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Ovarian Cancer



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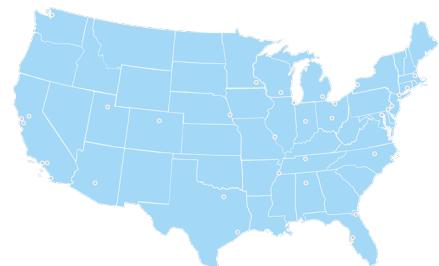


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National Comprehensive
Cancer Network®

Did you know that top cancer centers across the United States work together to improve cancer care? This alliance of leading cancer centers is called the National Comprehensive Cancer Network® (NCCN®).



Cancer care is always changing. NCCN develops evidence-based cancer care recommendations used by health care providers worldwide. These frequently updated recommendations are the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®). The NCCN Guidelines for Patients plainly explain these expert recommendations for people with cancer and caregivers.

These NCCN Guidelines for Patients are based on the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Epithelial Ovarian Cancer/Fallopian Tube Cancer/Primary Peritoneal Cancer, Version 3.2025 — July 16, 2025.

Learn how the NCCN Guidelines for Patients are developed

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The National Ovarian Cancer Coalition (NOCC) is an influential advocate for those experiencing ovarian cancer. NOCC is committed to providing tools and resources for patients and caregivers by offering virtual, evidence-based educational programming, peer-to-peer support groups, and direct support services using our regional model throughout the United States. NOCC's community-focused approach is at the heart of everything we do, from funding innovative research that will lead to improved quality of life outcomes to promoting advocacy in action through disease awareness and outreach events in communities like yours. For more information, please visit ovarian.org or call 888-OVARIAN.

Ovarian Cancer Research Alliance is committed to curing ovarian cancer, advocating for patients, and supporting survivors. OCRA is the largest ovarian cancer charity with over \$138 million invested in research. Our international conference, webinars, and website offer the most up to date information on diagnosis, treatment and living with ovarian and gynecologic cancers. Our programs include our Patient Support line, peer mentor program, Staying Connected support series, 1:1 Counseling, scientific and psychoeducational workshops, Clinical Trial Navigator, and genetic testing program. OCRA builds community through advocacy, research, collaboration, and support. For more information, please visit ocrahope.org or call 212-268-1002.

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Ovarian cancer basics

- 5 What are the ovaries?
- 5 What is ovarian cancer?
- 6 Who's on my team?
- 7 How can I get the best care?

While most ovarian cancers are found on the surface of the ovaries, many actually start in the fallopian tube, close to where the tube meets the ovary. This resource describes treatment for common and rare ovarian cancers.

What are the ovaries?

The ovaries are a pair of glands that make eggs needed for sexual reproduction. And, until menopause, they release hormones that affect breast growth, body shape, and the menstrual cycle (your period).

The ovaries

The ovaries are a pair of glands in the pelvis. Until menopause, they release hormones that affect breast growth, body shape, and the menstrual cycle (periods).

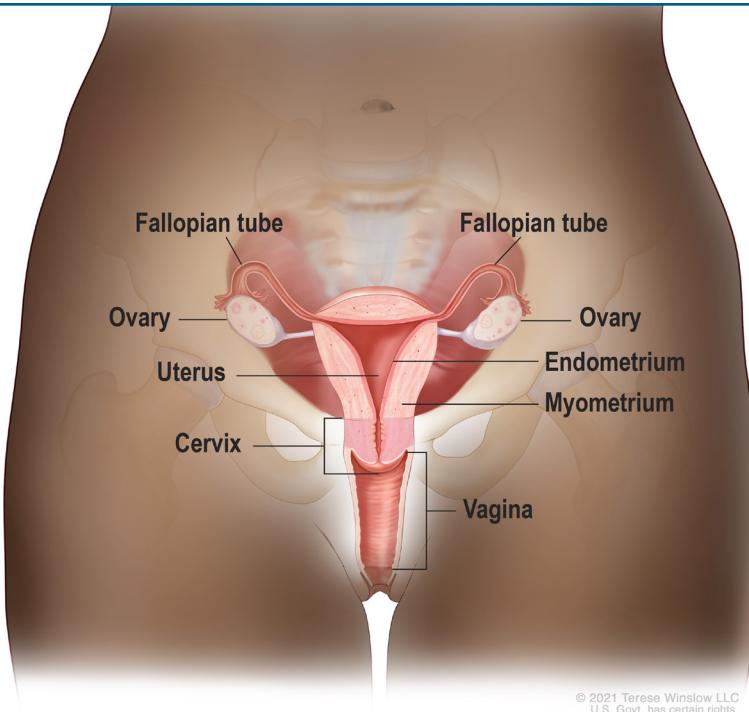
Each ovary is about the size and shape of a grape. One is on the left side of the uterus and the other is on the right. Each is surrounded by a long, thin tube called a fallopian tube.

The uterus and at least 1 ovary and fallopian tube are needed for menstruation and pregnancy.

What is ovarian cancer?

Ovarian cancer starts when microscopic cells in the ovaries or the fallopian tubes change in a way that makes them grow out of control.

Because most ovarian cancers are found in the outer surface of the fallopian tubes (the epithelium), they are called epithelial ovarian cancers. The most common types of epithelial ovarian cancer are:



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- High-grade serous carcinoma (HGSC)
- High-grade endometrioid carcinoma

Rare types of ovarian cancer are called less common ovarian cancers (LCOCs). They can start in the epithelium, in tissues that support the ovaries, or in the reproductive (egg) cells of the ovary.

Who's on my team?

Treatment for ovarian cancer takes a team of experts. Surgery is often the first treatment. When possible, a gynecologic oncologist should perform the initial surgery. This type of doctor is an expert in surgery and chemotherapy for gynecologic cancers.

Your care team may also include a medical oncologist. This doctor is an expert in treating cancer with chemotherapy and other medicines.

Treatment for ovarian cancer takes a team of experts. The treatment that you and your care team agree on should be noted in the treatment plan, along with possible side effects. But keep in mind that your plan may change based on new test results, new side effects, and your preferences.

Primary peritoneal cancer

Primary peritoneal cancer forms in the tissue that lines the abdominal wall and covers the abdominal organs. The treatment information in this guide also applies to primary peritoneal cancer and fallopian tube cancer.

You may also receive care from registered nurses, nurse practitioners, physician assistants, social workers, genetic counselors, sexual health experts, and others.

Ask for the names and contact information of your care providers to be included in the treatment plan.



Your cancer treatment may be improved if your primary care provider is involved. They can help manage other health conditions that may be affected by your cancer treatment.

How can I get the best care?

Advocate for yourself. You have an important role to play in your care. Many people feel more satisfied when they actively take part in planning their cancer care.

The NCCN Guidelines for Patients will help you play a larger role in your care. Discuss the recommendations in this guide with your care team. Ask questions about your options and share your goals and concerns.

Don't know what to ask? You're not alone. That's why we include suggested questions to ask at the end of chapters.

Keep reading to find the best care for you.

How this guide can help you

Making decisions about cancer care is stressful. There's a lot to learn, and you don't know what the future holds.

Use this guide to get the information and support you need.

Patients, doctors, and other health care professionals trust the NCCN Guidelines for Patients. This guide uses clear, everyday language to explain current cancer care recommendations made by respected experts in the field. Their recommendations are based on the latest research and practices at leading cancer centers.

Your health is unique to you, so your cancer care should be, too. As you read this guide, you'll learn which treatments are likely to provide the best results for you. And you'll be better prepared to talk with your care team.

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Testing for ovarian cancer

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This chapter describes the testing used to learn more about suspected ovarian cancer, including whether treatment should start with surgery or chemotherapy.

Ovarian cancer can cause changes in the body that you can feel or notice, called symptoms. But you might not have symptoms until the tumor has grown large or the cancer has spread. Common symptoms include:

- Feeling bloated
- Heartburn and indigestion
- Pain or pressure in the pelvis or belly
- Trouble eating or feeling full fast
- Having to urinate often or urgently
- Pain during sex

These symptoms can also be caused by hormonal changes or other common health problems. Ovarian cancer is more likely to be the cause if the symptoms:

- Began less than 1 year ago,
- Occur more than 12 days per month, and
- Are becoming more severe over time.

If your provider suspects ovarian cancer based on your symptoms, you will have testing as described in this chapter. Testing helps determine the clinical (pre-treatment) stage. The clinical stage provides a best guess of how far the cancer has spread. It is a best

guess because surgery is needed in order to know exactly how much cancer is in the body.

Testing also helps determine whether surgery first is the best treatment. Having surgery first may not be possible based on the size and location of the tumor, or because of other health factors.

Abdominal and pelvic exam

Your provider will feel different areas of your belly. This is called an abdominal exam. They are checking to see if organs are of normal size, are soft or hard, or cause pain when touched. Your doctor will also feel for signs of fluid buildup (ascites) in the belly area or around the ovaries.

Your provider will also feel for abnormal changes in the size, shape, or position of your ovaries, cervix, and uterus. This is called a pelvic exam. A widening instrument, called a speculum, is used to view your vagina and cervix. A sample of cells may be removed for testing. This is known as a Pap test. It is used to detect cervical cancer or pre-cancer, not ovarian cancer.

Sometimes, a biopsy of the uterine lining (an endometrial biopsy) may be part of the initial evaluation during the pelvic exam. This test can rule out a uterine cancer.

An exam of the rectum and vagina together may also be done to check for cancer in the space between the rectum and vagina. This is called a rectovaginal exam.

Imaging

Imaging tests can show the location, size, and shape of an ovarian tumor. They can also show if the cancer has spread beyond the ovaries. Your care team will tell you how to prepare for your imaging tests.

Pelvic ultrasound

Ultrasound is often the first imaging test used to look for ovarian cancer. It uses sound waves to make pictures of areas inside the body. Ultrasound is good at showing the size, shape, and location of the ovaries, fallopian tubes, uterus, and nearby tissues. It can also show if there is a mass in the ovary and whether the mass is solid or filled with fluid.

The 2 types of pelvic ultrasounds that may be used to look for ovarian cancer are described next. Both are done using a hand-held device called an ultrasound probe.

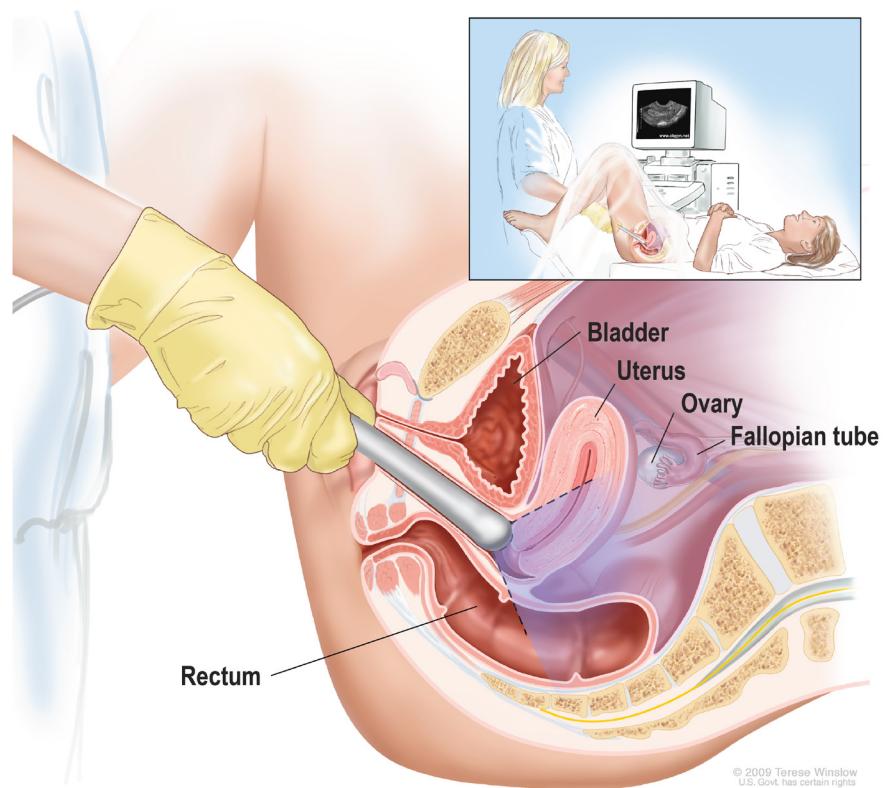
For a transabdominal ultrasound, a gel that helps conduct sound is first spread on your abdomen and pelvis. Your technician will place the probe on your skin and guide it back and forth in the gel.

A transvaginal ultrasound may help your doctor see your ovaries more clearly. In this method your doctor will gently insert the probe into your vagina. You may feel some discomfort when the probe is inserted, but ultrasounds are otherwise painless.

Pelvic ultrasound

If your doctor suspects ovarian cancer based on your symptoms, ultrasound is often the first imaging performed.

In a transvaginal ultrasound (shown here), a health care provider gently inserts a probe into your vagina.



CT

Imaging to look for ovarian cancer may include computed tomography (CT) of your chest, abdomen, and pelvis.

CT is good at showing if the cancer has spread outside of the ovaries, and may also show if nearby lymph nodes are bigger than normal. Enlarged lymph nodes can be a sign that the cancer has spread.

