrogen is put in the vagina and on the cervix. This kills the abnormal cells by freezing them. Cryosurgery is used to treat stage 0 cancers (carcinoma in situ), but it is not used for invasive cancer.

Laser surgery

A laser beam is used to burn off cells or to remove a small piece of tissue for study. Laser surgery is used for stage 0 cancers (carcinoma in situ), but it is not used for invasive cancer.

Conization

A cone-shaped piece of tissue is removed from the cervix. This is done using a surgical or laser knife (cold knife cone biopsy) or using a thin wire heated by electricity (sometimes called a *LEEP* or *LEETZ* procedure).This approach can be used to find or to treat very early stage (0 or I) cancer.

Hysterectomy

In a hysterectomy, the uterus and cervix are removed. The ovaries and fallopian tubes or pelvic lymph nodes may be taken out during the same operation, but this isn't a part of every hysterectomy.

For a **simple hysterectomy**, only the cervix and uterus are removed. This is sometimes also called a *total hysterectomy*. The vagina and the tissue next to the uterus are left intact. The uterus can be taken out through either a cut (incision) in the front of the belly (abdomen) or through the vagina. Laparoscopy can be used with either of these methods. A laparoscope is a long, thin tube with a small camera on the end. It is put into the belly through small cuts in the skin to let the surgeon see inside and use small tools to remove organs. Because the cuts are small the patient may recover faster.

Some very early stage I cervical cancers are treated with a hysterectomy. A hysterectomy is also used for some stage 0 cancers if the cone biopsy didn't remove all the cancer. General or epidural (regional) anesthesia is used for this operation.

Radical hysterectomy: For this operation the surgeon removes more than just the uterus. The tissues next to the uterus and the upper part of the vagina next to the cervix are removed. This surgery, along with a pelvic lymph node dissection (see below), are the usual treatment for stages I and, less often, some stage II cervical cancers, especially in young women.

Side effects of hysterectomy

After these surgeries, a woman cannot become pregnant, but she can still feel pleasure in sex. If the ovaries are removed along with the uterus, the woman will go through menopause (change of life) if she hasn't already done so. This can lead to problems like hot flashes, night sweats, vaginal dryness, and mood changes.

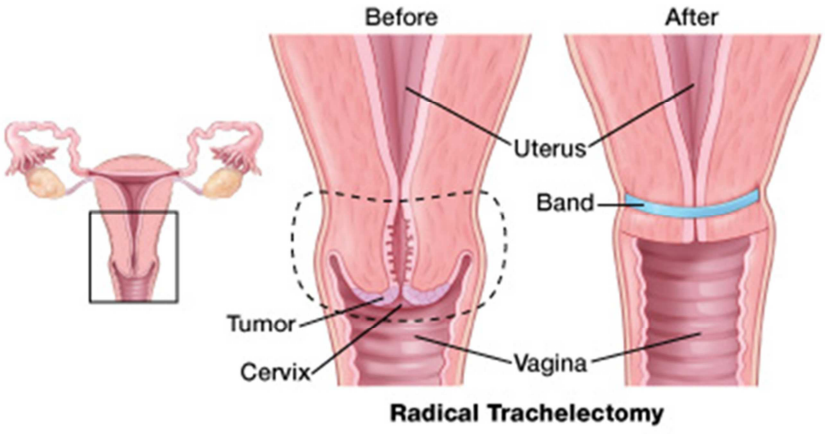
In a radical hysterectomy, some of the nerves to the bladder are removed, and so afterward many women have problems emptying their bladder.

More information about these surgeries and their side effects can be found in our document *Cervical Cancer*.

Our document, *Sexuality for the Woman With Cancer* has more about the sexual impact of these surgeries.

Trachelectomy

A procedure called a *radical trachelectomy* lets certain young women with early stage cervical cancer be treated without losing their ability to have children. This method takes out the cervix and the upper part of the vagina but leaves the body of the uterus behind. The doctor puts in a "purse-string" stitch to act as an opening of the cervix inside the uterus.



Radical Trachelectomy

The nearby lymph nodes are also removed. The operation is done either through the vagina or the belly (abdomen).

