

[Ovarian Cancer - Treatment Options](#) [1]

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ON THIS PAGE: You will learn about the different ways doctors use to treat women with this type of cancer. To see other pages, use the menu on the side of your screen.

This section outlines treatments that are the standard of care (the best known treatments available) for this specific type of cancer. When making treatment plan decisions, patients are also encouraged to consider clinical trials as an option. A clinical trial is a research study to test a new approach to treatment to evaluate whether it is safe, effective, and possibly better than the standard treatment. Clinical trials may test such approaches as a new drug, a new combination of standard treatments, or new doses of current therapies. Your doctor can help you review all treatment options. For more information, see the [About Clinical Trials](#) [3] and [Latest Research](#) [4] sections.

Treatment overview

In cancer care, different types of doctors often work together to create a patient's overall treatment plan that combines different types of treatments. This is called a [multidisciplinary team](#) [5]. Cancer care teams also include a variety of other health care professionals, including physician assistants, oncology nurses, social workers, pharmacists, counselors, dietitians, and others.

Ovarian cancer is treated with one or a combination of treatments, most commonly surgery and chemotherapy. Each treatment option is described below, followed by an outline of the treatments based on the stage of the disease. Treatment options and recommendations depend on several factors, including the type and stage of cancer, possible side effects, the patient's preferences and overall health, and personal considerations, such as the woman's age and if she

is planning to have children.

Women with ovarian cancer may have concerns about if or how their treatment may affect their [sexual health and fertility](#) [6], and these topics should be discussed with the health care team before treatment begins.

Take time to learn about your treatment options and be sure to ask questions about things that are unclear. Also, talk about the goals of each treatment with your doctor and what you can expect while receiving the treatment. Learn more about [making treatment decisions](#) [7].

Surgery

Surgery is usually an important treatment for ovarian cancer. A gynecologic oncologist is a doctor that specializes in gynecological cancer surgery, including ovarian cancer and chemotherapy.

As mentioned in [Diagnosis](#) [8], surgery is often needed to find out the complete extent of disease. The goal is to provide an accurate stage, because in up to 30% of women with apparently early disease after imaging tests, there is actually spread to other organs.

To determine whether the cancer has spread, the surgeon will remove lymph nodes, tissue samples, and fluid from the abdomen for testing. If, during the surgery, it is clear that the cancer has spread, the surgeon will remove as much of the cancer as possible. This has been shown to provide the best benefit when combined with chemotherapy after surgery.

There are several surgical options for ovarian cancer, with sometimes two or more procedures done during the same surgery:

- **Salpingo-oophorectomy.** This surgery involves removal of the ovaries and fallopian tubes. If both ovaries and both fallopian tubes are removed, it is called a bilateral salpingo-oophorectomy. If the woman wants to become pregnant in the future and has early-stage cancer, it may be possible to remove only one ovary and one fallopian tube if the cancer is located in only one ovary. That surgery is called a unilateral salpingo-oophorectomy. For women with a [germ cell tumor](#) [9], surgery often only needs to remove only the ovary with the tumor, which preserves the woman's ability to bear children.
- **Hysterectomy.** This surgery focuses on the removal of a woman's uterus and, if necessary, surrounding tissue. If only the uterus is removed, it is called a partial hysterectomy. A total hysterectomy is when a woman's uterus and cervix are removed.
- **Lymph node dissection.** The surgeon may remove lymph nodes in the pelvis and paraortic areas.
- **Omentectomy.** This is surgery to remove the thin tissue that covers the stomach and large intestine.
- **Cytoreductive/debulking surgery.** For women with later-stage ovarian cancer, the goal of this surgery is to remove as much tumor as is safely possible. This may include removing tissue from nearby organs, such as the spleen, gallbladder, stomach, bladder, or

colon. This may involve removing part of all of these organs. It is felt such a procedure can reduce a person's symptoms and can help increase the effectiveness of treatment, such as chemotherapy, given after surgery to control the disease that remains. If the disease has spread beyond the ovaries, sometimes chemotherapy is done to shrink the tumor before cytoreductive/debulking surgery. This is called neoadjuvant chemotherapy.

Debulking surgery should be performed by an experienced gynecologic oncologist. Talk with your doctor before surgery about the risks and benefits of this procedure and ask about the surgeon's experience with debulking surgery for ovarian cancer.