If you can have it, a substance called contrast is used to make the pictures clearer. Before the scan you will be asked to drink a large glass of oral contrast. A contrast agent will also be injected into your vein. It may cause you to feel flushed or get hives. Tell your team if you've had an allergic reaction to contrast in the past.

CT scan

Imaging to look for ovarian cancer may include computed tomography (CT).

CT is good at showing if the cancer has spread beyond the ovaries, and if nearby lymph nodes are bigger than normal.

MRI

If the ultrasound images are unclear, you may have magnetic resonance imaging (MRI) of your abdomen and pelvis. An MRI of your chest or liver may be used to look for signs of cancer spread. MRI doesn't use radiation. It uses radio waves and powerful magnets to take pictures of areas inside the body.

Getting an MRI scan is similar to getting a CT scan but it takes longer. Like a CT scan, a contrast agent may be used to make the pictures clearer. You will lie on a table that moves through a large tunnel in the scanning machine.

The machine is more enclosed than a CT scan. Tell your care team if you get nervous in enclosed spaces. You may be given a type of medicine called a sedative to help you relax.



PET

CT or MRI are sometimes combined with positron emission tomography (PET). A PET scan shows how your cells are using a simple form of sugar, which can be helpful for identifying cancer. A sugar radiotracer is put into your body through a vein. The radiotracer puts out a small amount of energy that is detected by the machine that takes pictures. Cancer cells appear brighter because they use sugar faster than normal cells.

PET is very good at showing small groups of cancer cells. This test may also be useful for showing if ovarian cancer has spread.

Looking inside the abdomen

If the cancer is advanced, you may have a diagnostic laparoscopy before treatment. The goal is to learn how much cancer is in the abdomen. It helps your doctors to decide whether surgery can be your first treatment, or if chemotherapy is needed first.

This minimally invasive procedure involves making a tiny cut in the abdomen. A thin tube with a light and a camera (laparoscope) is used to view the lining of the abdomen and the surface of organs in the abdomen. Tissue samples are taken and tested for cancer cells in a lab.

Biopsy

To diagnose ovarian cancer and determine the cancer type, tumor tissue needs to be removed from your body and tested. If surgery is planned first, the tumor and other tissues your surgeon removes will be tested.

If the cancer has spread too much to be removed using surgery, chemotherapy is often planned first. In this case, you will have a biopsy before any treatment starts. Types of biopsies include:

- Fine needle aspiration (FNA) uses a very thin needle to remove a small sample of tissue from the tumor.
- A core biopsy removes tissue samples with a hollow needle.
- In paracentesis, a long, thin needle is inserted through the skin of the belly to remove a sample of fluid.

A physician expert called a pathologist views the samples with a microscope. If the cells are cancerous, the pathologist notes their appearance and other features, including the specific type of ovarian tumor.

The pathologist also determines the cancer grade (not to be confused with the cancer stage). The grade is a rating of how abnormal the cancer cells look under a microscope. High-grade cancers grow and spread more quickly than low-grade cancers.

Cancer found during prior surgery or biopsy

The cancer may have been found during a surgery or biopsy performed by another doctor.

In this case, your treatment team will need to review the prior surgery and testing results. A pathologist will examine the tumor tissue with a microscope to make sure it is ovarian cancer. Your doctors will also want to know if any cancer was left in your body after surgery.

Genetic testing for inherited cancer risk

About 1 in 6 ovarian cancers is caused by differences in genes that are passed down from parent to child. Gene differences you are born with are called **germline variants**.

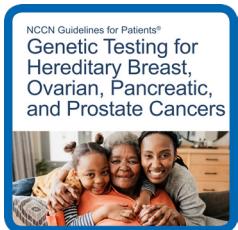
Hereditary ovarian cancer is most often caused by germline variants in breast cancer gene 1 (*BRCA1*) or breast cancer gene 2 (*BRCA2*). Lynch syndrome can also cause hereditary ovarian cancer, and is the most common cause of hereditary colon and uterine cancers.

Genetic testing is recommended for anyone who has been diagnosed with epithelial ovarian cancer (including fallopian tube cancer and peritoneal cancer) at any age. The testing is done on normal tissue—either blood, saliva, or a cheek swab.

There are many other hereditary syndromes besides *BRCA* and Lynch. Genetic testing typically tests for all of them.

Gene changes that happen after conception are called **somatic mutations**. In addition to testing your blood or saliva for inherited *BRCA* variants, the tumor itself should be tested for mutations in the *BRCA* and related genes. This is called biomarker testing. It's discussed in more detail later on the next page.

For more information on testing for hereditary ovarian cancer, see the *NCCN Guidelines for Patients: Genetic Testing for Hereditary Breast, Ovarian, Pancreatic, and Prostate Cancers*.



Genetic testing is recommended for everyone diagnosed with ovarian cancer. It can determine if you have any inherited differences in the *BRCA* genes, or in other genes that play a role in hereditary cancer.



Biomarker testing

Biomarkers are features of the tumor that can help guide your treatment. Many are mutations (changes) in the DNA of the cancer cells. Gene changes that happen after conception are called **somatic mutations**.

Testing for biomarkers involves analyzing a piece of tumor tissue in a lab or testing a sample of blood. The results can be used to determine whether you can join certain clinical trials, and whether you may benefit from specific maintenance therapies.

***BRCA* and HRD**

In addition to testing your blood or saliva for inherited *BRCA* variants, all ovarian tumors should be tested for somatic mutations in the *BRCA* and related genes.

BRCA mutations are a form of homologous recombination deficiency (HRD). This means that cancers with a *BRCA* mutation are also homologous recombination deficient or HRD positive. However, you can also have an HRD-positive tumor without a *BRCA* mutation. Other changes in the tumor's DNA can make it homologous recombination deficient.

The tumor's *BRCA* and HRD status are important biomarkers used to guide decisions about maintenance therapy after initial treatment.

Other biomarkers

The timing of testing for the biomarkers described next can vary. Some providers test for these (in addition to *BRCA*) early in the treatment process. Others may only test for

BRCA and wait to see if therapies that require other biomarkers are needed.

However, testing for these biomarkers is generally recommended for ovarian cancer that returns after treatment (recurrent). Testing is performed on removed tumor tissue.

- Microsatellite instability (MSI)
- Mismatch repair (MMR)
- HER2 expression
- Tumor mutational burden (TMB)
- *BRAF* V600E mutation
- Folate receptor alpha (FR α) expression
- *RET* mutations
- *NTRK* gene fusion

Nutritional and digestive tract health

Your provider may ask about your diet and eating habits. Symptoms of ovarian cancer include bloating, pain in the pelvis or abdomen, difficulty eating, and feeling full quickly.

These symptoms may cause you to eat less in general, or to eat foods lacking in nutrients. Your overall health and nutrition level can have an impact on the success of surgery and other treatment outcomes. If you need help planning healthy meals or have questions about your diet, ask your provider for a referral to a registered dietitian or nutritionist.

Your doctor may want to check your gastrointestinal (GI) tract using an imaging test. The GI tract is made of the organs that food passes through when you eat. This includes your stomach, small bowel, and large bowel (rectum and colon).

An imaging tool called an endoscope (or scope for short) is used to examine these organs. A scope is a long, thin tube with a light and a camera that can be guided into your body.

To examine the upper GI tract, a scope is guided down the throat into the esophagus, stomach, and small bowel. This is called an upper endoscopy.

A colonoscopy is used to examine the large bowel. This involves inserting a scope into your anus and guiding it through the rectum and colon.

Blood tests

The following tests are not used alone to diagnose ovarian cancer, but abnormal results may signal health problems.

Tumor markers

A tumor marker is a substance found in body tissue or fluid that may be a sign of cancer. Along with other information, tumor markers can help diagnose ovarian cancer and monitor response to treatment.

A cancer antigen-125 (CA-125) test is the most common tumor marker test for ovarian cancer. High levels of this protein in the blood may be a sign of ovarian or other cancers. A CA-125 test alone cannot diagnose ovarian cancer.

Health problems that are not cancer, such as endometriosis and diverticulitis, can raise your CA-125 level. Some ovarian cancers don't cause CA-125 to rise.

Your blood may also be tested for the following tumor markers. These may be found in higher-than-normal amounts in people with less common ovarian cancers.

- Inhibin (typically inhibin A and inhibin B)
- Beta-human chorionic gonadotropin (β -hCG)
- Alpha-fetoprotein (AFP)
- Lactate dehydrogenase (LDH)
- Carcinoembryonic antigen (CEA)
- CA 19-9
- HE4

General health

A complete blood count (CBC) measures the number of red blood cells, white blood cells, and platelets in a sample of blood. Red blood cells carry oxygen throughout the body. White blood cells fight infection. Platelets help to control bleeding. Your blood counts may be too low or too high because of cancer or other health problems.

A blood chemistry profile measures the levels of different chemicals that are affected by your kidneys, bones, and other organs and tissues. Levels that are too high or too low may be a sign that an organ isn't working well. Abnormal levels may also be caused by the spread of cancer or by other diseases. This test can also provide information about nutrient intake, such as protein levels.

The liver is an organ that does many important jobs, such as removing toxins from your blood. Liver function tests measure chemicals that are made or processed by the liver. Levels that are too high or low may be a sign of liver damage or cancer spread.



We want your feedback!

Our goal is to provide helpful and easy-to-understand information on cancer.

Take our survey to let us know what we got right and what we could do better.

NCCN.org/patients/feedback

Key points

- An abdominal or vaginal ultrasound is often the first imaging test performed for suspected ovarian cancer. If the images are unclear, you may also have magnetic resonance imaging (MRI) of your abdomen and pelvis.
- If needed, computed tomography (CT) is good at showing if the cancer has spread outside of the ovaries, and if nearby lymph nodes are bigger than normal. Scans of your chest, abdomen, and pelvis are recommended.
- The biopsy to diagnose ovarian cancer is usually done during the first surgery to remove the tumor. If your care team recommends chemotherapy before surgery, you will have the biopsy first in order to confirm the cancer type.
- Hereditary ovarian cancer is most often caused by germline variants (inherited differences) in the *BRCA* genes. Lynch syndrome can also cause ovarian and other cancers.
- Everyone diagnosed with epithelial ovarian cancer (including fallopian tube cancer and peritoneal cancer) at any age should have genetic testing of their blood or saliva for germline variants in the *BRCA* and related genes.

- The ovarian tumor itself should be tested for somatic mutations (changes) in the *BRCA* and related genes. Cancers with a *BRCA* mutation are also homologous recombination deficient or HRD positive.
- Blood tests for suspected ovarian cancer include a CBC, chemistry profile, liver function tests, and tumor marker tests. A CA-125 test is the most common tumor marker test for ovarian cancer.

Questions to ask

- Why do I have to wait until after surgery to find out what kind of ovarian cancer I have?
- Ovarian cancer runs in my family. Do I have a germline *BRCA* variant?

3

Treatment for common ovarian cancers

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The most common types of ovarian cancer are high-grade serous carcinoma and high-grade endometrioid carcinoma. These cancers are treated with surgery and chemotherapy. If treatment works well, maintenance therapy may be an option for more advanced cancers.

Surgery

Surgery is often the first treatment if you are willing and able to have it. Sometimes chemotherapy is given first.

Surgery should be performed by a gynecologic oncologist. This is a surgeon who is an expert in cancers that start in the female reproductive organs. If your team recommends chemotherapy before surgery, see page 22.

The main goals of surgery are to:

- Remove all or as much of the cancer as possible, and
- Learn how far the cancer has spread.

Hysterectomy and BSO

The most common surgery for ovarian cancer is hysterectomy and bilateral salpingo-oophorectomy (BSO). A hysterectomy is surgery to remove the uterus. When the cervix is removed in addition to the uterus, it is called a total or complete hysterectomy. A BSO removes both ovaries and both fallopian tubes.

Pregnancy isn't possible after a hysterectomy. Fertility-sparing surgery (described below) may be an option for some very early ovarian cancers that haven't spread beyond the ovaries.

If cancer has spread outside the ovaries, your surgeon will attempt to remove as much of it as possible. This is called debulking or cytoreductive surgery. The extent of the surgery depends on how far the cancer has spread. It may involve removing all or part of nearby organs. Lymph nodes that look abnormal or that are larger than normal will also be removed when possible.

Fertility-sparing surgery

Pregnancy isn't possible after the uterus is removed. This is difficult for those wishing to get pregnant in the future. Fertility-sparing surgery may be an option.

This involves removing one or both ovaries and fallopian tubes but leaving the uterus in place. Surgery to remove one ovary and its fallopian tube is called a unilateral salpingo-oophorectomy (USO). USO is only an option if the cancer is in 1 ovary and the cancer is appropriate for this procedure.

After a USO, you may still be able to become pregnant naturally if you haven't entered menopause.

If the cancer is in both ovaries, a BSO (without hysterectomy) may be an option. While you can't become pregnant naturally after a BSO, pregnancy may be possible using assisted reproductive approaches. One such approach is in vitro fertilization (IVF).

In IVF, eggs are fertilized with sperm in a lab to create embryos. The embryos are implanted into the uterus or frozen for future use. The eggs used for IVF may be yours (removed from your ovary before surgery) or donor eggs. Donor eggs are removed from women who have volunteered to go through hormone treatment to stimulate egg production in the ovaries.

