

Ovarian Cancer

J A S C A P

**JEET ASSOCIATION FOR SUPPORT TO CANCER PATIENTS
MUMBAI, INDIA**

JASCAP

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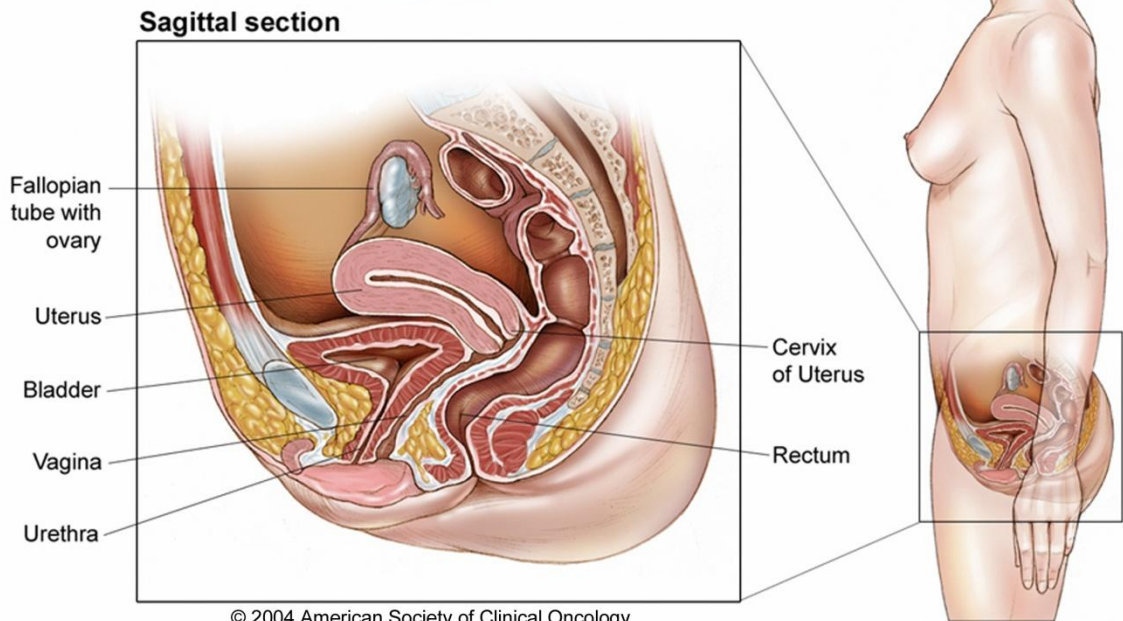
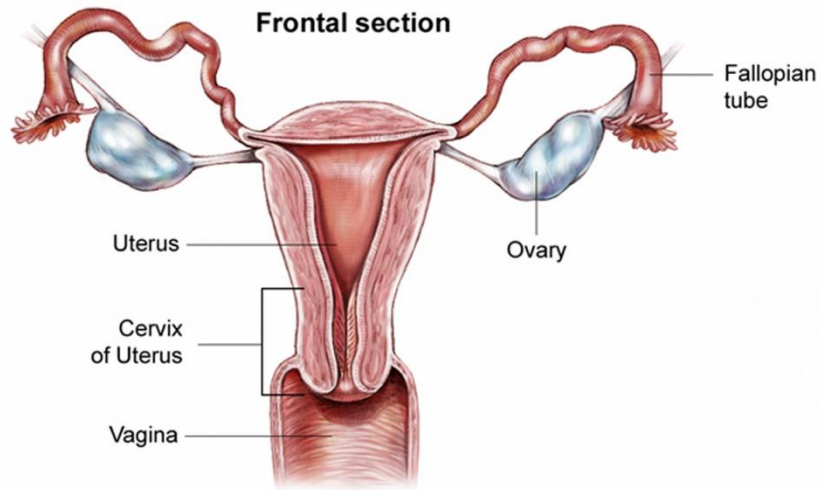
JASCAP is a charitable trust that provides information on various aspects of cancer. This can help the patient and his family to understand the disease and its treatment and thus cope with it better.

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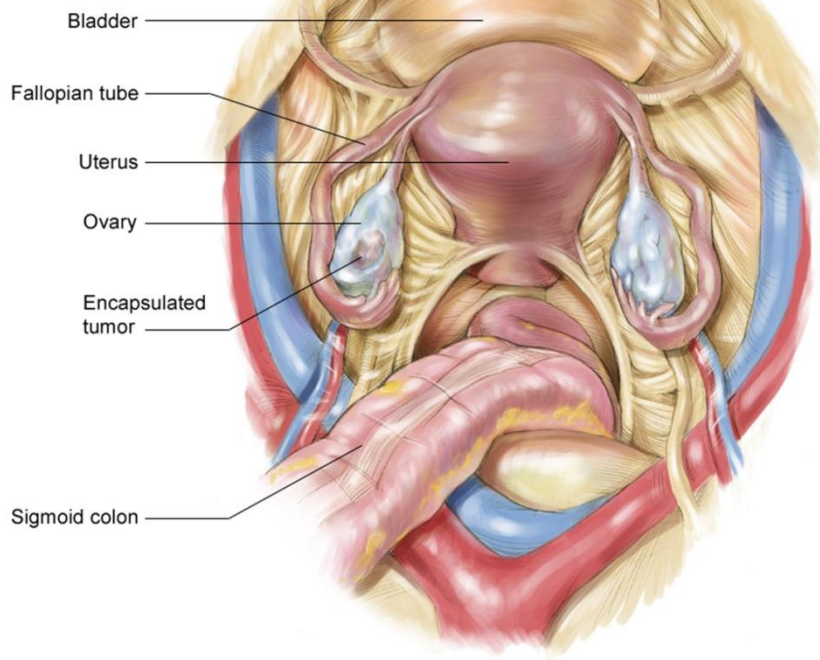
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Donation suggested Rs.25.00

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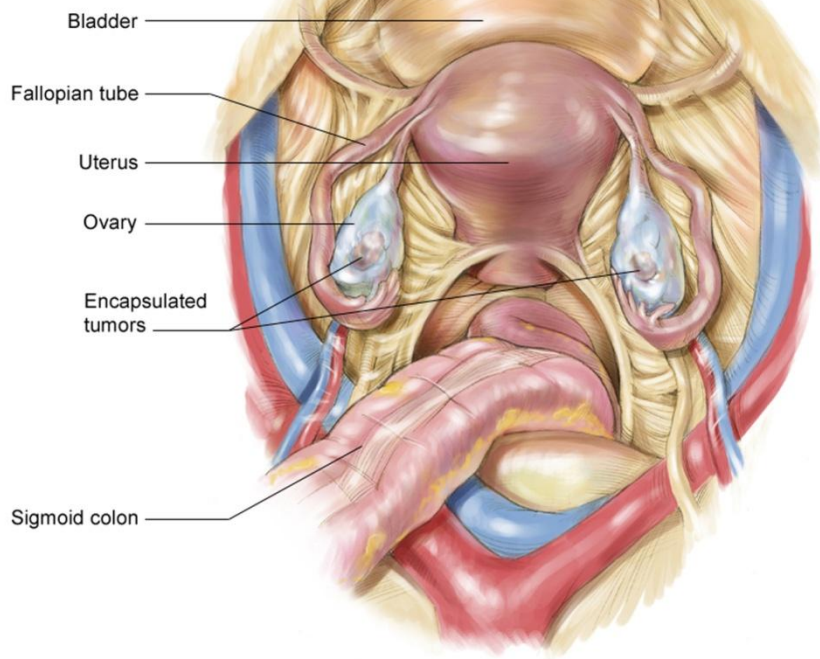
Stage IA Cancer