Side effects of ovarian cancer surgery

Surgery causes short-term pain and tenderness. If a patient is experiencing pain, the doctor will prescribe an appropriate medication. For several days after the operation, the patient may have difficulty emptying her bladder (urinating) and having bowel movements. Talk with your surgeon about what side effects to expect from your specific surgery and how they can be relieved. Learn more about the basics of [cancer surgery](#) [10].

Studies have shown that women who have their surgeries performed by a gynecologic oncologist are more likely to be successfully treated with surgery and have fewer side effects.

If both ovaries are removed, a woman can no longer become pregnant. The loss of both ovaries also eliminates the body's source of sex hormones, resulting in premature menopause. Soon after surgery, the patient is likely to have menopausal symptoms, including hot flashes and vaginal dryness. Women are encouraged to talk with their doctors about [sexual and reproductive health concerns](#) [6] and [coping with gynecologic surgery](#) [11], including ways to address these concerns before and after cancer treatment

Chemotherapy

Chemotherapy is the use of drugs to destroy cancer cells, usually by stopping the cancer cells' ability to grow and divide. Chemotherapy is given by a gynecological oncologist or a medical oncologist.

Systemic chemotherapy gets into the bloodstream to reach cancer cells throughout the body. A chemotherapy regimen (schedule) usually consists of a specific number of cycles given over a set period of time. A patient may receive one drug at a time or combinations of different drugs at the same time.

Most of the treatment options described in this guide apply to this epithelial ovarian cancer. For ovarian cancer, chemotherapy type depends on the treatment setting:

- **Neoadjuvant chemotherapy.** This is done to reduce the size of the tumor before surgery. It will usually follow a biopsy so the doctors can determine where the tumor began. This type of chemotherapy is usually given for three to four cycles before

considering surgery, called interval surgery. This treatment typically consists of carboplatin (Paraplatin) chemotherapy given with paclitaxel (Taxol) or docetaxel (Taxotere, Docefrez) intravenously, which is through the vein. Typically, the treatment cycle is to give these drugs every 3 weeks. Some recent studies suggest a weekly schedule for the paclitaxel. Talk with your doctor about which scheduling option is best for your situation.

- **Adjuvant chemotherapy.** This is done to destroy cancer remaining after surgery. Similar to neoadjuvant chemotherapy, this treatment typically consists of carboplatin (Paraplatin) given with paclitaxel (Taxol) or docetaxel (Taxotere, Docefrez) intravenously, which is through the vein. Typically, doctors recommend giving these drugs every three weeks, though some studies are looking at a weekly dosing schedule for the paclitaxel. Talk with your doctor about which scheduling option is best for your situation.

An alternative way to give adjuvant chemotherapy is to infuse it directly into the abdomen called intraperitoneal or IP chemotherapy. The National Cancer Institute has recommended this approach be considered for stage III disease after a successful surgical debulking procedure. In the IP approach, carboplatin is replaced with cisplatin (Platinol) which is infused directly into the abdomen which has more side effects. In previous studies, IP treatment was more effective when compared to intravenous treatment on the every three week schedule. With this approach, a variety of factors such as age, kidney function, and other existing health problems must be considered. This is something that should be discussed with your doctor.

In addition, studies are underway to see if giving the paclitaxel intravenously on a weekly schedule, and/or adding other newer agents such as PARP inhibitors should be used. Several studies have evaluated whether adding bevacizumab (Avastin) to standard chemotherapy following initial surgery is helpful. In general, bevacizumab used for ovarian cancer has prolonged the time before the cancer may return in some patients. Based on these findings, bevacizumab does not currently have U.S. Food and Drug Administration (FDA) approval for use in the initial treatment of ovarian cancer. For more information about bevacizumab and the FDA approval for ovarian cancer, see [Latest Research](#) [4].

