Ovarian Cancer

What Is Ovarian Cancer?
Ovarian cancer begins in the ovaries. Women have two ovaries, one on each side of the uterus in the pelvis. The ovaries produce eggs (called ova). They are also the main source of a woman’s female hormones, oestrogen and progesterone. The eggs travel through the fallopian tubes to the uterus.

The ovaries contain 3 kinds of tissue:
Epithelial cells: These cells cover the ovary. Most ovarian cancers start in this covering.
Germ cells: These cells make eggs (ova) inside of the ovary.
Stromal cells: These cells make most of the female hormones (oestrogen and progesterone).

Types of ovarian tumors
Many types of tumors can start in the ovaries. Some are benign (non-cancerous) and never spread beyond the ovary. Women with these types of tumors can be treated by removing either the ovary or the part of the ovary that has the tumor. Other types of tumors are cancerous (malignant) and can spread to other parts of the body, their treatment is more complicated.

Generally tumors in the ovary are named for the kinds of cells the tumor started from and whether the tumor is benign or cancerous. There are 3 main types of tumors:
Germ cell tumors: These start from the cells that produce the eggs.
Stromal tumors: These start from cells that hold the ovary together and make the female hormones.
Epithelial tumors: These tumors start from the cells that cover the outer surface of the ovary. Most ovarian tumors are epithelial cell tumors.
Cancer cells of this type have certain features that can be seen under a microscope and which allow doctors to further classify them. These tumors are also given a grade depending on how much the cells look like normal cells. Grade 1 means the cells look more normal; grade 3 look less normal, and grade 2 is in between. Usually the higher the grade the worse the outlook.

Fallopian tube cancer
This is a very rare cancer. It begins in the tube that carries an egg from the ovary to the uterus (the fallopian tube). Fallopian tube cancer causes symptoms much like those seen in women with ovarian cancer. The treatment and outlook for survival (prognosis) is similar to that for ovarian cancer.

Germ cell tumors
Most germ cell tumors are not cancer, although some can be.

Stromal tumors
Stromal tumors can be either benign (not cancer) or cancerous. More than half are found in women over age 50. Some of these tumors make hormones. There are many different types of stromal tumors.

Ovarian cysts
An ovarian cyst is fluid that collects inside an ovary. Many of these cysts are harmless. The fluid will most often be absorbed and the cyst will go away in time without any treatment. But if the cyst is large, does not go away on its own in a few months, or happens in childhood or after menopause, the doctor may suggest further tests or treatment. This is because a very small number of these cysts can be cancerous.
**Risk factors**
A risk factor is something that changes a person's chance of getting a disease. Some risk factors, such as smoking, can be controlled. Others, like a person's age or race, can't be changed. Having a risk factor, or even several risk factors, does not mean that you will get the disease, many people who get the disease may not have had any known risk factors.

**Risk factors for ovarian cancer**
Some of the risk factors for the most common type of ovarian cancer (epithelial ovarian cancer) include:

- **Age**: Most ovarian cancers happen after change of life (menopause). Half of all these cancers are found in women over the age of 63.

- **Obesity**: It appears that obese women have a higher risk of getting ovarian cancer.

- **Having children**: A woman who has had children has a lower risk of ovarian cancer than women who have no children. Using birth control pills ("the pill") also lowers the risk of ovarian cancer.

- **Female surgery**: Having your "tubes tied" (tubal ligation) may reduce the chance of developing ovarian cancer. A hysterectomy (removal of the uterus without removing the ovaries) also seems to reduce the risk of getting ovarian cancer.

- **Oestrogen replacement therapy and hormone replacement therapy**: Some recent studies suggest women using oestrogens after change of life have an increased risk of developing ovarian cancer. The risk seems to be higher in women taking oestrogen alone (without progesterone) for many years (at least 5 or 10). The increased risk is less certain for women taking both oestrogen and progesterone.