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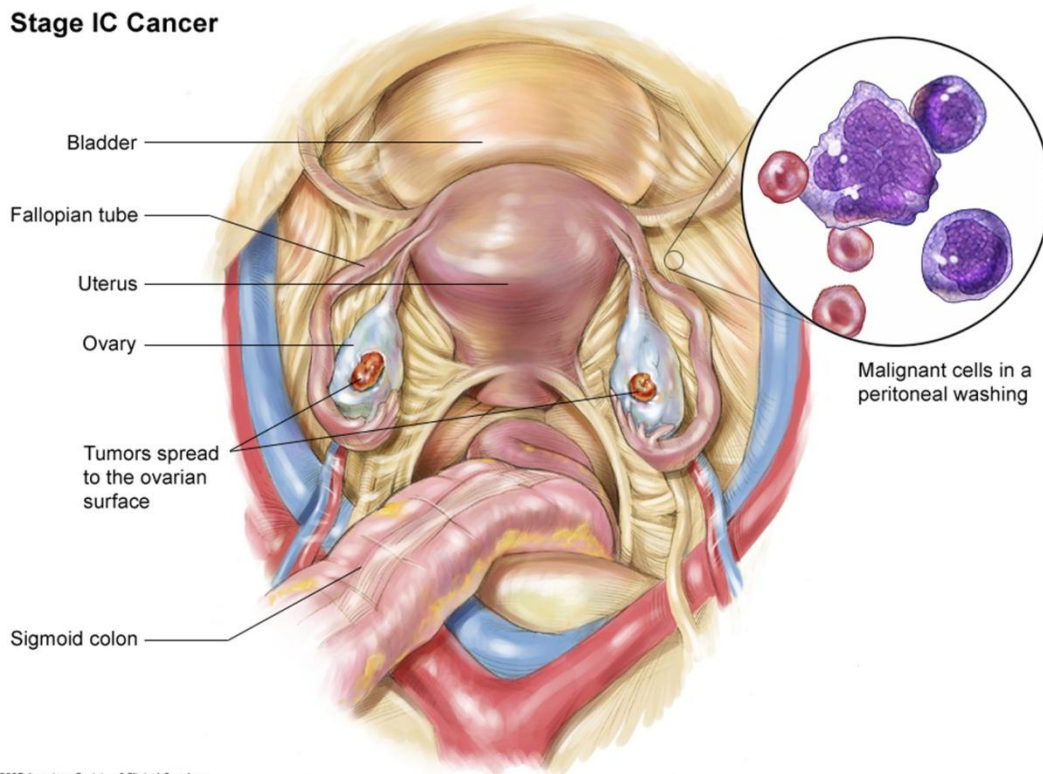
Stage IB Cancer



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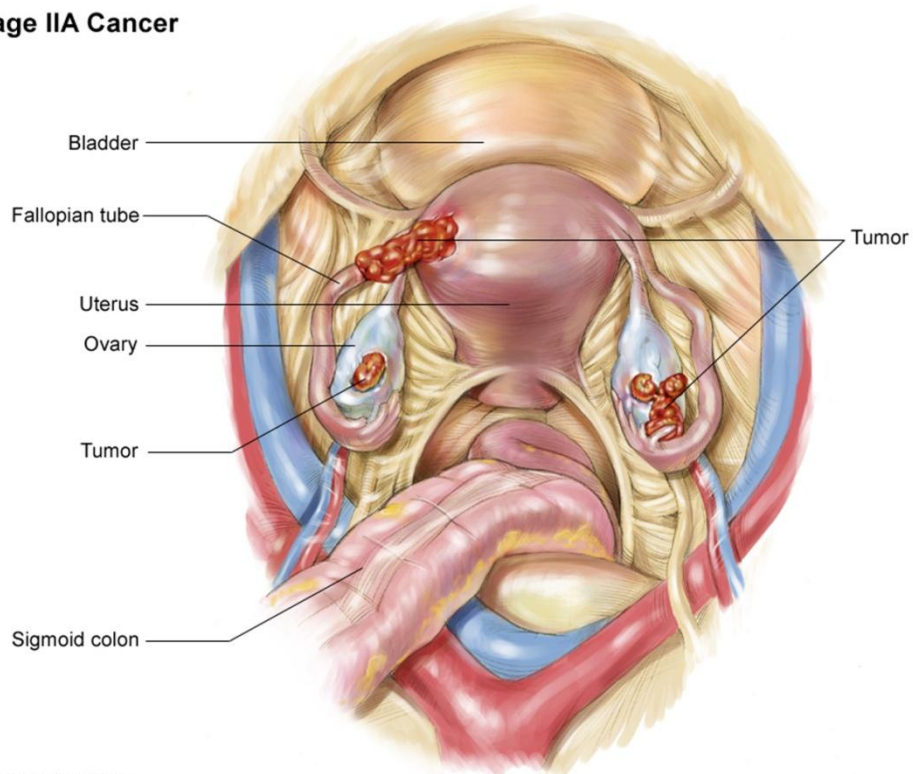
Stage IC Cancer



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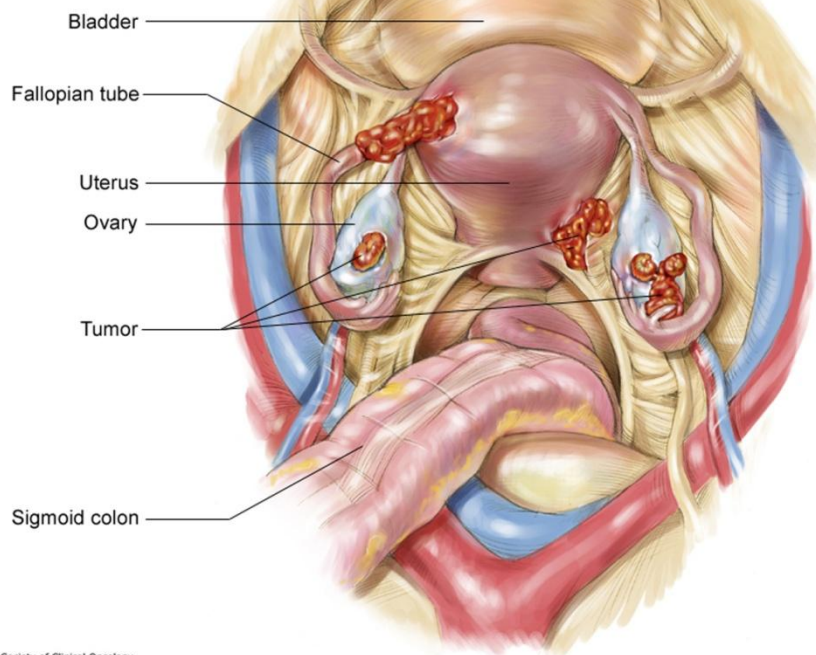
Stage IIA Cancer



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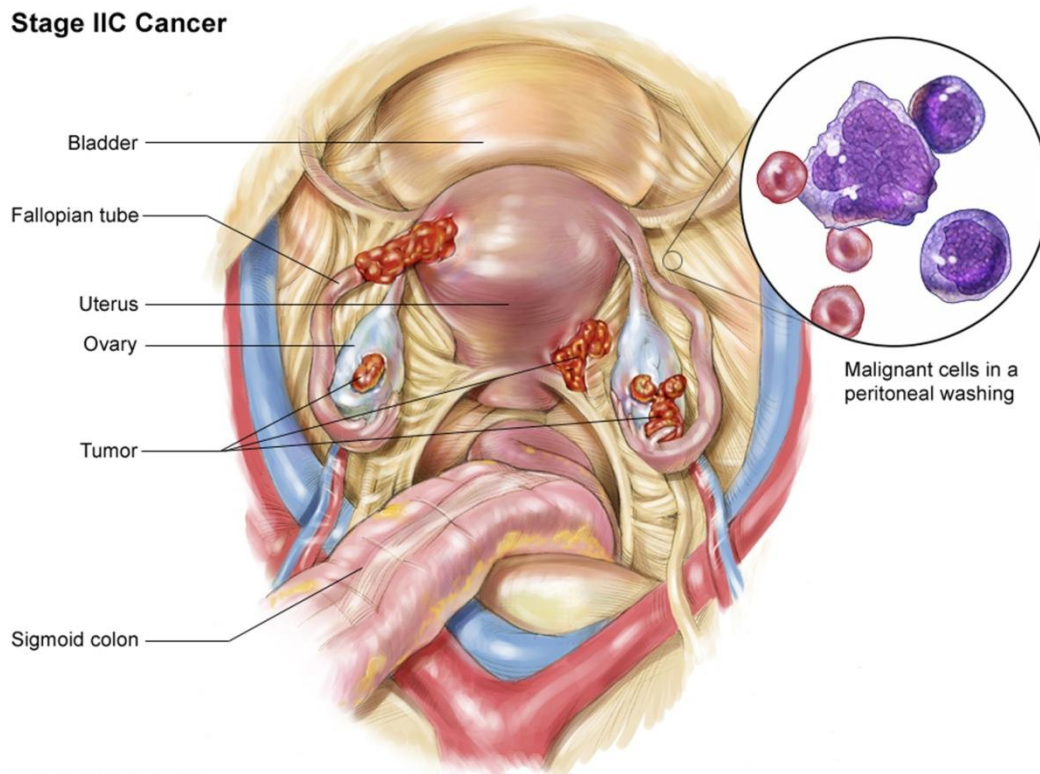
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Stage IIB Cancer