- **Maintenance chemotherapy.** This is done to slow a tumor's growth and/or reduce the risk of its recurrence. There are currently no FDA approved treatments specifically for maintenance chemotherapy for people with ovarian cancer in the United States.
- **Recurrence chemotherapy.** This is done to treat the cancer if it comes back, called a recurrence. A primary goal of the treatment of recurrent disease is to reduce or prevent symptoms of the disease while keeping the side effects of treatment to a minimum. Treatment for women with recurrent disease is generally organized by the time since her last treatment using a platinum chemotherapy drug. Platinum chemotherapy drugs include carboplatin or cisplatin. Studies are being done to see if surgery is an option for recurrent disease.
- **Platinum resistant disease:** If the cancer has returned in less than six months since using platinum chemotherapy, it is called "platinum resistant." In general, the choice of chemotherapy at this point is selected from a variety of medications that have all shown similar ability to shrink cancer but are chosen based on possible side effects and a desired

schedule of dosing. These agents may include, but are not limited to: paclitaxel, docetaxel, nab-paclitaxel (Abraxane), liposomal doxorubicin, topotecan (Hycamtin), gemcitabine, vinorelbine (Navelbine), pemetrexed (Alimta), irinotecan (Camptosar), oral etoposide (Toposar, VePesid) or oral altretamine (Hexalen). For platinum resistant cancer, single and sequential use of these medications is recommended.

Recently, the FDA approved the use of bevacizumab with paclitaxel, liposomal doxorubicin, or topotecan for platinum resistant cancer. Best candidates for this approach are those who have received two or less treatments, have not previously received bevacizumab, and do not have evidence of significant bowel involvement by a CT scan. By adding bevacizumab to the chemotherapy, the time to disease recurrence was lengthened when compared to those patients receiving chemotherapy alone. The risks and possible benefits of this approach should be discussed with your doctor. Clinical trials are always reasonable to consider if available.

- Platinum sensitive disease: If the cancer has returned more than six months since platinum chemotherapy, it is called “platinum sensitive.” If it returns to one specific spot, additional surgery may be beneficial and this can be discussed with your doctor. (Surgery is usually only considered if the time period between chemotherapy has been at least 12 months.) If the cancer comes back to more than one place in the body, chemotherapy is the appropriate next step. For patients with platinum sensitive disease, clinical trials have suggested the benefit of using carboplatin again intravenously and combining it with paclitaxel, gemcitabine (Gemzar) or liposomal doxorubicin (Doxil). The advantage of the latter two agents is they can be given without causing hair loss or aggravating neuropathy symptoms.

In addition, a clinical trial evaluated adding bevacizumab, which is an anti-vascular or “blood vessel growth blocking” antibody, to the gemcitabine and carboplatin combination. This showed to extend the time before the disease came back but did not change overall survival outcome. The risks and possible benefits of this approach should be discussed with your doctor.

For germ cell tumors, treatment initially includes surgery, which can be done in a way to preserve fertility in some cases. Chemotherapy following surgery is generally recommended with the exception of stage IA dysgerminoma or stage I, grade 1 immature teratoma. Chemotherapy usually consists of a combination of intravenous (IV) bleomycin (Blenoxane), etoposide (Toposar, VePesid) and cisplatin (Platinol). The overall approach and medications given are similar to those used in male germ cell, which is a type of testicular cancer.

To learn more about this type of cancer, find more information the Cancer.Net guides to [testicular cancer](#) [12] and [childhood germ cell tumors](#) [9].

Stromal tumors are considered a rare form of ovarian cancer and are found in the connective

tissue that holds the ovaries together. For a stage I stromal tumor, treatment usually consists of surgery only. For high-risk, early stage tumors or stage III/IV disease, combination chemotherapy is often considered. The risks and potential benefits should be discussed with your doctor. For information about staging, visit the [staging section](#) [13] of this guide.

Chemotherapy for a stromal tumor usually involves the combination of bleomycin (Blenoxane), etoposide (Toposar, VePesid) and cisplatin (Platinol). It can be often used after surgery or for recurrent tumors. Clinical trials are looking at chemotherapy with carboplatin (Paraplatin) and paclitaxel (Taxol) as another alternative. For recurrent disease, the hormonal therapy leuprolide (Eligard, Lupron, Viadur) is also used. Clinical trials are evaluating the effectiveness of bevacizumab (Avastin), which is an anti-vascular antibody to block the growth of blood vessels. Studies are being done to test tumors molecularly to find other, more targeted drugs for this type of cancer.

For any type of ovarian cancer, the side effects of chemotherapy depend on the individual and the dose used, but they can include fatigue, risk of infection, nausea and vomiting, hair loss, loss of appetite, neuropathy (tingling and numbness in the hands and feet), constipation or diarrhea. These side effects usually go away once treatment is finished. In addition, possible side effects of chemotherapy include difficulty with cognitive (brain) functions such as issues with attention span or memory, or neuropathy, a disorder where nerves are damaged causing numbness or pain.