Surgical methods

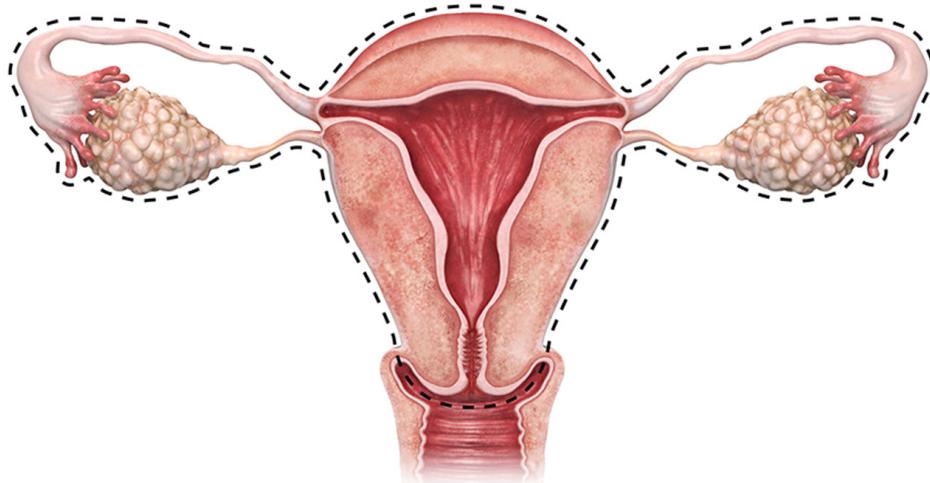
A laparotomy is the most common method for ovarian cancer surgery. A laparotomy is a long surgical cut in the abdomen. It is often an up-and-down (vertical) cut from the top of the belly button down to the pelvic bone.

This lets your doctor see the tumor and other organs and tissues in your abdomen and pelvis. This method is recommended most often when surgical staging (described next) or cytoreductive surgery is planned.

Less often, a minimally invasive type of surgery called laparoscopy may be used. The surgery is performed through a few small cuts in the abdomen. Laparoscopy may be used in select cases, such as when cancer is only in the ovaries. This surgery should only be done by a gynecologic oncologist experienced in this method.

Hysterectomy and BSO

The most commonly used surgery for ovarian cancer removes the uterus, both ovaries, and both fallopian tubes.



Surgical staging

If it does not look like the cancer has spread, surgical staging should be performed. Surgical staging is the most accurate way to stage ovarian cancer. This involves taking samples during surgery from organs and tissues where ovarian cancer often spreads. The samples are tested for cancer cells.

Your surgeon will also take samples from nearby tissues where it looks like cancer hasn't spread. This is done to check for cancer cells that have spread outside the ovaries or pelvis and can only be seen with a microscope. These are called microscopic metastases.

The omentum and sometimes nearby lymph nodes will be removed. The omentum is the fatty layer of tissue that covers organs in the belly (abdomen). Lymph nodes are groups of disease-fighting cells where cancer can also spread. If there is fluid buildup in the abdomen, the fluid will also be sampled. If there isn't fluid buildup, your doctor may "rinse" the space inside your belly with a special liquid. This is called a peritoneal washing. Samples of the liquid will then be tested for cancer cells.

Preparing for surgery

Your treatment team will give you instructions on how to prepare for surgery. You may be asked to stop taking some medicines for a short time. You also should not eat or drink after midnight the night before the surgery.

On the day of your surgery, you will be given medicine to put you into a deep sleep so you won't feel pain. This is called general anesthesia. Surgery may take 3 or more hours to complete. More or less time may be needed depending on how much tissue is removed.

After the surgery, expect to stay in the hospital for a few days or weeks to recover. You may feel some pain and tenderness in your belly and pelvis. It may last for a few days or weeks. You may be able to return to normal activities in a few weeks. The time it takes to fully recover varies from person to person. It also varies depending on the extent of the surgery.

Premature menopause

If you have not entered menopause, surgery that removes both ovaries will cause it. This is known as surgical menopause. It is caused by the sudden drop in estrogen in the body. This drop can cause symptoms of menopause, including:

- Hot flashes
- Sleeping problems
- Night sweats
- Weight gain
- Changes in mood
- Thinning, drying, and irritation of the vaginal lining (vaginal atrophy)

When caused by surgery, the symptoms of menopause may be sudden and more severe. There are also long-term risks of not having enough estrogen. They include heart or blood vessel problems (cardiovascular disease) and bone loss (osteoporosis).

If you have symptoms of surgical menopause, your doctor may suggest non-hormonal medicine or hormone replacement therapy (HRT). Discussion with a menopausal symptom team is recommended to determine whether HRT is right for you.

Other risks and side effects

With any type of surgery, there are health risks and side effects. Common side effects include pain, swelling, and scars. Common side effects of ovarian cancer surgery include leg swelling, trouble urinating, and constipation.

Cancer and recent abdominal surgery are risk factors for developing blood clots, also known as deep vein thrombosis (DVT). Many patients are placed on blood thinners (either oral medications or injections) for up to 4 weeks after surgery to help prevent blood clots.

If surgery first isn't an option

Sometimes having surgery first isn't an option. Maybe it's because of the size or location of the tumor, or because of other health concerns. In this case, chemotherapy is given first to shrink the cancer. This is called **neoadjuvant therapy**.

Before starting chemotherapy, you will have a biopsy to confirm that the tumor is definitely ovarian cancer. At this time, the **preferred** regimen for neoadjuvant therapy is paclitaxel and carboplatin. Bevacizumab (Avastin) may also be included. If you can't have this preferred regimen, there are other recommended options.

If the cancer improves after 2 to 3 months of chemotherapy, interval debulking surgery (IDS) is recommended. The goal is to remove as much of the cancer as possible, as well as the ovaries, fallopian tubes, and uterus. During surgery, chemotherapy medicine may be warmed and then circulated around your abdomen, reaching the spaces between the organs. This is called hyperthermic intraperitoneal chemotherapy (HIPEC).

If there is no change to the cancer after chemotherapy, your doctor may recommend going ahead with surgery, or continuing chemotherapy for a few more cycles to see if there is improvement.

After surgery, more chemotherapy is usually given. Maintenance therapy may follow once your cancer is in remission. These topics are discussed later in this chapter, after staging.

Staging

The information gained during surgery and surgical staging is used to determine the pathologic (post-surgery) stage. The pathologic stage provides the most accurate picture of how far the cancer has spread. It is used to guide treatment after surgery.

A staging system is a standard way of describing the extent of cancer in the body. There are 2 staging systems for ovarian cancer. One was developed by the American Joint Committee on Cancer (AJCC), the other by the International Federation of Gynecology and Obstetrics (FIGO). They are similar but the FIGO system is used most often.

In the FIGO system, the cancer stage is defined by 3 main areas of cancer growth:

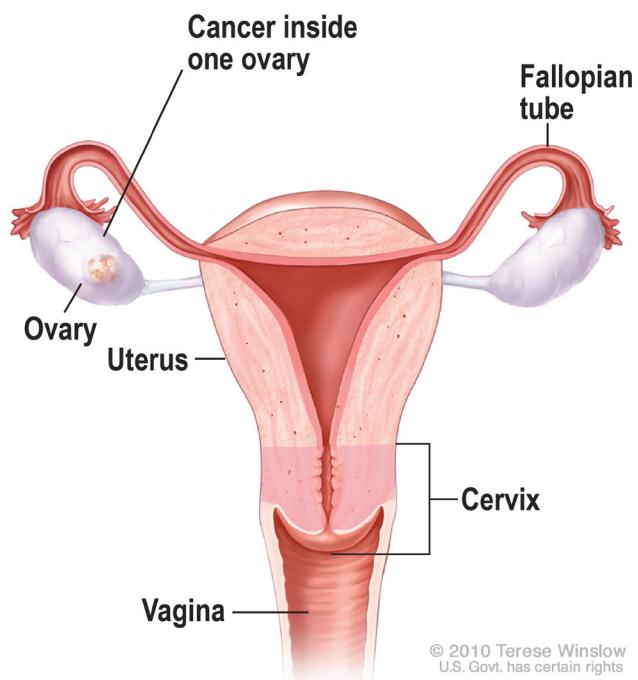
- The extent of the first (primary) tumor
- The spread of cancer to nearby lymph nodes
- The spread of cancer to distant sites

Ovarian cancer stages are numbered from 1 to 4. Doctors write cancer stages as I, II, III, and IV. The stages are also divided into smaller groups, called substages. This helps to describe the extent of cancer in more detail.

The FIGO stages of ovarian cancer are described on the following pages. Cancers of the same stage tend to have similar outcomes. Early-stage cancers tend to have better outcomes than more advanced cancers. Other factors not used for staging, such as your general health, are also important.

Stage 1A

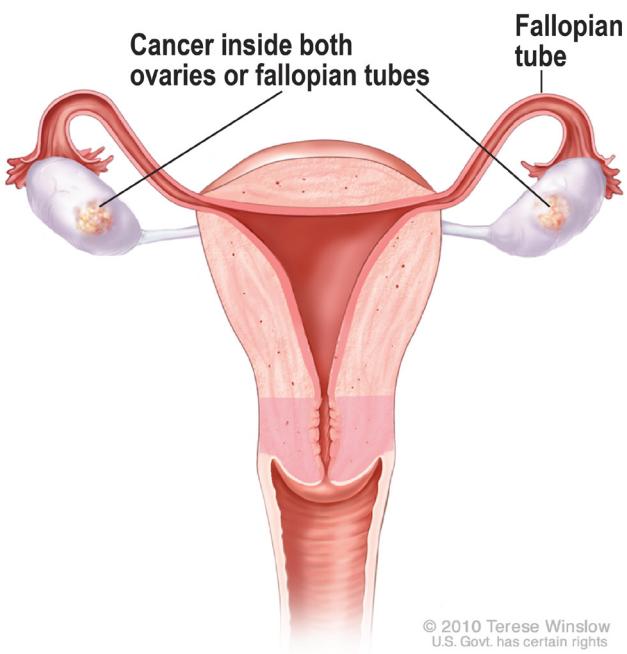
Cancer is in one ovary. The outer sac (capsule) of the ovary is intact. There is no cancer on the outside surface of the ovary. No cancer cells are found in ascites or washings.



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Stage 1B

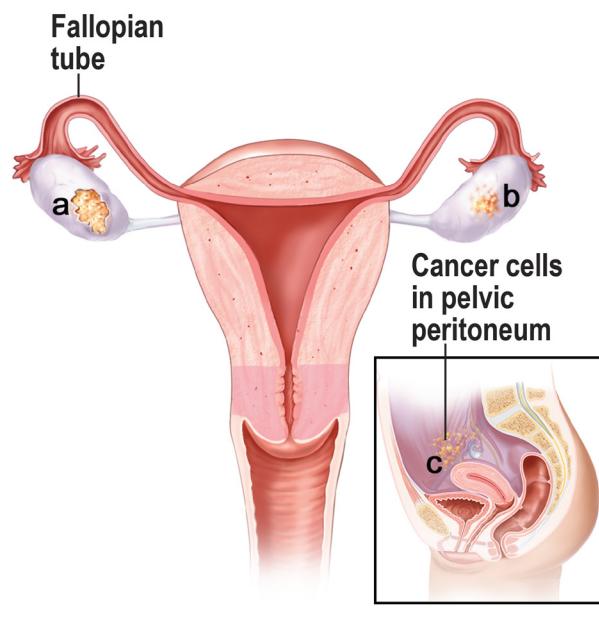
Cancer is in both ovaries. The capsules are intact and there is no cancer on the outside surface of the ovaries. No cancer cells are found in ascites or washings.



Stage 1C

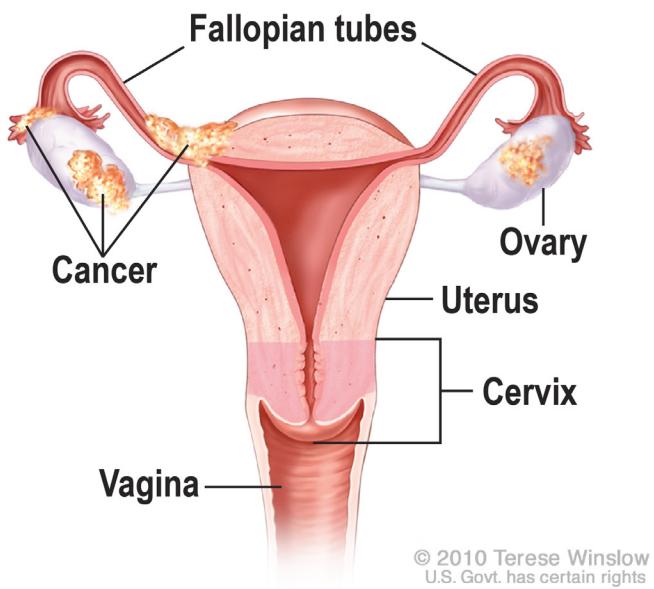
Cancer is in one or both ovaries and one or more of the following has also happened:

- Stage 1C1 – The capsule of the ovary broke open during surgery. This is called surgical spill.
- Stage 1C2 – The capsule of the ovary broke open before surgery, or there is cancer on the outer surface of the ovary or fallopian tube.
- Stage 1C3 – Cancer cells are found in ascites or washings.



