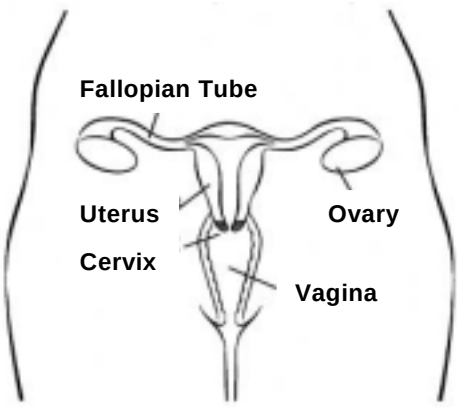
Information Sheet

Cancer Council ACT

Ovarian Cancer

Each year about 1,200 women are diagnosed with ovarian cancer in Australia. Almost 800 women will die from the disease. In the ACT, 19 women are diagnosed with ovarian cancer each year, and 10 will die from the disease.

The Ovaries
The ovaries are two small oval shaped organs about 3cm long and 1cm thick, that are part of the female reproductive system. They are found inside the pelvic cavity, one on each side of the uterus (womb) and very close to the end of the fallopian tubes.



Each ovary has an outer covering made up of a layer of cells called the epithelium. Inside are the germ cells which eventually mature into eggs (ova). A mature egg is released from an ovary each month and passes through one of the two fallopian tubes into the uterus. If it is not fertilised it passes out of the woman's uterus with the monthly period (menstruation).

The ovaries also contain cells (sex-cord stromal cells) that produce female sex hormones called oestrogen and progesterone. As a woman ages, her ovaries produce less and less oestrogen and progesterone and at the same time her production of eggs decreases. This finally results in menopause when a woman ceases menstruation altogether. This usually occurs between the ages of 45 and 55.

What is Ovarian Cancer
Ovarian cancer is a malignant tumour in one or both ovaries. There are four types of ovarian cancer. They are named after the part of the ovary that they originate from.

- **Epithelial Ovarian Cancer**
  This cancer arises in the epithelium, the outer cells covering the ovary. This is the most common type of ovarian cancer with nine out of ten cases being epithelial ovarian cancers.

- **Germ Cell and Sex-Cord Stromal Cell Ovarian Cancers**
  These two types of ovarian cancer are very uncommon. The germ cell cancers arise from the cells that mature into eggs and usually only affect women under the age of thirty. Sex-cord stromal cancers arise in the cells which release female hormones. These cancers can occur at any age.

  Germ cell and sex-cord stromal cell ovarian cancers usually respond very well to treatment and are often curable. If these cancers only affect one ovary, it may still be possible for younger women to have children after treatment.

- **Borderline Tumours**
  Borderline tumours are a group of epithelial tumours that are not as aggressive as other forms of ovarian cancer. The outlook for women with a borderline tumour is good even if it is not diagnosed early.

Cause
The cause of ovarian cancer is unknown however the following factors increase a woman's chance of developing ovarian cancer:

- **Age:** The risk of developing ovarian cancer increases with age, with 90 percent of ovarian cancers diagnosed in women over 45.

- **Not having children:** Women who have had no children appear to be at more risk of ovarian cancer. Women who have taken the contraceptive pill (which contains hormones similar to those associated with pregnancy) for a number of years, appear to have a reduced risk of ovarian cancer. The exact reason is uncertain. It could be that ovarian cancer is more likely to develop when the ovaries do not have a break from ovulation during a woman's lifetime.

- **Family history and genetic predisposition:** 5-10% of ovarian cancers are caused by inheriting a faulty gene. Women with a close relative who has had either breast or ovarian cancer may be at increased risk of ovarian cancer. However, most women who develop ovarian cancer do not have a family history of the disease.

Many women who have these risk factors do not develop ovarian cancer. It is also important to note that many women who do develop ovarian cancer do not have the above risk factors.