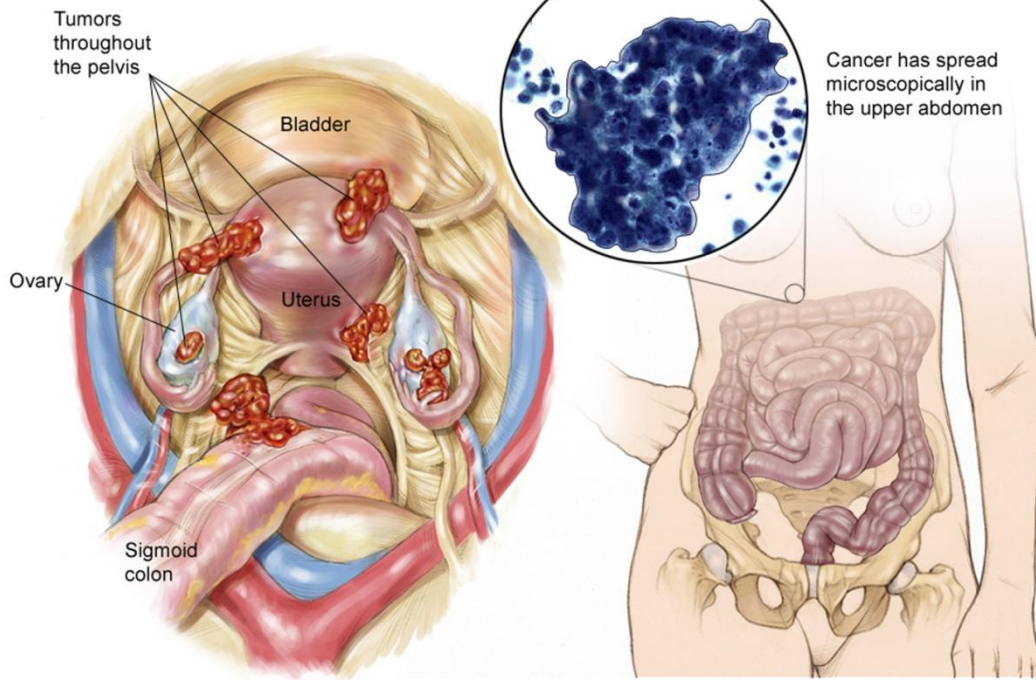
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Stage IIC Cancer



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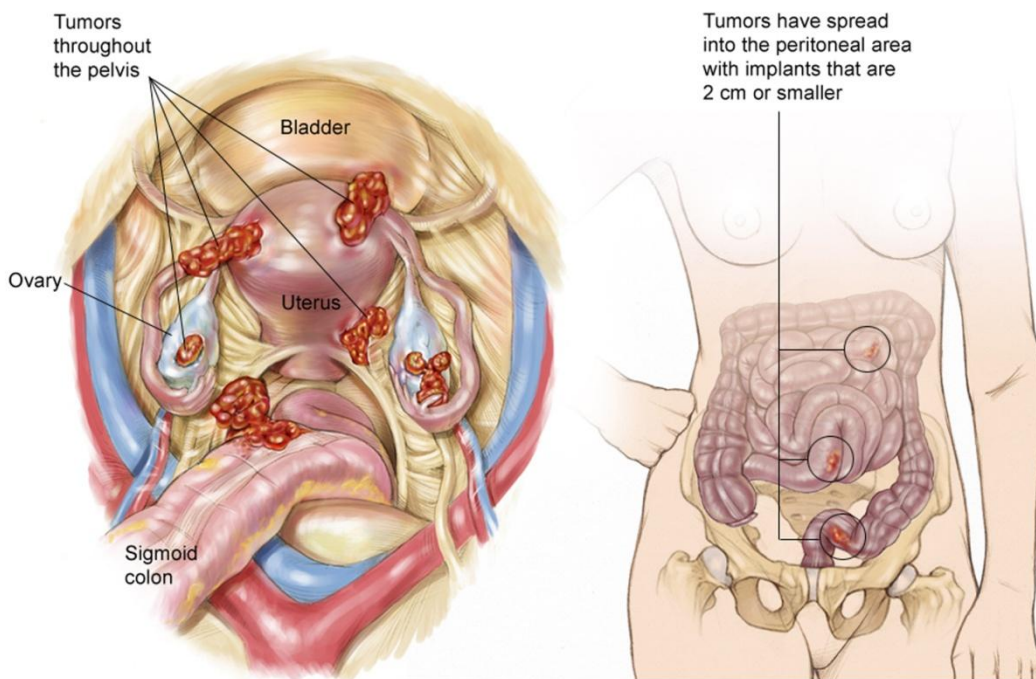
Stage IIIA Cancer



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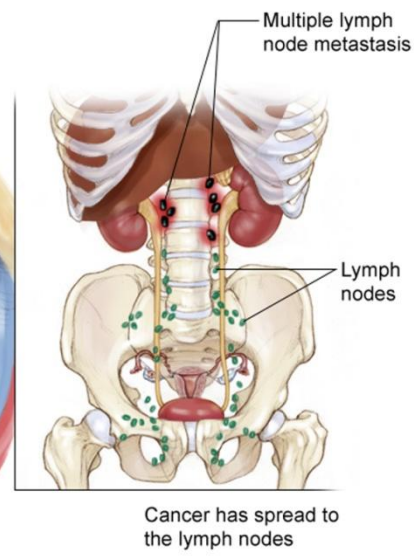
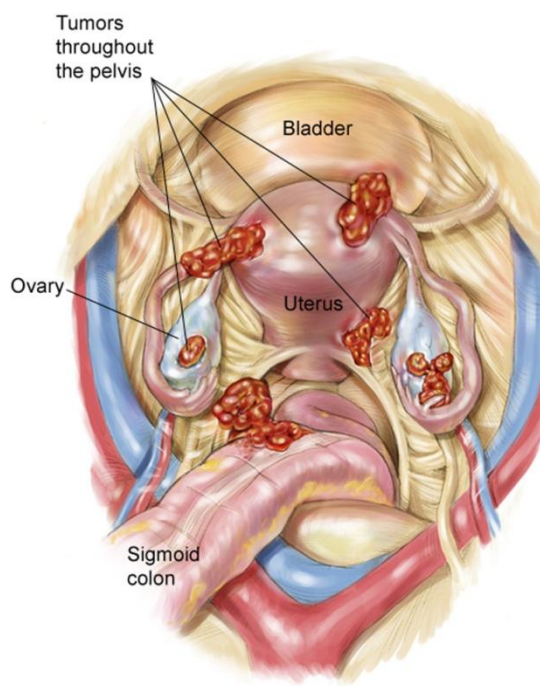
Stage IIIB Cancer



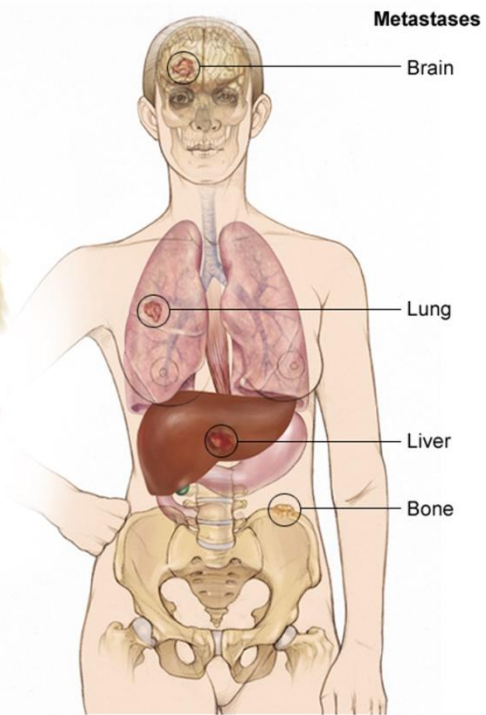
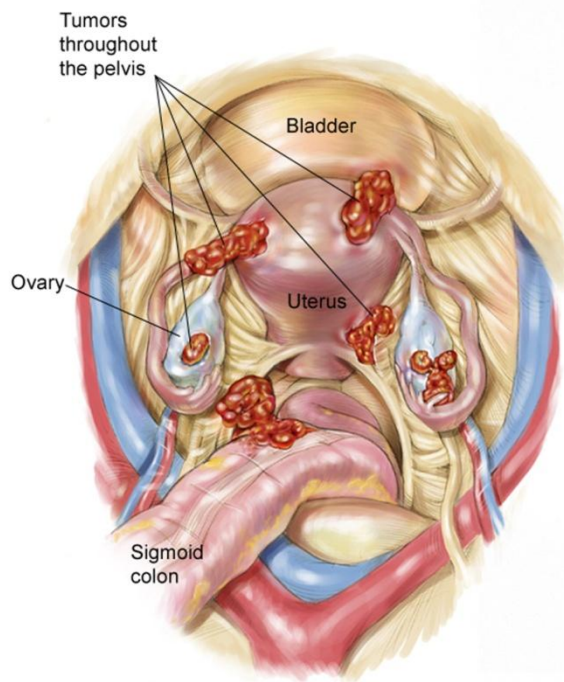
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Stage IIIC Cancer



