Ovarian Cancer

Ovarian cancer involves the ovary, one of a pair of female reproductive organs. It frequently does not cause obvious symptoms so it may not be detected until it is advanced. Symptoms include abdominal or pelvic pressure or pain, swelling or bloating, nausea, persistent fatigue, urinary urgency or frequency, and abnormal vaginal bleeding.

Your doctor will likely perform a pelvic exam to evaluate your condition. If your symptoms suggest ovarian cancer is a possibility, pelvic ultrasound is commonly performed. Additional tests may include pelvic MRI, abdomen/pelvis CT and /or blood tests. If cancer is detected, your doctor may use CT, MRI, or PET scans to determine the extent and size of the tumor and whether or not it has spread. Treatment depends on whether the cancer is confined to the ovary or pelvis, or if it has spread to other parts of the body. Options include surgery and systemic therapies including chemotherapy, immunotherapy and radiation therapy.

What is ovarian cancer?

Ovarian cancer involves the ovary (http://www.radiologyinfo.org) , one of a pair of female reproductive organs located in the pelvis on either side of the uterus (http://www.radiologyinfo.org) . The ovaries are where the ova, or egg cells, form.

Most cases of ovarian cancer occur in women older than age 55. Increasing age and family history of ovarian cancer are the strongest risk factors. Women who have never been pregnant also face an increased risk. Women with a mutation in the genes BRCA 1 or BRCA 2 (http://www.radiologyinfo.org) have an increased risk of ovarian cancer (in addition to their increased risk of breast cancer).

In its early stages, ovarian cancer frequently does not cause obvious symptoms. Therefore, ovarian cancer is frequently not detected until it has developed into an advanced stage. As the cancer grows, symptoms may include:

- pressure or pain in the abdomen or pelvis
- abdominal swelling or bloating
- nausea, indigestion, gas, constipation, or diarrhea
- persistent fatigue
- urinary urgency or frequency
- unusual vaginal bleeding, such as heavy periods or bleeding after menopause

How is ovarian cancer diagnosed and evaluated?

Your primary doctor will begin by asking you about your medical history and symptoms. You will also undergo a physical exam, including a pelvic exam.

If ovarian cancer is a possibility, you may have one or more of the following tests:

- Pelvic ultrasound (https://www.radiologyinfo.org/en/info/pelvus) uses sound waves to produce pictures of the structures and organs in the pelvis and can help identify ovarian or uterine cancers. In transvaginal (http://www.radiologyinfo.org) ultrasound, a probe is inserted into the vagina (http://www.radiologyinfo.org) for a better view of the uterus and ovaries.
- Pelvic MRI (https://www.radiologyinfo.org/en/info/mri-abdomen-pelvis) uses magnets to take detailed images of the ovaries, uterus and other structures and organs in the pelvis. An injection of contrast material (https://www.radiologyinfo.org/en/info/safety-contrast) may also be used to enhance visibility of tissues during the exam.
- Abdominal and pelvic CT (https://www.radiologyinfo.org/en/info/abdominct) uses x-rays to take images of the entire belly cavity. It is used to help detect the cause of abdominal or pelvic symptoms, including ovarian cancer. An injection of contrast material, as well as oral contrast, is commonly used to enhance visibility of tissues during the exam.
- Blood tests, such as CA-125 (http://www.radiologyinfo.org) , may be obtained to measure the level of certain proteins which can be elevated with some types of ovarian cancer.

If cancer has been detected, imaging is often useful to determine the extent of the tumor in the abdomen and if the cancer has spread. The following imaging or invasive tests may be performed to help stage the disease:

- Chest CT (https://www.radiologyinfo.org/en/info/chestct) , Abdominal and Pelvic CT (https://www.radiologyinfo.org/en/info/abdominct) (if not already done previously) take detailed pictures of your pelvis, abdomen, or chest. An injection of contrast material, as well as oral contrast, may be used to enhance the visibility of tissues during the exam. A CT scan with contrast material can detect cancer in the lymph nodes, lungs, bowel (http://www.radiologyinfo.org) and elsewhere.
- PET (https://www.radiologyinfo.org/en/info/pet) scan is a nuclear medicine imaging exam that uses a small amount of radioactive material to help determine the type and extent of disease, including cancer. PET scans can be superimposed with CT (PET/CT) or MRI (PET/MR) to produce special views that can lead to more precise or accurate diagnoses. PET scans may be used to evaluate the response of ovarian cancer to systemic therapy, such as chemotherapy.
- Invasive exploratory laparotomy (http://www.radiologyinfo.org) or Laparoscopy (http://www.radiologyinfo.org) may be performed to evaluate the extent of cancer prior to definitive surgery for planning purposes. Laparotomy requires an incision by a surgeon in the abdominal wall to examine the organs in the abdomen and pelvis. Laparoscopy is performed with the use of a thin, lighted tube called a laparoscope that is inserted through a small incision in the abdomen. A colonoscopy may rarely be performed to evaluate if cancer has spread into the colon

How is ovarian cancer treated?

Treatment is based on whether the cancer is contained in the ovary or if it has spread to nearby tissues or other parts of the abdomen or body. Common treatment options include:

- Oophorectomy (http://www.radiologyinfo.org) , the surgical removal of one or both ovaries. Women who have only one ovary removed may still become pregnant, but pregnancy is no longer possible if both ovaries are removed. If both the ovaries and fallopian tubes are removed, it is called bilateral salpingo-oophorectomy (http://www.radiologyinfo.org) . Oophorectomy can be used in patients with very limited ovarian cancer that involves only one ovary and does not spread outside its capsule. Lymph nodes and other abdominal tissues are evaluated during surgery and biopsied to assure that the tumor is limited to the ovary.
- Hysterectomy (http://www.radiologyinfo.org) (the surgical removal of the uterus and cervix (http://www.radiologyinfo.org)) and removal of other tumor that may have spread outside the ovary, is done in more advanced ovarian cancer. Once the uterus is removed, a woman is no longer able to become pregnant.
- Chemotherapy (http://www.radiologyinfo.org) , or drugs that kill cancer cells, is commonly used in more advanced ovarian cancer after surgery. In patients with ovarian cancer that cannot be removed surgically, chemotherapy is given as initial treatment. Chemotherapy is usually given over time and alternated with periods of no treatment.
- Radiation therapy is rarely used in ovarian cancer, mostly to treat limited areas of tumor involvement in the pelvis and or lymph node regions that cause pain and other symptoms.

Which test, procedure or treatment is best for me?

- *Clinically Suspected Adnexal Mass, No Acute Symptoms (https://www.radiologyinfo.org/en/info/acs-clinically-suspected-adnexal-mass)*
- *Ovarian Cancer Screening (https://www.radiologyinfo.org/en/info/acs-ovarian-cancer-screening)*
- *Staging and Follow-up of Ovarian Cancer (https://www.radiologyinfo.org/en/info/acs-staging-ovarian-cancer)*

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