Cervical Cancer Early Detection, Diagnosis, and Staging

Finding Cervical Cancer Early

Catching cancer early often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that is not always the case.

- Can Cervical Cancer Be Found Early?
- The American Cancer Society Guidelines for the Prevention and Early Detection of Cervical Cancer
- Cervical Cancer Prevention and Screening: Financial Issues
- Screening Tests for Cervical Cancer

Diagnosis and Planning Treatment

After a cancer diagnosis, staging provides important information about the extent of cancer in the body, the best treatment plan for the cancer, and the anticipated response to treatment.

- Signs and Symptoms of Cervical Cancer
- Tests for Cervical Cancer
- Cervical Cancer Stages
- Survival Rates for Cervical Cancer
- Questions To Ask About Cervical Cancer
Can Cervical Cancer Be Found Early?

The best way to find cervical cancer early is to have regular screenings with a Pap test (which may be combined with a test for human papillomavirus or HPV). Being aware of any signs and symptoms of cervical cancer can also help avoid delays in diagnosis. Early detection greatly improves the chances of successful treatment of pre-cancers and cancer.

For more information about using the Pap test and the HPV test to find cervical cancer early, see The American Cancer Society Guidelines for the Prevention and Early Detection of Cervical Cancer.

References


The American Cancer Society Guidelines for the Prevention and Early Detection of Cervical Cancer

The American Cancer Society recommends that women follow these guidelines to help find cervical cancer early. Following these guidelines can also find pre-cancers, which can be treated to keep cervical cancer from starting.

- All women should begin cervical cancer testing (screening) at age 21.
- Women aged 21 to 29, should have a Pap test every 3 years. HPV testing should not be used for screening in this age group unless it is needed as after an abnormal Pap test result.
- Beginning at age 30, women should be screened with a Pap test combined with an HPV test every 5 years as long as the test results are normal. This is called co-testing and should continue until age 65.

Another reasonable option for women 30 to 65 is to get tested every 3 years with only the Pap test.

- Women over age 65 who have had regular screening in the past 10 years with normal results should stop cervical cancer screening. Once stopped, it should not be started again.

Women with a history of a serious pre-cancer, such as CIN2 or CIN3 should continue to have testing for at least 20 years after that condition was found, even if the testing goes past age 65.

- Women who have had a total hysterectomy (removal of the uterus and cervix)
should stop screening (such as Pap tests and HPV tests), unless the hysterectomy was done as a treatment for cervical pre-cancer (or cancer). Women who have had a hysterectomy without removal of the cervix (called a supra-cervical hysterectomy) should continue cervical cancer screening according to the guidelines above.

- Women who are at high risk of cervical cancer because of a suppressed immune system (for example from HIV infection, organ transplant, or long-term steroid use) or because they were exposed to DES in utero may need to be screened more often. They should follow the recommendations of their health care team.
- Women of any age should NOT be screened every year by any screening method if their Pap tests have been normal and they do not have HIV infection or other cause for a weakened immune system.
- Women who have been vaccinated against HPV should still follow these guidelines for their age groups.

Some women believe that they can stop cervical cancer screening once they have stopped having children. This is not true. They should continue to follow American Cancer Society guidelines.

Although annual (every year) screening should not be done, women who have abnormal screening results may need to have a follow-up Pap test (sometimes with a HPV test) done in 6 months or a year.

The American Cancer Society guidelines for early detection of cervical cancer do not apply to women who have been diagnosed with cervical cancer or cervical pre-cancer. These women should have follow-up testing and cervical cancer screening as recommended by their health care team.

**Importance of being screened for cervical cancer**

Cervical cancer was once one of the most common causes of cancer death for American women. The cervical cancer death rate dropped significantly with the increased use of the Pap test for screening. But the death rate has not changed much over the last 10 years.

Screening tests offer the best chance to have cervical cancer found early when treatment can be most successful. Screening can also actually prevent most cervical cancers by finding abnormal cervical cell changes (pre-cancers) so that they can be treated before they have a chance to turn into a cervical cancer.
Despite the benefits of cervical cancer screening, not all American women get screened. Most cervical cancers are found in women who have never had a Pap test or who have not had one recently. Women without health insurance and women who have recently immigrated are less likely to have cervical cancer screening.

Cervical Cancer Prevention and Screening: Financial Issues

Financial issues can play an important role in whether or not women are screened for cervical cancer. Women with lower incomes and those without health insurance are less likely to be screened.

Many states ensure that private insurance companies, Medicaid, and public employee health plans pay for Pap test screening.

Other programs are also available to help provide financial assistance for women with lower incomes and those without insurance.

Federal law

Coverage of cervical cancer screening tests is mandated by the Affordable Care Act (ACA)\(^1\), but that doesn’t apply to health plans that were in place before it was passed. You can find out the date your insurance plan started by contacting your health insurance plan administrator. If your plan started on or after September 23, 2010, it’s required to cover the recommended cervical cancer screening tests. If your plan started before September 23, 2010, it may still have coverage requirements mandated by your state, but each state is different.

