

# **NOOGLE (NOGS ka Google)**

**Don't Google.....Ask Noogle**



**SAY NO TO CANCER !**

**NOGS 20-21 & AMOGS PAC INITIATIVE**

**VOLUME - 4**



# **NOOGLE**

**(NOGS ka Google)**



**Don't Google... Ask Noogle**

## **THE TEAM**



**DR. NANDITA PALSHEKAR**  
**PRESIDENT AMOGS**



**DR. VAIDEHI MARATHE**  
**PRESIDENT NOGS**  
**CHAIR - PAC AMOGS**



**DR. ARUN NAYAK**  
**SECRETARY AMOGS**



**DR. RAJASI SENGUPTA**  
**SECRETARY NOGS**

## **COMPILED BY**



**DR. AUPAMAM ANAND BHUTE**



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**Dear Members,**

**It gives me immense pleasure to hand over the forth volume of Patient's Information handouts which is going to be monthly feature. The forth volume focuses on "SAY NO TO CANCER !"**

**In recent years, patients have increasingly requested the opportunity to participate fully in their medical care. An important part of responding to this is providing educational handouts that inform patients about health problems, describe medical treatments, and promote healthy behaviors. They are useful extension of spoken communications and are also an extension of medical care. Spoken messages are forgotten quickly and so they need to be reinforced with the informative handouts. Educational handouts are an important part of the communication patients receive from health care providers.**

**This is our small effort to provide our members with these ready handouts for better communication with their patients. The member can print and use them for their patients benefit. We hope that you will find them useful.**

**I wish to profusely thank the ever enthusiastic, ever ready NOGS Member Dr. Aupamam Anand Bhute for toiling very hard and putting it up together within a very short span of time. We deeply appreciate her super effort.**

**Wishing you all a very healthy patient interaction.**

**Sincerely,**

**Dr. Vaidehi Marathe**

**President NOGS 2020-21**

**Chairperson PAC AMOGS**





## **Message from the President AMOGS...**



**Hello everyone,**

**The theme of AMOGS this year is “We for Stree”. I would like to thank every AMOGSian who has helped making every woman Safer, Stronger, and Smarter.**

**I would like to congratulate Dr. Vaidehi Marathe and Team NOGS for this Patient education booklet. I would also like to thank the contributors and the editorial team for their contributions towards this great booklet.**

**The aim of this booklet is to ensure that you are able to get basic knowledge regarding different areas of women health care. I hope this booklet helps you achieve that and clears all your doubts.**

**Dr. Nandita Palshetkar**

**President**

**AMOGS.**



# INTRODUCTION

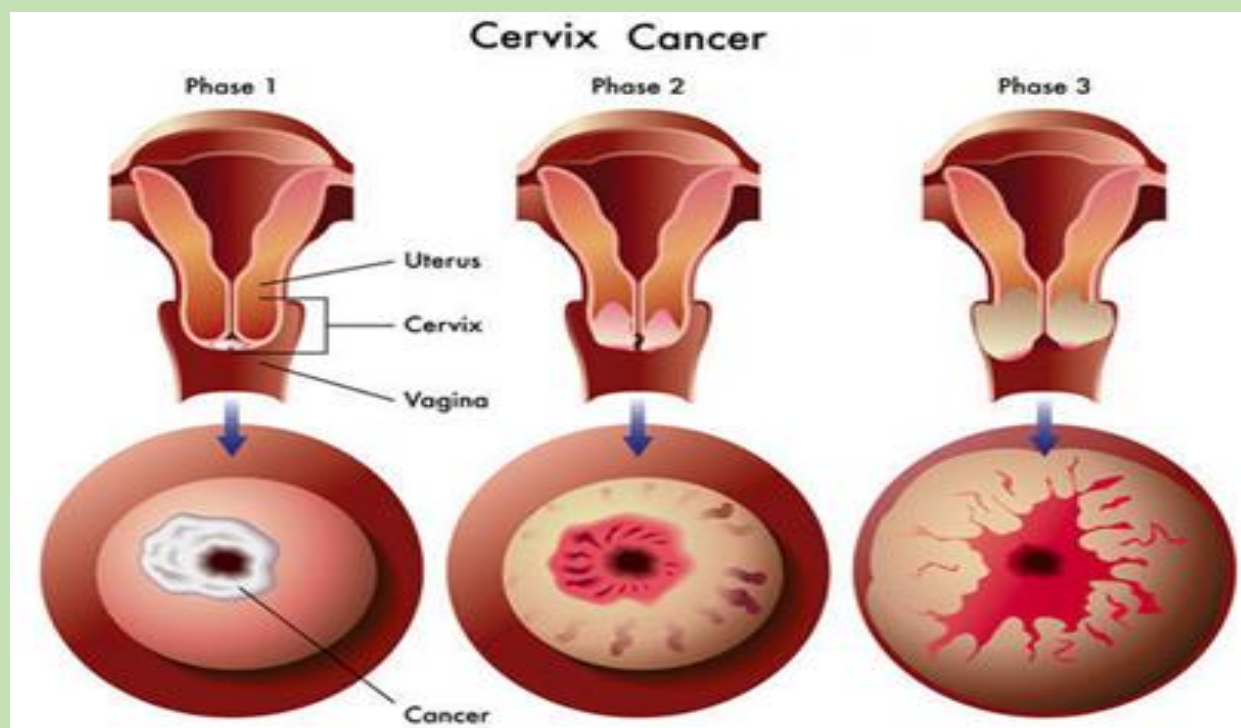
- Throughout the world there is rapid rise in cancers of female genital tract.
- Every 6<sup>th</sup> woman suffering from any of cancers of genital tract is an Indian. Most of these have identifiable precursors or precancerous lesions such as cervical intraepithelial lesions, vaginal intraepithelial, vulva intraepithelial, atypical endometrial hyperplasia for endometrial cancer while others like ovarian malignancies do not have identifiable precursors making screening modalities non-specific. There are also various risk factors involved.
- The bright side is, many of these cancers are preventable. There are screening methods available. And there are vaccines too for preventing cancers.
- vigilance and awareness are all it takes to prevent our own selves from these cancers.
- This booklet is an attempt to make you all aware of various screening methods and treatment options for prevention of female genital tract cancers and breast cancer.

**Together we can....FIGHT CANCER!**

# CERVICAL CANCER

- **What is cervical cancer?**

- Cervical cancer is cancer that starts in a woman's cervix. The cervix is the opening of the uterus. It connects the vagina (or birth canal) to the uterus (womb). Cervical cancer usually starts with changes to the cells on the cervix, called dysplasia. Cervical cancer is diagnosed when cells in the cervix mutate, or change. So, the cells first become pre-cancerous and then cancerous, forming growths on the surface of the cervix.
- So one must remember that these abnormal cells can be removed to prevent cancer, if found early



- **What are the symptoms of cervical cancer?**

- In the early stages of cervical cancer there are often no symptoms. The longer a woman has cervical cancer without treatment, the more likely she will have symptoms. Some of the symptoms of later stage cervical cancer can include:

- Heavy vaginal bleeding or discharge (more than usual)
- Bleeding after sex, between periods or after a pelvic exam
- Pain during sex or urination
- These symptoms may be caused by something else, but the only way to know for sure is to see your health care provider.

- **What are the risk factors for cervical cancer?**

- A risk factor is anything that increases the chance of getting a disease. Any woman can get cervical cancer, but some women are at higher risk because of factors such as:

- **Having the Human Papillomavirus Virus (HPV)**

- HPV causes nearly all cases of cervical cancer. It is the most common sexually transmitted infection. Both men and women can have HPV. Many different types of HPV can affect the cervix and only some of them cause abnormal cells that may become cancer.
- HPV often goes away on its own, but if it does not, it could cause cervical cancer in women. Women who become sexually active at a young age and have many sexual partners are at increased risk for HPV infections.

- **Not Getting Screened**

- Cervical cancer is most often found in women who have not been screened with the Pap (Papanicolaou) test in more than five years or who have never been screened at all.



## ➤ **Smoking**

- Women who smoke are about two times more likely to get cervical cancer, compared to women who do not smoke. Research shows nicotine in cigarettes may damage the cells of the cervix, which can lead to cervical cancer. Smoking also weakens the immune system, making it harder to fight off HPV infections

## ➤ **Aging**

- Women over the age of 30 are more likely to get cervical cancer.

## ➤ **Other risk factors for cervical cancer include:**

- Having been treated before for cervical cancer or for abnormal cells that may become cancer
- Using birth control pills for five years or longer
- Giving birth three or more times
- Having multiple sexual partners
- Having HIV, the virus that causes AIDS, or another condition that makes it hard for your body to fight off infections
- Having a mother who took DES (diethylstilbestrol) while pregnant with you.

## • **How can I lower my chances of getting cervical cancer?**

- Some risk factors, like age, cannot be controlled, but others can. Some ways to lower the risk of cervical cancer or prevent it entirely are:

## ➤ **Get Vaccinated**

- The HPV vaccine protects against the types of HPV that most often cause cervical cancer. It is recommended for both males and females.