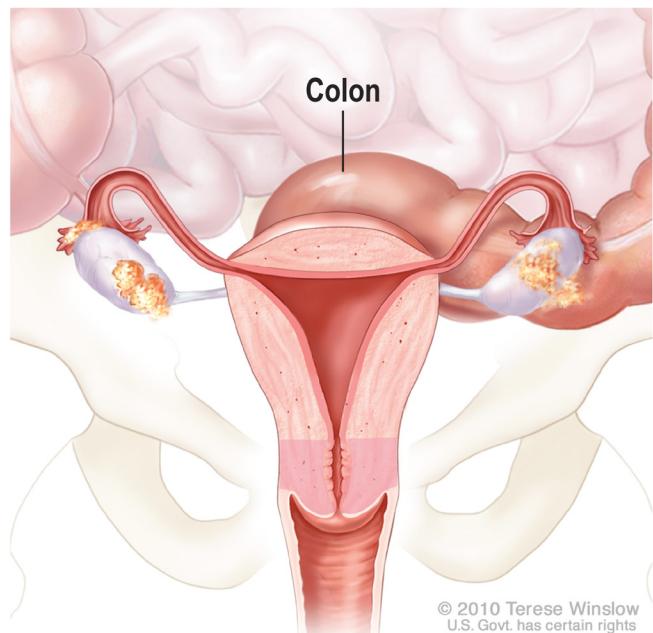
Stage 2A

Cancer is in one or both ovaries. Cancer has grown into and/or spread implants on the uterus and/or fallopian tubes.



Stage 2B

Cancer is in one or both ovaries. Cancer has grown into and/or spread implants on other organs or tissues in the pelvis, such as the bladder, colon, or rectum.



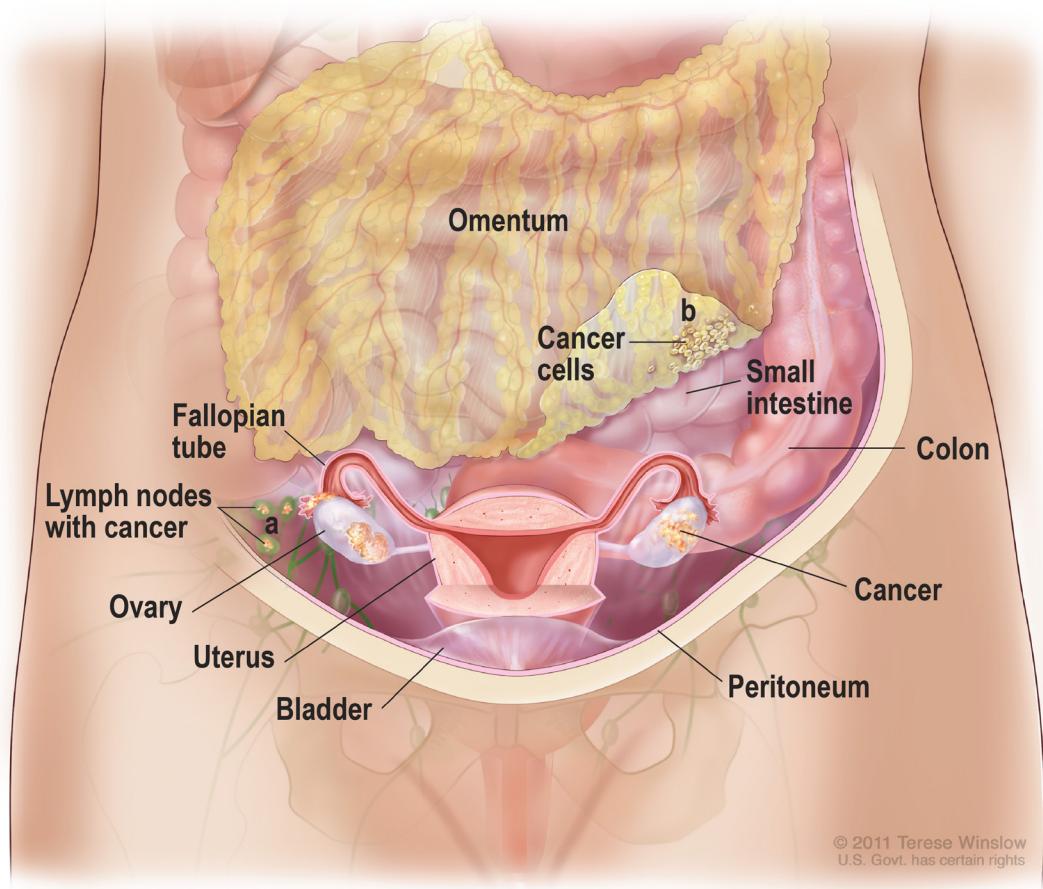
Stage 3A1

Cancer is in one or both ovaries. Cancer has spread to lymph nodes in the back of the abdomen (retroperitoneal lymph nodes).

- Stage 3A1 (i) – Cancer in the lymph nodes is 10 mm (millimeters) or smaller.
- Stage 3A1 (ii) – Cancer in the lymph nodes is larger than 10 mm.

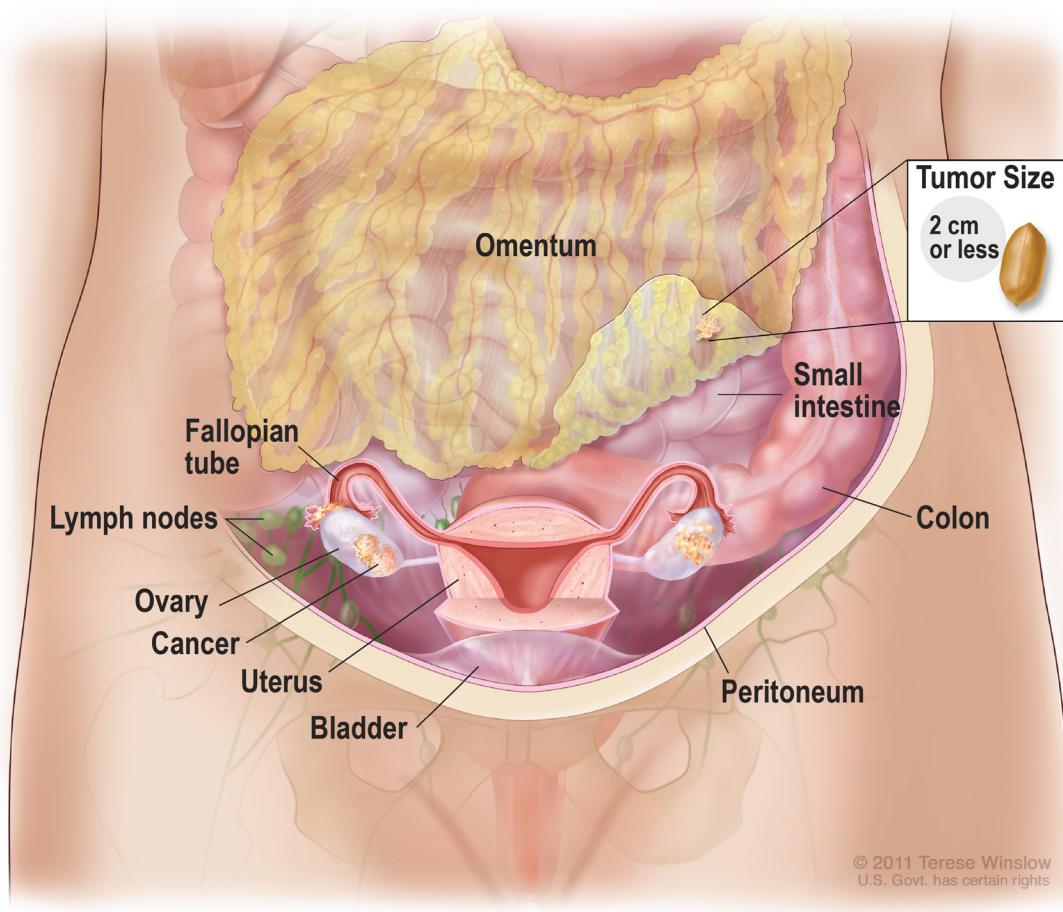
Stage 3A2

Cancer has spread to the tissue lining the abdomen. The cancer is so small it can only be seen with a microscope. There may also be cancer in lymph nodes in the back of the abdomen.



Stage 3B

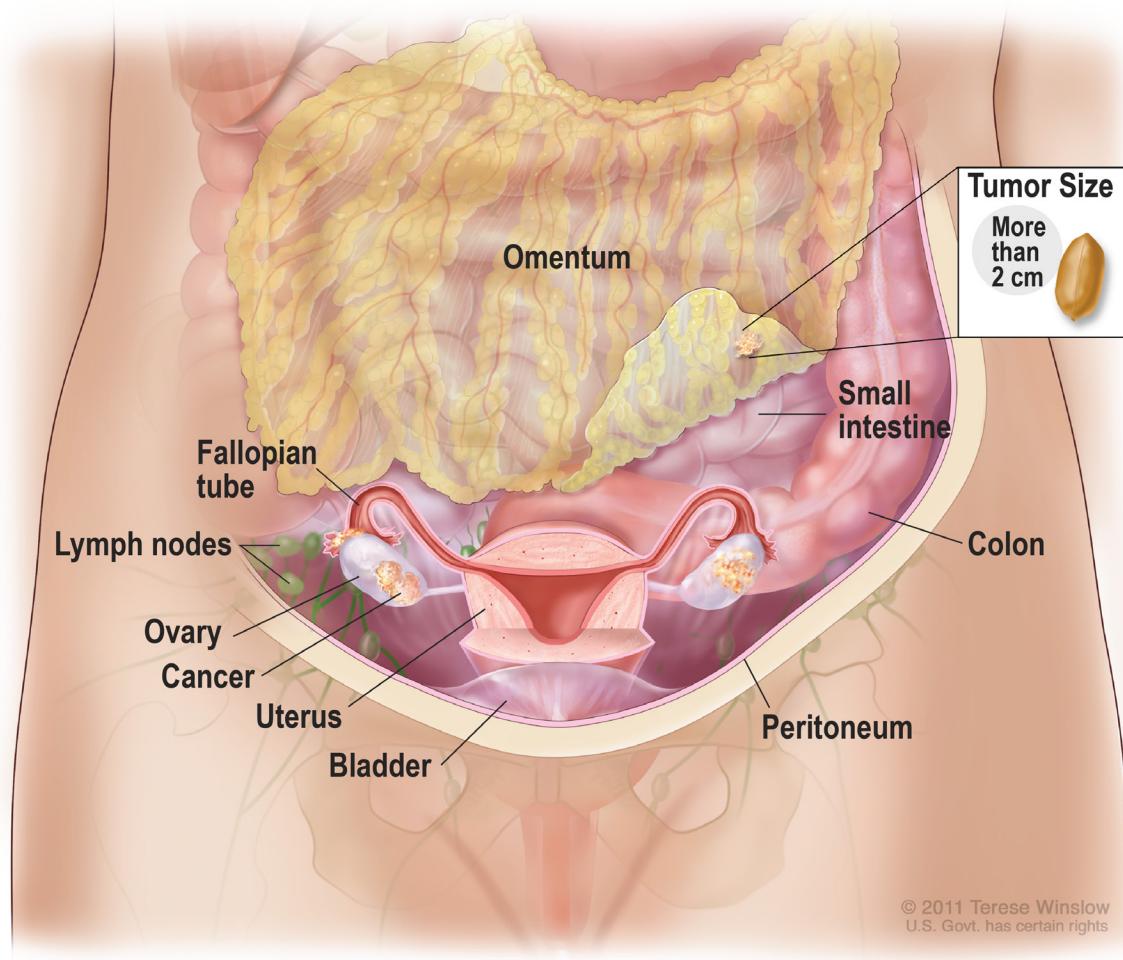
There is visible cancer on the tissue lining the abdomen. The area of cancer is smaller than a peanut (about 2 centimeters or smaller). There may also be cancer in lymph nodes in the back of the abdomen.



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Stage 3C

There is visible cancer on the tissue lining the abdomen. The area of cancer is larger than 2 cm. There might be cancer in lymph nodes in the back of the abdomen. The cancer may have also spread to the outer surface of the liver or spleen.