Stage IV Cancer



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Ovarian Cancer

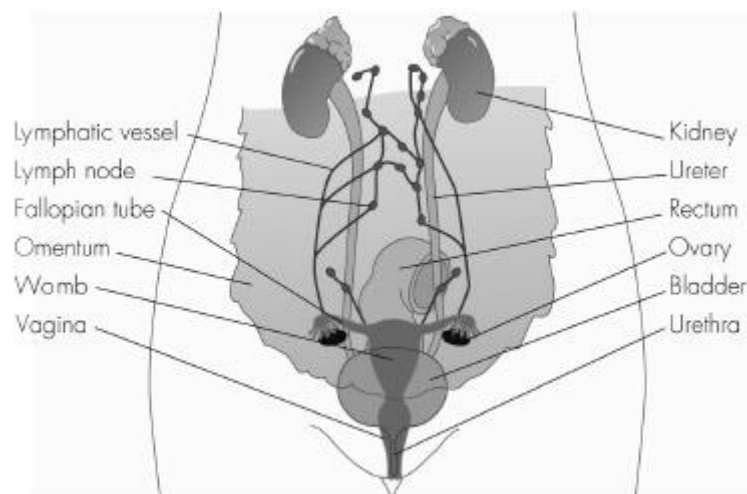
The ovaries

The ovaries are two small, oval-shaped organs that are part of the female reproductive system. They are in the lower part of the tummy (abdomen), which is known as the pelvis. Other organs are very close to the ovaries (see diagrams below). These include:

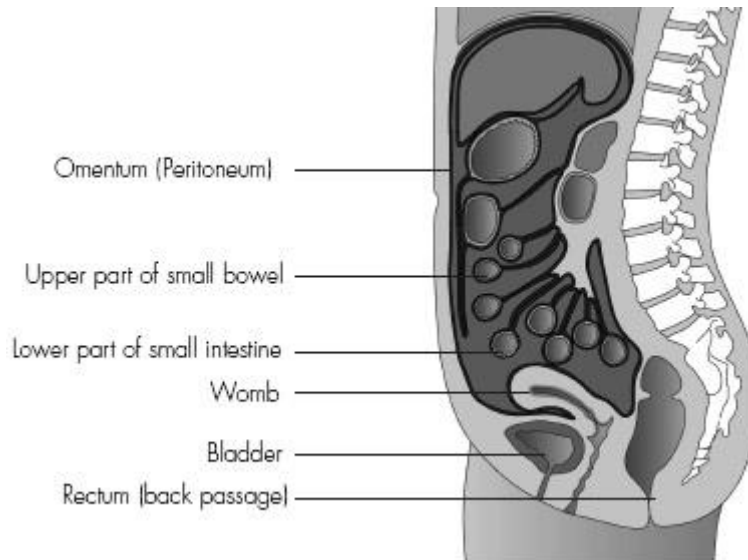
- The ureters, which drain urine from the kidneys to the bladder.
- The bladder.
- The back passage (rectum).
- The lower part of the small bowel.
- The omentum (a membrane which surrounds all of the pelvic and abdominal organs and keeps them in place). It is also called the peritoneum.
- Groups of lymph nodes.

Each month, in women of childbearing age, one of the ovaries produces an egg. The egg passes down the fallopian tube to the womb (uterus). If the egg is not fertilised by a sperm it passes out of the womb and is shed, along with the lining of the womb, as part of the monthly period.

The ovaries also produce the female sex hormones, oestrogen and progesterone. As a woman nears the menopause ('change of life') the ovaries make less of these hormones and periods gradually stop.



The ovaries and their surrounding structures

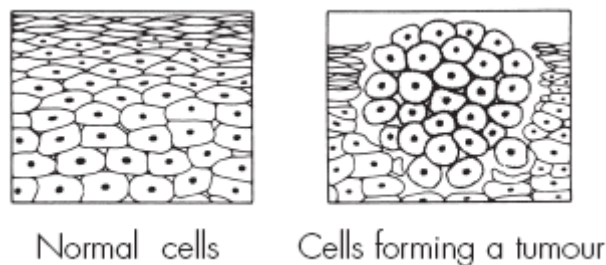


Side view of the abdomen showing the peritoneum surrounding the abdominal organs

What is cancer?

The organs and tissues of the body are made up of tiny building blocks called cells. Cancer is a disease of these cells.

Cells in different parts of the body may look and work differently but most reproduce themselves in the same way. Cells are constantly becoming old and dying, and new cells are produced to replace them. Normally, cells divide in an orderly and controlled manner. If for some reason the process gets out of control, the cells carry on dividing, developing into a lump which is called a **tumour**.



Tumours can be either **benign** or **malignant**. Cancer is the name given to a malignant tumour. Doctors can tell if a tumour is benign or malignant by examining a small sample of cells under a microscope. This is called a **biopsy**.

In a benign tumour the cells do not spread to other parts of the body and so are not cancerous. However, if they continue to grow at the original site, they may cause a problem by pressing on the surrounding organs.

A malignant tumour consists of cancer cells that have the ability to spread beyond the original area. If the tumour is left untreated, it may spread into and destroy

surrounding tissue. Sometimes cells break away from the original (primary) cancer. They may spread to other organs in the body through the bloodstream or lymphatic system.

The lymphatic system is part of the immune system - the body's natural defence against infection and disease. It is a complex system made up of organs, such as bone marrow, the thymus, the spleen, and lymph nodes. The lymph nodes (or glands) throughout the body are connected by a network of tiny lymphatic ducts.

When the cancer cells reach a new area they may go on dividing and form a new tumour. This is known as a **secondary cancer** or **metastasis**.

It is important to realise that cancer is not a single disease with a single type of treatment. There are more than 200 different kinds of cancer, each with its own name and treatment.

Types of cancer

Carcinomas

The majority of cancers, about 85% (85 in a 100), are carcinomas. They start in the epithelium, which is the covering (or lining) of organs and of the body (the skin). The common forms of breast, lung, prostate and bowel cancer are all carcinomas.

Carcinomas are named after the type of epithelial cell that they started in and the part of the body that is affected. There are four different types of epithelial cells:

- squamous cells - that line different parts of the body, such as the mouth, gullet (oesophagus), and the airways
- adeno cells - form the lining of all the glands in the body and can be found in organs such as the stomach, ovaries, kidneys and prostate
- transitional cells - are only found in the lining of the bladder and parts of the urinary system
- basal cells - that are found in one of the layers of the skin.

A cancer that starts in squamous cells is called a squamous cell carcinoma. A cancer that starts in glandular cells is called an adenocarcinoma. Cancers that start in transitional cells are transitional cell carcinomas, and those that start in basal cells are basal cell carcinomas.

Leukaemias and lymphomas

These occur in the tissues where white blood cells (which fight infection in the body) are formed, i.e. the bone marrow and lymphatic system. Leukaemia and lymphoma are quite rare and make up about 6.5% (6.5 in 100) of all cancers.

Sarcomas

Sarcomas are very rare. They are a group of cancers that form in the connective or supportive tissues of the body such as muscle, bone and fatty tissue. They account for less than 1% (1 in 100) of cancers.

Sarcomas are split into two main types:

bone sarcomas - that are found in the bones
 soft tissue sarcomas - that develop in the other supportive tissues of the body.

Others forms of cancer

Brain tumours and other very rare forms of cancer make up the remainder of cancers.

Types of ovarian cancer

Most ovarian cancers are a type called epithelial cancer. Epithelial ovarian cancer means the cancer has started in the cells that cover the surface of the ovary. There are several types of epithelial cancers of the ovary. The most common types are:

serous
 endometrioid.

Less common types of epithelial ovarian cancer are:

mucinous
 clear cell
 undifferentiated or unclassifiable.

They are currently all treated in a similar way.

There are also less common types of ovarian cancer. These include germ cell tumours (ovarian teratomas) and sarcomas. Germ cell tumours tend to affect younger women and behave very differently to other types of ovarian cancer.

This booklet does not cover treatment for the rarer types of ovarian cancer.

Risk factors and causes of ovarian cancer

Each year, about 6600 women in the UK are diagnosed with ovarian cancer. The causes are not yet completely understood. The risk of developing ovarian cancer is very low in young women and increases as women get older. Over eight out of ten (85%) ovarian cancers occur in women over the age of 50. Most ovarian cancers occur in women who have had their menopause.

Some factors are known to affect a woman's chance of developing ovarian cancer – they may increase the risk or decrease it. These are described below.

Hormonal factors
 Infertility and fertility treatments
 Health factors
 Lifestyle factors
 Genetic factors

Hormonal factors

Women who have not had children are slightly more likely to develop ovarian cancer than women who have, although the risk is still very low. Having two or more children may provide more protection than just one.

Breast feeding your children may slightly decrease your risk.

Starting your periods early or having a late menopause slightly increases your risk of ovarian cancer.

Women who take the contraceptive pill are less likely to develop ovarian cancer.

Using oestrogen-only hormone replacement therapy (HRT) can slightly increase the risk. When HRT is stopped the risk of ovarian cancer gradually reduces to the same level as women who haven't taken HRT.