Symptoms
It is quite common for a woman to have no symptoms at all. Early symptoms of ovarian cancer are often very vague. They may include any of the following:

- Abdominal bloating or a feeling of fullness
- Loss of appetite
- Unexplained weight gain or weight loss
- Changes in bowel habits such as constipation or diarrhoea and/or nausea
- Heartburn
- Pelvic or back pain
- Frequent urination
- Persistent abdominal pain
- Unexplained tiredness
- Changes in the menstrual pattern or postmenopausal bleeding
- Painful intercourse or vaginal bleeding after intercourse

These symptoms are common to many illnesses, and most women with these symptoms will not have ovarian cancer. Only tests can confirm the diagnosis.

The Pap test does not detect ovarian cancer.

Diagnosis
If a woman has symptoms or ovarian cancer is suspected, tests will be performed to enable doctors to make a diagnosis.

Physical examination - The doctor will check for any masses or lumps by feeling the abdomen and doing an internal examination.

Blood tests - Blood can be tested for tumour markers (for example, CA 125). These are proteins found in the blood that can be produced by ovarian cancer cells so are often higher than normal in women with ovarian cancer. Testing blood for these tumour markers is one way to help confirm a diagnosis of cancer in a woman with symptoms of ovarian cancer. These tests can be used later to check on progress. Other blood tests may be done to help with diagnosis and check the effects of treatment.

X-rays and ultrasounds - Routine chest and abdominal x-rays may be taken. An ultrasound uses soundwaves to make up a picture of the inside of the abdomen and pelvic area. This test is used to reveal any lumps. An ultrasound can be done in two ways:

- Abdominal ultrasound: a hand-held device called a transducer is passed over the pelvic area. The echoes from the soundwaves are turned into a picture by a computer.
- Transvaginal ultrasound: the transducer is inserted into the vagina to show up the ovaries, which sometimes cannot be seen by the abdominal ultrasound. Some women find the procedure a little embarrassing and uncomfortable, although it is not painful.

A bowel x-ray or colonoscopy may also be used to make sure the symptoms are not caused by a bowel problem.

Biopsy - None of the tests above can definitely diagnose ovarian cancer. The only way this can be done is to examine a piece of tissue under the microscope. This is called a biopsy and is usually taken during an operation called a laparotomy. A biopsy also helps determine the type of ovarian cancer. This means that ovarian cancer is usually diagnosed and treated at the same time.

Treatment
The type of treatment depends on the stage of ovarian cancer but most women will have surgery as the first line of treatment, followed by chemotherapy and in some circumstances radiation therapy is used.

Surgery is used to determine the extent of disease and if localised is the main treatment. If the ovarian cancer has spread, an attempt is made to remove as much as possible.

Chemotherapy uses drugs to kill or slow the growth of cancer cells. It is used after surgery to try to eliminate any remaining disease and can be injected into the bloodstream through the vein or instilled into the abdominal cavity or both. With widespread disease, chemotherapy may be used before surgery.

Radiotherapy uses x-rays to kill cancer cells or injure them so they cannot multiply. It is occasionally used to treat ovarian cancer, especially if the cancer is confined to the pelvic cavity.

Early Detection
At the moment there is no test to check healthy women for early signs of ovarian cancer, and many ovarian cancers are not found until they have spread and are more difficult to treat. Much research is being done around the world on ways to find ovarian cancer early.

There is a blood test that measures the level of a particular protein in the blood, called CA-125. The level may be higher in women with ovarian cancer, however it may also be higher in women who have common gynaecological conditions such as endometriosis or fibroids. A CA-125 test on its own does not diagnose ovarian cancer.

Women should be aware of the symptoms of ovarian cancer and visit their doctor if they notice any persistent or unusual changes or if they have any concerns about ovarian cancer.

For more information call the Cancer Council Helpline on 13 11 20.

This information sheet contains general information, for specific information regarding your cancer diagnosis or treatment, it is always best to talk to your doctor or health care team.

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