TREATMENT UPDATE:

Cervical Cancer

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Thanks to major advances, healthcare providers can now prevent and treat cervical cancer more effectively.

Cervical cancer occurs in the cells of the cervix—the lower part of the uterus that connects to the vagina. It was once one of the most common cancers in women. In recent decades the incidence has decreased, as improved screening methods have made it easier for healthcare providers to find abnormal cells that can become cancerous.

Most cases of cervical cancer are caused by certain types of the human papillomavirus (HPV). In a small percentage of people exposed to HPV, the viral infection can persist for years and contribute to causing cervical cells to become cancerous.

There are two main types of cervical cancer:

- **Squamous cell carcinoma,** which begins in the thin, flat cells (squamous cells) lining the outer part of the cervix. Approximately 70 percent of cervical cancers are squamous cell carcinomas.
- **Adenocarcinoma,** which begins in the column-shaped glandular cells that line the endocervical canal (the passageway from inside the uterus to the vagina).

Screening and Diagnosis

Cervical cancer is usually slow-growing and may not show any symptoms. Regular screening tests are very effective at detecting precancerous cells that may develop into cervical cancer.

- **Pap test.** During a Pap test, cells are collected from the cervix and examined in a lab for abnormalities.
- **HPV DNA test.** Cells collected from the cervix are tested to see if they are infected with any of the types of HPV that could lead to cervical cancer.

If cervical cancer is suspected after screening tests, a colposcope (magnifying instrument) is used to check if there are visual indications of the presence of abnormal or precancerous cells. Typically, a gentle scraping of the lower part of the cervical canal will be performed, in which samples of cervical cells are taken and looked at under a microscope by a pathologist. If a diagnosis of cervical cancer is made, further imaging and visual tests will be conducted to determine if the cancer has spread beyond the cervix.

Staging

Cancer staging is a way of describing the size and location(s) of the cancer, if it has spread and whether it is having an effect on other parts of the body, particularly those close to the cervix such as the bladder or rectum. Staging is based on the results of a physical exam, imaging scans and biopsies.

The main stages of cervical cancer as classified by the International Federation of Gynecology and Obstetrics (FIGO) are:

- **Stage I.** The cancer has spread from the cervix lining into the deeper tissue but is still just found in the uterus.
- **Stage II.** The cancer has spread beyond the uterus to nearby areas, such as the vagina or tissue near the cervix, but it is still inside the pelvic area.
- **Stage III.** The tumor involves the lower third of the vagina and/or
  - Has spread to the pelvic wall
  - Causes hydronephrosis (swelling of the kidney)
  - Stops a kidney from functioning
  - Involves regional lymph nodes (small, bean-shaped organs that help fight infection)
- **Stage IVA.** The cancer has spread to the bladder or rectum, but has not spread to other parts of the body.
- **Stage IVB.** The cancer has spread to other parts of the body.

Stages are divided into smaller sub-stages that provide additional detail about the cervical cancer and potentially direct the treatment options.

Treatment Options

Treatment options depend on the type of cervical cancer, its stage, whether it is newly-diagnosed or recurrent (returned) and if the woman wants to preserve fertility.

Surgery

Early-stage (confined to the cervix) cervical cancer is usually treated with surgery. Surgical options include:

- **Cone biopsy.** In this procedure, very small cervical cancers are removed entirely by cutting away a cone-shaped piece of cervical tissue. This leaves the rest of the cervix intact and allows for the possibility of a future pregnancy.
- **Radical trachelectomy.** In this surgical approach, the cervix and some surrounding tissue is removed. The uterus remains intact, allowing for the possibility of a future pregnancy.
- **Total hysterectomy.** In a total hysterectomy, the uterus and cervix are removed.
- **Radical hysterectomy.** For cancer that has spread beyond the cervix, a radical hysterectomy is often performed. This surgery involves removing the cervix, uterus, part of the vagina and nearby lymph nodes.

Depending on your individual circumstances, your doctor might discuss the removal of the ovaries during either a total or radical hysterectomy. This procedure is called an oophorectomy.

Chemotherapy

Chemotherapy uses anti-cancer drugs that enter the bloodstream and kill cancer cells. It can be used to treat cervical cancer that has spread beyond the pelvis, recurs after treatment with surgery or after surgery in combination with chemoradiotherapy (see next section).

Cisplatin (Platinol, Platinol-AQ) is the chemotherapy most commonly used in combination with radiation for the treatment of locally advanced cervical cancer. This drug is given intravenously (as a drip into a vein). When the tumor has spread beyond the pelvis, paclitaxel (Taxol) is often administered.

Topotecan (Hycamtin and others) is usually given for the treatment of cervical cancer that is not responding to (or has stopped responding to) other types of therapy.