After this surgery, some women are able to carry a pregnancy to term and deliver a healthy baby by C-section.

This surgery is discussed in more detail in our document *Cervical Cancer*.

Pelvic exenteration

In this operation, besides taking out all the uterus and nearby tissues as in a radical hysterectomy, the bladder, vagina, rectum, and part of the colon may also be removed. What is taken out depends on where the cancer is. The goal is to remove all of the cancer. This operation is most often used when the cancer has come back after earlier treatment and has spread in the pelvis.

If the bladder is removed, a new way to store and pass urine is needed. A short piece of the intestine might be used to make a new bladder. Urine can be drained through a small opening on the belly called a *urostomy*. Either a small tube (a catheter) is placed into the opening or the urine might drain into a small plastic bag that covers the opening and is worn on the front of the stomach. More information about urostomies can be found in our document called *Urostomy: A Guide*.

If the rectum and part of the colon are removed, a new way to pass stool is needed. This is done with a *colostomy*, an opening on the belly (abdomen) through which the stool can

pass (more information about colostomies can be found in our document, *Colostomy: A Guide*). Or the surgeon might be able to reconnect the colon so that no bags are needed outside the body.

If the vagina is removed, a new one can be made out of skin or other tissue.

It can take a long time, 6 months or even more, to recover from this surgery.

This surgery is discussed in more detail in our document *Cervical Cancer*.

Our document, *Sexuality for the Woman With Cancer* has more about the sexual impact of this operation.

Pelvic lymph node dissection

Sometimes some lymph nodes from the pelvis are removed to see if they contain cancer cells. This is known as a *lymph node dissection* or *lymph node sampling*. It can be done during a hysterectomy or trachelectomy. Taking out lymph nodes can lead to fluid drainage problems in the leg. This can cause severe swelling in the leg (*lymphedema*). You can find more details about this topic in our document *Understanding Lymphedema: For Cancers Other Than Breast Cancer*.

Radiation therapy for cancer of the cervix

Radiation therapy is treatment with high-energy rays (like x-rays) to kill cancer cells or shrink tumors. The radiation may come from outside the body (external beam radiation) or from radioactive materials placed near or even directly in the tumor (internal radiation or brachytherapy). For cervical cancer, external beam radiation is often given along with low doses of chemo. Brachytherapy is often given after external beam radiation.

For external beam radiation, x-rays are given in a procedure that is much like having a diagnostic x-ray. For cervical cancer, treatments are often given 5 days a week for 6 or 7 weeks.

For internal radiation treatment, most often the radioactive substance is put in a device such as a cylinder or tube that was placed in the vagina.

There are 2 ways of giving this treatment: low-dose rate and high-dose rate.

For low-dose rate treatment, the patient stays in the hospital while the radioactive substance stays in place for a few days.

High-dose rate treatment is done as an outpatient over several treatments. For each treatment, the radioactive material is put in for a few minutes and then taken out.

Radiation can be used after surgery for early-stage cervical cancer. It is also the main treatment for later stage (stage II and higher) cancers. When it is the main treatment, it is often given with low doses of chemotherapy to help it work better.

Side effects of radiation

Side effects from radiation treatment are most common after the external beam type. These include:

- Tiredness (fatigue)
- Upset stomach
- Loose bowels
- Nausea
- Vomiting
- Skin changes – which can range from redness to blistering and peeling
- Irritation of the vulva and vagina causing them to become red and sore
- Low red blood cell counts (anemia), which sometimes needs to be treated with transfusion
- Low white blood cell counts, which can increase the risk of serious infection

Radiation can also cause some long-term side effects, including:

- Dryness or scar tissue in the vagina causing sex to be painful
- Early change of life (menopause)
- Problems with urination
- Weak bones leading to fractures
- Swelling in the leg (lymphedema)

Be sure to tell your doctor or nurse about any side effects you have. Often there are medicines or other methods that will help. *Because smoking increases the side effects from radiation, if you smoke, you should stop.*

More detailed information about radiation for the treatment of cervical cancer can be found in our document *Cervical Cancer*.