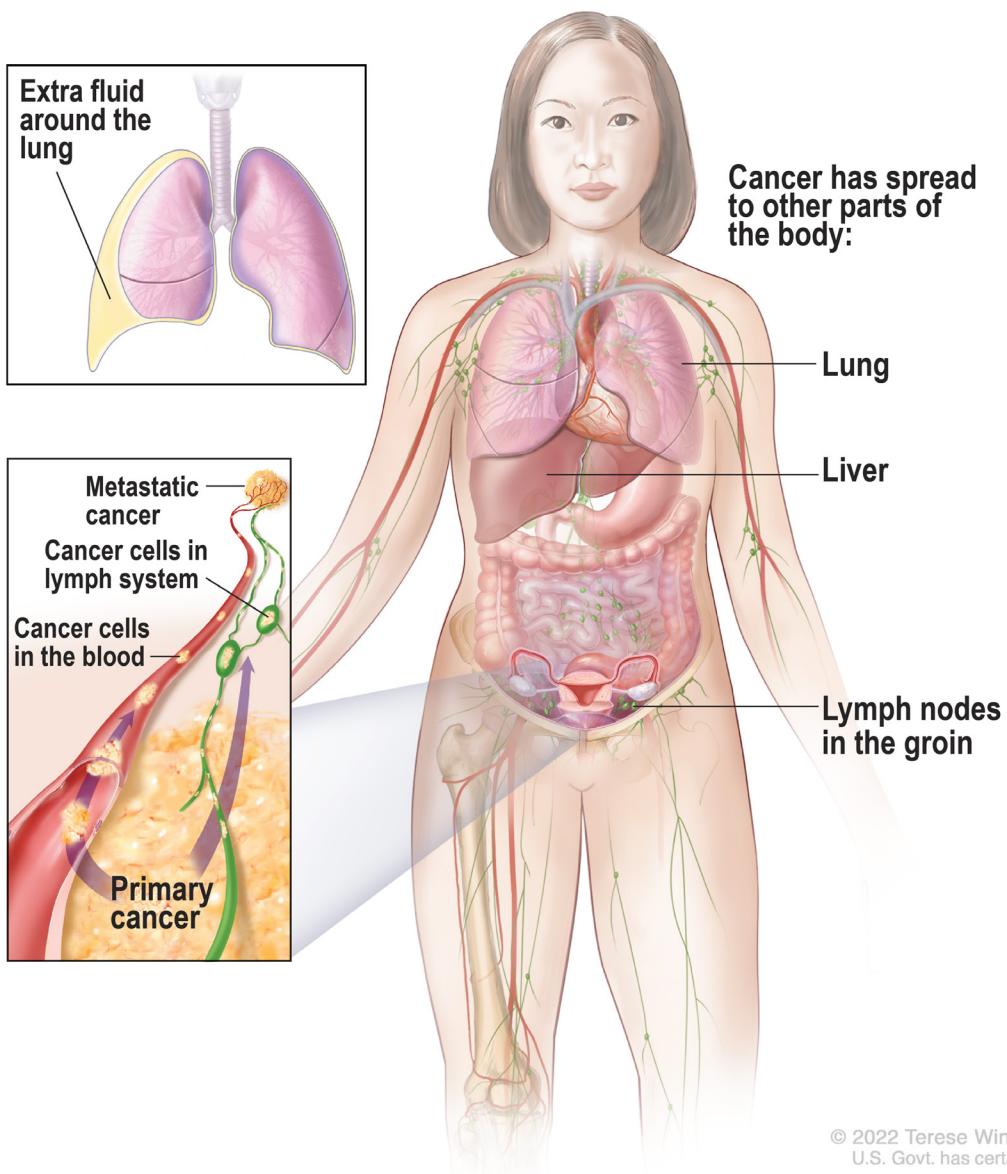


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Stage 4

Cancer has spread to other parts of the body.

- Stage 4A – There are cancer cells in the fluid around the lungs. This is called a malignant pleural effusion.
- Stage 4B – Cancer has spread to the inside of the liver or spleen, to distant lymph nodes, or to other organs outside the abdomen.



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Chemotherapy

Chemotherapy is the use of medicine(s) to kill cancer cells. When given before surgery, chemotherapy is called **neoadjuvant** therapy. When given after surgery, it is called **primary** or **adjuvant** chemotherapy.

Platinum-based chemotherapy is recommended for ovarian cancer. These medicines contain the metal platinum. Carboplatin, cisplatin, and oxaliplatin are examples. One of these is often given with a type of chemotherapy called a taxane. Paclitaxel and docetaxel are taxanes.

Your options for chemotherapy will depend on your age and overall health. Your provider will also consider your risk for nerve damage, called peripheral neuropathy. This common side effect of paclitaxel causes pain, tingling, and numbness, often in the hands and feet.

Stage 1

Chemotherapy is recommended after surgery for **most** newly diagnosed stage 1 cancers. Observation may be an option for a stage 1A or 1B, low-grade tumor. Ask your doctor if this applies to your cancer.

At this time, the **preferred** chemotherapy regimen is paclitaxel with carboplatin, given every 3 weeks. Preferred therapies have the most evidence they may work better and may be safer than other therapies.

Six cycles of chemotherapy are recommended for high-grade serous tumors. Between 3 and 6 cycles are recommended for all other stage 1 tumors. The specific number of cycles needed depends on the tumor type and other factors.

If you can't have paclitaxel and carboplatin, there are other recommended options. Other recommended therapies can provide effective results but may have less evidence, more side effects, or may not work quite as well as preferred therapies.

Guide 1

Stage 1 ovarian cancer – options for chemotherapy after surgery

Note: These regimens may change as new information becomes available.

Paclitaxel + carboplatin every 3 weeks (**a preferred option**)

Carboplatin + liposomal doxorubicin

Docetaxel + carboplatin

Stages 2, 3, and 4

For common tumor types, chemotherapy is recommended after surgery for **all** newly diagnosed stage 2, 3, and 4 ovarian cancers.

At this time, the **preferred** chemotherapy regimen is paclitaxel with carboplatin, given every 3 weeks. Six cycles are given for stage 2, 3, and 4 cancers. If you can't have this regimen, there are other recommended options.

A drug called bevacizumab (Avastin) may be added to your chemotherapy. It stops the growth of new blood vessels that feed the tumor.

If chemotherapy works well, the next step may include maintenance therapy. See page 33 for more information.

How chemotherapy is given

Most chemotherapy for ovarian cancer is given intravenously. This means the medicine is put directly into your bloodstream through a vein.

Chemotherapy is given in cycles of treatment followed by days of rest. This allows the body

Guide 2

Stages 2, 3, and 4 – options for chemotherapy after surgery

Note: These regimens may change as new information becomes available.

Paclitaxel + carboplatin every 3 weeks (**preferred option**)

Paclitaxel + carboplatin + bevacizumab + maintenance bevacizumab (**a preferred option**)

Paclitaxel + carboplatin (both weekly, or paclitaxel weekly and carboplatin every 3 weeks)

Carboplatin + liposomal doxorubicin

Docetaxel + carboplatin

Docetaxel + carboplatin or oxaliplatin + bevacizumab + maintenance bevacizumab

Intraperitoneal (IP)/intravenous (IV) paclitaxel + cisplatin (for some stage 2 or 3 cancers)

to recover before the next treatment. The cycles vary in length depending on which drugs are used.

You may get a port to receive chemotherapy. This is a small, round disc that is usually placed under your skin in the upper chest. It is inserted during a minor surgery and stays in the body until treatment is complete. After treatment the port can be easily removed. Once the port is removed, the skin will heal.

Chemotherapy medicine can also be slowly injected into the abdomen. This is called intraperitoneal (IP) chemotherapy. When given this way, higher doses of the drugs are delivered directly to the cancer cells in the belly area. IP chemotherapy is given through a thin tube called a catheter. The catheter is usually connected to a port placed inside the abdomen during surgery.

Testing during chemotherapy

Your provider will monitor how well chemotherapy is working and check for side effects. Expect to have a physical exam every 1 to 3 cycles. A pelvic and rectovaginal exam may be done at the same time. Imaging and blood tests are ordered as needed. Testing for CA-125 or other tumor markers may be performed before each cycle of chemotherapy.

What's next?

If the cancer improves as a result of chemotherapy, maintenance therapy is often the next step. It's the next topic in this chapter. If the cancer doesn't improve or gets worse, treatment for persistent ovarian cancer is recommended.

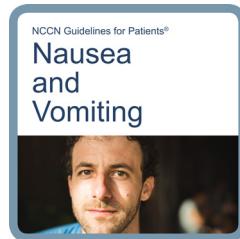
Side effects

Common side effects of chemotherapy include:

- Loss of appetite
- Nausea and vomiting
- Mouth sores
- Hair loss
- Fatigue
- Increased risk of infection
- Muscle aches
- Nerve damage

Intraperitoneal chemotherapy tends to cause more severe side effects than intravenous chemotherapy. This includes infections, kidney damage, pain in the belly, and nerve damage.

Managing side effects is a shared effort between you and your care team. More information on nausea and vomiting is available at [NCCN.org/patientguidelines](https://www.nccn.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.



Maintenance therapy

Maintenance therapy is the use of systemic therapy after successful initial treatment for ovarian cancer. It can reduce the risk of cancer returning or extend the time until it returns or gets worse. Maintenance therapy is an option for **stage 2, 3, and 4** cancers that respond well to surgery and platinum-based chemotherapy.

PARP inhibitors (PARPi) are a newer option for maintenance therapy after initial treatment. These oral targeted therapies work best in homologous recombination deficiency (HRD)-positive cancers, including those caused by a *BRCA* mutation.

PARP inhibitors currently used for maintenance therapy after initial treatment of ovarian cancer include:

- Olaparib (Lynparza)
- Niraparib (Zejula)
- Rucaparib (Rubraca)

If chemotherapy included bevacizumab

For HR-deficient cancers and *BRCA*-mutated cancers, maintenance therapy with both bevacizumab and olaparib (a PARP inhibitor) is a recommended option. If you can't have olaparib, niraparib is given instead. Olaparib alone is also an option.

For *BRCA*-mutated cancers, maintenance therapy with a PARP inhibitor alone is also an option.

There isn't much research on maintenance therapy with a PARP inhibitor after initial treatment for stage 2 ovarian cancer. If your cancer is stage 2 and you are eligible for maintenance therapy, talk to your provider about your options.

Maintenance therapy with bevacizumab alone is also an option for cancers not caused by a *BRCA* mutation, or whose *BRCA* status is unknown.

If chemotherapy didn't include bevacizumab

If you have an inherited *BRCA* variant, or the cancer has a *BRCA* mutation, maintenance therapy with a PARP inhibitor alone is recommended. For some stage 2 cancers with a *BRCA* mutation, observation may be an option.

If you don't have a *BRCA* mutation (or have not had a *BRCA* test), maintenance therapy with niraparib or rucaparib may be an option, especially if the cancer is HRD-positive.

Observation is also an option if there was a complete response to chemotherapy. This means there are no signs of cancer in the body.

How long does maintenance therapy last?

The length of maintenance therapy after initial treatment depends on the specific drug(s).

Olaparib alone can be given for up to 2 years. Olaparib + bevacizumab together can be given for up to 15 months, with olaparib continued for up to 2 years total. Niraparib alone can be given for up to 3 years. Rucaparib alone can be given for up to 2 years. These recommendations can change with ongoing research.

Keep in mind that any maintenance therapy will be stopped if the cancer grows or spreads. It will also be stopped if the side effects become too harsh or make it unsafe to continue.

Surveillance

When there are no signs of cancer after treatment, expect to see your oncologist on a regular basis for physical and pelvic exams.

First 2 years: Every 2 to 4 months

Next 3 years: Every 3 to 6 months

After 5 years: Once a year

Your provider may order blood and imaging tests if you develop symptoms or if there are other reasons to suspect relapse.

If your CA-125 level (or other tumor marker) was high originally, it may be checked on a regular basis after treatment.

In addition to surveillance testing, a range of other care is important for cancer survivors. See *Chapter 5: Survivorship* for more information.

Recurrence

The return of cancer after treatment is called a recurrence, or a relapse. Symptoms can be a sign of recurrence. Tell your care team if you have any of these symptoms:

- Pain or bloating in your pelvis or belly
- Unexplained weight loss
- Upset stomach
- Constipation
- Trouble eating or feeling full fast
- Fatigue
- Needing to urinate often or urgently

The presence of specific biomarkers helps guide treatment for recurrent ovarian cancer. If testing for the following biomarkers hasn't already been done, it is recommended now:

- *BRCA1* and *BRCA2* mutations
- Homologous recombination deficiency (HRD) status
- HER2 expression
- Microsatellite instability (MSI)
- Mismatch repair (MMR)
- Tumor mutational burden (TMB)
- *BRAF* V600E mutation
- Folate receptor alpha (FR α)
- *RET* mutations
- *NTRK* gene fusions

Your doctor may choose to test for even more biomarkers than those listed.

Everyone with persistent or recurrent ovarian cancer is encouraged to consider a clinical trial for treatment.

Platinum-resistant cancer

Ovarian cancer is called platinum-resistant if:

- It doesn't improve or worsens during platinum-based chemotherapy, or
- It returns less than 6 months after successful treatment with platinum-based chemotherapy.

Because platinum-based chemotherapy didn't improve your cancer, a different type of recurrence treatment is typically recommended. Non-platinum chemotherapy is usually given first. Another preferred option is bevacizumab (Avastin). This may also be added to your chemotherapy.

For tumors with high levels of the folate receptor alpha (FR α), the targeted therapy mirvetuximab soravtansine-gynx (Elahere) is preferred for recurrence treatment. It is a type of antibody drug conjugate (ADC).

Other options may include endocrine therapy, targeted therapy, or immunotherapy. These options are described more next. Enrolling in a clinical trial is encouraged if you are eligible.

Platinum-sensitive cancer

If you enter complete remission after platinum-based chemotherapy and cancer returns more than 6 months later, the cancer is considered platinum-sensitive. This means that platinum-based chemotherapy drugs work well against the cancer.

Because it worked well before, platinum chemotherapy is typically recommended for recurrent platinum-sensitive disease. This is especially true for the first recurrence. The targeted therapy bevacizumab may be added to chemotherapy.