Infertility and fertility treatments

Research has shown that infertility treatment may slightly increase the risk of developing ovarian cancer. However, other research doesn't support this.

Health factors

Having endometriosis may increase your risk of ovarian cancer.

Lifestyle factors

Being overweight may increase your risk of developing ovarian cancer.

Eating a diet high in animal fats and low in fresh fruit and vegetables may increase your risk.

Genetic factors

About 5–10 in 100 (5–10%) ovarian cancers are caused by an inherited faulty gene in the family.

Women who have had breast cancer have an increased risk of ovarian cancer. This is because breast and ovarian cancer can be caused by the same faulty genes.

If any of the following are present in one side of your family, it is possible that there may be an inherited faulty gene:

Ovarian cancer in at least two close relatives (mother, sisters or daughters).
One close relative with ovarian cancer and one close relative with breast cancer diagnosed when they were under the age of 50 (or both cancers in the same person).

Ovarian cancer in one close relative and breast cancer in two family members diagnosed when they were under the age of 60.

Three close relatives with colon (bowel) or womb (endometrial) cancer, and one relative with ovarian cancer.

Having one elderly relative with ovarian cancer doesn't necessarily increase your risk of ovarian cancer.

Women who are worried that they may have an increased risk of developing ovarian cancer, because of cancer in their family, can be referred to a genetic counselling clinic.

If two or more of your close relatives have had ovarian cancer you may want to consider having testing (screening) for ovarian cancer. However, it is not yet known how effective screening is at detecting ovarian cancer (screening).

■ Screening for ovarian cancer

Research trials are being carried out to see whether ovarian cancers can be detected early so that they can be treated more effectively. The trials are testing women who have no symptoms of ovarian cancer, to see if testing can detect a cancer at an early stage. This is known as screening. Currently it is not known whether screening can help to detect ovarian cancers at an earlier stage, so there is no national screening programme for ovarian cancer in the UK.

Women who may have an increased risk of ovarian cancer can ask their GP to refer them to take part in an ovarian cancer screening research trial.

A recent research study is looking at the benefits of screening postmenopausal women with either a blood test for a protein called **CA125** or a **vaginal ultrasound** (see diagnosis). The aim of the trial is to see if either of these tests will help doctors diagnose women with ovarian cancer when their cancer is at an early stage. The trial has recently closed and it will be a few years before we know the results.

■ Symptoms of ovarian cancer

Most women with early-stage cancer of the ovary don't have any symptoms for a long time. When symptoms occur they may include any of the following:

- loss of appetite
- vague indigestion, nausea, excessive gas (wind) and a bloated, full feeling
- unexplained weight gain
- swelling in the abdomen – this may be due to a build up of fluid (ascites), which can cause shortness of breath
- pain in the lower abdomen
- changes in bowel or bladder habits, such as constipation, diarrhoea or needing to pass urine more often
- lower back pain
- pain during sex
- abnormal vaginal bleeding, although this is rare.

If you have any of the above symptoms it is important to have them checked by your doctor, but remember they are common to many other conditions and most women with these symptoms will not have cancer.

How ovarian cancer is diagnosed

Usually you begin by seeing your GP, who will examine you and arrange for you to have any tests (usually ultrasound scans and/or blood tests) that may be necessary. If your GP suspects that you have ovarian cancer they will refer you to a cancer centre to be seen by a specialist gynaecology cancer team for the tests and for specialist advice and treatment.

- At the hospital
- Ultrasound scan
- CT scan
- MRI scan
- Abdominal fluid aspiration
- Laparoscopy
- Exploratory laparotomy

At the hospital

At the hospital, the gynaecologist (specialist in women's illnesses) will ask you about your general health and any previous medical problems, before examining you. This will include an internal (vaginal) examination to check for any lumps or swellings.

The specialist may arrange for you to have a blood test and chest x-ray to check your general health.

You may have a specific blood test to check whether there are higher than normal levels of the CA125 protein in your blood. CA125 is a protein that most women have in their blood. The level may be higher in women with ovarian cancer, as it is sometimes produced by ovarian cancer cells. However, CA125 is not specific to ovarian cancer, and the level can also be raised in women who have other non-cancerous conditions.

Several tests may be used to diagnose cancer of the ovary. The tests may also show the stage of the cancer – whether or not it has spread to other parts of the body. These tests help your doctor to know the best way to treat the cancer.

Ultrasound scan

An ultrasound uses sound waves to build up a picture of the inside of the abdomen, the liver and the pelvis. It will be done in the hospital scanning department.

If you have a **pelvic ultrasound** you will be asked to drink plenty of fluids so that your bladder is full. This helps to give a clearer picture. Once you are lying comfortably on your back a gel is spread onto your abdomen. A small device, which produces sound waves, is then rubbed over the area. The sound waves are converted into a picture by a computer.

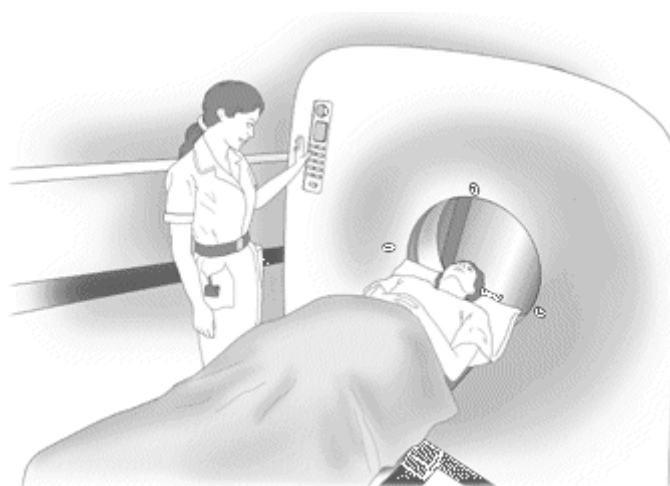
If you have a **vaginal ultrasound** scan, a probe with a rounded end is put into your vagina. The probe produces sound waves, which are then converted into a picture by a computer. Although this type of ultrasound scan may sound uncomfortable, many women find it more comfortable than having a pelvic ultrasound, as it is not necessary to have a full bladder.

Pelvic or vaginal ultrasound can be used to check for any enlargement or abnormalities of the ovaries which may be due to a cyst or tumour. It can also be used to show the size and position of a cancer.

CT scan

A CT (computerised tomography) scan takes a series of x-rays which builds up a three-dimensional picture of the inside of the body. The scan is painless but takes from 10 to 30 minutes. CT scans use a small amount of radiation, which will be very unlikely to harm you and will not harm anyone you come into contact with. You will be asked not to eat or drink for at least four hours before the scan.

You may be given a drink or injection of a dye which allows particular areas to be seen more clearly. For a few minutes, this may make you feel hot all over. If you are allergic to iodine or have asthma you could have a more serious reaction to the injection, so it is important to let your doctor know beforehand. You will probably be able to go home as soon as the scan is over.



Having a CT scan

MRI scan

An MRI (magnetic resonance imaging) scan is similar to a CT scan, but uses magnetic fields instead of x-rays to build up a series of cross-sectional pictures of the body. During the test you will be asked to lie very still on a couch inside a metal cylinder that is open at both ends. The whole test may take up to an hour and is painless – although the machine is very noisy. You will be given earplugs or headphones to wear.

The cylinder is a very powerful magnet, so before going into the room you should remove all metal belongings. You should also tell your doctor if you have ever worked with metal or in the metal industry or if you have any metal inside your body (for example, a cardiac monitor, pacemaker, surgical clips, or bone pins). You may not be able to have an MRI because of the magnetic fields.

Some people are given an injection of dye into a vein in the arm, but this usually does not cause any discomfort. You may feel claustrophobic inside the cylinder, but you may be able to take someone with you into the room to keep you company. It may also help to mention to the staff beforehand if you do not like enclosed spaces. They can then offer extra support during your test.

Abdominal fluid aspiration

If there has been a build up of fluid in the abdomen, a sample of the fluid can be taken to check for any cancer cells. The doctor will use a local anaesthetic to numb the area before passing a small needle through the skin. Some fluid is drawn off into a syringe and examined under a microscope.

Laparoscopy

This operation allows the doctor to look at the ovaries, fallopian tubes, the womb and the surrounding area. It's done under a general anaesthetic. Most women usually go home the same day but you may have to stay in hospital overnight.

While you are under anaesthetic, the doctor makes 3–4 small cuts, approximately 1cm (½ inch) in length, in the skin and muscle of the lower abdomen. A thin fibre-optic tube (laparoscope) is then inserted. By looking through the laparoscope the doctor can look at the ovaries and take a small sample of tissue (biopsy) for examination under a microscope.

During the operation, carbon dioxide gas is passed into the abdominal cavity and this can cause uncomfortable wind and/or shoulder pains. The pain is often eased by walking about or by taking sips of peppermint water. If the pain continues when you are at home you should contact the hospital for advice.