Chemotherapy for cancer of the cervix

Chemotherapy (chemo) is the use of drugs to kill cancer cells. Usually the drugs are given into a vein or by mouth. Once the drugs enter the bloodstream, they spread throughout the body.

Chemo can cause side effects. These side effects will depend on the type of drugs given, the amount taken, and how long treatment lasts. Side effects could include these:

- Upset stomach (nausea) and vomiting
- Loss of appetite
- Short-term hair loss
- Mouth sores
- Tiredness (fatigue)
- Low red blood cell counts (anemia), which sometimes needs to be treated with transfusion
- Low white blood cell counts, which can increase the risk of serious infection
- Low platelet counts, which can increase the risk of serious bleeding
- Menstrual changes, such as periods stopping for a time

These side effects get better when treatment is over.

Chemo can also lead to early change of life (menopause) and loss of ability to become pregnant (infertility).

If you have problems with side effects, talk with your doctor or nurse, as there are often ways to help. For instance, drugs given with chemo can reduce or even prevent nausea and vomiting. Your health care team will watch for side effects and can give you medicines to help you feel better.

Chemoradiation

For some stages of cervical cancer, chemo is given with the radiation to help the radiation work better. When chemotherapy and radiation therapy are given together, it is called *concurrent chemoradiation*. Giving chemo with radiation can improve the patient's chance for survival, but giving them together also tends to have worse side effects.

More details about the use of chemo to treat cervical cancer can be found in our document *Cervical Cancer*. Our document *A Guide to Chemotherapy* has information about dealing with some of the side effects of chemo.

Targeted therapy for cancer of the cervix

Targeted therapy drugs are medications used to treat cancer that work differently from regular chemotherapy (chemo) drugs.

Bevacizumab (Avastin®) is a targeted therapy drug that can be used to treat advanced cervical cancer. It slows the growth and spread of cancer by blocking new blood vessel growth.

This drug is often used with chemo for a time. Then if the cancer responds, the chemo may be stopped and the bevacizumab given by itself until the cancer starts growing again.

The most serious side effects of this drug are problems with bleeding, blood clots, and wound healing.

Our document *Targeted Therapy* has more information about targeted therapy drugs.

Clinical trials for cancer of the cervix

You may have had to make a lot of decisions since you've been told you have cancer. One of the most important decisions you will make is deciding which treatment is best for you. You may have heard about clinical trials being done for your type of cancer. Or maybe someone on your health care team has mentioned a clinical trial to you.

Clinical trials are carefully controlled research studies that are done with patients who volunteer for them. They are done to get a closer look at promising new treatments or procedures.

If you would like to take part in a clinical trial, you should start by asking your doctor if your clinic or hospital conducts clinical trials. You can also call our clinical trials matching service for a list of clinical trials that meet your medical needs. You can reach this service at 1-800-303-5691 or on our website at www.cancer.org/clinicaltrials. You can also get a list of current clinical trials by calling the National Cancer Institute's Cancer Information Service toll-free at 1-800-4-CANCER (1-800-422-6237) or by visiting the NCI clinical trials website at www.cancer.gov/clinicaltrials.

You must meet requirements to take part in any clinical trial. But if you do qualify for a clinical trial, you decide whether or not to enter (enroll in) it.

Clinical trials are one way to get state-of-the art cancer treatment. They are the only way for doctors to learn better methods to treat cancer. Still, they are not right for everyone.

You can get a lot more information on clinical trials, in our document called *Clinical Trials: What You Need to Know*. You can read it on our website or call our toll-free number and have it sent to you.

Complementary and alternative therapies for cancer of the cervix

When you have cancer you are likely to hear about ways to treat your cancer or relieve symptoms that your doctor hasn't mentioned. Everyone from friends and family to social media groups and websites offers ideas for what might help you. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

What are complementary and alternative therapies?

It can be confusing because not everyone uses these terms the same way, and they are used to refer to many different methods. We use *complementary* to refer to treatments that are used *along with* your regular medical care. *Alternative* treatments are used *instead of* a doctor's medical treatment.