Self-insured plans

Self-insured (or self-funded) plans pay employee health care costs from their own funds, even though they usually contract with another company to track and pay claims. You can find out if your health plan is self-insured by contacting your insurance
administrator at work or reading your Summary of Plan Benefits.

These plans are governed by the Affordable Care Act (ACA), so most are required to cover cervical cancer screening. The exception is any self-insured plan that was in effect before the ACA. These plans are called **grandfathered**, and they don’t have to provide coverage based on what the ACA says. They also are not covered by state laws, including those about cervical cancer screening.

Women who have self-insured based health insurance should check with their health plans to see what cervical cancer screening services are offered.

**Medicaid**

By statute or agency policy, Medicaid or public assistance programs in all 50 states and the District of Columbia cover screening for cervical cancer either routinely or on a doctor’s recommendation. This coverage may or may not conform to American Cancer Society guidelines. Please check with your state Medicaid office to learn more about what services are provided for cervical cancer screening.

**Medicare**

Medicare provides coverage for a screening Pap test, pelvic exam, and a clinical breast exam every 2 years for Medicare beneficiaries. And if a woman is of childbearing age and has had an abnormal Pap test in the previous 3 years, or is at high risk for cervical or vaginal cancer, she would be eligible under Medicare to be covered for screening every year. This screening is provided without co-pay, co-insurance, or deductible as long as you go to a doctor that accepts Medicare.

**National Breast and Cervical Cancer Early Detection Program**

All states are making cervical cancer screening more available to women through the National Breast and Cervical Cancer Early Detection Program (NBCCEDP). This program provides breast and cervical cancer screening to women without health insurance for free or at very little cost. The NBCCEDP attempts to reach as many women in underserved communities as possible, including older women, women without health insurance and women who are members of racial and ethnic minorities.

Though the program is administered within each state, the Centers for Disease Control and Prevention (CDC) provides support to each state program.
Each state’s Department of Health will have information on how to contact the nearest program participant. For more information on this program, you can also contact the CDC at 1-800-CDC-INFO (1-800-232-4636) or on the web at www.cdc.gov/cancer/nbccedp2.

If cervical cancer is detected during screening in this program, most states can now extend Medicaid benefits to these women to cover the costs of treatment.

To learn more about this program, see National Breast and Cervical Cancer Early Detection Program3.

**HPV vaccine costs**

Insurance plans cover the cost of the HPV vaccine in accordance with the federal Advisory Committee on Immunization Practices (ACIP) recommendations. The HPV vaccine is also included in the federal Vaccine for Children (VFC) entitlement program, which covers vaccine costs for children and teens who don’t have insurance or who are underinsured.


**Hyperlinks**


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Screening Tests for Cervical Cancer

The best way to find cervical cancer early is to have regular screening with a Pap test (which may be combined with a test for human papillomavirus or HPV). As Pap testing became routine in this country, finding pre-invasive lesions (pre-cancers) of the cervix became far more common than finding invasive cancer. Being alert to any signs and symptoms of cervical cancer can also help avoid unnecessary delays in diagnosis. Early detection greatly improves the chances of successful treatment and can prevent any early cervical cell changes from becoming cancer.

The HPV DNA Test
Doctors can now test for the HPV (high-risk or carcinogenic types) that are most likely to cause cervical cancer by looking for pieces of their DNA in cervical cells. The test can be done at the same time as the Pap test, with the same swab or a second swab.

The Pap (Papanicolaou) Test
The Pap test is a procedure used to collect cells from the cervix so that they can be looked at in the lab to find cancer and pre-cancer.

Work-up of Abnormal Pap Test Results
The first step in finding cervical cancer is often an abnormal Pap test result. This will lead to further tests, which can diagnose cervical cancer.

The HPV Test
The most important risk factor for developing cervical cancer is infection with HPV. Doctors can test for the HPV types (such as high-risk) that are most likely to cause cervical cancer by looking for pieces of their DNA in cervical cells. The test can be done at the same time as a Pap test. You won’t notice a difference in your exam if you have both tests done.

The HPV test is most often used in 2 situations:
• The HPV test can be used in combination with a Pap test to screen for cervical cancer (also called co-testing). The American Cancer Society recommends this combination for women 30 and older. The HPV test is not recommended for screening for cervical cancer in women under 30. That is because women in their 20s who are sexually active are much more likely (than older women) to have an HPV infection that will go away on its own. For these younger women, results of this test are not as significant and may be more confusing. For more information, see the American Cancer Society document [HPV and HPV Testing](#).
• The HPV test can also be used in women who have slightly abnormal Pap test results (ASC-US) to find out if they might need more testing or treatment.

Follow-up of HPV testing

If your Pap test result is normal, but you test positive for HPV, the main options are:

• Repeat co-testing in one year
• Testing for HPV types 16 or 18 (this can often be done on the sample in the lab). If the test result is positive, [colposcopy](#) would be recommended. If you test negative, you should repeat co-testing in one year.

If your Pap test result is abnormal, and you test positive for HPV, your health care provider will explain what other tests you might need.

Hyperlinks

1. [ssLINK/cervical-cancer-prevention-and-early-detection-pap-test.html](#)

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The Pap (Papanicolaou) Test

The Pap test is a procedure that collects cells from the cervix so that they can be looked
at closely in the lab to find cancer and pre-cancer.