After a laparoscopy you will have one or two stitches in your lower abdomen. You should be able to get up as soon as the effects of the anaesthetic have worn off.

Exploratory laparotomy

Sometimes cancer of the ovary cannot be diagnosed before a full operation (laparotomy) is carried out.

It will probably take several days for the results of your tests to be ready and a follow-up appointment will be arranged for you before you go home. Obviously, this waiting period is an anxious time and it may help you to talk things over with a close friend, a relative, the hospital specialist nurse, or a support organisation.

Staging and grading of ovarian cancer

Staging
Grading

Staging

The stage of a cancer is a term used to describe its size and whether it has spread beyond its original area of the body. Knowing the extent of the cancer and the grade helps the doctors to decide on the most appropriate treatment. It's often not possible to stage an ovarian cancer before a laparotomy is done and the results of any

biopsies are known (see diagnosis). A commonly used staging system is described below.

Borderline tumours are made up of low-grade cells that are unlikely to spread. They are usually completely cured by surgery and rarely require further treatment.

Stage 1 ovarian cancer only affects the ovaries. This stage is divided into three sub-groups:

Stage 1a The cancer is only in one ovary

Stage 1b There are tumours in both ovaries.

Stage 1c The cancer is either at stage 1a or 1b, and there are cancer cells on the surface of one of the ovaries, or in the fluid taken from within the abdomen during surgery, or the ovary has burst (ruptured) before or during surgery.

Stage 2 ovarian cancer has begun to spread outside the ovaries within the pelvis. There are three sub-groups:

Stage 2a The cancer has spread to the womb or fallopian tubes.

Stage 2b The tumour has spread to other structures within the pelvis, such as the rectum or bladder.

Stage 2c The cancer is either at stage 2a or 2b, and there are cancer cells on the surface of one of the ovaries, or in the fluid taken from within the abdomen during surgery, or the ovary has burst (ruptured) before or during surgery.

Stage 3 The cancer has spread beyond the pelvis to the lining of the abdomen (a fatty membrane called the omentum), and/or to abdominal organs such as the lymph nodes in the abdomen, or the upper part of the bowel.

Stage 3a The tumours in the abdomen are very small and cannot be seen except under a microscope.

Stage 3b The tumours in the abdomen can be seen but they are smaller than 2cm.

Stage 3c The tumours in the abdomen are larger than 2cm.

Stage 4 The cancer has spread to other parts of the body such as the liver, lungs, or distant lymph nodes (for example in the neck).

If the cancer comes back after initial treatment this is known as recurrent cancer.

Grading

Grading refers to the appearance of the cancer cells when they are looked at under the microscope. The grade gives an idea of how quickly the cancer may develop. There are three grades: **grade 1** (low-grade), **grade 2** (moderate-grade) and **grade 3** (high-grade).

Low-grade means that the cancer cells look very like the normal cells of the ovary. They usually grow slowly and are less likely to spread.

Moderate-grade means that the cells look more abnormal than low-grade cells.

High-grade means that the cells look very abnormal. They are likely to grow more quickly and are more likely to spread.

Treatment for ovarian cancer

The main treatments used to treat ovarian cancer are surgery and chemotherapy. Radiotherapy is occasionally used if the cancer comes back or doesn't respond to other treatments.

- Multidisciplinary team
- Giving your consent
- Second opinion

Multidisciplinary team

Your treatment will be planned by a team of specialists who work together to decide which treatment is best for you. This multidisciplinary team (MDT) will include:

- A surgeon who specialises in gynaecological cancers called a gynaecological oncologist.
- A clinical or medical oncologist (to advise on chemotherapy).
- A radiologist (who analyses x-rays).
- A pathologist (who advises on the type and grade of the cancer, and how far it has spread).

The MDT may also include a number of other healthcare professionals such as a:

- gynaecological oncology nurse specialist
- dietitian
- physiotherapist
- occupational therapist
- psychologist or counsellor.

The government recommends that women with ovarian cancer are treated by a specialist gynaecological cancer team. These teams are based in larger cancer centres, so you may have to travel for your treatment.

The MDT will plan your treatment by taking into consideration a number of factors. This will include your age, general health, how well your kidneys are working, the type and size of the tumour, what it looks like under the microscope and whether it has spread beyond the ovary (the stage).

Giving your consent

Before you have any treatment, your doctor will explain the aims of the treatment to you. You will usually be asked to sign a form saying that you give your permission (consent) for the hospital staff to give it. No medical treatment can be given without your consent. Before you are asked to sign the form you should have been given full information about:

- the type and extent of the treatment you are advised to have
- the advantages and disadvantages of the treatment
- any other treatments that may be available
- any significant risks or side effects of the treatment.

If you don't understand what you have been told, let the staff know straight away so that they can explain it again. Some cancer treatments are complex, so it's not unusual for people to need repeated explanations.

It's often a good idea to have a friend or relative with you when the treatment is explained. This can help you remember the discussion more fully.

Patients often feel that hospital staff are too busy to answer their questions, but it's important for you to be aware of how the treatment is likely to affect you. The staff should be willing to make time for you to ask questions. You can talk to the specialist gynaecological nurse at the hospital or to our specialist nurses.

You can always ask for more time to decide about the treatment if you feel that you can't make a decision when it's first explained to you.

You are also free to choose not to have the treatment. The staff can explain what may happen if you don't have it. It's important to tell a doctor or your nurse if you decide not to have treatment, so that they can record your decision in your medical notes. You don't have to give a reason for not wanting to have treatment, but it can be helpful to let the staff know your concerns so that they can give you the best advice.

Second opinion

Usually a number of cancer specialists work together as a team and they use national treatment guidelines to decide on the most suitable treatment for a patient. Even so, you may want to have another medical opinion. Either your specialist, or your GP, should be willing to refer you to another specialist for a second opinion, if you feel it will be helpful. Getting a second opinion may cause a delay in the start of your treatment, so you and your doctor need to be confident that it will give you useful information.

If you do go for a second opinion, it may be a good idea to take a friend or relative with you, and have a list of questions ready, so that you can make sure your concerns are covered during the discussion.

Surgery for ovarian cancer

Surgery is often the first treatment for cancer of the ovary, and may sometimes also be needed to make the diagnosis. Your doctor will discuss with you the most appropriate type of surgery, depending on the type and size of your cancer and whether it has spread. Sometimes this information only becomes available during the operation itself, and so it's important to discuss all the possible options with your doctor before the operation.

- Borderline and stage 1 ovarian cancer
- Stage 2 and 3 ovarian cancer
- Stage 4 ovarian cancer
- After your operation
- Drips and drains
- Pain
- Going home
- Physical activity
- Sex life

Early menopause
Fertility

Borderline and stage 1 ovarian cancer

If the cancer is in the early stages, surgery may be all the treatment that's needed. It's usually necessary to make a cut in the skin and muscle of the abdomen (a laparotomy). The ovaries, fallopian tubes and the womb are then removed. This is called a **total abdominal hysterectomy and salpingo-oophorectomy**.

In young women with borderline tumours, or low-grade, stage 1a cancer (see staging and grading) it may be possible to remove only the affected ovary and fallopian tube, and leave the womb and unaffected ovary. This will mean that you will be able to have children in the future. Women with stage 1b and 1c cancer, or those who have had their menopause, or don't want any more children, will usually be advised to have both ovaries and the womb removed.

The surgeon may remove a layer of fatty tissue called the omentum, which is close to the ovaries (an omentectomy). They will also take samples from other tissues, such as the lymph glands, to see if the cancer has spread. The surgeon will also put fluid into your abdomen and send some of it to be tested for cancer cells. This is known as an **abdominal washing**.

If it is unclear before surgery what stage the cancer is, the surgeon may remove just the affected ovary and fallopian tube and take a number of biopsies and abdominal washings. Depending on the results of the biopsies and washings, further surgery to remove the womb and remaining ovary and fallopian tube - sometimes called **completion surgery** - may be needed.

Chemotherapy is usually given after surgery if it wasn't possible to remove all the tumour, or if there is a risk that some cancer cells may have been left behind.

Stage 2 and 3 ovarian cancer

If ovarian cancer has already spread, an operation to remove both ovaries, the fallopian tubes and the womb (total abdominal hysterectomy and salpingo-oophorectomy), and as much of the tumour as possible will be done. This is known as **de-bulking surgery**. The surgeon will also take biopsies or remove some of the lymph nodes in the abdomen and pelvis. They may also have to remove the omentum, the appendix and part of the lining of the abdomen (the peritoneum). This operation can be complicated and should ideally be done by a specialist gynaecological oncologist.

If the cancer has spread to the bowel, a small piece of bowel may be removed and the two ends joined together. Rarely the two ends can't be rejoined and the upper end of the bowel will be brought out onto the skin of the abdomen. This is known as a **colostomy** and the opening of the bowel is known as a stoma. A bag is worn over the stoma to collect the stool (bowel motions). Your doctor or specialist nurse will discuss this with you.