- In females, the HPV vaccine helps to prevent cervical, vaginal and vulvar cancers. It also protects against cancer of the anus, mouth and throat.
- In males, the HPV vaccine helps to prevent cancer of the penis, anus, mouth and throat.

### ➤ **Get Screened**

- Cervical cancer can be prevented or found early with regular screening tests.
- See your health care provider regularly for a cervical cancer screening. Follow up with your provider if your screening results are not normal.
- There are various screening tests that can help prevent cervical cancer or find it early:

a) **pelvic examination: VIA, VILI**

b) **Pap test (or Pap Smear)**

c) **HPV test**

d) **Colposcopy**

#### • **What's the difference between a pelvic exam and a Pap test?**

- Many people confuse pelvic exams with Pap tests because they are usually done at the same time. During a pelvic exam, the health care provider feels the reproductive organs. The pelvic exam may help find diseases of the female organs, but it will not find cervical cancer at an early stage. To do that, a screening test is needed.

#### • **How often should I be screened for cervical cancer?**

- The following screening recommendations have been developed for women at ***average risk*** for cervical cancer.

- **Cervical Cancer Screening Recommendations for Women at Average Risk**

- Women should start cervical cancer screening at 21 years of age.
- Women ages 21 to 29 years should have a Pap test every three years  
Women ages 30 to 65 years have the choice to get a Pap test every three years, a HR HPV test every five years, or a Pap test and HR HPV test every five years.
- Women who are not having sex or who think they're too old to have a child should still have regular cervical cancer screenings. Women who have had the HPV vaccine still need regular screening.

- **When to stop screening for cervical cancer?**

- Women can stop getting screened if they are older than 65 and have had normal Pap results for many years. Women who have had their cervix removed during surgery for a non-cancerous reason, such as fibroids, may not need screening. Women should talk with their health care provider to decide what is best for them.

- **Where can I get a cervical cancer screening?**

- All government and private clinics, hospitals, medical colleges in urban area that provide gynecology services
- For rural and remote areas: auxiliary nurse midwives or ANM can perform basic screening in form of PAP test or VIA and VILI

- **How can one diagnose cancer of cervix?**

- If cervical cancer is suspected, your doctor is likely to start with a thorough examination of your cervix. A special magnifying instrument (colposcope) is used to check for abnormal cells.
  - a. **Punch biopsy**, which involves using a sharp tool to pinch off small samples of cervical tissue.
  - b. **Endocervical curettage**, which uses a small, spoon-shaped instrument (curet) or a thin brush to scrape a tissue sample from the cervix.

- If the punch biopsy or endocervical curettage is worrisome, your doctor may perform one of the following tests:
- **Electrical wire loop**, which uses a thin, low-voltage electrified wire to obtain a small tissue sample. Generally this is done under local anesthesia in the office.
- **Cone biopsy (conization)**, which is a procedure that allows your doctor to obtain deeper layers of cervical cells for laboratory testing. A cone biopsy may be done in a hospital under general anesthesia.

- **What are various types of treatments available once cancer of cervix is diagnosed?**

- Treatment for cervical cancer depends on several factors, such as the stage of the cancer, other health problems you may have and your preferences. Surgery, radiation, chemotherapy or a combination of the three may be used.

## 1. Surgery

- Early-stage cervical cancer is typically treated with surgery. Which operation is best for you will depend on the size of your cancer, its stage and whether you would like to consider becoming pregnant in the future.
- Options might include:
  - a) Surgery to cut away the cancer only.** For a very small cervical cancer, it might be possible to remove the cancer entirely with a cone biopsy. This procedure involves cutting away a cone-shaped piece of cervical tissue, but leaving the rest of the cervix intact. This option may make it possible for you to consider becoming pregnant in the future.
  - b) Surgery to remove the cervix (trachelectomy).** Early-stage cervical cancer might be treated with a radical trachelectomy procedure, which removes the cervix and some surrounding tissue. The uterus remains after this procedure, so it may be possible to become pregnant, if you choose.



- c) **Surgery to remove the cervix and uterus (hysterectomy).** Most early-stage cervical cancers are treated with a radical hysterectomy operation, which involves removing the cervix, uterus, part of the vagina and nearby lymph nodes. A hysterectomy can cure early-stage cervical cancer and prevent recurrence. But removing the uterus makes it impossible to become pregnant.

## 2. Radiation

- Radiation therapy uses high-powered energy beams, such as X-rays or protons, to kill cancer cells. Radiation therapy is often combined with chemotherapy as the primary treatment for locally advanced cervical cancers. It can also be used after surgery if there's an increased risk that the cancer will come back.
- Radiation therapy can be given:
  - **Externally**, by directing a radiation beam at the affected area of the body (external beam radiation therapy)
  - **Internally**, by placing a device filled with radioactive material inside your vagina, usually for only a few minutes (brachytherapy)
  - **Both** externally and internally
- If you haven't started menopause yet, radiation therapy might cause menopause. If you might want to consider becoming pregnant after radiation treatment, ask your doctor about ways to preserve your eggs before treatment starts.

## 3. Chemotherapy

- Chemotherapy is a drug treatment that uses chemicals to kill cancer cells. It can be given through a vein or taken in pill form. Sometimes both methods are used.
- For locally advanced cervical cancer, low doses of chemotherapy are often combined with radiation therapy, since chemotherapy may enhance the effects of the radiation. Higher doses of chemotherapy might be recommended to help control symptoms of very advanced cancer.

- **Targeted therapy**
- Targeted drug treatments focus on specific weaknesses present within cancer cells. By blocking these weaknesses, targeted drug treatments can cause cancer cells to die. Targeted drug therapy is usually combined with chemotherapy. It might be an option for advanced cervical cancer.
- **Immunotherapy**
- Immunotherapy is a drug treatment that helps your immune system to fight cancer. For cervical cancer, immunotherapy might be considered when the cancer is advanced and other treatments aren't working
- **Supportive (palliative) care**
- Palliative care is specialized medical care that focuses on providing relief from pain and other symptoms of a serious illness. Palliative care is provided by a team of doctors, nurses and other specially trained professionals. Palliative care teams aim to improve the quality of life for people with cancer and their families.

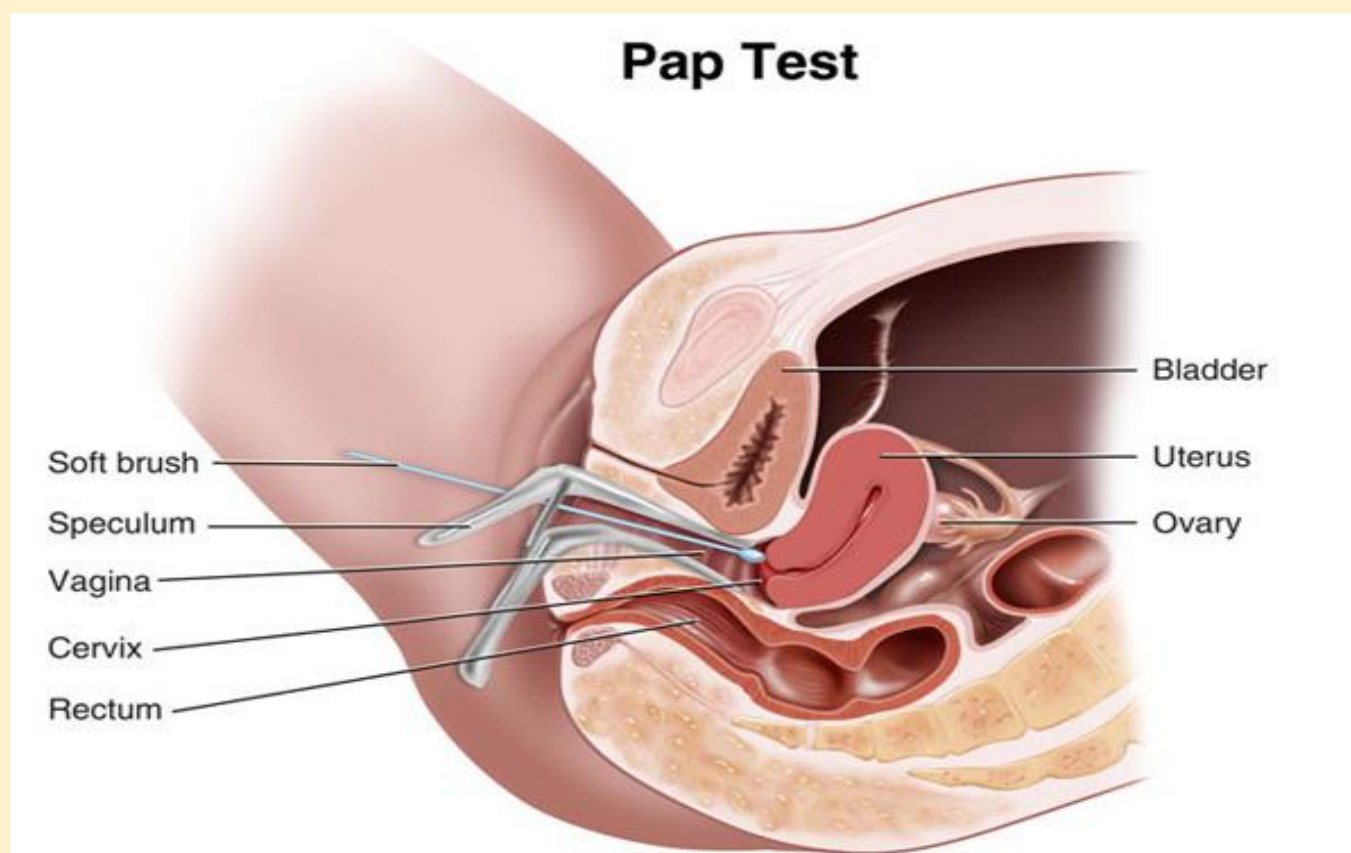
# PAP TEST (PAP SMEAR)

PAP test is where a doctor collects few cells from this area and tests them for presence of cancerous cells amongst them. The cancer in your cervix, can grow at an alarmingly fast rate, it is the most efficient way of diagnosing the disease early on. The test aims to detect cells like cervical intraepithelial neoplasia (CIN) or cervical dysplasia.