**How the Pap test is done**

The health care professional first places a speculum inside the vagina. The speculum is a metal or plastic instrument that keeps the vagina open so that the cervix can be seen clearly. Next, using a small spatula or brush, a sample of cells and mucus is lightly scraped from the exocervix (see illustration in [What is Cervical Cancer?](#)). A small brush or a cotton-tipped swab is then inserted into the opening of the cervix to take a sample from the endocervix. If your cervix has been removed (because you had a trachelectomy or hysterectomy) as a part of the treatment for a cervical cancer or pre-cancer, the cells from the upper part of the vagina (known as the **vaginal cuff**) will be sampled. The samples are then looked at in the lab.

Although the Pap test has been more successful than any other screening test in preventing a cancer, it’s not perfect. One of the limitations of the Pap test is that the results need to be examined by the human eye, so an accurate analysis of the hundreds of thousands of cells in each sample is not always possible. Engineers, scientists, and doctors are working together to improve this test. Because some abnormalities may be missed (even when samples are looked at in the best labs), it’s best to have this test regularly as recommended by the American Cancer Society guidelines.

**Making your Pap tests more accurate**

You can do several things to make your Pap test as accurate as possible:

- Try not to schedule an appointment for a time during your menstrual period. The best time is at least 5 days after your period stops.
- Don’t use tampons, birth-control foams or jellies, other vaginal creams, moisturizers, or lubricants, or vaginal medicines for 2 to 3 days before the Pap test.
- Don’t douche for 2 to 3 days before the Pap test.
- Don’t have vaginal sex for 2 days before the Pap test.

**A pelvic exam is not the same as a Pap test**

Many people confuse pelvic exams with Pap tests. The pelvic exam is part of a woman’s routine health care. During a pelvic exam, the doctor looks at and feels the reproductive organs, including the uterus and the ovaries and may do tests for sexually
transmitted disease. Pelvic exams may help find other types of cancers and reproductive problems. A Pap test can be done during a pelvic exam, but sometimes a pelvic exam is done without a Pap test. A Pap test is needed to find early cervical cancer or pre-cancers so ask your doctor if you had a Pap test with your pelvic exam.

How Pap test results are reported

The most widely used system for describing Pap test results is the Bethesda System (TBS). There are 3 main categories, some of which have sub-categories:

- Negative for intraepithelial lesion or malignancy
- Epithelial cell abnormalities
- Other malignant neoplasms.

You may need further testing if your Pap test showed any of the abnormalities below. See Work-up of Abnormal Pap Test Results.

Negative for intraepithelial lesion or malignancy

This category means that no signs of cancer, pre-cancer, or other significant abnormalities were found. There may be findings that are unrelated to cervical cancer, such as signs of infection with yeast, herpes, or *Trichomonas vaginalis* (a type of sexually transmitted disease), for example. Specimens from some women may also show “reactive cellular changes”, which is the way cervical cells appear when infection or other inflammation is around.

Epithelial cell abnormalities

This means that the cells lining the cervix or vagina show changes that might be cancer or a pre-cancer. This category is divided into several groups for squamous cells and glandular cells.

Squamous cell abnormalities

Atypical squamous cells (ASCs) This category includes two types of abnormalities:

- Atypical squamous cells of uncertain significance (ASC-US) is used to describe when there are cells that look abnormal, but it is not possible to tell if this is caused
by infection, irritation, or a pre-cancer. Most of the time, cells labeled ASC-US are not pre-cancer, but more testing, like an HPV test, is needed to be sure.

- Atypical squamous cells where high-grade squamous intraepithelial lesion (HSIL) can’t be excluded (ASC-H) is used to describe when the cells look abnormal but are more concerning for a possible pre-cancer that needs more testing and may need treatment.

**Squamous intraepithelial lesions (SILs) These abnormalities are divided into two categories:**

- In low-grade SIL (LSIL) the cells look mildly abnormal. This might also be called mild dysplasia or cervical intraepithelial neoplasia grade 1 (CIN1).
- In high-grade SIL (HSIL) the cells look severely abnormal and are less likely than the cells in LSIL to go away without treatment. They are also more likely to eventually develop into cancer if they are not treated. This might also be called moderate to severe dysplasia or cervical intraepithelial neoplasia grade 2 or 3 (CIN2 and/or CIN3).

Further tests are needed if SIL is seen on a Pap test. If treatment is needed, it can cure most SILs and prevent invasive cancer from forming.

**Squamous cell carcinoma:** This result means that the woman is likely to have an invasive cancer. Further testing will be done to be sure of the diagnosis before treatment can be planned.

**Glandular cell abnormalities**

**Atypical glandular cells:** When the glandular cells do not look normal, but they have concerning features that could be cancerous, the term used is atypical glandular cells (AGC). In this case, the patient should have more testing done.

**Adenocarcinoma:** Cancers of the glandular cells are called adenocarcinomas. In some cases, the doctor examining the cells can tell whether the adenocarcinoma started in the endocervix, in the uterus (endometrium), or elsewhere in the body.