Radiation and Chemoradiotherapy

Radiation is the use of high-powered energy beams to kill cancer cells. For certain stages of cervical cancer, radiation is often given at the same time as the chemotherapy cisplatin, as it can make the radiation more effective. Radiation or chemoradiotherapy can also be given following surgery, and to treat cervical cancer that has spread or recurred after treatment.

There are two types of radiation therapy used to treat cervical cancer:

External beam radiation (EBRT)

EBRT uses a machine to aim high-dose radiation at the cancer. The treatments are given several times a week over several weeks. The number of treatments is limited to avoid harming nearby tissues and organs.

Brachytherapy

Brachytherapy, also called internal radiation therapy, uses instruments which direct a source of radiation in or near the cancer. In intracavitary brachytherapy (the type most often used to treat cervical cancer), a device filled with radioactive material is placed in the vagina or the uterus. Brachytherapy is given on an outpatient basis over several treatments, usually at least a week apart.

When brachytherapy is used as a treatment for cervical cancer, it is usually in addition to EBRT and chemotherapy.

Targeted Therapy

Targeted therapies focus on specific molecules and cell mechanisms thought to be important for cancer cell survival and growth, taking advantage of what researchers have learned in recent years about how cancer cells grow. Targeted therapies are meant to spare healthy tissues and provide treatment against cancer cells that is more focused than chemotherapy. It may be a treatment option for later-stage cervical cancer.

Bevacizumab (Avastin) is a type of targeted therapy that "starves" tumors by blocking the action of VEGF (vascular endothelial growth factor), a protein released by tumors that contributes to blood vessel growth (angiogenesis). Bevacizumab is usually given with chemotherapy, as it makes the chemotherapy more effective.

Immunotherapy

Our immune system works constantly to keep us healthy. It recognizes and fights against danger, such as infections, viruses and growing cancer cells. In general terms, immunotherapy uses our own immune system as a treatment against cancer. It might be considered when the cervical cancer is advanced and other treatments aren't working.

In October 2021, the U.S. Food and Drug Administration (FDA) approved the immunotherapy pembrolizumab (Keytruda), with or without bevacizumab, for the treatment of recurrent or metastatic (advanced) cervical cancer with tumors that express a molecular "brake" known as PD-L1. The brake prevents the body's immune system from attacking tumors. Pembrolizumab, which is designed to reverse the effect of the brake, is given intravenously.

Antibody-drug Conjugate

In September 2021, the FDA approved tisotumab vedotin-tftv (Tivdak) for the treatment of recurrent or metastatic cervical cancer in people whose disease has progressed during or after chemotherapy. Tisotumab vedotin-tftv is an antibody-drug conjugate (ADC), a type of anticancer treatment that combines a targeted therapy with a chemotherapy drug.

The Importance of Clinical Trials

Clinical trials are the standard by which we measure the worth of new treatments and the quality of life of patients as they receive those treatments. For this reason, doctors and researchers urge people with cancer to take part in clinical trials.

Your doctor can guide you in making a decision about whether a clinical trial is right for you. Here are a few things that you should know:

- Often, people who take part in clinical trials gain access to and benefit from new treatments.
- Before you participate in a clinical trial, you will be fully informed as to the risks and benefits of the trial, including any possible side effects.
- Most clinical trials are designed to test a new treatment against a standard treatment to find out whether the new treatment has any added benefit.
- You can stop taking part in a clinical trial at any time for any reason.

Treatment Side Effects

All cancer treatments can cause side effects. It's important that you report any side effects that you experience to your health care team so they can help you manage them. Report them right away—don't wait for your next appointment. Doing so will improve your quality of life and allow you to stick with your treatment plan. It's important to remember that not all people experience all side effects, and people may experience side effects not listed here.

Side Effects of Chemotherapy

The side effects of chemotherapy depend on the type and dose of drugs given and the length of time they are used, and can include:

- Hair loss
- Increased risk of infection (from having too few white blood cells)
- Easy bruising or bleeding
- Changes in memory or thinking
- Peripheral neuropathy (numbness or tingling in hands and feet)

Side Effects of Radiation Therapy

Fatigue is the most common side effect of radiation. Additionally, changes to the skin can frequently occur. The changes can include dryness, swelling, peeling, redness and (rarely) blistering. If a reaction occurs, contact your health care team so the appropriate treatment can be prescribed. It's especially important to contact your health care team if there is any open skin or painful area, as this could indicate an infection. Infections can be treated with an oral antibiotic or topical antibiotic cream.

Side effects specific to EBRT in the treatment of cervical cancer include:

- **Irritation of the bladder.** Called radiation cystitis, it can cause discomfort, an urge to urinate often and (sometimes) blood in the urine.
- **Vaginal pain.** Radiation can make the vulva and vagina more sensitive.
- **Menstrual changes.** The radiation can affect the ovaries, leading to menstrual changes and (in some cases) early menopause.
  - **Low blood counts.** Anemia (low levels of red blood cells) can cause fatigue. Neutropenia (low levels of white blood cells) increases the risk of infection. Thrombocytopenia (low levels of platelet counts) increases the risk of bleeding.