- **When should you take the test?**

- The age bracket for women contracting cervical cancer has widened deeply. So ideally, if you're above the age of 21, you should get your cervix checked. You should then schedule an exam every 2 years. For women above the age of 35, it is advisable to schedule a test every year. If your reading is negative, even after you're regularly getting yourself checked, then you can have one done every three-four years.

- **How is a Pap smear test done & does it hurt?**



- Once you go for the test, the doctor will ask you to place your feet on stirrups. After a pelvic exam, a speculum is used to open the vagina so that the cervical cells can be collected. They are picked up by a medical brush. These cells are then tested for cancer. The procedure involves collecting of samples only, so it does not hurt. But it may cause slight discomfort.
- **How can you prepare for your Pap test?**
  - Make sure you inform your doctor about all the medicines you are on; including birth control. These medications may affect your test results.
  - Mention if you've had an abnormal pap result in the past
  - Pap testing should be avoided if you're menstruating. The blood may affect accuracy of the test result.
  - Avoid use of tampons and avoid having intercourse 24 hours before you have your test scheduled
  - Do not apply any vaginal medicines before the test
- **More about PAP**
  - Having an abnormal pap smear does not mean you have cancer. It just means that the cells in your cervix do not look normal. It may mean that you are HPV positive.
  - In women who are undergoing menopause, the test may be abnormal because the cell structure is changing.





- If the test results are positive, then doctors will perform a colposcopy where they will take a closer look at your cervix. This is done using an instrument very much like a magnifying glass.  
If there is a trace of suspicion, then a biopsy is done.
- Anyone who has undergone a pap smear test and an abnormal testing procedure, must undergo regular follow-ups. Sometimes the cancerous cells grow very slowly and can be detected only during regular follow-ups

# HPV TEST

- **What exactly is HPV testing?**

- Human papillomavirus (HPV) is a group of more than 150 related viruses. Some types of HPV are considered high risk because they can cause cancer.
- HPV testing detects the genetic material (DNA or messenger RNA) of high-risk HPV (hrHPV), primarily to screen for cervical cancer or to determine whether you may be at risk of cervical cancer.
- Some types of HPV can cause skin warts, while other types can cause genital warts (also called condylomata).
- Genital HPV infection is one of the most common sexually transmitted diseases (i.e., spread through oral, anal, or genital sex)
- **Low-risk HPV**—some HPV strains cause genital warts but rarely cause cancer. HPV 6 and HPV 11 cause 90% of all genital warts but are considered "low risk" because they rarely lead to cancer. These low-risk types can be diagnosed through visual inspection and, therefore, do not require testing.
- **High-risk HPV**—there are 14 high-risk types of HPV that can lead to cancer (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66 and 68).
- Two HPV types, 16 and 18, cause 80% of all cervical cancers. These high-risk types can be detected with an HPV test. Almost all cervical cancers are caused by persistent infections with high-risk HPV.
- In addition, some studies have also shown that persistent oral infections with high-risk types of HPV are strongly associated with oral cancers, including cancer of the mouth and throat (oropharyngeal cancer).

- Anal cancer has also been linked to HPV types 16 and 18. These types are also linked to other cancers, such as those of the vagina and penis.
- The HPV test looks for types of HPV that cause most cases of cervical cancer. The HPV test can be done at the same time as the Pap test.
- A positive result for HR HPV means that your health care provider should follow up with you often to make sure that abnormal cells do not develop.

- **Why Get Tested for HPV?**

- To screen for infections with the high-risk types of HPV (hrHPV) that can cause cervical cancer or to follow up on an abnormal Pap smear (Pap test)

- **Why do I need an HPV test?**

- You may need an HPV test if you:
  - Are a woman aged 30-65. Every 5 years with a Pap smear (preferred) or HPV molecular test alone every 5 years (alternative strategy)
  - If you are a woman of any age that gets an abnormal result on a pap smear
  - HPV testing is *not* recommended for women younger than 30 who have had normal pap smear results. Cervical cancer is rare in this age group, but HPV infections are common. Most HPV infections in young women clear up without treatment.
  - You may be screened at a younger age and more frequently if you have risk factors, such as a weakened immune system or personal history of precancerous lesions

- **What happens during an HPV test?**

- For an HPV test, you will lie on your back on an exam table, with your knees bent. You will rest your feet in supports called stirrups. Your health care provider will use a plastic or metal instrument called a speculum to open the vagina, so the cervix can be seen. Your provider will then use a soft brush or plastic spatula to collect cells from the cervix. If you are also getting a pap smear, your provider may use the same sample for both tests, or collect a second sample of cells.

- **Will I need to do anything to prepare for the test?**

- You should not have the test while you are having your period. You should also avoid certain activities before testing. Starting two days before your test, you **should not**:
  - Use tampons
  - Use vaginal medicines or birth control foams
  - Douche
  - Have sex

- **Are there any risks to the test?**

- There are no known risks to an HPV test. You may feel some mild discomfort during the procedure. Afterward, you may have a little bleeding or other vaginal discharge.

- **What do the results mean?**

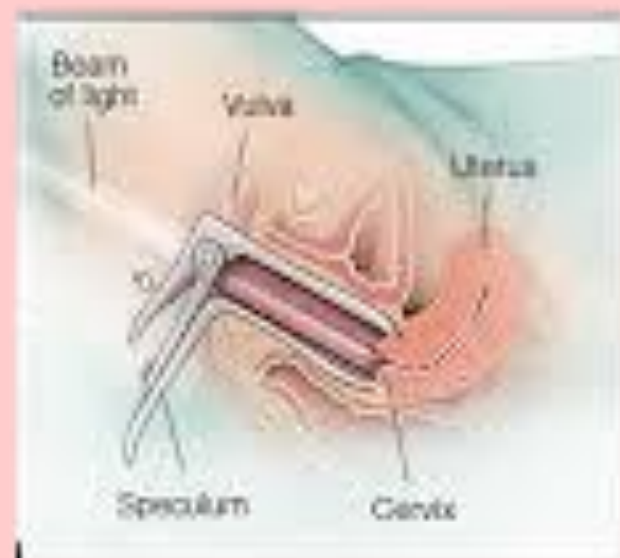
- Your results will be given as negative, also called normal, or positive, also called abnormal.
- **Negative/Normal.** No high-risk HPV was found. Your health care provider may recommend you come back for another screening in five years, or sooner depending on your age and medical history.



- **Positive/Abnormal.** High-risk HPV was found. It does not mean you have cancer. It means you may be at higher risk for getting cervical cancer in the future. Your health care provider may order more tests to monitor and/or diagnose your condition. These tests may include:
  - **Colposcopy**, a procedure in which your provider uses a special magnifying tool (colposcope) to look at the vagina and cervix
  - **Cervical biopsy**, a procedure in which your provider takes a sample of tissue from the cervix to look at under a microscope
  - **More frequent co-testing** (HPV and pap smear)
- If your results were positive, it's important to get regular or more frequent tests. It can take decades for abnormal cervical cells to turn into cancer. If found early, abnormal cells can be treated before they become cancerous. It's much easier to prevent cervical cancer than to treat it once it develops.
- **Is there anything else I need to know about an HPV test?**
  - There is no treatment for HPV, but most infections clear up on their own. You can take steps to reduce your risk of getting HPV. Having sex with only one partner and having safe sex (using a condom) can lower your risk. Vaccination is even more effective. We have described all you need to know about HPV vaccine in later part of this brochure.