**Other malignant neoplasms**

This category is for other types of cancer that hardly ever affect the cervix, such as
malignant melanoma, sarcomas, and lymphoma.

**Hyperlinks**


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**Work-up of Abnormal Pap Test Results**

The first step in finding cervical cancer is often an abnormal Pap test result. This will lead to further tests, which can diagnose cervical cancer.

Cervical cancer may also be suspected if you have symptoms like abnormal vaginal bleeding or pain during sex. Your primary doctor or gynecologist often can do the tests needed to diagnose pre-cancers and cancers and may also be able to treat a pre-cancer.

If there is a diagnosis of invasive cancer, your doctor should refer you to a gynecologic oncologist, a doctor who specializes in cancers of women's reproductive systems.

**Tests for women with symptoms of cervical cancer or abnormal Pap test results**

**Medical history and physical exam**

First, the doctor will ask you about your personal and family medical history. This includes information related to risk factors and symptoms of cervical cancer. A complete physical exam will help evaluate your general state of health. The doctor will do a pelvic exam and may do a Pap test if one has not already been done. In addition, your lymph nodes will be felt for signs of metastasis (cancer spread).

The Pap test is a screening test, not a diagnostic test. It cannot tell for certain if you
have cervical cancer. An abnormal Pap test result may mean more testing is needed. This might include tests to see if a cancer or a pre-cancer is actually present. The tests that are used include colposcopy (with biopsy), endocervical scraping and cone biopsies.

**Colposcopy**

If you have certain symptoms that are worrisome for cancer or if your Pap test shows abnormal cells, you will need to have a test called **colposcopy**. You will lie on the exam table as you do with a pelvic exam. A speculum will be placed in the vagina to help the doctor see the cervix. The doctor will use a colposcope to examine the cervix. The colposcope is an instrument that stays outside the body and has magnifying lenses. It lets the doctor see the surface of the cervix up close and clearly. Colposcopy itself usually causes no more discomfort than any other speculum exam. It can be done safely even if you are pregnant. Like the Pap test, it is better not to have it during your menstrual period.

At the time of the procedure, the doctor will apply a weak solution of acetic acid (similar to vinegar) to your cervix to make any abnormal areas easier to see. If an abnormal area is seen, a biopsy (removal of a small piece of tissue) will be done. The tissue is sent to a lab to be looked at carefully. A biopsy is the best way to tell for certain whether an abnormal area is a pre-cancer, a true cancer, or neither. Although the colposcopy procedure is usually not painful, the cervical biopsy can cause discomfort, cramping, bleeding, or even pain in some women.

**Cervical biopsies**

Several types of biopsies can be used to diagnose cervical pre-cancers and cancers. After these procedures, patients may feel mild cramping or pain and may also have some light bleeding.

**Colposcopic biopsy**

For this type of biopsy, the cervix is examined with a colposcope to find the abnormal areas. Using biopsy forceps, a small section of the abnormal area is removed.

**Endocervical curettage (endocervical scraping)**

If colposcopy does not see any abnormal areas or if the transformation zone (the area at risk for HPV infection and pre-cancer) cannot be seen with the colposcope, something else must be done to check that area for cancer. This means taking a
scraping of the endocervix by inserting a narrow instrument (either a curette or brush) into the endocervical canal (the part of the cervix closest to the uterus). The curette or brush is used to scrape the inside of the canal to remove some of the tissue, which is then sent to the lab to be checked.

**Cone biopsy**

In this procedure, also known as conization, the doctor removes a cone-shaped piece of tissue from the cervix. The tissue removed in the cone includes the transformation zone where cervical pre-cancers and cancers are most likely to start. A cone biopsy is not only used to diagnose pre-cancers and cancers. It can also be used as a treatment since it can sometimes completely remove pre-cancers and some very early cancers.

Two common types of cone biopsies are:

- **Loop electrosurgical procedure (LEEP or LLETZ):** In this method, the tissue is removed with a thin wire loop that is heated by electricity and acts as a small knife. For this procedure, a local anesthetic is used, and it can be done in your doctor’s office.

- **Cold knife cone biopsy:** This method uses a surgical scalpel or a laser instead of a heated wire to remove tissue. You will receive anesthesia during the operation (either a general anesthesia, where you are asleep, or a spinal or epidural anesthesia, where an injection into the area around the spinal cord makes you numb below the waist) and it is done in a hospital.

Possible complications of cone biopsies include bleeding, infection and narrowing of the cervix.

Having any type of cone biopsy will not prevent most women from getting pregnant, but if a large amount of tissue has been removed, women may have a higher risk of giving birth prematurely.

**What tests will I need?**

The tests (or treatment) you will need depend on the results of the Pap test.

The specific results of your Pap test\(^1\), along with your age, will guide your doctor to the next step. It may involve a follow-up Pap test in a year, an HPV test\(^2\), or one of the procedures above. Your doctor will most likely use the guidelines for abnormal Pap test results from the American Congress of Obstetricians and Gynecologists (ACOG) when
deciding on what follow-up plan is best for you.