The most common side effect of brachytherapy in the treatment of cervical cancer is irritation of the vagina and vulva, with or without vaginal discharge.

Side Effects of Targeted Therapy

Targeted therapy doesn't have the same effect on the body as do chemotherapy drugs, but it can still cause side effects. Side effects of targeted therapies can include diarrhea, liver problems (such as hepatitis and elevated liver enzymes), nerve damage, high blood pressure and problems with blood clotting and wound healing.

Side Effects of Immunotherapy

Immunotherapy travels through the bloodstream, helping to prompt an immune response. Because it can trigger an attack on healthy cells as well as cancer cells, certain side effects may be experienced, including fatigue, muscle pain, fever, cough, lowered levels of thyroid hormone, decreased appetite and digestive tract symptoms.

Side Effects of Antibody-drug Conjugate

The antibody drug conjugate used in the treatment of cervical cancer may cause nosebleeds, tiredness, muscle/joint pain, weight loss, vision changes, digestive tract symptoms and temporary hair loss.

General Side Effects

Some side effects may occur across treatment approaches. This section provides tips and guidance on how to manage these side effects should they occur.

Managing Digestive Tract Symptoms

Nausea and vomiting

- Avoid food with strong odors, as well as overly sweet, greasy, fried or highly seasoned food.
- Eat meals that are chilled, which often makes food more easily tolerated.
- Nibble on dry crackers or toast. These bland foods are easy on the stomach.
- Having something in your stomach when you take medication may help ease nausea.

Diarrhea

- Drink plenty of water. Ask your doctor about using drinks such as Gatorade which provide electrolytes. Electrolytes are body salts that must stay in balance for cells to work properly.
- Over-the-counter medicines such as loperamide (Imodium A-D and others) and prescription drugs are available for diarrhea but should be used only if necessary. If the diarrhea is bad enough that you need medicine, discuss it with your doctor or nurse.
- Choose fiber-dense foods such as whole grains, fruits and vegetables, all of which help form stools.
- Avoid food high in refined sugar and those sweetened with sugar alcohols such as sorbitol and mannitol.

Managing loss of appetite

- Eating small meals throughout the day is an easy way to take in more protein and calories, which will help maintain your weight. Try to include protein in every meal.
- To keep from feeling full early, avoid liquids with meals or take only small sips (unless you need liquids to help swallow). Drink most of your liquids between meals.
- Keep high-calorie, high-protein snacks on hand such as hard-boiled eggs, peanut butter, cheese, ice cream, granola bars, liquid nutritional supplements, puddings, nuts, canned tuna or trail mix.
- If you are struggling to maintain your appetite, talk to your health care team about whether appetite-building medication could be right for you.

Managing Fatigue

Fatigue (extreme tiredness not helped by sleep) is one of the most common side effects of many cancer treatments. If you are taking a medication, your doctor may lower the dose of the drug, as long as it does not make the treatment less effective. If you are experiencing fatigue, talk to your doctor about whether taking a smaller dose is right for you.

There are a number of other tips for reducing fatigue:

- Take several short naps or breaks during the day.
- Take short walks or do some light exercise, if possible.
- Try easier or shorter versions of the activities you enjoy.
- Ask your family or friends to help you with tasks you find difficult or tiring.
- Save your energy for things you find most important.

Fatigue can be a symptom of other illnesses, such as anemia, diabetes, thyroid problems, heart disease, rheumatoid arthritis and depression. So be sure to ask your doctor if they think any of these conditions may be contributing to your fatigue.

Managing Pain

To help your doctor prescribe the best medication, it's useful to give an accurate report of your pain. Keep a journal that includes information on:

- Where the pain occurs
- When the pain occurs
- How long it lasts
- How strong it is on a scale of 1 to 10, with 1 being the least amount of pain and 10 the most intense
- What makes the pain feel better and what makes it feel more intense

There are a number of options for pain relief, including prescription and over-the-counter medications. It's important to talk to a member of your health care team before taking any over-the-counter medication to determine if they are safe and will not interfere with your treatments.

Communicating With Your Health Care Team

As you manage your cervical cancer, it's important to remember that you are a consumer of health care. The best way to make decisions about health care is to educate yourself about your diagnosis and get to know the members of your health care team, including doctors, nurse practitioners, physician assistants, nurses, dietitians, social workers and patient navigators.

Here are some tips for improving communication with your health care team:

Start a health care journal. Having a health care journal or notebook (either on paper or in a digital format) will allow you to keep all of your health information in one place. You may want to write down the names and contact information of the members of your health care team, as well as any questions for your doctor.