Complementary methods: Most complementary treatment methods are not offered as cures for cancer. Mainly, they are used to help you feel better. Some examples of methods that are used along with regular treatment are meditation to reduce stress, acupuncture to help relieve pain, or peppermint tea to relieve nausea. Some complementary methods are known to help, while others have not been tested. Some have been proven not to be helpful, and a few are even harmful.

Alternative treatments: Alternative treatments may be offered as cancer cures. These treatments have not been proven safe and effective in clinical trials. Some of these methods may be harmful, or have life-threatening side effects. But the biggest danger in most cases is that you may lose the chance to be helped by standard medical treatment. Delays or interruptions in your medical treatments may give the cancer more time to grow and make it less likely that treatment will help.

Finding out more

It is easy to see why people with cancer think about alternative methods. You want to do all you can to fight the cancer, and the idea of a treatment with few or no side effects sounds great. Sometimes medical treatments like chemotherapy can be hard to take, or they may no longer be working. But the truth is that most of these alternative methods have not been tested and proven to work in treating cancer.

As you think about your options, here are 3 important steps you can take:

- Look for "red flags" that suggest fraud. Does the method promise to cure all or most cancers? Are you told not to have regular medical treatments? Is the treatment a "secret" that requires you to visit certain providers or travel to another country?
- Talk to your doctor or nurse about any method you are thinking of using.

- Contact us at 1-800-227-2345 to learn more about complementary and alternative methods in general and to find out about the specific methods you are looking at.

The choice is yours

Decisions about how to treat or manage your cancer are always yours to make. If you want to use a non-standard treatment, learn all you can about the method and talk to your doctor about it. With good information and the support of your health care team, you may be able to safely use the methods that can help you while avoiding those that could be harmful.

Questions to ask about cervical cancer

As you cope with cancer and cancer treatment, we encourage you to have honest, open talks with your doctor. Ask any question, no matter how small it might seem. Here are some you might want to ask. Be sure to add your own questions as you think of them. Nurses, social workers, and other members of your treatment team may also be able to answer many of your questions.

- Would you please write down the type of cancer I have?
- Has my cancer spread beyond the cervix?
- What is the stage of my cancer and what does that mean?
- What are my treatment choices?
- What do you suggest and why?
- What risks or side effects are there to the treatment you suggest?
- Will I be able to have children after treatment?
- What are my treatment options if I want to have children in the future?
- Will I lose my hair? If so, what can I do about it?
- What are the chances of the cancer coming back after treatment?
- What should I do to get ready for treatment?
- Should I follow a special diet?
- Based on what you've learned about my cancer, what are my chances of survival?
- What do I tell my children, husband, parents, and other family members?

Be sure to write down any other questions you have.

Moving on after treatment for cervical cancer

For some women with cervical cancer, treatment may remove or destroy the cancer. It can feel good to be done with treatment, but it can also be stressful. You may find that you now worry about the cancer coming back. This is a very common concern among those who have had cancer. (When cancer comes back, it is called a *recurrence*.)

It may take a while before your recovery begins to feel real and your fears are somewhat relieved. You can learn more about what to look for and how to learn to live with the chance of cancer coming back in *Living With Uncertainty: The Fear of Cancer Recurrence*.

For other women, the cancer may never go away completely. These women may get regular treatments with chemotherapy, radiation, or other treatments to try to help keep the cancer in check. Learning to live with cancer that does not go away can be hard and very stressful. It has its own type of uncertainty. Our document, *When Cancer Doesn't Go Away*, talks more about this.

Follow-up care

After your treatment is over, it is very important to keep all follow-up appointments. During these visits, your doctors will ask about symptoms, do physical exams, and may order blood tests or imaging studies such as CT scans or x-rays. You will need to keep getting Pap tests no matter how you were treated (if you were treated with surgery that removed the cervix, cells for the Pap test come from the top part of the vagina). Follow-up is needed to check for cancer recurrence or spread, as well as possible side effects of certain treatments. These exams also give your doctor a way to watch you for signs of a new cancer, like those caused by HPV or those that can result from cancer treatment.