In certain circumstances, before starting recurrence treatment, your doctor may suggest surgery to remove all visible cancer. This is called secondary cytoreductive surgery.

If recurrence treatment with platinum-based chemotherapy works well or very well, maintenance therapy is an option. If bevacizumab was included in your recurrence chemotherapy regimen, it can be continued alone as maintenance therapy.

A PARP inhibitor may also be an option for maintenance therapy, if you haven't already been treated with one and there is a *BRCA* mutation.

After successful chemotherapy for recurrent cancer, maintenance therapy with a PARP inhibitor can be continued until the cancer grows or spreads, or until the side effects make it intolerable or unsafe to continue.

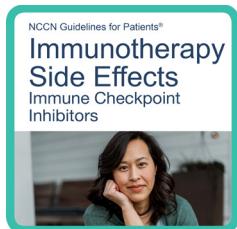
Guide 3 Biomarker-based treatment

Biomarker	Available targeted therapies
dMMR/MSI-H	<ul style="list-style-type: none"> Dostarlimab-gxly (Jemperli) Pembrolizumab (Keytruda)
<i>BRAF V600E</i> mutation	Dabrafenib (Tafinlar) + trametinib (Mekinist)
TMB-H	Pembrolizumab (Keytruda)
<i>NTRK</i> gene fusion	<ul style="list-style-type: none"> Entrectinib (Rozlytrek) Larotrectinib (Vitrakvi)

Biomarker-based treatment

If the cancer has any of the biomarkers listed in **Guide 3**, targeted therapy or immunotherapy may be an option.

For information on the side effects of immunotherapy, see the *NCCN Guidelines for Patients: Immunotherapy Side Effects: Immune Checkpoint Inhibitors* at [NCCN.org/patientguidelines](https://www.NCCN.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.



Endocrine therapy

Estrogen and progesterone are hormones made by the ovaries until menopause. Hormones are sometimes offered to help with symptoms of menopause, such as hot flashes. This is known as menopausal hormone therapy. It used to be called hormonal replacement therapy (HRT). This may help some ovarian cancers grow.

In some cases, treatment can be used to block these hormones from working, or to lower hormone levels. The goal is to help slow ovarian cancer growth. This is called endocrine therapy or anti-estrogen therapy. It may be used for persistent or recurrent ovarian cancer, most often for low-grade tumors.

Endocrine therapy often causes symptoms of menopause, including:

- Hot flashes
- Changes in mood
- Vaginal dryness
- Trouble sleeping
- Night sweats
- Vaginal discharge
- Weight gain

Other side effects include swelling in the hands and feet, fatigue, and less interest in sex. Blood clots are a rare but serious side effect of tamoxifen. Aromatase inhibitors can weaken your bones and may also cause joint and muscle pain.

Radiation therapy to help with symptoms

Depending on the specific recurrence treatment planned, radiation therapy may also be given to help with symptoms. It can be used to treat vaginal bleeding, areas of cancer in bone, and isolated areas causing pain.

Radiation treatment to the pelvis can cause the vagina to become shorter and narrower (vaginal stenosis). This can make it uncomfortable or even painful to have sex, or to have vaginal exams by a doctor.

Using a vaginal dilator can prevent or treat vaginal stenosis. This is a device used to gradually stretch or widen the vagina. You can start using one as soon as 2 to 4 weeks after radiation therapy has ended, and continue to use it for as long as you want.

Supportive care

Supportive care helps improve your quality of life during and after cancer treatment. The goal is to prevent or manage side effects and symptoms, like pain and cancer-related fatigue. It also addresses the mental, social, and spiritual concerns faced by those with cancer.

Supportive care is available to everyone with cancer and their families, not just those at the end of life. It can also help with:

- Making treatment decisions
- Coordinating your care
- Paying for care
- Planning for advanced care and end of life
- Managing your symptoms



Hypersensitivity reactions

With repeat use of carboplatin or cisplatin, you are at increased risk of a hypersensitivity (allergic) reaction. Below are some questions to ask your care team about this risk:

- ✓ How likely is it that I will have an allergic reaction to chemotherapy?
- ✓ How will I know? What are the symptoms?
- ✓ Does the staff on hand know how to manage allergic reactions, and will the right medical equipment be available?

Clinical trials

A clinical trial is a type of medical research study. After being developed and tested in a lab, potential new ways of fighting cancer need to be studied in people.

If found to be safe and effective in a clinical trial, a drug, device, or treatment approach may be approved by the U.S. Food and Drug Administration (FDA).

Everyone with cancer should carefully consider all of the treatment options available for their cancer type, including standard treatments and clinical trials. Talk to your doctor about whether a clinical trial may make sense for you.

Phases

Most cancer clinical trials focus on treatment and are done in phases.

- **Phase 1** trials study the safety and side effects of an investigational drug or treatment approach.
- **Phase 2** trials study how well the drug or approach works against a specific type of cancer.
- **Phase 3** trials test the drug or approach against a standard treatment. If the results are good, it may be approved by the FDA.
- **Phase 4** trials study the safety and benefit of an FDA-approved treatment.

Who can enroll?

It depends on the clinical trial's rules, called eligibility criteria. The rules may be about age, cancer type and stage, treatment history, or



Finding a clinical trial

In the United States

NCCN Cancer Centers
NCCN.org/cancercenters

The National Cancer Institute (NCI)
cancer.gov/about-cancer/treatment/clinical-trials/search

Worldwide

Ovarian Cancer Research Alliance (OCRA)
ocra.careboxhealth.com

The U.S. National Library of Medicine (NLM)
clinicaltrials.gov

Need help finding a clinical trial?

NCI's Cancer Information Service (CIS)
 1.800.4.CANCER (1.800.422.6237)
cancer.gov/contact

general health. They ensure that participants are alike in specific ways and that the trial is as safe as possible for the participants.

Informed consent

Clinical trials are managed by a research team. This group of experts will review the study with you in detail, including its purpose and the risks and benefits of joining. All of this information is also provided in an informed consent form. Read the form carefully and ask questions before signing it. Take time to discuss it with people you trust. Keep in mind that you can leave and seek treatment outside of the clinical trial at any time.

“

I may not be grateful for my cancer, but I am certainly grateful for the lessons it has taught me and the wonderful people that I have met along the way”

- Ovarian cancer survivor

Will I get a placebo?

Placebos (inactive versions of real medicines) are almost never used alone in cancer clinical trials. It is common to receive either a placebo with a standard treatment, or a new drug with a standard treatment. You will be informed, verbally and in writing, if a placebo is part of a clinical trial before you enroll.

Are clinical trials free?

There is no fee to enroll in a clinical trial. The study sponsor pays for research-related costs, including the study drug. But you may need to pay for other services, like transportation or childcare, due to extra appointments. During the trial, you will continue to receive standard cancer care. This care is often covered by insurance.

Key points

- Hysterectomy with BSO is the recommended first treatment for ovarian cancer whenever possible. Fertility-sparing surgery may be an option if the cancer hasn't spread beyond the ovary.
- Ovarian cancer is staged during surgery to remove the cancer. This is called surgical staging.
- For common ovarian tumor types, platinum-based chemotherapy is recommended after surgery for **most** stage 1 cancers and for **all** stage 2, 3, and 4 cancers. Bevacizumab (Avastin) may be added.
- Maintenance therapy is recommended for many stage 2, 3, and 4 cancers that respond well to initial treatment. PARP inhibitors are often an option. They work best in cancers with a *BRCA* mutation and/or HRD-positive cancers.
- If it was included in chemotherapy, bevacizumab may be given alone or with a PARP inhibitor for maintenance therapy.
- If not already performed, tumor biomarker testing is recommended for everyone with recurrent ovarian cancer.
- Clinical trials provide access to investigational treatments that may, in time, be approved by the FDA.

Questions to ask

- Am I a candidate for fertility-sparing surgery?
- Do I need maintenance therapy?
- What are the side effects of PARP inhibitors?
- Should I consider a clinical trial? Do you know of one I can join?

4

Treatment for less common ovarian cancers

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- 45 Low-grade serous carcinoma
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- 49 Malignant sex cord-stromal tumors
- 52 Key points
- 52 Questions to ask

Less common ovarian cancers are often diagnosed during a surgery or other procedure.

Treatment for these rare cancers is often individualized. When possible, receiving treatment as part of a clinical trial is strongly recommended.

Less common ovarian cancers can start in the epithelium, in tissues that support the ovaries, or in the reproductive (egg) cells of the ovary. If not already done, you may have surgery first to remove any remaining cancer or to stage the cancer.

If receiving treatment as part of a clinical trial isn't an option, treatment for less common ovarian cancers should be individualized. Whether the cancer has any biomarkers helps guide treatment decisions. Biomarkers are features of a cancer that can help guide your care.

Carcinosarcoma

Carcinosarcomas are the most aggressive type of ovarian tumor. These cancers are also known as malignant mixed Müllerian tumors.

Fertility-sparing surgery isn't a treatment option, regardless of your age or the cancer stage. Treatment with platinum-based chemotherapy is recommended. A **preferred** regimen for all stages is paclitaxel and carboplatin, given every 3 weeks.

For stage 2, 3, or 4 tumors, the targeted therapy bevacizumab may be given with chemotherapy. If so, it is often continued as maintenance therapy.

When chemotherapy is over, follow-up care will begin for stage 1 tumors. For stage 2, 3 or 4 tumors with a *BRCA* mutation, maintenance therapy may follow chemotherapy.

For information on follow-up care and recurrence, see page 35.

Clear cell carcinoma

Among the less common ovarian cancers, clear cell carcinomas are the most common. They are considered high-grade (fast-growing) tumors. Most don't have estrogen receptors. This means that endocrine therapy isn't generally helpful against these cancers.

Platinum-based chemotherapy is recommended for most clear cell carcinomas. A **preferred** regimen for all stages is paclitaxel and carboplatin, given every 3 weeks. For stage 2, 3, or 4 tumors, the targeted therapy bevacizumab may be given with chemotherapy. If so, it is often continued as maintenance therapy.

When chemotherapy is over, follow-up care will begin for stage 1 tumors. For stage 2, 3, or 4 tumors with a *BRCA* mutation, maintenance therapy may follow chemotherapy.

For information on follow-up care and recurrence, see page 35.

Mucinous carcinoma

Mucinous tumors can grow so large that they fill the abdomen and pelvis. These tumors are often diagnosed at an earlier age than more common ovarian cancers. Most people have early-stage disease at the time of diagnosis.

Testing often involves a check of the gastrointestinal (GI) tract. This can help tell the difference between a true mucinous cancer of the ovary versus a cancer that may have spread to the ovary from the GI tract. Blood tests measuring carcinoembryonic antigen (CEA) and CA 19-9 are recommended.

If not already done, you may have surgery to remove any remaining cancer and to surgically stage the cancer.

Some stage 1 mucinous tumors can be observed without treatment. For others, chemotherapy is recommended. This depends, in part, on how the tumor cells look when viewed under a microscope. If chemotherapy is planned, preferred regimens are listed in **Guide 4**.

Chemotherapy is recommended for **all** stage 2, 3, and 4 mucinous tumors. **See Guide 4.**

Grade 1 endometrioid carcinoma

Testing for a biomarker (feature) called mismatch repair deficiency (dMMR)/high microsatellite instability (MSI-H) is recommended for all grade 1 endometrioid carcinomas.

Stage 1A and 1B tumors are observed without treatment. While observation is also an option

Guide 4

Mucinous tumors – preferred options for chemotherapy

Note: These regimens may change as new information becomes available.

Stage 1

- 5-FU + leucovorin + oxaliplatin
- Capecitabine + oxaliplatin
- Paclitaxel + carboplatin (every 3 weeks)

Stages 2, 3, and 4

- 5-FU + leucovorin + oxaliplatin with or without bevacizumab
- Capecitabine + oxaliplatin with or without bevacizumab
- Paclitaxel + carboplatin (every 3 weeks)
- Paclitaxel + carboplatin + bevacizumab + maintenance bevacizumab

for stage 1C tumors, these cancers are often treated with chemotherapy or endocrine therapy.

For all stage 2, 3, and 4 tumors, treatment with either chemotherapy or endocrine therapy is recommended. If chemotherapy is planned, paclitaxel and carboplatin (given every 3 weeks) is recommended. A targeted therapy called bevacizumab may be added to chemotherapy. Your provider may suggest maintenance endocrine therapy after chemotherapy.

Low-grade serous carcinoma

Low-grade serous carcinoma isn't the same as the more commonly diagnosed high-grade serous carcinoma. Low-grade serous carcinomas tend to be diagnosed at an earlier age. A little over half are linked with borderline serous tumors, also called low malignant potential tumors.

Observation is recommended for all stage 1A and 1B tumors. While observation is also an option for stage 1C tumors, these cancers are often treated with chemotherapy or hormonal therapy.

For all stage 2, 3, and 4 tumors, treatment with either chemotherapy or endocrine therapy is recommended. If chemotherapy is planned, paclitaxel and carboplatin (given every 3 weeks) is recommended. A targeted therapy called bevacizumab may be added to chemotherapy.

Maintenance therapy may follow chemotherapy for stage 2, 3, and 4 tumors. Endocrine therapy may be given, or if bevacizumab was included in chemotherapy, it may be continued alone as maintenance therapy.

