CONDITION

Ovarian epithelial cancer

Ovarian epithelial cancer is cancer that begins in cells covering an ovary or nearby tissues.

WHAT IT IS
Cancer arising from ovarian or related surface cells

BODY SYSTEM
Reproductive system

MAIN SYMPTOMS
Bloating, pelvic pain, feeling full quickly, urinary changes

WHAT CAUSES IT
DNA changes, sometimes inherited

HOW IT IS DIAGNOSED
Imaging, surgery or biopsy, and laboratory tissue testing

MAIN TREATMENT
Surgery, chemotherapy, and sometimes targeted medicines

CAN IT BE CURED?
Sometimes - early-stage cancer may be cured

IS IT AN EMERGENCY?
Sometimes - with bowel blockage or breathing difficulty

LONG-TERM OUTLOOK
Best when found early; advanced cancer often returns

Overview

Ovarian epithelial cancer starts in epithelial cells. These cells cover body surfaces and line organs. Most cancers described as "ovarian cancer" are epithelial cancers.

Several subtypes exist. High-grade serous carcinoma is the most common. Many cancers in this group are now thought to begin in the fallopian tubes before involving an ovary. Primary peritoneal cancer begins in the lining of the abdomen. These conditions are closely related and are usually assessed and treated in similar ways.

Ovarian epithelial cancer matters because early symptoms can be mild or mistaken for digestive or bladder problems. There is also no reliable routine screening test for people at average risk. As a result, some cancers are found only after they have spread within the abdomen.

The stage describes how far the cancer has spread. Stage I is limited to the ovaries or fallopian tubes. Later stages may involve nearby pelvic tissues, the abdominal lining, lymph nodes, or organs outside the abdomen. Stage, subtype, tumour genetics, general health, and response to treatment all help shape the outlook.

Symptoms

Symptoms are often caused by pressure, fluid, or changes in how the abdominal organs work. They may occur with many non-cancerous conditions. Having one does not mean that you have cancer.

Possible symptoms include:

The pattern is important. Symptoms that are new, happen often, or continue for several weeks deserve medical assessment. Bloating that comes and goes with meals is common and usually has another cause, but persistent abdominal enlargement should not be ignored.

Advanced cancer can cause ascites, meaning a build-up of fluid in the abdomen. This may lead to a swollen abdomen, discomfort, poor appetite, or shortness of breath.

- Persistent bloating or an increase in abdominal size
- Pelvic, abdominal, or lower back pain
- Feeling full sooner than usual or having less appetite
- Needing to urinate more often or more urgently
- Constipation, diarrhoea, or other lasting bowel changes
- Unexplained tiredness or weight loss
- Pain during sex
- Bleeding from the vagina after menopause or unusual bleeding before menopause

Causes and risk factors

Ovarian epithelial cancer develops when DNA changes allow cells to grow and survive when they should not. The exact reason these changes occur is often unknown.

Risk generally rises with age, and most cases occur after menopause. A personal or family history of ovarian, fallopian tube, breast, pancreatic, prostate, or certain bowel cancers can suggest an inherited cancer risk.

Inherited changes in BRCA1 or BRCA2 increase the risk of ovarian epithelial cancer. Lynch syndrome, another inherited condition, can also increase risk. Not everyone with an inherited change develops cancer, and many people diagnosed with ovarian cancer have no known family history.

Other factors associated with risk include endometriosis, never having been pregnant, and some types of menopausal hormone therapy. These are risk associations, not direct causes. A person may have several risk factors and never develop cancer, or develop it without any recognised risk factor.

Because inherited changes can affect treatment and relatives, genetic counselling and testing are commonly offered after a diagnosis of epithelial ovarian cancer. Testing may examine an inherited blood or saliva sample, the tumour itself, or both.

Diagnosis

There is no single symptom or blood test that confirms ovarian epithelial cancer. Assessment usually starts with a discussion of symptoms, medical history, and family history. A clinician may examine the abdomen and pelvis.

A pelvic ultrasound is often the first imaging test. It can show the ovaries, identify a mass, and assess whether it has features that need further investigation. A CT scan may then show whether there are changes elsewhere in the abdomen, pelvis, or chest.

CA-125 is a protein measured in blood. It can be raised in ovarian cancer, but it may also rise with non-cancerous conditions such as endometriosis, fibroids, menstruation, infection, or liver problems. Some ovarian cancers do not raise CA-125. The test therefore cannot confirm or rule out cancer by itself.