Chemotherapy is usually given after the operation to try and kill any cancer cells that couldn't be removed.

Sometimes a second operation will be done after three or four cycles of chemotherapy, as it may now be possible to remove the remaining cancer. This is known as **interval de-bulking surgery**.

Stage 4 ovarian cancer

It may be possible to have an operation to remove some of the cancer. However, sometimes surgery isn't possible if the cancer is very advanced, or if a woman isn't well enough for a major operation. Chemotherapy, and occasionally radiotherapy are the main treatments used for women in this situation.

After your operation

After your operation you will be encouraged to start moving about as soon as possible and you will usually be helped to get out of bed the next day. While you are in bed, it's important to move your legs regularly and do deep breathing exercises to help prevent chest infections and blood clots. You will be shown how to do the exercises by a physiotherapist or specialist nurse. You will also be given some stockings to wear that help to prevent blood clots in your legs.

Drips and drains

A drip (intravenous infusion) will be used to give you fluids until you are able to eat and drink again, which is usually the next day. Many women are able to eat light meals after about 48 hours.

You may have a small tube called a catheter, which is put into the bladder and drains your urine into a collecting bag. This will be removed after a day or two.

You are also likely to have a drainage tube in your wound to drain excess fluid into a small bottle. This is usually removed after a few days.

Pain

It is quite normal to have some pain or discomfort for a few days but this can be controlled with effective painkillers. The anaesthetist will often discuss pain control with you before your operation. If the pain is not controlled, it is important to let your doctor or nurse know as soon as possible so that your painkillers can be changed.

Going home

Most women are able to go home 5–10 days after their operation, once the stitches or clips have been taken out. If you think you might have problems when you go home (for example, if you live alone or have several flights of stairs to climb), let the nurse or social worker know when you are admitted to the ward so that help can be arranged. Your nurse specialist can offer or arrange support or counselling for you and your family. Social workers are often available to give practical advice. Many are also trained counsellors.

Before you leave hospital you will be given an appointment to attend an outpatient clinic for your post-operative check up. This is a good time to discuss any problems you may have. If you have any problems or worries before this time, you can phone your ward nurses or hospital doctor.

Physical activity

You will need to avoid strenuous physical activity or heavy lifting for at least three months. You will also be advised not to drive for about six weeks after your operation and may find it uncomfortable to wear a seatbelt for some time. It's best not to start

driving until you are comfortable wearing a seatbelt as a passenger first. Some insurance companies have guidelines about this.

Sex life

One of the common questions women ask after a hysterectomy is whether the operation will affect their sex life. To allow the wound to heal properly, most women are advised to wait at least six weeks after their operation before having sexual intercourse. Many women have no problem in having a sexual relationship after this time. However, others find that the surgery has shortened their vagina and slightly changed its angle. This can mean that they have different sensations and responses during sex. If this occurs it can be upsetting. Women who have this effect may take time to come to terms with their feelings and any physical effects such as pain. Your specialist nurse can help you if you are having problems after your surgery.

One common fear is that cancer can be passed on to your partner during intercourse. This is not true and it is perfectly safe for you to continue to have a sexual relationship.

Early menopause

In younger women who are still having periods, removing the ovaries will bring on an early menopause.

The physical effects of this may include:

- hot flushes
- dry skin
- dryness of the vagina, which can make sexual intercourse uncomfortable
- reduced sexual desire.

Lubricants such as Aquaglide, Senselle®, Sylk® or Replens MD® can be bought from most chemists and can ease any discomfort during intercourse.

Some women may be prescribed hormone replacement therapy (HRT) following treatment for ovarian cancer. This can help to reduce some of the problems caused by the menopause. You can discuss with your doctor whether taking HRT would be helpful.

Fertility

Younger women in particular, often find it difficult to come to terms with the fact that they can no longer have children after a hysterectomy. They may also be worried that they have lost a part of their female identity. These are very natural, understandable emotions to have at this time. It can help to discuss any fears or worries with a sympathetic friend or with the specialist nurse. Counselling can be arranged either by the hospital or through your GP. There are also support organisations that can help.

We have information on cancer and fertility which you may find useful.

Chemotherapy for ovarian cancer

Chemotherapy is the use of anti-cancer (cytotoxic) drugs to destroy cancer cells. The drugs work by disrupting the growth of cancer cells. Ovarian cancer is usually very sensitive to chemotherapy and in most women the tumours will become smaller or disappear.

Chemotherapy drugs are sometimes given as tablets (orally) or, more usually, by injection into a vein (intravenously).

- Borderline and stage 1 ovarian cancer
- Advanced-stage ovarian cancer
- The drugs that are used
- Side effects
- Benefits and disadvantages

Borderline and stage 1 ovarian cancer

Women with borderline tumours, or those with low-grade or stage 1a ovarian cancer may not need chemotherapy after their surgery.

Chemotherapy is often recommended after surgery for women with moderate or high-grade ovarian cancer or those with stage 1b or 1c cancer. Giving chemotherapy after surgery is known as **adjuvant chemotherapy**. Generally six sessions of chemotherapy are given, over 5–6 months.

Advanced-stage ovarian cancer

Chemotherapy is sometimes given before surgery (**neo-adjuvant chemotherapy**), or if you are too unwell for a major operation. It is also often used after surgery to try to shrink any remaining tumours.

If the cancer has spread to the liver, or beyond the abdomen, it may not be possible to remove it and so chemotherapy is the main treatment used. Chemotherapy is also used if the cancer comes back after surgery.

The drugs that are used

After surgery, the most commonly used drug to treat ovarian cancer is carboplatin, which may be given with paclitaxel (Taxol®).

Other drugs that are less commonly used, or may be used if the cancer comes back, are topotecan (Hycamtin®), doxorubicin, liposomal doxorubicin (Caelyx®, Myocet®) and cisplatin.

Intravenous chemotherapy is given as a session of treatment, usually over several hours. This is followed by a rest period of a few weeks, which allows your body to recover from any side effects of the treatment. Together, the treatment and the rest period is known as a **cycle** of chemotherapy. Most women have six cycles of chemotherapy. Women who are given neo-adjuvant chemotherapy generally have three cycles of chemotherapy before the operation, followed by three further cycles.

Chemotherapy is usually given to you as an outpatient, but sometimes it will be given as an inpatient, which will mean spending a few days in hospital.

Chemotherapy can also be given directly into the abdomen through a small tube. This is known as **intraperitoneal chemotherapy**. Research has shown that

intraperitoneal chemotherapy, given alongside intravenous chemotherapy, can help to improve survival for a small number of women. However, it can also cause unpleasant side effects, such as pain, infection and digestive problems. As a result this way of giving chemotherapy isn't commonly used in the UK.

Your doctor can discuss whether intraperitoneal chemotherapy is an appropriate treatment for you.

Our booklet on chemotherapy discusses the treatment and its side effects in more detail. Information about individual drugs and their particular side effects are also available.

Side effects

Chemotherapy can cause unpleasant side effects, but any that occur can often be well controlled with medicines.

Lowered resistance to infection

Chemotherapy can reduce the production of white blood cells by the bone marrow, making you more prone to infection. Contact your doctor or the hospital straightaway if:

your temperature goes above 38°C (100.5°F)
you suddenly feel ill (even with a normal temperature).

You will have a blood test before having more chemotherapy, to make sure that your cells have recovered. Occasionally it may be necessary to delay your treatment if your blood count is still low.

Bruising or bleeding

Chemotherapy can reduce the production of platelets, which help the blood to clot. Let your doctor know if you have any unexplained bruising or bleeding, such as nosebleeds, blood spots or rashes on the skin, or bleeding gums.

Low number of red blood cells (anaemia)

You may become anaemic. This may make you feel tired and breathless.

Nausea and vomiting

Some of the chemotherapy drugs used to treat cancer of the ovary may cause nausea and vomiting. There are very effective anti-sickness drugs (anti-emetics) to prevent or reduce nausea and vomiting. Your doctor will prescribe these for you.

Sore mouth and loss of appetite

Some chemotherapy drugs can make your mouth sore and cause small mouth ulcers. Regular mouthwashes are important and your nurse will show you how to do these properly. If you don't feel like eating during treatment, you could try replacing some meals with nutritious drinks or a soft diet.

Hair loss

Unfortunately, some chemotherapy drugs used to treat ovarian cancer can make your hair fall out. You can ask your doctor if the drugs you are having are likely to cause hair loss. Most patients are entitled to a free wig from the NHS. Your doctor or nurse will be able to arrange for you to see a wig specialist. You may prefer to wear a bandana, hat or scarf.

If your hair does fall out, it will grow back over a period of 3–6 months once the chemotherapy has finished.

Numbness or tingling in hands or feet

This is due to the effect of some chemotherapy drugs on nerves and is known as peripheral neuropathy. Tell your doctor if you notice these symptoms. The problem usually improves slowly a few months after treatment is over, but for some people it can be permanent.