Hyperlinks


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Signs and Symptoms of Cervical Cancer

Women with early cervical cancers and pre-cancers usually have no symptoms. Symptoms often do not begin until the cancer becomes larger and grows into nearby tissue. When this happens, the most common symptoms are:

- Abnormal vaginal bleeding, such as bleeding after vaginal sex, bleeding after menopause, bleeding and spotting between periods, or having (menstrual) periods that are longer or heavier than usual. Bleeding after douching may also occur.
- An unusual discharge from the vagina. The discharge may contain some blood and may occur between your periods or after menopause.
- Pain during sex
Pain in the pelvic region

Signs and symptoms seen with more advanced disease can include:

- Swelling of the legs
- Problems urinating or having a bowel movement
- Blood in the urine

These signs and symptoms can also be caused by conditions other than cervical cancer. Still, if you have any of these symptoms, see a health care professional right away. Ignoring symptoms may allow the cancer to grow to a more advanced stage and lower your chance for successful treatment.

For the best chances for treatment to be successful, don't wait for symptoms to appear. Have regular screening tests for cervical cancer.

References


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Tests for Cervical Cancer

The first step in finding cervical cancer is often an abnormal Pap test result. This will lead to further tests which can diagnose cervical cancer.

Cervical cancer may also be suspected if you have symptoms like abnormal vaginal bleeding or pain during sex. Your primary doctor or gynecologist often can do the tests needed to diagnose pre-cancers and cancers and may also be able to treat a pre-cancer.

If there is a diagnosis of invasive cancer, your doctor should refer you to a gynecologic oncologist, a doctor who specializes in cancers of women's reproductive systems.

For women with symptoms of cervical cancer or abnormal Pap results

Medical history and physical exam

First, the doctor will ask you about your personal and family medical history. This includes information related to risk factors and symptoms of cervical cancer. A complete physical exam will help evaluate your general state of health. The doctor will do a pelvic exam and may a Pap test if one has not already been done. In addition, your lymph nodes will be felt for signs of metastasis (cancer spread).

The Pap test is a screening test, not a diagnostic test. It cannot tell for certain if you have cervical cancer. An abnormal Pap test result may mean more testing is needed. This might include tests to see if a cancer or a pre-cancer is actually present. The tests that are used include colposcopy (with biopsy), endocervical scraping, and cone biopsies.

Colposcopy

If you have certain symptoms that suggest cancer or if your Pap test result shows abnormal cells, you will need to have a procedure called a colposcopy. You will lie on the exam table as you do with a pelvic exam. The doctor will put a speculum in the vagina to help keep it open while examining the cervix with a colposcope. The colposcope is an instrument that stays outside the body and has magnifying lenses. It lets the doctor clearly see the surface of the cervix up close. Colposcopy itself is usually no more uncomfortable than any other speculum exam. It can be done safely even if you are pregnant. Like the Pap test, it is better not to do it during your menstrual period.
The doctor will put a weak solution of acetic acid (similar to vinegar) on your cervix to make any abnormal areas easier to see. If an abnormal area is seen, a biopsy (removal of a small piece of tissue) will be done. The tissue is sent to a lab to be looked at carefully. A biopsy is the best way to tell for certain if an abnormal area is a pre-cancer, a true cancer, or neither. Although the colposcopy procedure is usually not painful, a cervical biopsy can cause some discomfort, cramping, bleeding, or even pain in some women.

**Types of cervical biopsies**

Several types of biopsies can be used to diagnose cervical pre-cancers and cancers. If the biopsy can completely remove all of the abnormal tissue, it might be the only treatment needed.

**Colposcopic biopsy**

For this type of biopsy, first the cervix is examined with a colposcope to find the abnormal areas. Using a biopsy forceps, a small (about 1/8-inch) section of the abnormal area on the surface of the cervix is removed. The biopsy procedure may cause mild cramping, brief pain, and some slight bleeding afterward.

**Endocervical curettage (endocervical scraping)**

If colposcopy does not see any abnormal areas or if the transformation zone (the area at risk for HPV infection and pre-cancer) cannot be seen with the colposcope, something else must be done to check that area for cancer. This means taking a scraping of the endocervix by inserting a narrow instrument (either a curette or brush) into the endocervical canal (the part of the cervix closest to the uterus). The curette or brush is used to scrape the inside of the canal to remove some of the tissue, which is then sent to the lab to be checked. After this procedure, patients may feel a cramping pain, and they may also have some light bleeding.

**Cone biopsy**

In this procedure, also known as conization, the doctor removes a cone-shaped piece of tissue from the cervix. The base of the cone is formed by the exocervix (outer part of the cervix), and the point or apex of the cone is from the endocervical canal. The tissue removed in the cone includes the transformation zone (the border between the exocervix and endocervix, where cervical pre-cancers and cancers are most likely to start). A cone biopsy can also be used as a treatment to completely remove many pre-cancers and some very early cancers.
The methods commonly used for cone biopsies are the loop electrosurgical excision procedure (LEEP), also called the large loop excision of the transformation zone (LLETZ), and the cold knife cone biopsy.

- **Loop electrosurgical procedure (LEEP, LLETZ):** In this method, the tissue is removed with a thin wire loop that is heated by electricity and acts as a small knife. For this procedure, a local anesthetic is used, and it can be done in your doctor’s office.