Almost any cancer treatment can have side effects. Some may last for a few weeks or months, but others can be permanent. Please tell your cancer care team about any symptoms or side effects that bother you so they can help you manage them. Use this time to ask your health care team questions and discuss any concerns you might have.

It is also important to keep your health insurance. While you hope your cancer won't come back, it could happen. If it does, you don't want to have to worry about paying for treatment. Should your cancer come back, our document *When Your Cancer Comes Back: Cancer Recurrence* helps you manage and cope with this phase of your treatment.

Seeing a new doctor

At some point after your cancer is found and treated, you may find yourself in the office of a new doctor. It is important that you be able to give your new doctor the exact details of your diagnosis and treatment. Gathering these details soon after treatment may be easier than trying to get them at some point in the future. Make sure you have this information handy and always keep copies for yourself:

- A copy of your pathology report from any biopsy or surgery
- If you had surgery, a copy of your operative report
- If you were in the hospital, a copy of the discharge summary that the doctor wrote when you were sent home from the hospital
- If you had radiation treatment, a summary of the treatment
- If you had chemotherapy, a list of your drugs, drug doses, and when you took them
- Copies of your x-rays and other imaging tests (these can often be put on a DVD)

The doctor may want copies of this information for his records, but always keep copies for yourself.

Lifestyle changes after cervical cancer

You can't change the fact that you have had cancer. What you can change is how you live the rest of your life − making choices to help you stay healthy and feel as well as you can. This can be a time to look at your life in new ways. Maybe you are thinking about how to improve your health over the long term. Some people even start during cancer treatment.

Make healthier choices

For many people, finding out they have cancer helps them focus on their health in ways they may not have thought much about in the past. Are there things you could do that might make you healthier? Maybe you could try to eat better or get more exercise. Maybe you could cut down on alcohol, or give up tobacco. Even things like keeping your stress level under control may help. Now is a good time to think about making changes that can have positive effects for the rest of your life. You will feel better and you will also be healthier.

You can start by working on those things that worry you most. Get help with those that are harder for you. For instance, if you are thinking about quitting smoking and need help, call the American Cancer Society for information and support.

Eating better

Eating right can be hard for anyone, but it can get even tougher during and after cancer treatment. Treatment may change your sense of taste. Nausea can be a problem. You may not feel like eating and lose weight when you don't want to. Or you might have gained weight that you can't seem to lose. All of these things can be very trying.

If treatment caused weight changes or eating or taste problems, do the best you can and keep in mind that these problems usually get better over time. You may find it helps to eat small portions every 2 to 3 hours until you feel better. You may also want to ask your cancer team about seeing a dietitian, an expert in nutrition who can give you ideas on how to deal with these treatment side effects.

One of the best things you can do after treatment is to start healthy eating habits. You may be surprised at the long-term benefits of some simple changes. Getting to and staying at a healthy weight, eating a healthy diet, and limiting your alcohol intake may lower your risk for a number of types of cancer, as well as having many other health benefits.

Rest, fatigue, and exercise

Feeling tired (fatigue) is a very common problem during and after cancer treatment. This is not a normal type of tiredness but a "bone-weary" exhaustion that doesn't get better with rest. For some people, fatigue lasts a long time after treatment and can keep them from staying active. But exercise can actually help reduce fatigue and the sense of depression that sometimes comes with feeling so tired.

If you are very tired, though, you will need to balance activity with rest. It is OK to rest when you need to. To learn more about fatigue, please see our documents, *Fatigue in People With Cancer* and *Anemia in People With Cancer*.

If you were very ill or weren't able to do much during treatment, it is normal that your fitness, staying power, and muscle strength declined. You need to find a physical activity plan that fits your needs. Talk with your health care team before starting. Get their input on your exercise plans. Then try to get an exercise buddy so that you're not going it alone.

Physical activity can improve your physical and emotional health.

- It improves your cardiovascular (heart and circulation) fitness.
- It makes your muscles stronger.
- It reduces fatigue.
- It lowers anxiety and depression.
- It can make you feel generally happier.

- It helps you feel better about yourself.

We know that getting regular physical activity plays a role in helping to lower the risk of some cancers, as well as having other health benefits.