# COLPOSCOPY

- **What's a colposcopy and why do I need one?**
- A colposcopy is used to find cancerous cells or abnormal cells that can become cancerous in the cervix, vagina, or vulva. These abnormal cells are sometimes called "precancerous tissue." A colposcopy also looks for other health conditions, such as genital warts or noncancerous growths called polyps. A special instrument called a colposcope gives your doctor a lighted, highly magnified view of the tissues that make up your cervix, vagina, and vulva. The colposcope is placed close to the body, but it does not enter the body.
- **How is a colposcopy different than a pap test?**
- A PAP test, involves gathering a sample of cells from your cervix and testing them for early changes that can lead to cervical cancer. If your pap test showed some abnormal cells and you tested positive for HPV, a colposcopy can help confirm and diagnose potential problems. HPV, or human papillomavirus, is a virus that may raise your risk for certain types of cancer, including cervical, vaginal, and vulvar cancers. Your doctor may also recommend a colposcopy if you have symptoms or signs of cervical, vaginal, or vulvar cancer.
- **What happens during a colposcopy?**



- A colposcopy can be done in the office of your primary care doctor or your gynaecologist. After lying down on the exam table, you'll place your heels in the stirrups at the end of the table. An instrument called a speculum will be inserted inside your vagina to open it up and give your doctor a clearer view of your cervix. Your cervix, vagina, and vulva will be lightly wiped with a acetic acid or vinegar followed by iodine solution that helps your doctor better see abnormal areas. The colposcope is positioned between your legs as close to your vagina as possible, but it never goes inside your body.

- **What happens if my doctor sees an abnormal area during the colposcopy?**

- During the colposcopy, your doctor may perform a biopsy on areas that look unhealthy. A biopsy is the removal of a small amount of tissue for examination by a pathologist. While a colposcopy can suggest that you have cancer or precancerous tissue, only a biopsy can actually make a diagnosis. If an abnormal area is small, your doctor may be able to remove all of it during the biopsy.
- Your doctor may also do an endocervical curettage biopsy to check an area inside the opening of the cervix that can't be seen during a colposcopy. You may feel pinching or discomfort similar to menstrual cramps during some biopsy types. Sometimes a local anaesthetic is used to numb the area before the biopsy.

- **What should I do before a colposcopy?**

- Your doctor may suggest that, for 24 to 48 hours before a colposcopy, you stop using vaginal medicines, creams, powders, or foams. During this period, you should also stop having vaginal sex, using tampons, or placing any other products in your vagina. Don't schedule a colposcopy during the week of your period, and be sure to let your doctor know if you're pregnant or might be pregnant before your appointment.

- **Will I have any side effects from the colposcopy?**

- There are no direct side effects that a colposcopy will cause. However, if you have a biopsy during a colposcopy, then you could have a dark vaginal discharge for a few days. This comes from the solution doctors use to reduce bleeding that can happen with a biopsy. You may also have some bleeding, cramping, or soreness. If these or other symptoms get worse or don't go away, or you have extremely heavy bleeding, severe pain in your lower abdomen or pelvis, or a fever after the examination, call your doctor immediately. Like before the colposcopy, don't have vaginal sex or use any type of products or medications that go inside the vagina until your doctor says it's OK

- **What happens when the biopsy results come back?**

- If a biopsy taken during your colposcopy shows that you have precancerous tissue, the tissue may need to be removed to keep cancer from developing. Your doctor will explain the different removal methods that may be right for you. If the biopsy shows that cancer is present, you may need to have more tests before you begin treatment. During treatment for any precancerous tissue or cancer, you may have additional colposcopies to see how well a treatment is working and to look for additional abnormal changes over time.

# HPV VACCINE

- **Who should get HPV vaccine?**

- Two doses of HPV vaccine given at least six months apart are recommended for 11- and 12-year-olds to protect them from HPV cancers and genital warts. Thirteen and 14-year-old teens can also receive HPV vaccination on the new two-dose schedule, instead of the original three-dose schedule.
- Older teens and young adults can still benefit from the HPV vaccine - even if they are sexually active. The vaccine will protect them from the most common types of HPV. Young women can get the vaccine through age 26.
- Teens who are 15 years and older, and young adults, will still need three doses of HPV vaccine.
- Individuals with weak immune systems (including people living with HIV/AIDS) ages 9 through 26, should get the three-dose vaccine series.

- **Why is HPV vaccine recommended at age 11 or 12 years?**

- The HPV vaccine is recommended for both boys and girls of age 11 to 12 so they are protected before ever being exposed to the virus in some countries. In India as of now HPV vaccine is recommended only to be given for girls.
- Studies show the vaccine produces a stronger immune response in preteen and young teens compared to older teens and young adults. In fact, two shots given at least six months apart for preteens and teens younger than 15 provides the same protection as three shots for those older than 15.



- There is no reason to wait to vaccinate until teens reach puberty or start having sex. Preteens should receive all recommended doses of the HPV vaccine series long before they begin any type of sexual activity.

- **Why is the HPV vaccine recommended?**

- The HPV vaccine is a safe and effective way to protect against the serious health problems that HPV can cause. HPV is the main cause of genital warts in men and women. It can also cause cancers of cervix, vagina, and vulva in women; cancer of the penis in men; and cancers of the anus and the mouth or throat, in both women and men. Most of these diseases could be prevented with the HPV vaccine.

- **How is the HPV vaccine given?**

- The vaccine is given as a series of two or three shots, depending on when it is started..
- If your child has started, but not completed the HPV vaccine series, talk with your doctor about completing the series so he or she will have full protection.
- The shots can be given at the same time as other recommended vaccines for preteens and teens, including:
  - Tdap (which prevents tetanus, diphtheria, and pertussis, or whooping cough)
  - Meningococcal vaccine (which prevents meningitis)
  - Flu vaccine

- **Is the HPV vaccine safe?**

- Yes. The HPV vaccine is very safe. The CDC and the Food and Drug Administration (FDA) continue to monitor the vaccine's safety very carefully.

- **What are the side effects of the HPV vaccine?**

- Common, mild side effects include pain at the injection site, low-grade fever, dizziness, and nausea. Some preteens and teens might faint after getting the vaccine, which is not uncommon when young people get shots. It is recommended that adolescents sit or lie down for 15 minutes after getting the shot. Serious side effects are rare.

- **Who should not be vaccinated?**

- Anyone who has ever had a life-threatening allergic reaction to any component of HPV vaccine, or to a previous dose of HPV vaccine, should not get the vaccine. Tell your doctor about any severe allergies, including an allergy to latex or yeast.

# VULVAL CANCER

- **What is vulvar cancer?**

- Vulvar cancer is cancer that starts in the vulva. This is the outer part of the female reproductive system. This is also called the external genitalia. This area includes the opening of the vagina, labia (vaginal lips), clitoris, and skin and tissue covering the pubic bone. Vulvar cancer is rare. It only accounts for about 4 percent of all female reproductive organ cancers. If it's found in its early stages, vulvar cancer is highly curable. Fortunately, most cases are diagnosed in the earlier stages. Most often, the cancer occurs on inner edges of vaginal lips.

Vulvar cancer affects the outer part of a woman's reproductive system: opening of the vagina, labia (vaginal lips), clitoris, and skin and tissue covering the pubic bone. This rare cancer usually occurs in women older than 50.



Cancer in the labia area



Cancer in the clitoris area



Cancer usually affects inner edges of vaginal lips but can occur in other spots.



HPV

The cause is unknown, but risk factors include a history of cervical cancer, vaginal cancer, and HPV.

Common symptoms include pain during sex or with urination, vulvar itching, thickening or lump on the labia, and blood or discharge unrelated to periods.



Your health care provider can see early changes in the vulva during a routine pelvic exam. Your doctor will likely do a biopsy to get a small piece of tissue to check. An instrument called a colposcope may be used to do the biopsy.





- **Who gets vulvar cancer?**

- Most women with vulvar cancer are older than 50 years. More than half are older than 70 years at the time they learn they have cancer.

- **Who is at risk for vulvar cancer?**

- Certain factors can make women more likely to get vulvar cancer. Just because a woman has one or more risk factors does not mean she will get vulvar cancer. In fact, a woman can have all of the risk factors and still not get the disease. Or, a woman can have no known risk factors and get vulvar cancer. Experts aren't exactly sure what causes vulvar cancer.
- However, possible risk factors can include:

- **Age.** Women older than 50 years are more at risk for squamous cell carcinoma. This is the most common type of vulvar cancer.
- **Human papillomavirus (HPV) infection.** HPV is a group of viruses that can cause genital warts. HPV has been linked to certain cancers. Women infected with certain types of HPV may be more at risk for vulvar cancer.
- **Smoking.** Smoking increases your risk for vulvar cancer. If you smoke and have been infected with a high-risk strain of HPV, you're at an even greater risk for vulvar cancer.
- **Vulvar intraepithelial neoplasia (VIN).** This condition causes a change in the cells on the surface of the vulva. Women with VIN may be more likely to get vulvar cancer.
- **Lichen sclerosus.** Women with this condition have vulvar skin that's itchy and thin. These women are at a slightly higher risk of getting vulvar cancer.

- **Human immunodeficiency virus (HIV) infection.** Women with HIV are more at risk for vulvar cancer.
- **History of cervical cancer.** Having cervical cancer is linked with a higher risk for vulvar cancer. The two types of cancer share some risk factors. These include having certain types of HPV infections and smoking.
- **Immunosuppression.** Women whose immune system is weakened are at higher risk of vulvar cancer. This may include women with HIV. It may also include women who have had a transplant and are taking medicine to prevent rejection.