- **Family history of ovarian cancer, breast cancer, or colorectal cancer**: Ovarian cancer can run in families. Your ovarian cancer risk is higher if your mother, sister, or daughter has or had ovarian cancer. Increased risk for ovarian cancer does not have to come from your mother's side of the family - it can also come from your father's side. Having a family member with breast cancer can increase your risk of ovarian cancer. And women who have colon cancer in their families may have a higher risk of developing ovarian cancer.

- **Breast cancer**: Women who have had breast cancer also have a higher risk of ovarian cancer.

- **Diet**: A recent study of women who followed a low-fat diet for at least 4 years showed a lower risk of ovarian cancer.

- **Smoking and alcohol use**: Some studies have found an increased risk for one type of ovarian cancer.

**How Is Ovarian Cancer Found?**
Finding the cancer early improves the chances that it can be treated successfully.

**Ways to find ovarian cancer early**
Regular women's health exams: During a pelvic exam the doctor will feel the female organs to check their size and shape. But most ovarian tumors are hard to find early because the ovaries are deep within the body and the doctor cannot feel them easily.

See a doctor if you have symptoms: Early cancers of the ovaries tend to cause vague symptoms such as:

- swelling of the stomach (abdomen) or bloating caused by a build-up of fluid or a tumor
- pelvic pressure or stomach pain
• trouble eating or feeling full quickly
• having to urinate often or feeling like you have to "go" right away

Most of these symptoms can also be caused by other, less serious, problems. Still, dealing with symptoms right away can improve the odds of finding the cancer early and treating it with success. If you have symptoms that you can't explain nearly every day for more than a few weeks, talk to your doctor right away.

Other symptoms of ovarian cancer can include those listed below. However, these symptoms are more likely to be caused by something other than ovarian cancer.

• tiredness
• upset stomach
• back pain
• pain during sex
• constipation
• menstrual changes

If there is any reason to suspect ovarian cancer, the doctor will use one or more methods to find out if the disease is really present. One of the first steps will be a meeting with a doctor who has special training in treating women with this type of cancer (a gynecologic oncologist). Following are some of the tests that could be done:

**Imaging studies**
These tests can show whether there is a mass in the pelvis, but they cannot tell whether it is cancer.
Ultrasound: This test uses sound waves to create a picture on a video screen.
CT scans (computed tomography): These scans use an x-ray beam to take a series of pictures of the body from many angles.
Barium enema x-rays: These can be done to see whether the cancer has spread to the large intestine or rectum.
MRI (magnetic resonance imaging): Like a CT scan, MRIs display a cross-sectional picture of the body.
Chest x-rays: These may be taken to see if the cancer has spread to the lungs.
PET (Positron emission tomography): PET scans use a form of radioactive sugar (glucose) to look for the cancer.

**Other tests**
Laparoscopy: This is method that lets the doctor take pictures of the ovaries and other pelvic organs. A thin, lighted tube is placed through a small cut (incision) into the lower abdomen. This allows the doctor to see the organs in order to figure out if and how far the tumor has spread and then plan surgery or other treatments. Also, doctors can use small instruments to do biopsies.
Colonoscopy: This test is a way to look at the inside of the large intestine (colon). After you have taken laxatives to clean out your bowels, the doctor inserts a tube into the rectum and into the colon.
Biopsy: The only way to tell for certain if a growth in the pelvis is cancer involves removing a sample of tissue or fluid to see if cancer cells are present. The sample is sent to the pathology lab where it is looked at under the microscope.
Blood tests: These tests are done to make sure you have the right number of the different kinds of blood cells. The tests also measure kidney and liver function, and look for a substance called CA-125 which is a protein in the blood that may be higher than normal in some women with ovarian cancer.
If ovarian cancer is detected what is the next step?

**Staging**

Staging is the process of finding out how far the cancer has spread. This is very important because ovarian cancers at different stages are treated differently. Staging is usually done during surgery.