How about your emotional health after cervical cancer?

When treatment ends, you may find yourself having many different emotions. This happens to a lot of people. You might have been going through so much during treatment that you could only focus on getting through each day. Now it may feel like a lot of other issues are catching up with you.

You may find yourself thinking about death and dying. Or maybe you're more aware of the effect the cancer has on your family, friends, and career. You may take a new look at your relationship with those around you. Unexpected issues may also cause concern. For instance, as you feel better and have fewer doctor visits, you will see your health care team less often and have more time on your hands. These changes can make some people anxious.

Almost everyone who has been through cancer can benefit from getting some type of support. You need people you can turn to for strength and comfort. Support can come in many forms: family, friends, cancer support groups, church or spiritual groups, online support groups, or one-on-one counselors. What's best for you depends on your situation and personality.

The cancer journey can feel very lonely. You don’t need to deal with everything on your own. And your friends and family may feel shut out if you do not include them. Let them in, and let in anyone else who you feel may help. If you aren’t sure who can help, call your American Cancer Society at 1-800-227-2345 and we can put you in touch with a group or resource that may work for you.

If treatment for cervical cancer stops working

When a person has had many different treatments and the cancer has not been cured, over time the cancer tends to resist all treatment. At this time you may have to weigh the possible benefits of a new treatment against the downsides, like treatment side effects and clinic visits.

This is likely to be the hardest time in your battle with cancer − when you have tried everything within reason and it's just not working anymore. Your doctor may offer you new treatment, but you will need to talk about whether the treatment is likely to improve your health or change your outlook for survival.

No matter what you decide to do, it is important for you to feel as good as possible. Make sure you are asking for and getting treatment for pain, nausea, or any other problems you

may have. This type of treatment is called palliative treatment. It helps relieve symptoms but is not meant to cure the cancer.

At some point you might want to think about hospice care. Most of the time it is given at home. Your cancer may be causing symptoms or problems that need to be treated. Hospice focuses on your comfort. You should know that having hospice care doesn't mean you can't have treatment for the problems caused by your cancer or other health issues. It just means that the purpose of your care is to help you live life as fully as possible and to feel as well as you can. You can learn more about this in our document, *Hospice Care*.

Staying hopeful is important, too. Your hope for a cure may not be as bright, but there is still hope for good times with family and friends − times that are filled with joy and meaning. Pausing at this time in your cancer treatment gives you a chance to focus on the most important things in your life. Now is the time to do some things you've always wanted to do and to stop doing the things you no longer want to do. Though the cancer may be beyond your control, there are still choices you can make.

What's new in cervical cancer research?

Research is being done to find new ways to prevent and treat cancer of the cervix.

Sentinel lymph node biopsy

During surgery for cervical cancer, lymph nodes in the pelvis may be removed to check for cancer spread. Instead of taking out many lymph nodes, a technique called *sentinel lymph node biopsy* can be used to find just the few lymph nodes most likely to contain cancer. This is most often done by injecting something (like a blue dye containing a radioactive tracer) into the cancer and then removing the lymph nodes that collect the substance. These are the lymph nodes most likely to contain cancer if it had spread. If these lymph nodes don’t contain cancer, the other lymph nodes don’t need to be removed. Taking out fewer lymph nodes may lower the risk of later problems.

HPV vaccines

There are vaccines to help prevent cervical cancer. These vaccines produce immunity to certain types of HPV so that women who are exposed to these viruses will not get infections. Vaccines are also being developed to prevent some of the other HPV types that cause cancer.

Vaccines are being studied for women who already have HPV infections. These vaccines could help their immune systems destroy the virus and cure the infection before it becomes cancer. Still other vaccines are meant to help women who already have advanced cervical cancer that has come back (recurred) or spread.

Targeted therapy

As scientists have learned more about the gene changes in cells that cause cancer, they have been able to develop newer drugs that are aimed right at these changes. These targeted drugs work in a different way from standard chemo drugs. They often have less severe side effects. These drugs may be used alone or along with chemo.

Hyperthermia

Hyperthermia is a treatment that raises the temperature around the tumor. Some research suggests that adding hyperthermia to radiation may help keep the cancer from coming back and help patients live longer.