Tiredness

Chemotherapy affects people in different ways. Some people find they are able to lead a fairly normal life during their treatment, but many find they become very tired and have to take things much more slowly. Just do as much as you feel like and try not to overdo it.

Although they may be difficult to cope with, most of these side effects will disappear once your treatment is over.

Benefits and disadvantages

Many women are nervous of having chemotherapy, because of the possible side effects, and ask what would happen if they did not have it.

Early-stage ovarian cancer

In women with early-stage ovarian cancer, if chemotherapy is given after surgery, it is given to reduce the chance of the cancer coming back. It does this by killing any tiny groups of cancer cells that may be left behind after an operation.

Chemotherapy can't guarantee that the cancer will not come back, but it can reduce the chance that it will. The risk of the cancer coming back varies according to each woman's situation. Your doctor can usually give you an idea of whether your cancer is likely to come back or not. They can also give you information about the likely side effects of chemotherapy for you.

If the chance of your cancer coming back is small, chemotherapy may only slightly reduce the risk of the cancer coming back. The additional benefit of the chemotherapy would be small and the chance of doing well without it would still be good. However, if the risk of the cancer coming back is higher, chemotherapy may greatly reduce the chance of recurrence, and increase the chance of cure.

It is important to talk to your specialist about:

- the chance of the cancer coming back
- the chances of a cure without the chemotherapy
- how much the chemotherapy is likely to improve things.

This information can help you decide whether the benefit of the chemotherapy is worth the side effects of the treatment.

Advanced ovarian cancer

When the cancer has spread to other parts of the body, such as the abdomen or pelvis, the aim of chemotherapy is to try and shrink the cancer. This can reduce symptoms, maintain a good quality of life and help you live longer. For many women the chemotherapy will shrink the cancer. However, for some women the

chemotherapy will have little or no effect on the cancer and they will have the side effects of the treatment with little benefit. The fitter you are the more likely you are to benefit and the less likely to have side effects.

Making decisions about treatment in these circumstances is always difficult, and you may need to discuss in detail with your doctor whether you want to have chemotherapy. If you choose not to have chemotherapy, you can still be given medicines to control any symptoms that you have. This is known as supportive care (or palliative care).

Radiotherapy for ovarian cancer

Radiotherapy treats cancer by using high-energy rays to destroy the cancer cells, while doing as little harm as possible to normal cells.

Radiotherapy is rarely used to treat cancer of the ovary. It may occasionally be used to treat an area of cancer that has come back after surgery and chemotherapy, when other treatment options are no longer appropriate. It may also be used to reduce bleeding or feelings of pain and discomfort. This is known as **palliative radiotherapy**.

Radiotherapy is given in the hospital radiotherapy department. A course of palliative treatment may be between one to ten sessions. Each session lasts a few minutes. The length of your treatment will depend on the type and size of the cancer. Your doctor will discuss your treatment with you in detail beforehand.

Our radiotherapy booklet gives more details about this treatment and its side effects.

Follow up after treatment for ovarian cancer

After your treatment is finished, you will have regular check-ups and possibly scans or x-rays. These check-ups will probably continue for several years. If you have any problems, or notice any new symptoms in between these times, let your doctor or specialist nurse know as soon as possible.

A trial has been done to see whether regular testing of blood levels of CA125 is helpful in detecting a recurrence of ovarian cancer. The data from that trial is currently being analysed. At the time of writing (September 2008) it is not known whether regular testing of CA125 can improve survival for women who have been treated for ovarian cancer. Some women may be offered regular CA125 testing, and other women may only have CA125 testing if they have signs or symptoms that could be due to a recurrence of the cancer.

For women whose treatment is over apart from regular check-ups, our booklet on life after cancer gives useful advice on how to keep healthy and adjust to life after treatment.

If the cancer comes back

If the cancer comes back, treatment with chemotherapy is often used to keep the cancer under control for a time. This can sometimes be effective for several years. Many different types of chemotherapy can be used for women in this situation. The same chemotherapy drugs that were given initially can be used or different ones may

be tried. Occasionally it may be possible to remove tumours using surgery. Radiotherapy may be used to treat particular areas or to relieve symptoms.

Research - clinical trials

Cancer research trials are carried out to try to find new and better treatments for cancer. Trials that are carried out on patients are known as clinical trials.

Clinical trials may be carried out to:

- test new treatments, such as new chemotherapy drugs, gene therapy or cancer vaccines
- look at new combinations of existing treatments, or change the way they are given, to make them more effective or to reduce side effects
- compare the effectiveness of drugs used to control symptoms
- find out how cancer treatments work
- see which treatments are the most cost-effective.

Trials are the only reliable way to find out if a different operation, type of chemotherapy, radiotherapy, or other treatment is better than what is already available.

Taking part in a trial

You may be asked to take part in a treatment research trial. There can be many benefits in doing this. Trials help to improve knowledge about cancer and develop new treatments. You will also be carefully monitored during and after the study. Usually, several hospitals around the country take part in these trials. It's important to bear in mind that some treatments that look promising at first are often later found not to be as good as existing treatments, or to have side effects that outweigh the benefits.

If you decide not to take part in a trial your decision will be respected and you don't have to give a reason. There will be no change in the way that you're treated by the hospital staff and you will be offered the best standard treatment for your situation.

Blood and tumour samples

Many blood samples and tumour biopsies may be taken to help make the right diagnosis. You may be asked for your permission to use some of your samples for research into cancer. If you're taking part in a trial you may also be asked to give other samples which may be frozen and stored for future use, when new research techniques become available. These samples will have your name removed from them so you can't be identified.

The research may be carried out at the hospital where you are treated, or it may be at another hospital. This type of research takes a long time, and results may not be available for many years. The samples will, however, be used to increase knowledge about the causes of cancer and its treatment. This research will, hopefully, improve the outlook for future patients.

Current research trials for ovarian cancer

There are several research trials in progress, looking at different combinations of chemotherapy. These can be found on our trials database.

CHORUS

Women who are newly diagnosed with ovarian cancer may be asked to take part in a trial called CHORUS. The trial is looking to see if giving chemotherapy before as well as after surgery helps to improve survival.

ICON 7

You may be asked to take part in a trial using a **biological therapy** alongside chemotherapy. Two biological therapies - called **angiogenesis inhibitors** - that can stop cancer from developing new blood vessels, are currently being tested.

A trial called ICON 7 is testing an angiogenesis inhibitor called bevacizumab (Avastin®), which is given as an injection into a drip. This trial is for women who are newly diagnosed and is comparing how effective the standard chemotherapy of carboplatin and Taxol is with and without Avastin.

ICON 6

Another trial, called ICON 6, is testing a newer angiogenesis inhibitor called cediranib, which is a tablet. The trial is for women whose cancer has come back six months or more after they had chemotherapy. Women will be given one of the following treatments:

The standard chemotherapy plus a dummy drug (placebo), then continue to take the dummy drug.

The standard chemotherapy plus cediranib, then switch to a placebo after chemotherapy is finished.

Standard chemotherapy plus cediranib, then continue with cediranib after chemotherapy is finished.

Decitabine

A drug that can make cancer cells sensitive to chemotherapy is being tested for women whose ovarian cancer has come back after initial chemotherapy. The drug, called decitabine, which is given as a drip (infusion), is being given alongside carboplatin chemotherapy.

All the above treatments are in the early stages of research and are not widely available. You can talk to your doctor about any that you think may be appropriate for you.

Resources and support for living with cancer

Talking about your cancer

Practical advice and guidance for cancer patients to help them communicate with family, friends, carers and health professionals about emotional and practical issues arising from a diagnosis of cancer and cancer treatment.

Talking to children about cancer

Practical advice and guidance to help parents with cancer talk to their children about their cancer.

Talking to someone with cancer

Practical advice and guidance for friends, carers and family members to help them talk to their friend or relative with cancer, and provide emotional and practical support.

Note: JASCAP has booklets on each of the above subjects.

Questions you might like to ask your doctor or surgeon

You can fill this in before you see the doctor or surgeon, and then use it to remind yourself of the questions you want to ask, and the answers you receive.

1. _____

Answer _____

2. _____

Answer _____

3. _____

Answer _____

4. _____

Answer _____

5. _____

Answer _____

JASCAP : We need your help

We hope that you found this booklet useful.

To help other patients and their families we need and intend to extend our Patient Information Services in many ways.

Our Trust depends on voluntary donations. Please send your donation by Cheque or D/D payable in Mumbai in favour of "JASCAP".

Note for Reader

This JASCAP booklet is not designed to provide medical advice or professional services and is intended to be for educational use only. The information provided through JASCAP is not a substitute for professional care and should not be used for diagnosing or treating a health problem or a disease. If you have, or suspect you may have, a health problem you should consult your doctor.

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