Summary of ovarian cancer stages

- **Stage I:** The cancer is contained within the ovary (or ovaries).
- **Stage II:** Cancer is in one or both ovaries and has spread to other organs in the pelvis such as the bladder, colon, rectum, or uterus.
- **Stage III:** The cancer is in one or both ovaries and has spread to one or both of the following: the lining of the abdomen or the lymph nodes.
- **Stage IV:** This is the most advanced stage. The cancer has spread from one or both ovaries to distant organs, such as the liver or lungs, or there may be cancer cells in the fluid around the lungs.
- **Recurrent:** The cancer has come back (recurred) after treatment.

The above stages can be further divided into sub-groups. Ask your doctor to explain the exact stage of your cancer in terms you can understand.

**How Is Ovarian Cancer Treated?**

After the tests are done, your doctor will suggest one or more choices for treatment. Think about these without feeling rushed. If there is anything you don’t understand, ask to have it explained. The choice of treatment depends largely on the type of cancer and the stage of the disease. If you have not had surgery yet, the exact stage may not be known. In that case, treatment is based on what is known.

Be sure you understand all the risks and side effects of different treatments before you make a decision.

The main treatments for ovarian cancer are surgery, chemotherapy, and radiation therapy. In some cases 2 or even all 3 of these treatments will be used.

**Surgery**

How much and what type of surgery you have depends on how far the cancer has spread, your general health, and whether or not you still hope to have children. Don’t be afraid to ask your doctor to explain your condition and your surgery choices in simple, non-medical terms.

Surgery for ovarian cancer has 2 main goals. The first goal is to stage the cancer - to see how far the cancer has spread from the ovary. Staging is very important because ovarian cancers at different stages are treated differently.

**Debulking**

The other goal of surgery is to remove as much of the tumor as possible - this is called debulking. The aim of this surgery is to leave behind no tumours larger than 1 cm.

**Chemotherapy**

Chemotherapy (often called simply “chemo”) refers to the use of drugs to kill cancer cells. Usually the drugs are given into a vein (IV) or by mouth. Once the drugs enter the bloodstream, they spread throughout the body. This treatment is especially useful when cancer has spread beyond the ovaries.

Chemo is usually given in cycles of treatment followed by a rest period. Chemo is prescribed by an oncologist (cancer doctor).

- While chemo drugs kill cancer cells, they also damage some normal cells, causing side effects. These side effects will depend on the type of drugs given, the amount taken, and how long treatment lasts. Short-term side effects might include the following: nausea and vomiting
- loss of appetite
• hair loss
• hand and foot rashes
• kidney damage
• nerve damage
• mouth sores
• an increased chance of infection (from a shortage of white blood cells)
• bleeding or bruising after minor cuts (from a shortage of platelets)
• tiredness (from low red blood cell counts)

Most side effects go away when treatment ends. Hair will grow back, although it may look different. Some side effects, such as menopause and infertility, can be permanent. Anyone who has problems with side effects should talk with their doctor or nurse as there are often ways to help.

Radiation therapy
Radiation treatment uses high energy x-rays to kill cancer cells and shrink tumors. The radiation may come from outside the body or from radioactive materials placed directly into or near the tumor.
Radiation treatment may cause side effects. The skin in the area treated may look and feel sunburned. The skin returns to normal within 6 to 12 months. Many women also feel tiredness, nausea, or diarrhea. Be sure to talk with the doctor about any side effects. Often there are ways to help.

Some Questions to Ask Your Doctor

As you cope with cancer and cancer treatment, you need to have honest, open discussions with your doctor. You should feel free to ask any question that’s on your mind, no matter how small it might seem. Here are some questions you might want to ask. Be sure to add your own questions as you think of them.
Would you please write down the exact kind of cancer I have?
Has my cancer spread beyond the ovaries?
What are the cell type, grade, and stage of my cancer and what does that mean in my case?
What treatment options are there? What do you recommend? Why?
What is the goal of this treatment?
What are the risks or side effects that I should expect?
Will I be able to have children after my treatment?
Will I lose my hair? If so, what can I do about it?
What are the chances my cancer will come back with the treatment we have discussed?
What should I do to be ready for treatment?
Should I follow a special diet?
What are my chances of survival, based on my cancer as you see it?

Source: American Cancer Society www.cancer.org