Prepare a list of questions. Before your next medical appointment, write down your questions and concerns. Because your doctor may have limited time, ask your most important questions first and be as specific as possible.

Bring someone with you to your appointments or have them be present during telehealth sessions. Even if you have a journal and a prepared list of questions or concerns, it's always helpful to have support when you go to your appointments. The person you bring may also think of questions to ask your doctor or remember details about your symptoms or treatment that you may have forgotten.

Write down your doctor's answers. Taking notes will help you remember your doctor's responses, advice and instructions. You can also ask the person who accompanies you to take notes for you. If you have a mobile device, ask if you can use it to take notes. Keeping notes will help you review the information later.

Record your visit if your doctor allows it. Recording the conversation with your doctor gives you a chance to hear specific information again or share it with family members or friends.

Incorporate other health care professionals into your team. Your gynecologic oncologist is an essential member of your health care team, but there are other health care professionals who can help you manage your diagnosis and treatment:

- Your primary care physician should be kept updated about your cervical cancer treatment and any test results.
- Your local pharmacist is a great source of knowledge about the medications you are taking. Have all of your prescriptions filled at the same pharmacy to avoid the possibility of harmful drug interactions.
- Make sure your gynecologic oncologist knows of any other medical conditions you have or any pain you are experiencing so they can consult with your primary care physician or specialists as needed.

Remember, there is no such thing as over-communication.

Cancer*Care*'s Free Support Services and Programs

It can be very difficult to receive a diagnosis of cervical cancer, and adjusting to the necessary changes in your life can be challenging.

Cancer*Care*® can help. We are a national nonprofit organization providing free, professional services to anyone affected by cancer. Our licensed oncology social workers can provide support and education, help in navigating the complicated health care system and offer information on support groups and other resources.

To learn more about how Cancer*Care* helps, call us at 800-813-HOPE (4673) or visit www.cancercare.org.

You will likely also build your own personal support network composed of family and friends. In doing so, it's best to take some time to think about the people in your life and how they are best suited to help. Match the task to their strengths—ask a family member who loves to shop to pick up something for you at the store, or ask a friend who's a good listener to come over for a chat.

Frequently Asked Questions

Q: What are the risk factors for cervical cancer?

A: Factors that increase the risk of cervical cancer include persistent HPV infection, smoking and an immune system that may be weakened by another health condition or by infection with HIV (the human immunodeficiency virus). A common bacteria called chlamydia, which can infect the reproductive system through sexual contact, may also increase the risk of cervical cancer.

You can reduce your risk of developing cervical cancer by having screening tests. Receiving the vaccine that protects against HPV infection before being exposed to the virus also reduces the risk.

Q: I am in a same-sex relationship. Do I need cervical cancer screening?

A: Because HPV is so common, women in the LGBTQ+ communities are at the same risk as heterosexual women, and screening for cervical cancer is recommended.

Q: I am going to be treated with radiation and want to preserve my fertility. What are my options?

A: Before treatment begins, discuss options with your healthcare provider that might be right for you. Ask about newer options for preserving fertility, such as oocyte cryopreservation, also known as egg freezing. In this process, the unfertilized eggs are removed, frozen and stored for later use.

Q: I had a hysterectomy as treatment for my cervical cancer and am now experiencing hot flashes. Do you have any tips for me?

A: There are several medications that potentially help decrease hot flashes. Talk to your healthcare provider to determine the best options for you.

The following tips may also help:

- Identify the triggers for your hot flashes. For many, hot flashes can be triggered by stress, a hot shower, caffeine or spicy foods.
- Change your lifestyle habits to cope with your specific triggers. That may mean regular exercise, using relaxation techniques and changing your diet.
- Dress in layers so that you can remove clothing if needed.
- Keep ice water handy to help you cool off.
- Avoid synthetic materials, especially at nighttime. Wear pajamas and use sheets made of cotton.
- Take a cool shower before going to bed.

Resources

CancerCare®
800-813-HOPE (800-813-4673)
www.cancercare.org

American Cancer Society
800-227-2345
www.cancer.org

Cancer.Net
Patient information from the American Society of Clinical Oncology
888-651-3038
www.cancer.net

National Cancer Institute
800-422-6237
www.cancer.gov

Cancer Support Community
888-793-9355
www.cancersupportcommunity.org

National Coalition for Cancer Survivorship
877-622-7937
www.canceradvocacy.org

Foundation for Women's Cancer
www.foundationforwomenscancer.org

HysterSisters
Woman-to-woman hysterectomy support
www.hystersisters.com

National Cervical Cancer Coalition
800-685-5531
www.nccc-online.org

Society of Gynecologic Oncology
312-235-4060
www.sgo.org

Medicine Assistance Tool
www.medicineassistancetool.org

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www.clinicaltrials.gov

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