Other possible side effects include both the inability to become pregnant and premature menopause. Rarely, certain drugs may cause some hearing loss or kidney damage. Patients may be given extra fluid intravenously for kidney protection. Before treatment begins, patients are encouraged to talk with their health care team about possible short-term and long-term side effects of the specific drugs being given. It is important to note that many side effects can be reduced by adjusting the dose and/or schedule and most chemotherapy side effects are typically managed by your health care team.

Learn more about the basics of [chemotherapy](#) [14] and [preparing for treatment](#) [15]. The medications used to treat cancer are continually being evaluated. Talking with your doctor is often the best way to learn about the medications prescribed for you, their purpose, and their potential side effects or interactions with other medications. Learn more about your prescriptions by using [searchable drug databases](#) [16].

Treatment options by stage

Below are some of the possible treatments based on the stage of the cancer. Your doctor will have the best information about which treatment plan is recommended for you.

Stage I

- Surgery (Stage I, grade 1)
- Surgery and chemotherapy (Stage I, grade 3). Standard adjuvant chemotherapy in this

setting typically includes paclitaxel and carboplatin intravenously for three to six cycles followed by close observation.

Stage II

- Surgery
- Surgery and adjuvant chemotherapy. Standard adjuvant chemotherapy in this setting typically includes paclitaxel and carboplatin intravenously for six cycles followed by close observation.

Stages III and IV

- Surgery and adjuvant chemotherapy (either intravenous or a combination of IV and IP)
- Neoadjuvant chemotherapy followed by interval surgery
- Chemotherapy only (if surgery is not possible)

Radiation therapy

Radiation therapy is not used as a first treatment for ovarian cancer, but less commonly it can be an option for treating recurrent ovarian cancer when confined to a small area.

Radiation therapy is the use of high-energy x-rays or other particles to destroy cancer cells. A doctor who specializes in giving radiation therapy to treat cancer is called a radiation oncologist.

External-beam radiation therapy is radiation given from a machine outside the body. A radiation therapy regimen (schedule) usually consists of a specific number of treatments given over a set period of time.

Side effects from radiation therapy depend on the dose and the area of the body being treated, but may include fatigue, mild skin reactions, upset stomach, and loose bowel movements. Most side effects usually go away soon after treatment is finished.

Learn more about the basics of [radiation therapy](#) [17]. For more information on radiation therapy for gynecologic cancers, see the American Society for Therapeutic Radiology and Oncology's pamphlet, [Radiation Therapy for Gynecologic Cancers](#) [18]. See more about treatment options for recurrent ovarian cancer, below.

Getting care for symptoms and side effects

Cancer and its treatment often cause side effects. In addition to treatment to slow, stop, or eliminate the cancer, an important part of cancer care is relieving a person's symptoms and side effects. This approach is called palliative or supportive care, and it includes supporting the patient with her physical, emotional, and social needs.

Palliative care is any treatment that focuses on reducing symptoms, improving quality of life,

and supporting patients and their families. Any person, regardless of age or type and stage of cancer, may receive palliative care. It works best when palliative care is started as early as needed in the cancer treatment process.

People often receive treatment for the cancer and treatment to ease side effects at the same time. In fact, patients who receive both often have less severe symptoms, better quality of life, and report they are more satisfied with treatment.

Palliative treatments vary widely and often include medication, nutritional changes, relaxation techniques, emotional support, and other therapies. You may also receive palliative treatments similar to those meant to eliminate the cancer, such as chemotherapy or surgery. Talk with your doctor about the goals of each treatment in your treatment plan.

Before treatment begins, talk with your health care team about the possible side effects of your specific treatment plan and palliative care options. And during and after treatment, be sure to tell your doctor or another health care team member if you are experiencing a problem so it can be addressed as quickly as possible. Learn more about [palliative care](#) [19].

Metastatic ovarian cancer

If ovarian cancer has spread to another location in the body, it is called metastatic cancer. Patients with this diagnosis are encouraged to talk with doctors who are experienced in treating this stage of cancer, because there can be different opinions about the best treatment plan. Learn more about getting a [second opinion](#) [20] before starting treatment so you are comfortable with the treatment plan chosen. This discussion may include [clinical trials](#) [3].