A definite diagnosis requires cells or tissue to be examined by a pathologist, a doctor who studies samples under a microscope. Tissue may be obtained during surgery or through an image-guided biopsy. In some circumstances, fluid from the abdomen or chest may also be tested.

Laboratory testing identifies the cancer subtype and grade. The grade describes how abnormal the cells look and gives information about how they may behave. Molecular tests may look for BRCA changes or problems with DNA repair, which can help guide treatment.

Treatment and management

Treatment is planned around the stage, cancer subtype, genetic findings, symptoms, previous

treatment, and your overall health. Care is usually coordinated by a gynaecological cancer team.

Surgery aims to remove the visible cancer and establish its stage. It may involve removing both ovaries and fallopian tubes, the uterus, the omentum-a fatty layer inside the abdomen-and other affected tissue. The exact operation is based on where the cancer is found.

For some carefully selected people with very early cancer, surgery may preserve the uterus and one ovary. This can leave open the possibility of pregnancy, but it is not appropriate for every subtype or stage.

Most people need chemotherapy. Platinum-based chemotherapy is commonly combined with another chemotherapy medicine. It may be given after surgery or before and after surgery. Chemotherapy before surgery may be used when shrinking the cancer could make an operation safer or more effective.

Targeted medicines act on particular features that cancer cells use to survive. Options can include medicines that affect blood-vessel growth or PARP inhibitors, which interfere with DNA repair. Some are used as maintenance treatment after chemotherapy to delay the cancer's return. Whether they are suitable depends on the cancer's genetics, treatment response, previous therapy, and the medicine's risks.

Radiotherapy is not a routine main treatment for ovarian epithelial cancer, but it may occasionally be used to control a specific area causing symptoms.

Supportive care is part of treatment at every stage. It may address pain, nausea, fatigue, poor appetite, fluid build-up, bowel symptoms, menopause, emotional health, sexual wellbeing, and fertility concerns. Palliative care means specialist relief of symptoms and stress; it can be provided alongside cancer treatment and is not limited to end-of-life care.

Complications

The cancer can spread across the lining of the abdomen and affect the bowel, bladder, liver surface, diaphragm, lymph nodes, or chest. Possible complications include:

Treatment can also have lasting effects. Surgery that removes both ovaries causes infertility and, before natural menopause, an immediate menopause. Chemotherapy may cause tiredness, nausea, infection risk, anaemia, hair loss, or numbness and tingling from nerve damage. Targeted medicines have their own possible effects and require monitoring.

Not everyone develops these complications. Your team should explain which effects are relevant to the treatment you receive.

- Ascites, causing abdominal swelling and discomfort
- Pleural effusion, a build-up of fluid around a lung
- Bowel obstruction, meaning food and fluid cannot pass normally
- Blood clots in the legs or lungs
- Poor nutrition from nausea, early fullness, or bowel problems
- Blockage of urine flow from pressure on the urinary system

Prevention

Most ovarian epithelial cancers cannot be reliably prevented. There is no recommended routine screening test that has been shown to reduce deaths among people at average risk. A normal ultrasound or CA-125 result cannot guarantee that cancer is absent.

If your family history suggests an inherited risk, genetic counselling can help clarify whether testing is appropriate. People with certain high-risk inherited changes may be offered surgery to remove both fallopian tubes and ovaries after completing their family. This can greatly lower risk, although it cannot remove all risk of related peritoneal cancer.

Removing the fallopian tubes during another planned pelvic operation may reduce future risk for some people. This is called opportunistic salpingectomy. It requires an individual discussion because it is still surgery and does not remove every possibility of ovarian cancer.

Pregnancy, breastfeeding, and previous use of combined oral contraceptives are associated with lower risk, but hormonal contraception has benefits and risks. It should not be started solely for cancer prevention without discussing whether it is otherwise suitable for you.

Living with it and what to expect

Treatment and recovery often extend over several months. Surgery may be followed by chemotherapy, with regular blood tests and appointments. Energy, appetite, bowel function, and concentration can take time to recover. Some effects, such as nerve symptoms or surgical menopause, may last longer.

After initial treatment, follow-up usually focuses on your symptoms, recovery, examination findings, and any concerns about recurrence. CA-125 and scans may be used in some situations, but follow-up plans are not identical for everyone.