More information about cervical cancer

From your American Cancer Society

Here is more information you might find helpful. You also can order free copies of our documents from our toll-free number, 1-800-227-2345, or read them on our website, www.cancer.org.

Dealing with diagnosis and treatment

Health Professionals Associated With Cancer Care

Talking With Your Doctor (also in Spanish)

After Diagnosis: a Guide for Patients and Families (also in Spanish)

Nutrition for the Person with Cancer During Treatment: A Guide for Patients and Families (also in Spanish)

Coping with Cancer in Everyday Life (also in Spanish)

Sexuality for the Woman with Cancer (also in Spanish)

Family and caregiver concerns

Talking with Friends and Relatives About Your Cancer (also in Spanish)

Helping Children When A Family Member Has Cancer: Dealing With Diagnosis (also in Spanish)

What It Takes to Be a Caregiver

Insurance and financial issues

In Treatment: Financial Guidance for Cancer Survivors and Their Families (also in Spanish)

Health Insurance and Financial Assistance for the Cancer Patient (also in Spanish)

More on cancer treatments

A Guide to Cancer Surgery (also in Spanish)

A Guide to Chemotherapy (also in Spanish)

Understanding Radiation Therapy: a Guide for Patients and Families (also in Spanish)

Clinical Trials: What You Need to Know

Cancer treatment side effects

Caring for the Patient With Cancer at Home: A Guide for Patients and Families (also in Spanish)

Distress in People With Cancer

Anxiety, Fear, and Depression

Nausea and Vomiting

Guide to Controlling Cancer Pain (also in Spanish)

Get Relief From Cancer Pain

Pain Diary

Anemia in People With Cancer

Fatigue in People With Cancer

Books

Your American Cancer Society also has books that you might find helpful. Call us at 1-800-227-2345 or visit our bookstore online at cancer.org/bookstore to find out about costs or to place an order.

National organizations and websites*

Along with the American Cancer Society, other sources of information and support include:

Foundation for Women's Cancer (formerly the Gynecologic Cancer Foundation)
Toll-free number: 1-800-444-4441
Telephone number: 1-312-578-1439
Website: www.foundationforwomenscancer.org

Has a directory of specially trained gynecologic oncologists practicing in the US; free information; and an online "survivor section" featuring articles on personal issues such as fertility, sexuality and quality of life aimed at creating an online community for women with cancer.

National Cancer Institute (NCI)
Toll-free number: 1-800-422-6237 (1-800-4-CANCER)
Website: www.cancer.gov

Their "Cancer Information Service" offers a wide variety of free, accurate, up-to-date information about cancer to patients, their families, and the general public; also can help people find clinical trials in their area.

Womenshealth.gov
Toll-free number: 1-800-994-9662 (1-800-994-WOMAN)
TTY: 1-888-220-5446
Website: www.womenshealth.gov

Offers a lot of information on women's health issues − including cancers in women

National Cervical Cancer Coalition
Toll-free number: 1-800- 685-5531
Website: www.nccc-online.org

Provides referrals to uninsured, underserved women; information about cervical cancer and its treatment; and phone and email support services

National Coalition for Cancer Survivorship (NCCS)
Toll-free number: 1-877-622-7937 (1-877-NCCS-YES)
Website: www.canceradvocacy.org

Has publications on many topics, including employment and health insurance, as it relates to cancer. Materials are also offered in Spanish. Also offers the Cancer Survival Toolbox − a free program that teaches skills to help people with cancer meet the challenges of their illness.

Planned Parenthood Federation of America
Toll-free number: 1-800-230-7526
Website: www.plannedparenthood.org

Offers many women's health services including cervical cancer screening with referrals for specialty care. Services available for the uninsured.

** Inclusion on this list does not imply endorsement by the American Cancer Society.*

No matter who you are, we can help. Contact us anytime, day or night, for information and support. Call us at 1-800-227-2345 or visit www.cancer.org.

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Last Revised: 1/7/2015

For additional assistance please contact your American Cancer Society
1-800-227-2345 or www.cancer.org