New treatments for ovarian cancer include experimental combinations of chemotherapy, targeted therapy and biologic therapy, often called immunotherapy, which are designed to boost the body's natural defenses to fight the cancer (see [Latest Research](#) [4]). Since the benefits of these options remain unproven, their risks must be weighed against possible improvements in symptoms and survival. Palliative care will also be important to help relieve symptoms and side effects.

For most patients, a diagnosis of metastatic cancer is very stressful and, at times, difficult to bear. Patients and their families are encouraged to talk about the way they are feeling with doctors, nurses, social workers, or other members of the health care team. It may also be helpful to talk with other patients, including through a support group.

Remission and the chance of recurrence

A remission is when cancer cannot be detected in the body and there are no symptoms. This may also be called having “no evidence of disease” or NED.

A remission may be temporary or permanent. This uncertainty causes many people to worry that the cancer will come back. It's important to talk with your doctor about the possibility of the

cancer returning. This is particularly important after treatment for ovarian cancer, as many women experience at least one recurrence. Understanding your risk of recurrence and the treatment options may help you feel more prepared if the cancer does return. Learn more about [coping with the fear of recurrence](#) [21].

If the cancer does return after the original treatment, it is called recurrent cancer. It may come back in the same place (called a local recurrence), nearby (regional recurrence), or in another place (distant recurrence).

When this occurs, a cycle of testing will begin again to learn as much as possible about the recurrence. After testing is done, you and your doctor will talk about your treatment options. Often the treatment plan will include the treatments described above such as surgery and chemotherapy but they may be used in a different combination or given at a different pace. In addition, radiation therapy may be used in some situations. Your doctor may also suggest clinical trials that are studying new ways to treat this type of recurrent cancer. Whichever treatment plan you choose, palliative care will be important for relieving symptoms and side effects

The symptoms of recurrent ovarian cancer are similar to those experienced when the disease was first diagnosed. The four most common symptoms are bloating; pelvic or abdominal pain; difficulty eating or feeling full quickly; and urinary symptoms (urgency or frequency). However, other symptoms may include persistent indigestion, gas, nausea, diarrhea, or constipation; unexplained weight loss or gain, especially in the abdominal area; abnormal bleeding from the vagina; pain during intercourse; fatigue; and lower back pain.

In addition to monitoring symptoms, doctors can also watch for ovarian cancer recurrence by measuring the level of CA-125 in the blood. As outlined in [Diagnosis](#) [8], CA-125 is a cancer antigen, or a substance that is found in higher levels on the surface of ovarian cancer cells. In most (95%) women, a rise in CA-125 indicates a recurrence. However, sometimes a recurrence can happen without an elevation of this marker depending on the tumor type.

People with recurrent cancer often experience emotions such as disbelief or fear. Patients are encouraged to talk with their health care team about these feelings and ask about support services to help them cope. Learn more about [dealing with cancer recurrence](#) [22].

If treatment fails

Recovery from ovarian cancer is not always possible. If the cancer cannot be cured or controlled, the disease may be called advanced or terminal.

This diagnosis is stressful, and advanced cancer is difficult to discuss for many people. However, it is important to have open and honest conversations with your doctor and health care team to express your feelings, preferences, and concerns. The health care team is there to help, and many team members have special skills, experience, and knowledge to support patients and their families. Making sure a person is physically comfortable and free from pain is extremely

important.

Patients who have advanced cancer and who are expected to live less than six months may want to consider a type of palliative care called hospice care. Hospice care is designed to provide the best possible quality of life for people who are near the end of life. You and your family are encouraged to think about where you would be most comfortable: at home, in the hospital, or in a hospice environment. Nursing care and special equipment can make staying at home a workable alternative for many families. Learn more about [advanced cancer care planning](#) [23].

After the death of a loved one, many people need support to help them cope with the loss. Learn more about [grief and loss](#) [24].

The [next section in this guide is About Clinical Trials](#) [3] and it offers more information about research studies that are focused on finding better ways to care for people with cancer. Or, use the menu on the side of your screen to choose another section to continue reading this guide.

Links

- [1] <http://www.cancer.net/cancer-types/ovarian-cancer/treatment-options>
- [2] <http://www.cancer.net/about-us>
- [3] <http://www.cancer.net/node/19489>
- [4] <http://www.cancer.net/node/19492>
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