After treatment

When treatment is over, follow-up visits are recommended every 2 to 4 months for the first 2 years, then every 3 to 6 months for 3 years. After year 5, they are scheduled once a year.

Blood tests, imaging, and physical exams (including a pelvic exam) are performed as needed. If biomarker testing hasn't been done yet, it is recommended now. If CA-125 or other tumor markers were high before treatment, they will be monitored after treatment.

Recurrence

If the cancer returns, your options for treatment may include:

- Endocrine therapy
- Targeted therapy
- Chemotherapy (if not already received)

Observing the cancer without treatment may also be an option.

Ovarian serous borderline epithelial tumors

Serous borderline epithelial tumors are also called low malignant potential (LMP) tumors. These slow-growing tumors have cancer-like features, but don't invade other tissues like most cancers do.

Compared to more invasive types of ovarian cancer, those diagnosed with a borderline epithelial tumor tend to be younger and often have stage 1 disease.

Surgery is the main treatment for serous borderline tumors. Fertility-sparing surgery is often an option in addition to standard surgery. A gynecologic oncologist should be involved in deciding your options for surgery.

Prior incomplete surgery

If the cancer wasn't fully removed or fully staged during a prior surgery, the surgery is considered incomplete. In this case, another surgery is recommended (if possible).

If you want the option of becoming pregnant, removing only the ovary with cancer and its fallopian tube, along with any remaining visible cancer, may be an option. For some, removing both ovaries and fallopian tubes but keeping the uterus intact may be an option.

If you don't desire pregnancy, **completion surgery** is performed. This involves removing the uterus and the remaining ovary and fallopian tube. The surgeon will also remove any remaining cancer. They may or may not remove lymph nodes for later testing.

After surgery (fertility-sparing or completion), the pathology team will test the removed tissues. Sometimes the tumor type changes as a result of this testing. If the final results confirm that it is borderline, follow-up care is described next.

Prior complete surgery

If the cancer was completely resected and no low-grade serous carcinoma was found, observation is recommended.

If low-grade serous carcinoma was found, treatment for this tumor type is recommended.

Follow-up

Physical exams, which may include a pelvic exam, are recommended every 3 to 12 months for the first 5 years after treatment.

If any tumor marker levels were high at diagnosis, they will be checked at your follow-up visits. Other blood tests and imaging are performed as needed.

After fertility-sparing surgery, you may have ultrasounds to catch recurrence early. Talk to your doctor about completion surgery after you've had the baby.

Relapse

If the cancer returns after treatment, debulking surgery to remove all visible cancer is recommended when possible. If the tumor type changes as a result of surgery, treatment based on the updated tumor type is recommended.

Malignant germ cell tumors

Although very rare overall, germ cell tumors are the most common type of ovarian cancer diagnosed in people ages 16 to 20 years. These non-epithelial tumors are usually diagnosed at the earliest stage and have excellent treatment outcomes.

Types of germ cell tumors include:

- Dysgerminomas
- Immature teratomas
- Embryonal tumors
- Endodermal sinus (yolk sac) tumors.

The following tumor markers tend to be found in higher-than-normal amounts in those with a malignant germ cell tumor:

- Alpha-fetoprotein (AFP)
- Beta-human chorionic gonadotropin (β -hCG)
- Lactate dehydrogenase (LDH)

Fertility-sparing surgery

If you want the option of becoming pregnant naturally after treatment, fertility-sparing surgery is recommended. The cancer can be any stage. Full surgical staging is performed at the same time.

Surveillance after fertility-sparing surgery involves having ultrasounds on a regular basis. After you've had the baby, talk to your doctor about completion surgery.

Completion surgery

If becoming pregnant isn't possible, or isn't a priority for you, completion surgery with full surgical staging is recommended.

Malignant germ cell tumors are staged with the same system used for common ovarian cancers. In children or adolescents with early-stage germ cell tumors, full surgical staging may be skipped.

Chemotherapy after surgery

After surgery, chemotherapy is recommended for most malignant germ cell tumors. This includes:

- Any stage embryonal tumor
- Any stage endodermal sinus tumor (yolk sac tumor)
- Stage 2, 3, or 4 dysgerminoma
- Stage 1, grade 2 or 3 immature teratoma
- Stage 2, 3, or 4 immature teratoma
- Any stage nongestational choriocarcinoma

Other germ cell tumors don't need chemotherapy after surgery. Observation with surveillance is recommended for:

- Stage 1 dysgerminomas, and
- Stage 1, grade 1 immature teratomas

For tumors that need chemotherapy, 3 to 4 cycles of the **BEP regimen** (bleomycin, etoposide, and cisplatin) is preferred.

Bleomycin can damage the lungs. Expect to have tests to check how well your lungs work before chemotherapy starts. If you can't have bleomycin, your team will discuss other recommended options with you.

After chemotherapy, imaging will be ordered to see how the cancer responded. If you have a complete response to chemotherapy, expect to have follow-up checks every 2 to 4 months for 2 years.

If the levels of AFP and beta-HCG were high originally, these tumor markers will also be checked with blood tests. **See Guide 5** on the next page.

Residual or recurrent disease

Sometimes the tumor doesn't go away completely with treatment. This is called residual disease. Or the tumor may return after treatment. This is called recurrent disease.

If the tumor can still be seen on imaging tests after surgery and chemotherapy and tumor marker levels are normal, your doctor may suggest surgery to remove what's left of the tumor. Observation with imaging is also an option.

If surgery is planned, next steps depend on the results of surgery. If all of the cancer could not be removed, your doctor may recommend 2 more cycles of platinum-based chemotherapy.

For those with confirmed cancer (either residual or recurrent) after first-line chemotherapy and abnormal tumor markers (AFP and/or β -hCG), options to try to cure the cancer include:

- TIP chemotherapy (paclitaxel + ifosfamide + cisplatin)
- High-dose chemotherapy with hematopoietic cell transplant (HCT)

For some people, a hematopoietic cell transplant will cure the cancer. If your doctor thinks a cure is possible, you should be referred to a specialized care center for a consultation about high-dose chemotherapy and stem cell rescue. The specific high-dose chemotherapy regimens used vary between cancer centers.

If treatment with TIP or high-dose chemotherapy isn't possible or desired, palliative chemotherapy is an option. The goal of care is to make you more comfortable and improve your quality of life. There are many options for palliative chemotherapy. Talk to your doctor about which may be right for you.

For cancers with the following biomarkers, immunotherapy with a checkpoint inhibitor may also be an option.

- Microsatellite instability-high (MSI-H)
- Mismatch repair deficient (dMMR)
- Tumor mutational burden-high (TMB-H)

Radiation therapy targeting the tumor area can help relieve symptoms caused by the cancer. Also keep in mind that receiving only supportive care without other treatment is always an option.

Malignant sex cord-stromal tumors

Malignant sex cord-stromal tumors are nonepithelial. These rare tumor types include:

- ▶ Granulosa cell tumors (most common)
- ▶ Sertoli-Leydig cell tumors

The prognosis (outlook) for both types is good. For the more common granulosa cell tumors, most people diagnosed have early-stage, slow-growing cancer.

Surgical staging

Surgery to stage the cancer is recommended for malignant sex cord-stromal tumors.

Surgical staging for these tumors generally doesn't include removing nearby lymph nodes.

If fertility is desired and the cancer hasn't spread beyond the ovary, fertility-sparing surgery with full staging is an option instead. If this is planned, talk to your doctor about having completion surgery after childbearing is finished. Completion surgery removes the uterus and the remaining ovary and fallopian tube.

Guide 5 Surveillance for malignant germ cell tumors

	Year 1	Year 2	Year 3	Years 4 to 5	After 5 years
Clinical evaluation (physical exam)	Every 3 months	Every 3 months	Every 6 months	Every 12 months	Every 12 months
Pelvic ultrasound (if you still have an ovary)	Every 3 months	Every 3 months	Every 6 months		
Blood test to check tumor marker levels	Every 2 months	Every 3 months	Every 6 months	Every 12 months	Every 12 months for up to 10 years
Chest x-ray				Every 6 months	As needed
CT of your chest, abdomen, and pelvis	Every 3 months	Every 3 months	Every 6 to 12 months	As needed	As needed

Malignant sex cord stromal tumors are staged with the same system used for common ovarian cancers. Your next steps of care depend on the cancer stage, as determined by surgery.

Stage 1

Observation is recommended after surgery for low-risk stage 1 tumors.

Medium- or high-risk stage 1 tumors may be observed or treated with platinum-based chemotherapy. At this time, the **preferred** chemotherapy regimen is paclitaxel and carboplatin.

Stage 2, 3, or 4

For those with a stage 2, 3, or 4 tumor, treatment options include platinum-based chemotherapy and radiation therapy. Radiation is an option only if there is a limited amount of

cancer in the body. Otherwise, chemotherapy is usually given.

Surveillance

Granulosa cell tumors can return decades after treatment. Long-term surveillance is recommended.

Physical exams are given as needed based on the cancer stage. Exams are often given once or twice a year for early-stage and low-risk cancers. For high-risk disease, exams are given more often (about every 4 to 6 months).

Sex cord-stromal tumors, especially granulosa cell tumors, can make a protein called inhibin. If the level of inhibin in your blood was high at the time of diagnosis, your doctor may continue to check it after treatment. If the level goes up, it could be a sign of relapse. Keep in mind that a blood test alone cannot confirm that the cancer has returned.

"I truly believe that you have to go through something life changing, to gain something life affirming."

– Ovarian cancer survivor



Testing for CA-125 and other tumor markers is individualized. If your doctor recommends it, how often the testing is needed is also based on stage. Blood tests may be ordered once or twice a year if the cancer is early stage and low risk. For high-risk disease, testing may be ordered every 4 to 6 months.

Imaging isn't needed on a regular basis after treatment. It may be ordered if you develop cancer symptoms, if tumor marker levels are high, or if there are concerning physical exam findings.

Relapse

A relapse (also called recurrence) is the return of cancer after being cancer-free. When possible, enrolling in a clinical trial for treatment is encouraged. Ask your care team about available trials you may be eligible to join.

Most people with sex cord-stromal tumors receive chemotherapy for a relapse. The regimen **preferred** at this time is paclitaxel and carboplatin. There are other recommended options that your provider may suggest.

Endocrine therapy is also an option for treating relapse. If this is planned instead of chemotherapy, options include:

- Aromatase inhibitors (anastrozole, exemestane, letrozole)
- Leuprolide or goserelin acetate (for granulosa cell tumors)
- Tamoxifen



Supportive care is available for everyone with cancer. It isn't meant to treat the cancer, but rather to help with symptoms and make you more comfortable.

Your doctor may suggest another surgery to remove as much of the cancer as possible. Radiation therapy targeting the tumor area can help relieve symptoms caused by the cancer.

Keep in mind that receiving only supportive care without other treatment is always an option.

Key points

- Less common ovarian cancers are often diagnosed during a surgery or other procedure.
- If not already done, you may have surgery first to remove any remaining cancer and to stage the cancer.
- Receiving treatment as part of a clinical trial is strongly recommended, if there is an open trial you are eligible for.
- If a clinical trial isn't an option, treatment for these rare cancers is individualized and often involves chemotherapy.
- Supportive care is available for everyone with cancer, whether you are receiving other treatment or not.

Questions to ask

- What type of rare ovarian cancer do I have?
- Is my cancer type hereditary?
- How do I find clinical trials that I can participate in?

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Survivorship

54 Your primary care provider

54 Paying for care

54 More information

56 Key points

56 Questions to ask

Survivorship begins on the day you learn you have ovarian cancer. It focuses on the physical, emotional, and financial issues unique to cancer survivors.

For many survivors, the end of treatment signals a time of celebration but also of anxiety. This is normal. You may need support to address issues that arise from not having regular visits with your cancer care team.

Your primary care provider

After cancer treatment, your primary care provider and oncologist will work together to provide recommended follow-up care. Close communication between your providers is a key part of survivorship.

Ask your oncologist for a written survivorship care plan. Ideally, the plan will include:

- A summary of your cancer treatment history
- A description of possible short-term, late, and long-term side effects
- A schedule of follow-up cancer tests
- Clear roles and responsibilities for your providers
- General health and wellness recommendations

Paying for care

Cancer survivors face a unique financial burden. Paying for doctor visits, tests, and treatments can become unmanageable, especially for those with little or no health insurance. You may also have costs not directly related to treatment, such as travel expenses and the cost of childcare.

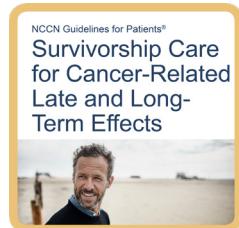
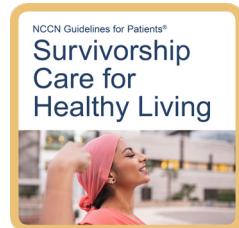
The term financial toxicity is used to describe the problems patients face related to the cost of medical care. Financial toxicity can affect your quality of life and access to needed health care.

If you need help paying for cancer care, financial assistance may be available. Talk with a patient navigator, your care team's social worker, and your hospital's financial services department.

