CLEVELAND CLINIC OFFERS LEADING-EDGE CANCER CARE

Through a multidisciplinary approach, Cleveland Clinic gynecologic oncologists explore all medical, surgical and radiation options to ensure that our cancer treatment program results in the best possible outcome for each patient.

While you have many treatment options, you should consider the experience of the program where you will receive your care. Cleveland Clinic is top-ranked in Ohio and No. 3 in the nation in gynecology, according to U.S. News & World Report.

Our physicians have pioneered many treatment methods and have a large experience in treating gynecologic cancers. Each year, women with cervical, ovarian and other cancers of the female reproductive system make approximately 12,600 visits to Cleveland Clinic gynecologic oncologists.

Our oncologists work closely with gynecologic pathologists, radiation oncologists, radiologists, nurse practitioners and physician assistants. Together, they provide a careful blend of accurate diagnosis, surgical skill, leading-edge radiation therapy, advanced chemotherapy and compassionate care.

Our membership in NRG Oncology, an international cooperative research group funded by the National Cancer Institute, offers patients access to investigational treatments through a wide range of ongoing clinical trials. Additional studies give patients access to other new treatments under investigation.

The Cleveland Clinic gynecologic oncology team understands the fear and uncertainty a diagnosis of cancer brings. Our specialized services and supportive care are here to help, providing access to support groups and home care arranged by clinical nurse specialists who also provide counseling.

For your convenience, we have several locations across Northeast Ohio.

USING THIS GUIDE

Please use this guide as a resource as you examine your treatment options. Remember, it is your right as a patient to ask questions and to seek a second opinion.
WHAT IS GYNECOLOGIC CANCER?

Gynecologic cancers attack a woman’s reproductive organs, including the cervix, uterus, ovaries, endometrium, fallopian tubes, vagina and vulva. Every woman is at risk for developing a gynecologic cancer. The American Cancer Society estimates that 106,000 new cases of gynecologic cancer will be diagnosed and approximately 31,000 deaths will occur in the United States in 2016:

2016 Gynecologic Cancers Statistics
(American Cancer Society)

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<thead>
<tr>
<th>Cancer Type</th>
<th>Estimated new cases</th>
<th>Estimated deaths</th>
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<tr>
<td>Vulvar cancer</td>
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WHAT ARE COMMON SYMPTOMS OF GYNECOLOGIC CANCER?

Women with the following symptoms should consult a gynecologic oncologist:
• A change in bowel or bladder habits
• A sore in the pelvic area that does not heal
• Unusual vaginal bleeding or discharge
• A thickening or lump that either causes pain or can be seen in the pelvic area
• Pain or pressure in the pelvic area

WHAT IS A GYNECOLOGIC ONCOLOGIST?

A gynecologic oncologist is a physician who is first trained in obstetrics and gynecology and then has three to four additional years of training in gynecologic cancer. These specialists combine their knowledge of gynecology with their expertise in detecting and treating cancers of the female reproductive system.

Cleveland Clinic gynecologic oncologists are among the approximately 1,000 U.S. gynecologists whom the American Board of Obstetrics and Gynecology has board-certified in both gynecologic oncology and obstetrics and gynecology.

OVARIAN CANCER

Cancer of the ovary is the second most common gynecologic malignancy. The American Cancer Society estimates that 22,280 cases of ovarian cancer will be diagnosed and 14,240 deaths will occur in American women in 2016. When found in its earliest stages, ovarian cancer can be cured 90 to 95 percent of the time, but early ovarian cancer

Did you know? Women who seek the care of a specially trained gynecology oncology specialist before any surgical or medical treatment increase their odds for total cure.

WHAT CLEVELAND CLINIC OFFERS

• Access to the latest techniques in gynecologic cancer management, including the newest drug treatments and National Clinical Trials Network trials available through NRG Oncology.
• Minimally invasive surgery (robotic-assisted laparoscopic surgery), used in the management of some early cervical, uterine and ovarian cancers, including lymph node dissections and other staging procedures.
• Chemotherapy units, conveniently located throughout the region, staffed by specially trained nurses.
• The latest, most sophisticated radiation therapy equipment and gynecologic cancer treatments, such as interstitial therapy (allowing for custom-designed delivery of radiation), intensity-modulated radiation therapy, and image-guided radiation therapy.
• Color Doppler flow imaging, studies that identify blood flow changes associated with early ovarian cancer tumors.
• Specialized imaging, including MRI, PET, PET/CT, PET/MR as well as the LEEP (Loop Electrocautery Excision Procedure), which uses electric current to safely remove precancerous cells from the cervix more easily.
can be hard to detect. Many cases of ovarian cancer are found after the cancer has spread to other organs.