- **Cold knife cone biopsy:** This method is done in a hospital. A surgical scalpel or a laser is used to remove the tissue instead of a heated wire. You will receive anesthesia during the operation (either a general anesthesia, where you are asleep, or a spinal or epidural anesthesia, where an injection into the area around the spinal cord makes you numb below the waist).

Possible complications of cone biopsies include bleeding, infection and narrowing of the cervix.

Having had any type of cone biopsy will not prevent most women from getting pregnant, but if a large amount of tissue has been removed, women may have a higher risk of giving birth prematurely.

**For women with cervical cancer**

If a biopsy shows that cancer is present, your doctor may order certain tests to see if and how far the cancer has spread. Many of the tests described below are not necessary for every patient. Decisions about using these tests are based on the results of the physical exam and biopsy.

**Cystoscopy, proctoscopy, and examination under anesthesia**

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

In a cystoscopy, a slender tube with a lens and a light is placed into the bladder through the urethra. This lets the doctor check your bladder and urethra to see if cancer is growing into these areas. Biopsy samples can be removed during cystoscopy for testing in the lab. Cystoscopy can be done under a local anesthetic, but some patients may need general anesthesia. Your doctor will let you know what to expect before and after the procedure.
Proctoscopy is a visual inspection of the rectum through a lighted tube to look 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.

**Imaging studies**

If your doctor finds that you have cervical cancer, certain imaging studies⁴ may be done to look inside the body. These tests can show if and where the cancer has spread, which will help you and your doctor decide on a treatment plan.

**Chest x-ray**

Your chest may be x-rayed to see if cancer has spread to your lungs.

**Computed tomography (CT)**

CT scans are usually done if the tumor is larger or if there is concern about cancer spread. For more information, see [CT Scan for Cancer]².

**Magnetic resonance imaging (MRI)**

MRI scans look at the soft tissue parts of the body sometimes better than other imaging tests, like a CT scan. Your doctor will decide which imaging test is best to use in your situation.

For more information, see [MRI for Cancer]³.

**Positron emission tomography(PET scan)**

For a PET scan⁴, a slightly radioactive form of sugar (known as FDG) is injected into the blood and collects mainly in cancer cells.

**PET/CT scan:** Often a PET scan is combined with a CT scan using a special machine that can do both at the same time. This lets the doctor compare areas of higher radioactivity on the PET scan with a more detailed picture on the CT scan. This is the type of PET scan most often used in patients with cervical cancer.

This test can help see if the cancer has spread to lymph nodes. PET scans can also be useful if your doctor thinks the cancer has spread but doesn’t know where.
**Intravenous urography**

Intravenous urography (also known as *intravenous pyelogram*, or *IVP*) is an x-ray of the urinary system taken after a special dye is injected into a vein. This test can find abnormal areas in the urinary tract, caused by the spread of cervical cancer. The most common finding is that the cancer has blocked the ureters (tubes that connect the kidneys to the bladder). IVP is rarely used for patients with cervical cancer because CT and MRI are also good at finding abnormal areas in the urinary tract, as well as others not seen with an IVP.

**Hyperlinks**

3. [www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html](http://www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html)

**References**


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Cervical Cancer Stages

After someone is diagnosed with cervical cancer, doctors will try to figure out if it has spread, and if so, how far. This process is called staging. The stage of a cancer describes the extent of the cancer in the body. It helps determine how serious the cancer is and how best to treat it\(^1\). The stage is one of the most important factors in deciding how to treat the cancer and determining how successful treatment might be.

To determine the cancer’s stage after a cervical cancer diagnosis, doctors try to answer these questions:

- How far has the cancer grown into the cervix?
- Has the cancer reached nearby structures?
- Has the cancer spread to the nearby lymph nodes or to distant organs?

Information from exams and tests is used to determine the size of the tumor, how deeply the tumor has invaded tissues in and around the cervix, and its spread to distant places (metastasis). For more information see Cancer Staging\(^2\).

The FIGO (International Federation of Gynecology and Obstetrics) staging system is used most often for cancers of the female reproductive organs, including cervical cancer. For cervical cancer, the clinical stage is used and is based on the results of the doctor’s physical exam, biopsies, imaging tests, and a few other tests that are done in some cases, such as cystoscopy and proctoscopy. It is not based on what is found during surgery. If surgery is done, a pathologic stage can be determined from the findings at surgery, but it does not change your clinical stage. Your treatment plan is based on the clinical stage.

Cervical cancer stage ranges from stages I (1) through IV (4).

As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV, means a more advanced cancer. And within a stage, an earlier letter means a lower stage. Cancers with similar stages tend to have a similar outlook and are often treated in much the same way.