- **What are the symptoms of vulvar cancer?**

- A woman can have vulvar cancer without having any symptoms. Note that some symptoms of vulvar cancer are similar to the symptoms of VIN. Symptoms of vulvar cancer can include:
  - Vulvar itching that does not improve
  - Change in skin colour or feel of vulva
  - Red, white, or wart-like bump or sore on the vulva
  - Pain when urinating
  - Burning or bleeding and discharge that's not related to the menstrual cycle
  - Enlarged glands (lymph nodes) in the groin
  - A new mole on the vulva or a change in a mole's size or appearance, including irregular color or borders
  - An ulcer or cracking of the vulvar skin that does not heal



- **How is Vulvar Cancer Screening done?**

- There are no vulvar cancer screening methods available that have been shown to improve patient outcomes. Cancer screening tests are generally performed on a routine basis to detect cancer in patients who are not experiencing any symptoms. Currently, no screening test has proven reliable enough to use in this manner for the early detection of vulvar cancer.
- In the absence of an effective and widely used vulvar cancer screening method, some of the best ways for a woman to detect vulvar cancer are to:
  - **Perform regular self-examinations** – Using a mirror, a woman can examine the skin of her vulva for growths, nodules, bumps and sores, as well as any areas that appear to be irritated, red, white or darkly pigmented.
  - **Become familiar with her body and what is normal for her** – Upon noticing any changes in her vulva, including itching and rashes, a woman should promptly consult with a health care provider to obtain a proper diagnosis.
  - **Have a yearly woman's wellness examination** – During a regular check-up, a physician can perform a pelvic examination to check the vulvar area for visible abnormalities (neither a Pap test nor an HPV test can detect vulvar cancer).

- **How is vulvar cancer diagnosed?**

- If you have symptoms of vulvar cancer, see your healthcare provider. He or she may do the following:
  - **Clinical history and physical exam.** Your healthcare provider will ask questions to learn about your symptoms, personal and family history, and risk factors. A thorough physical exam includes a pelvic exam and a Pap test. These can also help rule out other problems.
  - **HPV test.** Your healthcare provider can test for HPV at the same time as a Pap test.

- **Colposcopy of the vulva.** For this test, your healthcare provider uses a tool called a colposcope. This tool magnifies cells on the surface of the cervix, vagina, and vulva. It allows your healthcare provider to select suspicious looking spots of tissue to remove and examine. This is called a biopsy.
- **Biopsy.** Your healthcare provider may take a small piece of tissue from the vulva. A pathologist looks at it under a microscope to check for cancer cells.

- **How is vulvar cancer treated?**

- Your treatment depends on the type of vulvar cancer you have. It also depends on the results of lab tests and the stage or extent of the cancer. The most common ways to treat vulvar cancer are with surgery and/or radiation. You may also need chemotherapy.
- For very small cancers that are in only one spot, a laser beam can be used to burn off the top layer of skin that contains the cancer cells.
- Surgery called excision or simple partial vulvectomy is often used to remove abnormal cells and some healthy tissue nearby. For large cancers, an operation called a vulvectomy may be needed. In this operation, all or part of the vulva is removed.

- **DOs and DON'Ts in Managing Vulvar Cancer:**

- DO have regular check-ups, to catch problems early.
- DO reduce your risk factors as much as possible. A large percentage of women with vulvar cancer have HPV infection. Practice safe sex. Use condoms if you think that there's any chance of catching an STD.
- DO talk to your health care provider about getting vaccinated for HPV (Gardasil®) if you are between ages 13 and 26.
- DO call your health care provider if you notice skin changes on your labia.
- DO call your health care provider if you have vaginal bleeding that's not related to your period.
- DON'T ignore thickening of the skin or sores on your labia.

# VAGINAL CANCER

- **what is vaginal cancer?**
- Vaginal cancer is a rare cancer that occurs in your vagina — the muscular tube that connects your uterus with your outer genitals. Vaginal cancer most commonly occurs in the cells that line the surface of your vagina, which is sometimes called the birth canal.
- While several types of cancer can spread to your vagina from other places in your body, cancer that begins in your vagina (primary vaginal cancer) is rare.
- A diagnosis of early-stage vaginal cancer has the best chance for a cure. Vaginal cancer that spreads beyond the vagina is much more difficult to treat.
- **What are the causes of vaginal cancers?**
- It's not clear what causes vaginal cancer. In general, cancer begins when healthy cells acquire a genetic mutation that turns normal cells into abnormal cells.
- Healthy cells grow and multiply at a set rate, eventually dying at a set time. Cancer cells grow and multiply out of control, and they don't die. The accumulating abnormal cells form a mass (tumour).
- Cancer cells invade nearby tissues and can break off from an initial tumour to spread elsewhere in the body (metastasize).

- **What are risk factors for vaginal cancers?**

- Factors that may increase your risk of vaginal cancer include:
- **Increasing age.** Your risk of vaginal cancer increases as you age. Most people who are diagnosed with vaginal cancer are older than 60.
- Atypical cells in the vagina called **vaginal intraepithelial neoplasia**. Being diagnosed with vaginal intraepithelial neoplasia (VAIN) increases your risk of vaginal cancer. VAIN is frequently caused by the sexually transmitted human papillomavirus (HPV), which can cause cervical, vaginal and vulvar cancers, among others.
- **Exposure to miscarriage prevention drug.** If your mother took a drug called diethylstilbestrol (DES) while pregnant in the 1950s you may have an increased risk of a certain type of vaginal cancer called clear cell adenocarcinoma.
- Other risk factors that have been linked to an increased risk of vaginal cancer include:
  - Multiple sexual partners
  - Early age at first intercourse
  - Smoking
  - HIV infection

- **What are symptoms of vaginal cancer?**

- Early vaginal cancer may not cause any signs and symptoms. As it progresses, vaginal cancer may cause signs and symptoms such as:
- Unusual vaginal bleeding, for example, after intercourse or after menopause
- Watery vaginal discharge
- A lump or mass in your vagina
- Painful urination
- Frequent urination
- Constipation
- Pelvic pain

- **When to see a doctor?**

- See your doctor if you have any signs and symptoms related to vaginal cancer, such as abnormal vaginal bleeding. Since vaginal cancer doesn't always cause signs and symptoms, follow your doctor's recommendations about when you should have routine pelvic exams.

- **How can vaginal cancer be prevented?**

- There is no sure way to prevent vaginal cancer. However, you may reduce your risk if you:
  - **Undergo regular pelvic exams and Pap tests.** You can increase the chance that vaginal cancer is discovered early by having routine pelvic exams and Pap tests. When discovered in its earliest stages, vaginal cancer is more likely to be cured. Discuss with your doctor when to begin these tests and how often to repeat them.
  - **Ask your doctor about the HPV vaccine.** Receiving a vaccination to prevent HPV infection may reduce your risk of vaginal cancer and other HPV-related cancers. Ask your doctor whether an HPV vaccine is appropriate for you.
  - **Don't smoke.** If you smoke, quit. If you don't smoke, don't start. Smoking increases the risk of vaginal cancer.
  - **How often you undergo these screenings** depends on your risk factors for cancer and whether you've had abnormal Pap tests in the past. Talk to your doctor about how often you should have these health screenings.

- **What are various tests to diagnose vaginal cancer ?**

- Your doctor may conduct a **pelvic exam and Pap test** to check for abnormalities that may indicate vaginal cancer. Based on those findings, your doctor may conduct other procedures to determine whether you have vaginal cancer, such as:



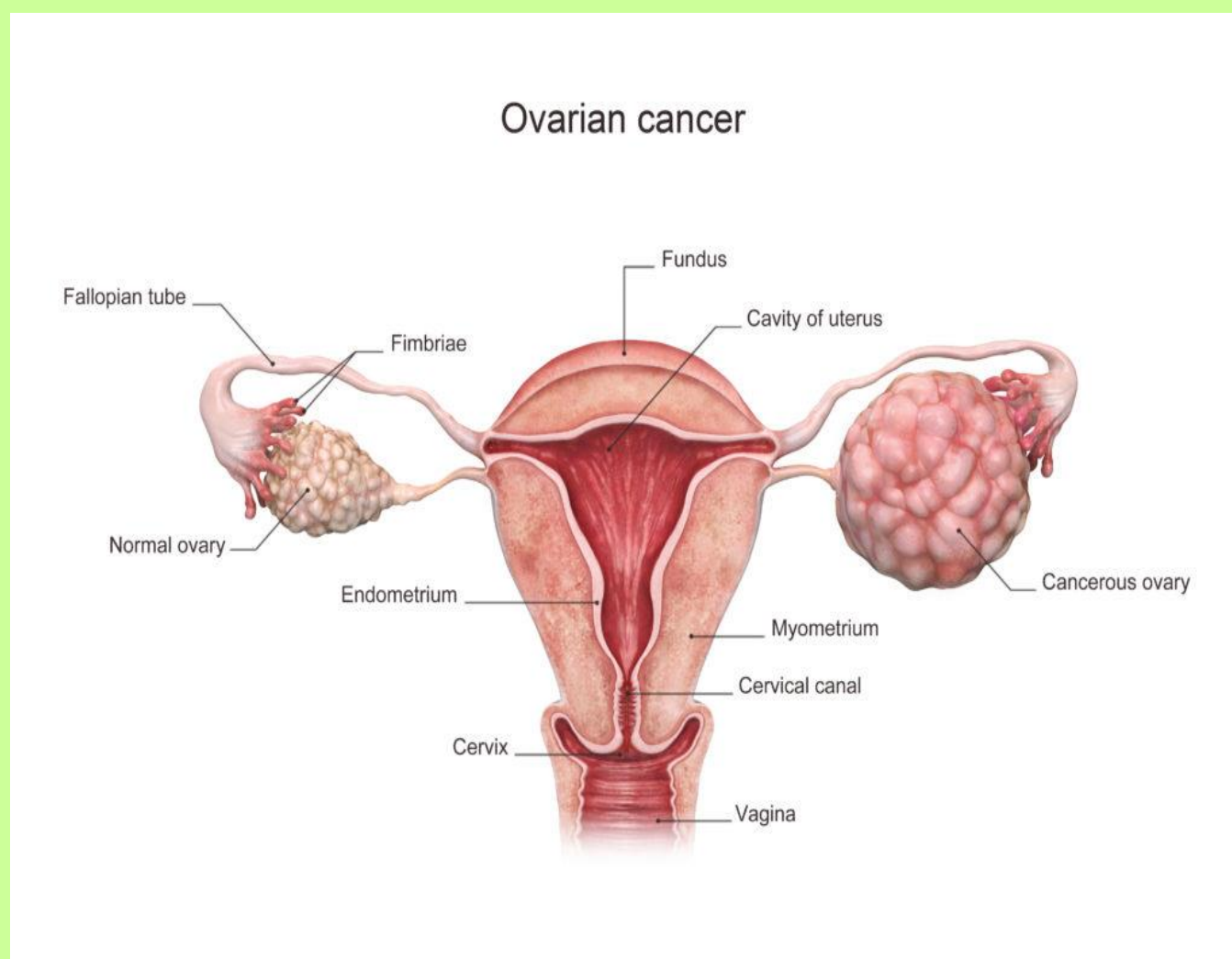
- **Colposcopy** is an examination of your vagina with a special lighted magnifying instrument called a colposcope. It allows your doctor to magnify the surface of your vagina to see any areas of abnormal cells.
- **Biopsy:** Removing a sample of suspicious vaginal tissue for testing. Your doctor may take a biopsy of tissue during a colposcopy exam. Your doctor sends the tissue sample to a laboratory for testing
  
- **How is vaginal cancer treated?**
  - Treatment for vaginal cancer typically includes surgery and radiation.
  - **Surgery**
    - Types of surgery that may be used to treat vaginal cancer include:
      - **Removal of small tumors or lesions.** Cancer limited to the surface of your vagina may be cut away, along with a small margin of surrounding healthy tissue to ensure that all of the cancer cells have been removed.
      - **Removal of the vagina (vaginectomy).** Removing part of your vagina (partial vaginectomy) or your entire vagina (radical vaginectomy) may be necessary to remove all of the cancer. Depending on the extent of your cancer, your surgeon may recommend surgery to remove your uterus and ovaries (hysterectomy) and nearby lymph nodes (lymphadenectomy) at the same time as your vaginectomy.
      - **Removal of the majority of the pelvic organs (pelvic exenteration).** This extensive surgery may be an option if cancer has spread throughout your pelvic area or if your vaginal cancer has recurred.
  
- **Radiation therapy**
  - Radiation therapy uses high-powered energy beams, such as X-rays, to kill cancer cells. Radiation can be delivered two ways:
    - **External radiation.** External beam radiation is directed at your entire abdomen or just your pelvis, depending on the extent of your cancer..

- **Internal radiation.** During internal radiation (brachytherapy), radioactive devices — seeds, wires, cylinders or other materials — are placed in your vagina or the surrounding tissue. After a set amount of time, the devices may be removed. Those with very early-stage vaginal cancer may receive internal radiation only. Others may receive internal radiation after undergoing external radiation.
- **Other options**
- If surgery and radiation can't control your cancer, you may be offered other treatments, including:
  - **Chemotherapy.** Chemotherapy uses chemicals to kill cancer cells. It isn't clear whether chemotherapy is useful for treating vaginal cancer. For this reason, chemotherapy generally isn't used on its own to treat vaginal cancer. Chemotherapy may be used during radiation therapy to enhance the effectiveness of radiation.

# OVARIAN CANCER

- **What is ovarian cancer?**

- Ovarian cancer is a type of cancer that begins in the ovaries. The female reproductive system contains two ovaries, one on each side of the uterus. The ovaries — each about the size of an almond — produce eggs (ova) as well as the hormones estrogen and progesterone.



- Ovarian cancer often goes undetected until it has spread within the pelvis and abdomen. At this late stage, ovarian cancer is more difficult to treat. Early-stage ovarian cancer, in which the disease is confined to the ovary, is more likely to be treated successfully.

- **What are the symptoms of ovarian cancer?**

- Early-stage ovarian cancer rarely causes any symptoms. Advanced-stage ovarian cancer may cause few and nonspecific symptoms that are often mistaken for more common benign conditions.

- Signs and symptoms of ovarian cancer may include:

- Abdominal bloating or swelling
- Quickly feeling full when eating
- Weight loss
- Discomfort in the pelvis area
- Changes in bowel habits, such as constipation
- A frequent need to urinate
- Changes in menstruation pattern

- **When to see a doctor?**

- Make an appointment with your doctor if you have any signs or symptoms that worry you.
- If you have a family history of ovarian cancer or breast cancer, talk to your doctor about your risk of ovarian cancer.
- Your doctor may refer you to a genetic counsellor to discuss testing for certain gene mutations that increase your risk of breast and ovarian cancers.

- **What are causes of ovarian cancers?**

- It's not clear what causes ovarian cancer, though doctors have identified factors that can increase the risk of the disease.
- In general, cancer begins when a cell develops errors (mutations) in its DNA. The mutations tell the cell to grow and multiply quickly, creating a mass (tumour) of abnormal cells. The abnormal cells continue living when healthy cells would die. They can invade nearby tissues and break off from an initial tumour to spread elsewhere in the body (metastasize)

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- **Types of ovarian cancer**

- The type of cell where the cancer begins determines the type of ovarian cancer you have. Ovarian cancer types include:
- **Epithelial tumours**, which begin in the thin layer of tissue that covers the outside of the ovaries. About 90 percent of ovarian cancers are epithelial tumours.

- **Stromal tumours**, which begin in the ovarian tissue that contains hormone-producing cells. These tumours are usually diagnosed at an earlier stage than other ovarian tumours. About 7 percent of ovarian tumours are stromal.
- **Germ cell tumours**, which begin in the egg-producing cells. These rare ovarian cancers tend to occur in younger women.
- **What are the risk factors for ovarian cancer?**
  - Factors that can increase your risk of ovarian cancer include:
    - **Older age.** Ovarian cancer can occur at any age but is most common in women ages 50 to 60 years.
    - **Inherited gene mutations.** A small percentage of ovarian cancers are caused by gene mutations you inherit from your parents. The genes known to increase the risk of ovarian cancer are called breast cancer gene 1 (BRCA1) and breast cancer gene 2 (BRCA2). These genes also increase the risk of breast cancer. Other gene mutations, including those associated with Lynch syndrome, are known to increase the risk of ovarian cancer.
    - **Family history of ovarian cancer.** People with two or more close relatives with ovarian cancer have an increased risk of the disease.
    - **Estrogen hormone replacement therapy**, especially with long-term use and in large doses.
    - Has history of endometriosis
    - Started menstruating at an early age (before 12)
    - Late menopause
    - Has never given birth
    - Had her first child after 30
    - Experienced menopause after 50
    - Never took oral contraceptives
    - Infertility
    - Is obese
    - Has had hormone replacement therapy



- **Are there any preventive measures for avoiding ovarian cancers?**
  - There's no sure way to prevent ovarian cancer. But there may be ways to reduce your risk:
  - **Consider taking birth control pills.** Ask your doctor whether birth control pills may be right for you. Women who use oral contraceptives may have a reduced risk of ovarian cancer. But oral contraceptives do have risks, so discuss whether the benefits outweigh those risks based on your situation.
  - **Discuss your risk factors with your doctor.** If you have a family history of breast and ovarian cancers, bring this up with your doctor. If your doctor found you to have a gene mutation that increases your risk of ovarian cancer, you may have to consider surgery to remove your ovaries to prevent cancer.
- **What are various screening tests for ovarian cancer**
  - Screening tests and exams are used to detect a disease, like cancer, in people who don't have any symptoms but fall in high risk category.
  - The 2 tests used most often (in addition to a complete pelvic exam) to screen for ovarian cancer are *transvaginal ultrasound* (TVUS) and the *CA-125* blood test.
  - **TVUS (transvaginal ultrasound)** is a test that uses sound waves to look at the uterus, fallopian tubes, and ovaries by putting an ultrasound wand into the vagina. It can help find a mass (tumour) in the ovary, but it can't actually tell if a mass is cancer or benign. When it is used for screening, most of the masses found are not cancer.
  - The **CA-125 blood test** measures the amount of a protein called CA-125 in the blood. Many women with ovarian cancer have high levels of CA-125. This test can be useful as a tumour marker to help guide treatment in women known to have ovarian cancer, because a high level often goes down if treatment is working. But checking CA-125 levels has not been found to be as useful as a screening test for ovarian cancer.