More information

For more information on cancer survivorship, the following are available at NCCN.org/patientguidelines:

- *Survivorship Care for Healthy Living*
- *Survivorship Care for Cancer-Related Late and Long-Term Effects*



Healthy habits for cancer survivors



Follow recommendations from your oncologist and your primary care provider for screening for other cancers based on your age, sex, and risk level



Get other recommended health care for your age such as blood pressure checks, hepatitis C screening, and immunizations (like the flu shot)



Eat a diet rich in plant-based foods. Limit red meat and processed foods. Ask your provider for a referral to a cancer nutritionist



Alcohol can increase the risk of some cancers. Drink little to no alcohol.



Move more, rest less. Try to exercise at a moderate intensity for at least 150 minutes per week.



Maintain a healthy weight. Tracking your weight, diet, calories, and activity levels may help you meet your goals.



Stop using tobacco. Ask your care team about options to help you quit. Counseling and medication are often options.

Key points

- Survivorship focuses on the physical, emotional, and financial issues unique to cancer survivors.
- Survivorship care is improved if your oncologist and primary care provider work together to get the long-term care you need.
- A survivorship care plan is helpful in transitioning your care to your primary care doctor.
- Healthy habits play a key role in helping to prevent other diseases and second cancers.
- If you have concerns about paying for your cancer care, financial help may be available.

Questions to ask

- Can you give me a written survivorship care plan?
- Does this treatment center have a survivorship care program?
- What can I expect during a survivorship care visit?

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Other resources

58 What else to know

58 What else to do

58 Where to get help

59 Questions to ask

Want to learn more? Here's how you can get additional help.

What else to know

This book helps you know your options so you can make informed decisions and improve your cancer care. But it's not the only resource that you have.

Ask for as much information and help as you need. Many people are interested in learning more about:

- Managing side effects, including surgical menopause
- Getting financial help
- Finding a survivorship care program
- Advanced care planning

What else to do

Your health care center can help you with next steps. They often have onsite resources to help meet your needs and find answers to your questions. Health care centers can also inform you of resources in your community.

In addition to help from your providers, the resources listed in the next section provide support for many people like yourself.

Where to get help

Look through the list and visit the provided websites to learn more about these organizations.

Bone Marrow & Cancer Foundation
bonemarrow.org

CancerCare
cancercare.org/

Cancer Hope Network
Cancerhopenetwork.org

FORCE: Facing Our Risk of Cancer Empowered
facingourrisk.org

GRACE
Cancergrace.org

Imerman Angels
Imermanangels.org

My Faulty Gene
Myfaultygene.org

National Ovarian Cancer Coalition (NOCC)
Ovarian.org

Ovarcome
ovarcome.org

Ovarian Cancer Research Alliance (OCRA)
ocrahope.org

PAN Foundation
Panfoundation.org

Sharsheret
sharsheret.org

Triage Cancer
Triagecancer.org

Unite for HER
uniteforher.org

U.S. National Library of Medicine Clinical Trials Database
clinicaltrials.gov/

Questions to ask

- Who can I talk to about help with housing, food, and other basic needs?
- What help is available for transportation, childcare, and home care?
- Are there other services available to me and my caregivers?



Let us know what you think!

Please take a moment to complete an online survey about the NCCN Guidelines for Patients.
NCCN.org/patients/response



Words to know

adjuvant chemotherapy

Chemotherapy given after surgery.

ascites

Abnormal fluid buildup in the belly (abdomen) or pelvis.

bilateral salpingo-oophorectomy (BSO)

Surgery to remove both ovaries and both fallopian tubes.

biomarker

Features of a cancer or tumor that can help guide treatment. Biomarkers in some ovarian cancers include somatic *BRCA* mutations, homologous recombination deficiency, MSI, MMR, HER2 expression, TMB, *BRAF* V600E mutation, FRα expression, *RET* mutations, and *NTRK* gene fusion.

***BRCA1* or *BRCA2* genes**

Genes involved in DNA repair. Abnormal changes (mutations) in either of these genes increases the risk of developing breast and ovarian cancer.

cancer antigen-125 (CA-125)

A substance that may be found in high amounts in the blood of patients with ovarian cancer.

cancer grade

A rating of how abnormal the cancer cells look under a microscope. High-grade cancers grow and spread more quickly than low-grade cancers.

cancer stage

A rating of the growth and spread of cancer in the body, as determined by surgery.

capsule

The thin layer of tissue that surrounds the ovaries.

cervix

The lower part of the uterus that connects to the vagina.

chemotherapy

Drugs that kill fast-growing cells throughout the body, including normal cells and cancer cells.

clear cell carcinoma of the ovary

A rare type of epithelial ovarian cancer, in which the insides of the cells look clear when viewed under a microscope.

clinical stage

The pre-treatment stage of a cancer. The clinical stage provides a best guess of how far the cancer has spread.

clinical trial

Research on an investigational test or treatment to assess its safety or how well it works.

debulking surgery

Surgery to remove as much cancer as possible. Also called cytoreductive surgery.

endocrine therapy

Treatment that adds, blocks, or removes hormones. The goal is to help slow ovarian cancer growth. It may be used for persistent or recurrent ovarian cancer, most often for low-grade tumors. Also called anti-estrogen therapy.

endometrioid carcinoma of the ovary

A type of epithelial ovarian cancer. Grade 2 and 3 endometrioid tumors are common.

Words to know

Grade 1 endometrioid tumors are less common ovarian cancers.

epithelial ovarian cancer

Cancer that starts in the cells that form the outer layer of tissue around the ovaries.

fallopian tube

A thin tube through which an egg travels from the ovary to the uterus.

fertility-sparing surgery

Surgery that removes one ovary and the attached fallopian tube.

genetic counseling

A discussion with a health expert about the risk for a disease caused by changes in genes.

genetic testing

Testing of the blood or saliva for germline (inherited) gene variants that cause ovarian cancer. Recommended for everyone diagnosed with ovarian cancer.

germline mutation

A gene change that is passed from a parent to their biological child(ren).

gynecologic oncologist

A surgeon who is an expert in cancers that start in the female reproductive organs. They can also give chemotherapy. A gynecologic oncologist should perform ovarian cancer surgery.

hereditary ovarian cancer

Ovarian cancer caused by germline (inherited) gene variants passed down from parent to child.

homologous recombination deficiency (HRD)

A feature of some ovarian cancers that may help guide treatment. *BRCA* mutations are one form of HRD. You can also be HRD positive without a *BRCA* mutation.

hyperthermic intraperitoneal chemotherapy (HIPEC)

A cancer treatment that involves filling the abdominal cavity with warmed chemotherapy drugs.

hysterectomy

Surgery to remove the uterus.

implant

Cancer cells that broke away from the first tumor and formed new tumors on the surface of nearby organs and tissues.

intraperitoneal (IP) chemotherapy

Chemotherapy drugs given directly into the belly (abdomen) through a small tube.

less common ovarian cancers (LCOC)

Rare types of ovarian cancer including carcinosarcoma, clear cell carcinoma, mucinous neoplasms, grade 1 endometrioid, low-grade serous, borderline epithelial, malignant sex-cord stromal, and malignant germ cell tumors.

low malignant potential (LMP) tumor

A less common ovarian cancer that is slow growing and doesn't invade other tissue. Also called a borderline epithelial tumor.

lymph nodes

Small groups of special disease-fighting cells located throughout the body.

Lynch syndrome

Abnormal changes within genes that increase the chances of developing colon, rectal, endometrial, ovarian, and other cancers.

maintenance therapy

Treatment given to continue (maintain) good results of prior treatment.

medical oncologist

A doctor who is an expert in treating cancer with drugs such as chemotherapy.

metastasis

The spread of cancer cells from the first tumor to another body part.

microscopic metastases

Cancer cells that have spread from the first tumor to another body part and are too small to be seen with the naked eye.

mucinous carcinoma of the ovary

One of 4 types of epithelial cancer. A less common ovarian cancer.

neoadjuvant chemotherapy

Chemotherapy given before surgery.

omentum

The layer of fatty tissue that covers organs in the belly (abdomen).

ovary

One of a pair of organs that make hormones and eggs for reproduction.

pathologist

A doctor who is an expert in testing cells and tissue to find disease.

peripheral neuropathy

A nerve problem that causes pain, tingling, and numbness in the hands and feet.

peritoneum

The layer of tissue that lines the inside of the belly (abdomen) and pelvis and covers most of the organs inside.

platinum-based chemotherapy

Treatment with two or more chemotherapy drugs and the main drug is made with

platinum. Such drugs include cisplatin and carboplatin.

platinum-resistant

When cancer drugs made with platinum, such as cisplatin and carboplatin, do not work well against the cancer.

platinum-sensitive

When cancer drugs made with platinum, such as cisplatin and carboplatin, work well against the cancer.

PARP inhibitor

A type of oral targeted therapy used for maintenance therapy in some ovarian cancers.

relapse

The return of cancer after treatment. Also called a recurrence.

serous

A type of epithelial ovarian cancer. Grade 2 and 3 (high-grade) serous tumors are the most common ovarian cancers. Grade 1 (low-grade) serous tumors are less common ovarian cancers.

somatic mutation

A non-hereditary change found in a cancer. Also called tumor or acquired mutation.

supportive care

Treatment given to relieve the symptoms of a disease. Also called palliative care.

surgical menopause

The onset of menopause caused by surgery. Results from a sudden drop in estrogen in the body.

surgical stage

The extent of the cancer, as determined by surgery. Also called the pathologic stage.

targeted therapy

Treatment with drugs that target a specific or unique feature of cancer cells.

taxane

A type of chemotherapy drug. Often given with a platinum chemotherapy drug to treat ovarian cancer.

tumor marker

A substance found in body tissue or fluid that may be a sign of cancer. CA-125 is an ovarian cancer tumor marker.

NCCN Contributors

This patient guide is based on the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Epithelial Ovarian Cancer/Fallopian Tube Cancer/Primary Peritoneal Cancer, Version 3.2025 — July 16, 2025. It was adapted, reviewed, and published with help from the following people:

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NCCN Cancer Centers

Abramson Cancer Center
at the University of Pennsylvania
Philadelphia, Pennsylvania
800.789.7366 • pennmedicine.org/cancer

Case Comprehensive Cancer Center/
University Hospitals Seidman Cancer Center and
Cleveland Clinic Taussig Cancer Institute
Cleveland, Ohio
UH Seidman Cancer Center
800.641.2422 • uhhospitals.org/services/cancer-services
CC Taussig Cancer Institute
866.223.8100 • my.clevelandclinic.org/departments/cancer
Case CCC
216.844.8797 • case.edu/cancer

City of Hope National Medical Center
Duarte, California
800.826.4673 • cityofhope.org

Dana-Farber/Brigham and Women's Cancer Center |
Mass General Cancer Center
Boston, Massachusetts
877.442.3324 • youhaveus.org
617.726.5130 • massgeneral.org/cancer-center

Duke Cancer Institute
Durham, North Carolina
888.275.3853 • dukecancerinstitute.org

Fox Chase Cancer Center
Philadelphia, Pennsylvania
888.369.2427 • foxchase.org

Fred & Pamela Buffett Cancer Center
Omaha, Nebraska
402.559.5600 • unmc.edu/cancercenter

Fred Hutchinson Cancer Center
Seattle, Washington
206.667.5000 • fredhutch.org

Huntsman Cancer Institute at the University of Utah
Salt Lake City, Utah
800.824.2073 • healthcare.utah.edu/huntsmancancerinstitute

Indiana University Melvin and Bren Simon
Comprehensive Cancer Center
Indianapolis, Indiana
888.600.4822 • www.cancer.iu.edu

Johns Hopkins Kimmel Cancer Center
Baltimore, Maryland
410.955.8964
[www.hopkinskimmelcancercenter.org](http://hopkinskimmelcancercenter.org)

Mayo Clinic Comprehensive Cancer Center
Phoenix/Scottsdale, Arizona
Jacksonville, Florida
Rochester, Minnesota
480.301.8000 • *Arizona*
904.953.0853 • *Florida*
507.538.3270 • *Minnesota*
mayoclinic.org/cancercenter

Memorial Sloan Kettering Cancer Center
New York, New York
800.525.2225 • mskcc.org

Moffitt Cancer Center
Tampa, Florida
888.663.3488 • moffitt.org

O'Neal Comprehensive Cancer Center at UAB
Birmingham, Alabama
800.822.0933 • uab.edu/onealcancercenter

Robert H. Lurie Comprehensive Cancer Center
of Northwestern University
Chicago, Illinois
866.587.4322 • cancer.northwestern.edu

Roswell Park Comprehensive Cancer Center
Buffalo, New York
877.275.7724 • roswellpark.org

Siteman Cancer Center at Barnes-Jewish Hospital
and Washington University School of Medicine
St. Louis, Missouri
800.600.3606 • siteman.wustl.edu

St. Jude Children's Research Hospital/
The University of Tennessee Health Science Center
Memphis, Tennessee
866.278.5833 • stjude.org
901.448.5500 • uthsc.edu

Stanford Cancer Institute
Stanford, California
877.668.7535 • cancer.stanford.edu

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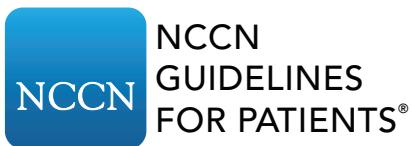
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