Cervical cancer staging can be complex. If you have any questions about your stage, please ask your doctor to explain it to you in a way you understand. (An explanation of the FIGO system is in the stage table below.)
<table>
<thead>
<tr>
<th>FIGO Stage</th>
<th>Stage description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>The cancer cells have grown from the surface of the cervix into deeper tissues of the cervix. Cancer has not spread to nearby lymph nodes. Cancer has not spread to distant sites.</td>
</tr>
<tr>
<td>IA</td>
<td>There is a very small amount of cancer, and it can be seen only under a microscope. It has not spread to nearby lymph nodes. It has not spread to distant sites.</td>
</tr>
<tr>
<td>IA1</td>
<td>The area of cancer can only be seen with a microscope and is less than 3 mm (about 1/8-inch) deep. It has not spread to nearby lymph nodes. It has not spread to distant sites.</td>
</tr>
<tr>
<td>IA2</td>
<td>The area of cancer can only be seen with a microscope and is between 3 mm and 5 mm (about 1/5-inch) deep. It has not spread to nearby lymph nodes. It has not spread to distant sites.</td>
</tr>
<tr>
<td>IB</td>
<td>This includes stage I cancer that has spread deeper than 5 mm (about 1/5 inch) but is still limited to the cervix. It has not spread to nearby lymph nodes. It has not spread to distant sites.</td>
</tr>
<tr>
<td>IB1</td>
<td>The cancer is deeper than 5 mm (about 1/5-inch) but not more than 2 cm (about 4/5-inch) in size. It has not spread to nearby lymph nodes. It has not spread to distant sites.</td>
</tr>
<tr>
<td>Stage</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| IB2   | The cancer is at least 2 cm in size but not larger than 4 cm.  
It has not spread to nearby lymph nodes.  
It has not spread to distant sites. |
| IB3   | The cancer is at least 4 cm in size and limited to the cervix.  
It has not spread to nearby lymph nodes.  
It has not spread to distant sites. |
| II    | The cancer has grown beyond the cervix and uterus, but hasn’t spread to the walls of the pelvis or the lower part of the vagina.  
It has not spread to nearby lymph nodes.  
It has not spread to distant sites. |
| IIA   | The cancer has grown beyond the cervix and uterus but has not spread into the tissues next to the cervix (called the parametria).  
It has not spread to nearby lymph nodes.  
It has not spread to distant sites. |
| IIA1  | The cancer is not larger than 4 cm (about 1 3/5 inches).  
It not has not spread to nearby lymph nodes.  
It has not spread to distant sites. |
| IIA2  | The cancer is 4 cm or larger.  
It has not spread to nearby lymph nodes.  
It has not spread to distant sites. |
| IIB   | The cancer has grown beyond the cervix and uterus and has spread into the tissues next to the cervix (the parametria).  
It has not spread to nearby lymph nodes.  
It has not spread to distant sites. |
| III   | The cancer has spread to the lower part of the vagina or the walls of the pelvis. The cancer may be blocking the ureters (tubes that carry
<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIA</td>
<td>The cancer has spread to the lower part of the vagina but not the walls of the pelvis. It has not spread to nearby lymph nodes. It has not spread to distant sites.</td>
</tr>
<tr>
<td>IIB</td>
<td>The cancer has grown into the walls of the pelvis and/or is blocking one or both ureters causing kidney problems (called hydronephrosis). It has not spread to nearby lymph nodes. It has not spread to distant sites.</td>
</tr>
<tr>
<td>IIIC</td>
<td>The cancer can be any size. Imaging tests or a biopsy show the cancer has spread to nearby pelvic lymph nodes (IIIC1) or para-aortic lymph nodes (IIIC2). It has not spread to distant sites.</td>
</tr>
<tr>
<td>IV</td>
<td>The cancer has grown into the bladder or rectum or to far away organs like the lungs or bones.</td>
</tr>
<tr>
<td>IVA</td>
<td>The cancer has spread to the bladder or rectum or it is growing out of the pelvis.</td>
</tr>
<tr>
<td>IVC</td>
<td>The cancer has spread to distant organs outside the pelvic area, such as distant lymph nodes, lungs or bones.</td>
</tr>
</tbody>
</table>

**Hyperlinks**

2. [www.cancer.org/treatment/understanding-your-diagnosis/staging.html](http://www.cancer.org/treatment/understanding-your-diagnosis/staging.html)

**References**
Survival Rates for Cervical Cancer

Survival rates can give you an idea of what percentage of people with the same type and stage of cancer are still alive a certain amount of time (usually 5 years) after they were diagnosed. They can't tell you how long you will live, but they may help give you a better understanding of how likely it is that your treatment will be successful.

Keep in mind that survival rates are estimates and are often based on previous outcomes of large numbers of people who had a specific cancer, but they can’t predict what will happen in any particular person’s case. These statistics can be confusing and may lead you to have more questions. Talk with your doctor about how these numbers may apply to you, as he or she is familiar with your situation.

What is a 5-year relative survival rate?

A relative survival rate compares women with the same type and stage of cervical cancer to women in the overall population. For example, if the 5-year relative survival rate for a specific stage of cervical cancer is 90%, it means that women who have that cancer are, on average, about 90% as likely as women who don’t have that cancer to live for at least 5 years after being diagnosed.

Where do these numbers come from?

The American Cancer Society relies on information from the SEER* database, maintained by the National Cancer Institute (NCI), to provide survival statistics for different types of cancer.