- The problem with using this test for ovarian cancer screening is that high levels of CA-125 is more often caused by common conditions such as endometriosis and pelvic inflammatory disease. Also, not everyone who has ovarian cancer has a high CA-125 level. When someone who is not known to have ovarian cancer has an abnormal CA-125 level, the doctor might repeat the test (to make sure the result is correct) and may consider ordering a transvaginal ultrasound test..
- Better ways to screen for ovarian cancer are being researched but currently there are no reliable screening tests. Hopefully, improvements in screening tests will eventually lead to fewer deaths from ovarian cancer.
- ***If you're at average risk***
  - There are no recommended screening tests for ovarian cancer for women who do not have symptoms and are not at high risk of developing ovarian cancer.
- ***If you're at high risk***
  - TVUS and CA-125 may be offered to screen women who have a high risk of ovarian cancer due to an [inherited genetic syndrome](#) such as Lynch syndrome, BRCA gene mutations or a strong family history of breast and ovarian cancer.
- ***Screening tests for germ cell tumors/stromal tumors***
  - There are no recommended screening tests for germ cell tumors or stromal tumors. Some germ cell cancers release certain protein markers such as human chorionic gonadotropin (HCG) and alpha-fetoprotein (AFP) into the blood. After these tumors have been treated by [surgery](#) and [chemotherapy](#), blood tests for these markers can be used to see if treatment is working and to determine if the cancer is coming back.

- **What are treatment options for ovarian cancer?**

- You may receive more than one type of treatment, depending on several factors, including the grade of the tumour, where it is located and whether it has spread to other parts of your body.
- Before we set up a specific treatment plan for your ovarian cancer, we will take the following into account:
  - Your age, overall health and medical history
  - The extent of the disease
  - Your tolerance of specific medicines, procedures or therapies
  - Expectations for the course of the disease
  - Your opinion or preference.
- We will sit with you and discuss the options available so that you can be as informed as possible when making the decision.
- Treatment typically includes surgery, chemotherapy, biological therapies or a combination of these depending on the stage. Fertility-sparing surgery is available only under certain circumstances.

- **Is there a link between ovarian cysts and ovarian cancers?**

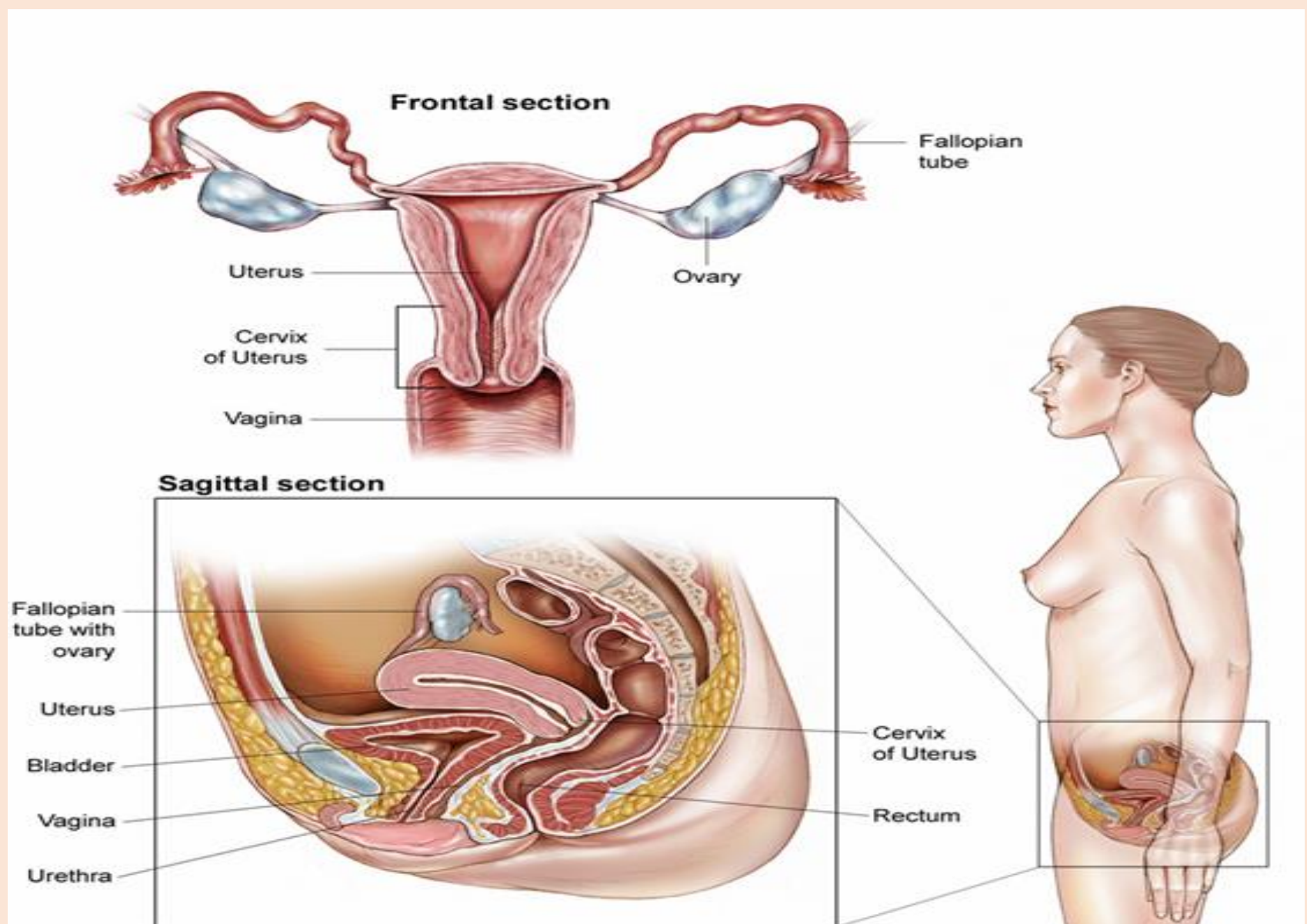
- A healthy ovary produces a normal physiologic cyst with each menstrual cycle in women during the reproductive years (ages 12-52). During menarche, as well as during the perimenopausal period, this normal process occurs less frequently. The normal cyst or follicle contains the egg or ovum and usually is less than 3 cm. in size. After ovulation, this cyst persists in the form of a corpus luteum and is also normal and physiologic. These cysts are rarely greater than 5 cm., resolve with each menstrual cycle, are simple in appearance, and are not suggestive of ovarian cancer. Cysts that persist throughout multiple cycles, are 6 cm. or larger, are complex, or are formed during childhood or after menopause, are considered abnormal. However, the vast majority of these are benign. Further diagnostic evaluation of this group of cysts is warranted, as a very small fraction may be ovarian cancer.
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# ENDOMETRIAL CANCER

- **What is endometrial cancer?**

- Endometrial cancer is a type of cancer that begins in the uterus. The uterus is the hollow, pear-shaped pelvic organ where fetal development occurs.



- Endometrial cancer begins in the layer of cells that form the lining (endometrium) of the uterus. Endometrial cancer is sometimes called uterine cancer. Other types of cancer can form in the uterus, including uterine sarcoma, but they are much less common than endometrial cancer.
- Endometrial cancer is often detected at an early stage because it frequently produces abnormal vaginal bleeding. If endometrial cancer is discovered early, removing the uterus surgically often cures endometrial cancer.