**WHAT ARE THE SYMPTOMS OF OVARIAN CANCER?**

There are no symptoms of early ovarian cancer, and signs can be subtle. Women typically seek medical care when they notice abdominal swelling due to the fluid that accumulates in the abdomen from ovarian cancer. Women may also notice urinary changes such as increased frequency or discomfort with urination.

Many women with ovarian cancer also complain of abdominal bloating, gas, heartburn, or intolerance to certain foods before diagnosis. When these symptoms occur, the tumor has often already spread outside of the ovary. Unfortunately, there is no reliable screening test for ovarian cancer.

**HOW IS OVARIAN CANCER TREATED?**

Most women suspected of having ovarian cancer have a mass on examination, ultrasound or CT scan. Any woman with a new mass should then undergo a pre-operative workup, including a blood test for CA-125 and a CT scan (if not done previously). The main treatments for ovarian cancer are surgery to remove the diseased tissue and chemotherapy (medicines given by IV to kill the cancer).

**Surgery**

Surgery for ovarian cancer is complex. In most cases, surgical treatment involves removal of the uterus, both ovaries, the fallopian tubes, nearby lymph nodes and the omentum (a fatty apron attached to the large intestines). The surgeon will remove as much of the tumor as possible, a process known as debulking.

These highly complex procedures are best done at high-volume programs, or “Centers of Excellence,” such as Cleveland Clinic. This procedure can be done in the traditional manner (through an incision in the abdomen), and in certain cases, laparoscopically (through a small incision, using a laparoscope). The ability to perform comprehensive staging and removal of the largest bulk of tumor has been shown to be best performed by a gynecologic oncologist.

In young women who still want to have children, only the diseased ovary may be removed. The remaining ovary is then watched closely for signs of cancer using imaging, labs and physical examination. If the tumor has spread throughout the abdominal cavity, women sometimes require removal of part of the intestines to remove as much visible tumor as possible.

**Chemotherapy**

Following surgery, chemotherapy is used to treat cancer cells left behind, and microscopic disease that may be elsewhere in the body. Most women with ovarian cancer will have chemotherapy after surgery unless their tumor is low-grade (occurs only within the ovary with cells that do not look aggressive under the microscope).

Typically two to three drugs are given in combination at set intervals. The most common approach is to give carboplatin and paclitaxel intravenously every three weeks for six to eight treatments. More recently, attention has been given to delivering chemotherapy directly into the peritoneal cavity where the tumor resides (intraperitoneal chemotherapy).

Although this approach has more toxicity, it provides women with a better survival rate or a longer time to recurrence. More research regarding this mode of chemotherapy is under way both locally and nationally. Access to the latest innovations in surgery and chemotherapy, including both intravenous and intraperitoneal approaches, is available at Cleveland Clinic.

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**EGG FREEZING EXTENDS FERTILITY**

Women facing life-saving but fertility-damaging treatments for cancer at Cleveland Clinic now have the option to rapidly freeze eggs, preserving their quality for future use much the way men bank sperm.

**Egg freezing** is a spin-off of in vitro fertilization (IVF). Before starting chemotherapy, patients are given fertility shots to increase production of eggs. The eggs are retrieved just as if they were undergoing IVF. However, if the woman has no partner, the eggs are frozen rather than being fertilized.

Cleveland Clinic’s Fertility Center in Beachwood has demonstrated that the procedure works. They have successfully used frozen eggs to achieve pregnancy and now offer the option to cancer patients.
CERVICAL CANCER

Cancer of the uterine cervix, also called cervical cancer, is the second most common cancer among women worldwide. Despite the dramatic decrease in cervical cancer in the United States, the American Cancer Society estimates that in 2016, more than 12,990 cases will be diagnosed, resulting in more than 4,120 deaths.