Some early-stage cancers are cured with treatment. Advanced ovarian epithelial cancer can

respond very well at first, but it often returns. If it returns, further treatment may control it for periods of time. Choices are influenced by where it has returned, symptoms, previous medicines, tumour genetics, and how long the earlier response lasted.

Many people continue work, family life, exercise, travel, and valued activities during or after treatment, although adjustments may be needed. Fatigue can fluctuate rather than improve in a straight line. Rehabilitation, nutrition advice, menopause care, psychological support, and practical help can make daily life more manageable.

Routine follow-up is the right place to discuss persistent treatment effects, new but stable symptoms, fertility, sexual health, sleep, mood, work, or financial concerns. You do not need to wait until symptoms become severe.

When to get medical help

Arrange a routine medical appointment if you develop frequent or persistent bloating, pelvic or abdominal pain, early fullness, urinary changes, or unexplained weight loss. These symptoms commonly have other causes, but they should be assessed when they are new or do not settle.

If you have been treated for ovarian epithelial cancer, contact your cancer team about new persistent symptoms, increasing abdominal swelling, worsening pain, repeated vomiting, or treatment side effects that are difficult to manage.

Seek urgent medical help for:

Call emergency services for sudden shortness of breath, chest pain, coughing up blood, fainting, severe uncontrolled bleeding, or severe abdominal pain with collapse. These symptoms can signal a blood clot, major infection, bowel complication, or another emergency.

- Fever or feeling acutely unwell during chemotherapy
- Repeated vomiting or inability to keep fluids down
- Increasing abdominal pain with swelling and no stool or wind
- New one-sided leg swelling, redness, or pain
- Sudden worsening after an operation, including wound redness or discharge

Common questions

Is ovarian epithelial cancer the same as ovarian cancer?

It is the most common category of ovarian cancer. Other, less common ovarian cancers begin

in egg-producing cells or hormone-producing support tissues. Fallopian tube and primary peritoneal cancers are often grouped with epithelial ovarian cancer because they behave and respond to treatment in similar ways.

Can a CA-125 blood test tell me if I have ovarian cancer?

No. CA-125 may support an assessment, but it cannot diagnose cancer on its own. It can be raised for many non-cancerous reasons, and some ovarian cancers produce little or no CA-125. Diagnosis requires examination of cells or tissue.

Can ovarian epithelial cancer be cured?

Sometimes. Cure is more likely when cancer is found at an early stage and can be removed completely. Advanced cancer may also respond strongly to treatment, but it has a higher chance of returning. Your stage, subtype, surgical results, and treatment response provide more useful information than general statistics alone.

Is ovarian cancer always inherited?

No. Most diagnoses are not explained by a known inherited change. However, inherited BRCA1, BRCA2, Lynch syndrome, and other gene changes are important in some cases. Testing can affect treatment and may provide useful information for blood relatives.

Can I still have children after treatment?

Treatment often includes removal of both ovaries and the uterus, which prevents pregnancy. Fertility-preserving surgery may be possible for a small group with selected early-stage cancers. If future pregnancy matters to you, ask about fertility options before treatment when time and medical circumstances allow.

Why is ovarian cancer often found late?

Early symptoms can be vague, and the ovaries are deep within the pelvis. There is also no effective routine screening programme for people at average risk. This does not mean symptoms should be dismissed; persistent changes still deserve assessment.

Sources

- National Cancer Institute. Ovarian Epithelial, Fallopian Tube, and Primary Peritoneal Cancer Treatment (PDQ®)-Patient Version
- National Institute for Health and Care Excellence. Ovarian cancer: recognition and initial management, Clinical Guideline CG122



- National Institute for Health and Care Excellence. Ovarian cancer: identifying and managing familial and genetic risk, Guideline NG241
- González-Martín A, Harter P, Leary A, et al. Newly diagnosed and relapsed epithelial ovarian cancer: ESMO Clinical Practice Guideline. Annals of Oncology . 2023;34(10):833-848
- Konstantinopoulos PA, Norquist B, Lacchetti C, et al. Germline and Somatic Tumor Testing in Epithelial Ovarian Cancer: ASCO Guideline. Journal of Clinical Oncology . 2020;38(11):1222-1245
- American College of Obstetricians and Gynecologists. Opportunistic Salpingectomy as a Strategy for Epithelial Ovarian Cancer Prevention. Committee Opinion No. 774