The SEER database tracks 5-year relative survival rates for cervical cancer in the United States, based on how far the cancer has spread. The SEER database, however, does not group cancers by FIGO stages (stage 1, stage 2, stage 3, etc.). Instead, it groups cancers into localized, regional, and distant stages:
- **Localized**: There is no sign that the cancer has spread outside of the cervix or uterus.
- **Regional**: The cancer has spread beyond the cervix and uterus to nearby lymph nodes.
- **Distant**: The cancer has spread to nearby organs (like the bladder or rectum) or distant parts of the body such as the lungs or bones.

5-year relative survival rates for cervical cancer

(Based on women diagnosed with cervical cancer between 2009 and 2015.)

<table>
<thead>
<tr>
<th>SEER Stage</th>
<th>5-year Relative Survival Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localized</td>
<td>92%</td>
</tr>
<tr>
<td>Regional</td>
<td>56%</td>
</tr>
<tr>
<td>Distant</td>
<td>17%</td>
</tr>
<tr>
<td>All SEER stages combined</td>
<td>66%</td>
</tr>
</tbody>
</table>

Understanding the numbers

- **Women now being diagnosed with cervical cancer may have a better outlook than these numbers show.** Treatments improve over time, and these numbers are based on women who were diagnosed and treated at least five years earlier.
- **These numbers apply only to the stage of the cancer when it is first diagnosed.** They do not apply later on if the cancer grows, spreads, or comes back after treatment.
- **These numbers don’t take everything into account.** Survival rates are grouped based on how far the cancer has spread, but your age, overall health, how well the cancer responds to treatment, and other factors will also affect your outlook.

*SEER= Surveillance, Epidemiology, and End Results

References
Questions to Ask About Cervical Cancer

It is important for you to have frank, open discussions with your cancer care team. They want to answer all of your questions, to help you make informed treatment and life decisions. Here are some questions to consider.

When you’re told you have cervical cancer

- What type\(^1\) of cervical cancer do I have?
- Has my cancer spread outside the cervix?
- Can the stage of my cancer be determined and what does that mean?
- Will I need other tests before we can decide on treatment?
- Do I need to see any other doctors or health professionals?
- If I’m concerned about the costs and insurance coverage for my diagnosis and treatment, who can help me?

When deciding on a treatment plan

- What are my treatment\(^2\) choices?
- What treatment do you recommend and why?
- How much experience do you have treating this type of cancer?
- Should I get a second opinion\(^3\)? How do I do that? Can you recommend someone?
- What would the goal of the treatment be?
- How quickly do we need to decide on treatment?
What should I do to be ready for treatment?

- How long will treatment last? What will it be like? Where will it be done?
- What risks or side effects are there to the treatments you suggest? Are there things I can do to reduce these side effects?
- How might treatment affect my daily activities?
- Will the treatment put me into menopause early?
- Will I need hormone replacement therapy after treatment? If so, is it safe?
- What are the chances my cancer will recur (come back) with these treatment plans?
- What will we do if the treatment doesn’t work or if the cancer recurs?
- Will I be able to have children after my treatment?
- What are my treatment options if I want to have children in the future?

During treatment

Once treatment begins, you’ll need to know what to expect and what to look for. Not all of these questions may apply to you, but asking the ones that do may be helpful.

- How will we know if the treatment is working?
- Is there anything I can do to help manage side effects?
- What symptoms or side effects should I tell you about right away?
- How can I reach you on nights, holidays, or weekends?
- Do I need to change what I eat during treatment?
- Are there any limits on what I can do?
- Can I have sex during treatment? Will my sex life change after treatment?
- What kind of exercise should I do, and how often?
- Can you suggest a mental health professional I can see if I start to feel overwhelmed, depressed, or distressed?

After treatment

- Will I need a special diet after treatment?
- Are there any limits on what I can do?
- What other symptoms should I watch for?
- What kind of exercise should I do now?
- What type of follow-up will I need after treatment?
• How often will I need to have follow-up exams and imaging tests?
• Will I need any blood tests?
• How will we know if the cancer has come back\textsuperscript{10}? What should I watch for?
• What will my options be if the cancer comes back?

Along with these examples, be sure to write down some of your own. For instance, you might want more information about recovery times. Or you might ask if you qualify for a clinical trial.

Keep in mind that doctors aren’t the only ones who can give you information. Other health care professionals, such as nurses and social workers, can answer some of your questions. To find out more about speaking with your health care team, see \textit{The Doctor-Patient Relationship}\textsuperscript{11}.

\textbf{Hyperlinks}

1. \url{www.cancer.org/cancer/cervical-cancer/about/what-is-cervical-cancer.html}
2. \url{www.cancer.org/cancer/cervical-cancer/treating.html}
3. \url{www.cancer.org/treatment/finding-and-paying-for-treatment/choosing-your-treatment-team/seeking-a-second-opinion.html}
4. \url{www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/fertility-and-sexual-side-effects.html}
5. \url{www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html}
7. \url{www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/fertility-and-sexual-side-effects.html}
8. \url{www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/changes-in-mood-or-thinking.html}
10. \url{www.cancer.org/treatment/survivorship-during-and-after-treatment/understanding-recurrence.html}

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