WHAT ARE THE SYMPTOMS OF CERVICAL CANCER?
The most common symptom is vaginal bleeding (following intercourse or between menses) and vaginal discharge. However, precancerous changes of the cervix (abnormal Pap smears, dysplasia, precancer) usually do not cause pain or any symptoms. Therefore, it is very important that all women be screened by a pelvic exam and a Pap test since precancerous changes are usually asymptomatic.

HOW IS CERVICAL CANCER TREATED?

Surgery
Hysterectomy (removal of the uterus and cervix) is the treatment choice for early stage cervical cancer that has not yet spread beyond the cervix.

Surgery can be performed up to stage IIA, with results comparable to radiation therapy. Surgery has the advantage of sparing the ovaries from radiation, preserving ovarian function in premenopausal women. A radical hysterectomy (complete surgical removal of the uterus, upper vagina, parametrium with pelvic lymph nodes) is the usual treatment. For women who wish to preserve their fertility, radical trachelectomy (surgical removal of the cervix, upper vagina and surrounding tissues, and pelvic lymph nodes) can be performed instead of a radical hysterectomy. The body of the uterus and the ovaries are not removed. This option is usually reserved for women with small lesions that haven’t spread.

Chemoradiation
In recent years, cisplatin-based chemotherapy given along with radiation, called chemoradiation, has emerged as the new standard of care for treating locally advanced (stage IIB-IVA) cervical cancer. (This is cancer that has spread to the cervix — and above — into areas such as the lower vagina, or lymph nodes, or distant sites).

This combination has improved response rates and survival compared to prior therapy with radiation alone. Radiation treatments are given as five weeks of daily external radiation treatments that target the tumor and lymph nodes of the pelvis and sometimes the lymph nodes in the lower abdomen. During radiation, chemotherapy is typically given one day a week as outpatient therapy. This is followed by a few treatments with internal radiation therapy (brachytherapy) that is inserted directly into the uterus and cervix.
UTERINE CANCER

According to the American Cancer Society, approximately 60,050 American women will be diagnosed with uterine cancer in 2016, and approximately 10,470 deaths will occur. The two basic classes of uterine cancers are endometrial cancer and uterine sarcomas.

Endometrial cancer, or cancer of the endometrium, is the most common cancer of the female reproductive system in the United States. It develops in the inner lining of the uterus (womb). The exact cause of endometrial cancer is unknown, but prolonged exposure to estrogen is a known to increase the risk of this type of cancer. Estrogen increases the growth of the lining of the uterus while progestins block this growth. It is the balance between these two hormones that is important in the risk of endometrial cancer.

Uterine sarcoma is a very rare kind of cancer that forms in the endometrial or uterine muscles. Outcomes vary, depending on the type. However, uterine sarcomas tend to be more aggressive as a group, with a higher likelihood of early spread and recurrence than is typically seen in endometrial cancers.

WHAT ARE THE SYMPTOMS OF UTERINE CANCER?

The symptoms of uterine cancer include vaginal bleeding between normal periods in pre-menopausal women; vaginal bleeding or spotting in post-menopausal women; lower abdominal pain or pelvic cramping; thin white or clear discharge in post-menopausal women; and extremely long, heavy or frequent vaginal bleeding episodes in women over 40. That is why it is important to have any abnormal vaginal bleeding evaluated by a physician.

HOW IS UTERINE CANCER TREATED?

Surgery

Like ovarian cancer, surgery for uterine cancer is complex. In most cases, surgical treatment involves removal of the uterus, both ovaries, the fallopian tubes and nearby lymph nodes. This procedure can be done in the traditional manner (through an incision in the abdomen), through the vagina, or laparoscopically (through a small incision, using a laparoscope). In advanced cases, the surgeon will remove as much of the tumor as possible, a process known as debulking.

Depending on the stage of the disease and the overall medical condition of the patient, radiation therapy, hormone therapy and chemotherapy also may be effective.

ROBOTS IMPROVE TREATMENT

Cleveland Clinic gynecologic oncologists strive to provide the best care for patients, using minimally invasive procedures when possible. The advent of robotic-assisted laparoscopy has prompted an increase in the use of minimally invasive procedures by gynecologic subspecialists. Cleveland Clinic gynecologic oncologists are among the most experienced in the country with robotic-assisted surgeries.

WHAT IS ROBOTIC-ASSISTED SURGERY?

This type of surgery uses a computer-enhanced surgical system that:

- Offers a 3-D view of the surgical field, including depth, magnification and high resolution;
- Utilizes instruments that are designed to mimic the movements of the human hands, wrists and finger, allowing an extensive range of motion and more precision;
- Provides master controls that allow the surgeon to manipulate the instruments, translating the surgeon’s natural hand and wrist movements into corresponding, precise movements.

Robotic assistance decreases blood loss, complications and hospital stays, and speeds recovery.
Radiation therapy

Radiation works by damaging the DNA, or backbone, of the cancer cells. High-energy X-ray beams, similar to those used in CT scans or chest X-rays, are used to kill cancer cells and prevent them from multiplying while minimizing damage to healthy cells.

Radiation may be delivered by special equipment that can send radiation from outside of the body into the pelvis (teletherapy or external beam radiation therapy) or from a device placed into the uterus or vagina that delivers radiation directly into the tumor (brachytherapy or internal radiation). Using radiation therapy as the primary mode of therapy (without surgery) is reserved for patients who have multiple medical problems and are not considered fit enough to undergo abdominal surgery.

Some patients will be found to have intermediate or high-risk for recurrence after pathologic review of their surgical specimens. Your physician may offer you internal vaginal radiation to decrease the chance of a recurrence at the top of the vagina. Alternatively, you may be offered targeted external beam radiation therapy via 3-D-conformal, intensity-modulated radiation therapy or image-guided radiation therapy to decrease the risk of recurrence in the pelvis or at the top of the vagina.

Chemotherapy

Chemotherapy is sometimes used for the treatment of endometrial cancers and is given to kill or slow the growth of cancer cells. Patients offered chemotherapy usually include those with spread of cancer to the lymph nodes, spread outside of the pelvis, clear cell or papillary serous types of endometrial cancer, or patients with recurrence of their cancer. Chemotherapy regimens may be given in addition to or in place of radiation therapy.

Hormonal therapy

Occasionally patients with advanced stage disease or early spread of tumor will be treated with hormonal therapy. Most commonly this is done with progestins, a female hormone that helps block growth of the endometrial cells. Drugs that block the binding or production of estrogen can also be used alone or in combination with progesterone. Tumors of lower grade tend to respond better to hormonal therapy than high-grade tumors. However, excellent responses have been seen in patients with all grades of endometrial cancer.

CHEMOTHERAPY MAY BE WARRANTED

Because chemotherapy acts to kill rapidly dividing cancer cells, it also kills other rapidly dividing healthy cells in the body, resulting in side effects. The specific side effects depend on the type and amount of medicines given, and for how long. The most common, temporary side effects of chemotherapy include:

- Nausea and vomiting
- Loss of appetite
- Hair loss
- Mouth sores
- Diarrhea

There are medications available to control certain side effects, and side effects will resolve after chemotherapy is stopped.
Contacting Cleveland Clinic

STILL HAVE QUESTIONS ABOUT GYNECOLOGIC CANCER?
If after reviewing this guide, you have additional questions, specially-trained cancer nurses in the Ob/Gyn & Women’s Health Institute can help. They have a wealth of information and can answer your questions about cancer. Please call 216.636.9400 or toll-free 800.223.2272, ext. 69400 for more information.

READY TO SCHEDULE AN APPOINTMENT WITH A SPECIALIST?
If you would like to set up a consultation with a Cleveland Clinic specialist, please call 216.444.6601.

NEED A SECOND OPINION, BUT CANNOT TRAVEL TO CLEVELAND?
Our MyConsult service offers secure online second opinions for patients who cannot travel to Cleveland. Through this service, patients enter detailed health information and mail pertinent test results to us. Then, Cleveland Clinic experts render an opinion that includes treatment options or alternatives and recommendations regarding future therapeutic considerations. To learn more about MyConsult, please visit clevelandclinic.org/myconsult.

LOCATIONS

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For more information about our staff including complete profiles, visit clevelandclinic.org/staff.