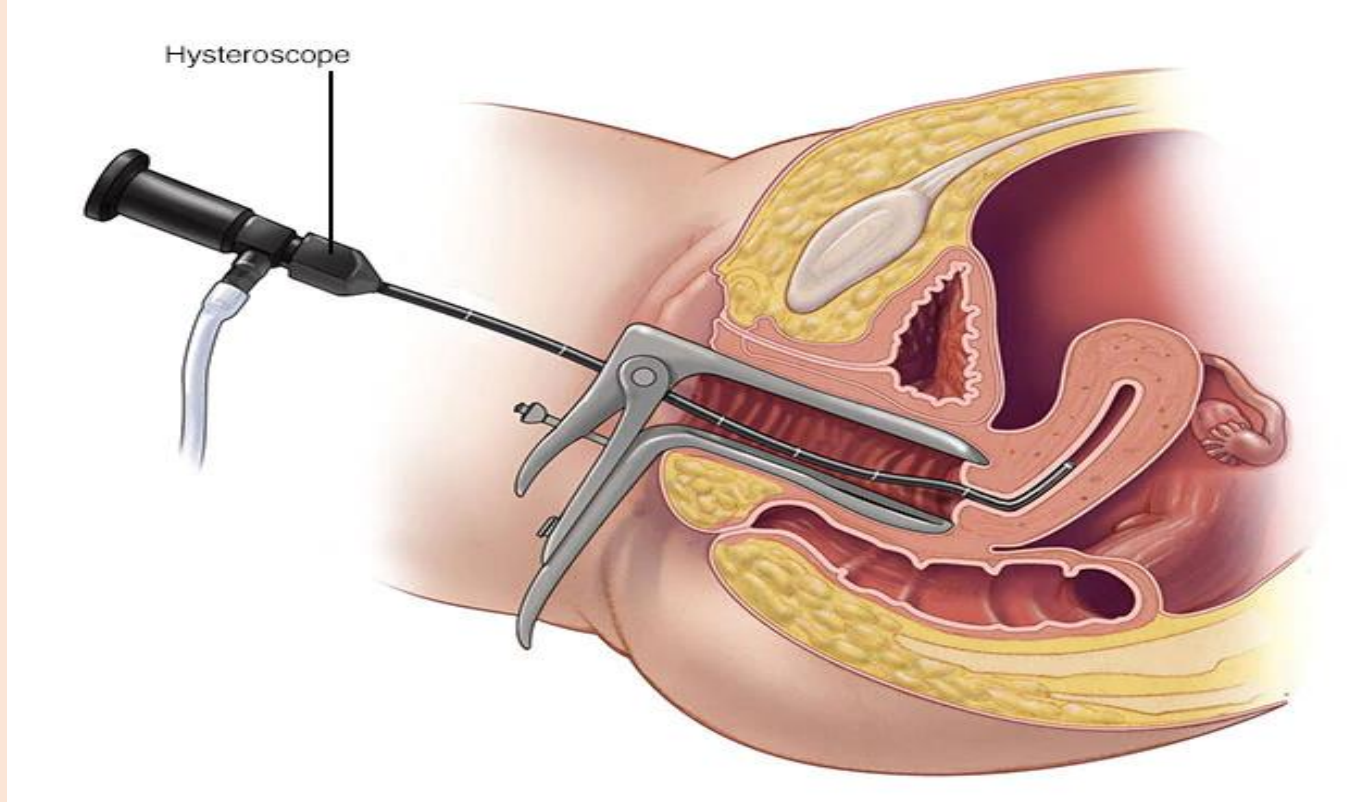
- **Who is at risk for developing endometrial cancer?**

- The following factors may raise a woman's risk of developing uterine cancer:
  - **Age.** 45-60 years
  - **Obesity.** Fatty tissue in women who are overweight produces additional estrogen, a sex hormone that can increase the risk of uterine cancer. This risk increases with an increase in body mass index (BMI), which is the ratio of a person's weight to height. About 70% of uterine cancer cases are linked to obesity.
  - **Genetics.** Uterine cancer may run in families where colon cancer is hereditary. Women in families with Lynch syndrome, also called hereditary non-polyposis colorectal cancer (HNPCC), have a higher risk for uterine cancer.
  - **Diabetes.** Women may have an increased risk of uterine cancer if they have diabetes, which is often associated with obesity (see above).
  - **Other cancers.** Women who have had breast cancer, colon cancer, or ovarian cancer have an increased risk of uterine cancer.
  - **Tamoxifen.** Women taking the drug tamoxifen to prevent or treat breast cancer have an increased risk of developing uterine cancer.
  - **Radiation therapy.** Women who have had previous radiation therapy for another cancer in the pelvic area, which is the lower part of the abdomen between the hip bones, have an increased risk of uterine cancer.
  - **Diet/nutrition.** Women who eat foods high in animal fat may have an increased risk of uterine cancer.



- **Estrogen.** Extended exposure to estrogen and/or an imbalance of estrogen is related to many of the following risk factors:
  - Early menarche and late menopause
  - Women who take hormone replacement therapy (HRT) after menopause, especially if they are taking estrogen alone.
  - Women who have never been pregnant
  
- **Can endometrial cancers be prevented?**
  - Research has shown that certain factors can lower the risk of uterine cancer:
    - Taking birth control pills. Birth control pills have a combination of estrogen and progesterone that are taken cyclically to produce a monthly menstrual period, which reduces the risk of an overgrowth of the uterine lining, especially when taken over a long period of time.
    - Using a progestin-secreting intrauterine device (IUD), which is a form of birth control.
    - Considering the risk of uterine cancer before starting HRT, especially estrogen replacement therapy alone. Using a combination of estrogen and progesterone for HRT may help lower risk.
    - Maintaining a healthy weight.
    - If you have diabetes, good disease management, such as regularly monitoring blood glucose levels, can lower risk.
  
- **What are signs and symptoms of endometrial cancers?**
  - Signs and symptoms of endometrial cancer may include:
    - Unusual vaginal bleeding, spotting, or discharge.
    - For premenopausal women, this includes menorrhagia, which is an abnormally heavy or prolonged bleeding, and/or abnormal uterine bleeding (AUB).

- Vaginal bleeding after menopause
- Bleeding between periods
- Pelvic pain
  
- **Are there any screening tests available for endometrial cancer?**
  - Any woman in reproductive age group experiencing abnormal bleeding pattern should be screened for endometrial cancers. There are certain lesions that can be detected at pre-cancerous and at very early stage. These lesions if detected early can be dealt with various treatment options available.
  - Following are certain screening methods
  - Pelvic examination
  - Trans vaginal ultrasound: where they look for endometrial thickness
  - Endometrial biopsy: this is done on OPD basis where endometrium is removed with help of small biopsy pipette and sent for microscopic examination or histopathology.
  
- **How can we diagnose endometrial cancers?**
  - Tests and procedures used to diagnose endometrial cancer include:
    - **Examining the pelvis.** During a pelvic exam, your doctor carefully inspects the outer portion of your genitals, cervix uterus and ovaries.
    - **Transvaginal ultrasound:** Your doctor may recommend a transvaginal ultrasound to look at the thickness and texture of the endometrium and help rule out other conditions.
    - **Hysteroscopy:** During a hysteroscopy, your doctor inserts a thin, flexible, lighted tube (hysteroscope) through your vagina and cervix into your uterus. A lens on the hysteroscope allows your doctor to examine the inside of your uterus and the endometrium.



- **Removing a sample of tissue for testing.** To get a sample of cells from inside your uterus, you'll likely undergo an endometrial biopsy. This involves removing tissue from your uterine lining for laboratory analysis. Endometrial biopsy may be done in your doctor's office and usually doesn't require anesthesia.
- **Performing surgery to remove tissue for testing.** If enough tissue can't be obtained during a biopsy or if the biopsy results are unclear, you'll likely need to undergo a procedure called dilation and curettage (D&C). During D&C, tissue is scraped from the lining of your uterus and examined under a microscope for cancer cells.
- **What are treatment options for endometrial cancer?**
  - Treatment for endometrial cancer is usually with surgery to remove the uterus, fallopian tubes and ovaries. Another option is radiation therapy with powerful energy. Drug treatments for endometrial cancer include chemotherapy with powerful drugs and hormone therapy to block hormones that cancer cells rely on.
- **Surgery**
  - Treatment for endometrial cancer usually involves an operation to remove the uterus (hysterectomy), as well as to remove the fallopian tubes and ovaries (salpingo-oophorectomy).
  - During surgery, your surgeon will also inspect the areas around your uterus to look for signs that cancer has spread. Your surgeon may also remove lymph nodes for testing. This helps determine your cancer's stage.

## ➤ **Radiation therapy**

- If you aren't healthy enough to undergo surgery, you may opt for radiation therapy only.
- Radiation therapy can involve:
  - **Radiation from a machine outside your body.** During external beam radiation, you lie on a table while a machine directs radiation to specific points on your body.
  - **Radiation placed inside your body.** Internal radiation (brachytherapy) involves placing a radiation-filled device, such as small seeds, wires or a cylinder, inside your vagina for a short period of time.

## ➤ **Chemotherapy**

- Chemotherapy uses chemicals to kill cancer cells. You may receive one chemotherapy drug, or two or more drugs can be used in combination. You may receive chemotherapy drugs by pill (orally) or through your veins (intravenously). These drugs enter your bloodstream and then travel through your body, killing cancer cells.
- Chemotherapy is sometimes recommended after surgery if there's an increased risk that the cancer might return. It can also be used before surgery to shrink the cancer so that it's more likely to be removed completely during surgery.
- Chemotherapy may be recommended for treating advanced or recurrent endometrial cancer that has spread beyond the uterus.

## ➤ **Hormone therapy**

- Hormone therapy involves taking medications to lower the hormone levels in the body. In response, cancer cells that rely on hormones to help them grow might die.
- Hormone therapy for uterine cancer often involves a high dose of the sex hormone progesterone given in pill form. Other hormone therapies include hormone-expressing intrauterine devices (IUDs) and the aromatase inhibitors (AIs), such as anastrozole, letrozole, and exemestane, which are often used for the treatment of breast cancer.

## ➤ **Targeted drug therapy**

- Targeted drug treatments focus on specific weaknesses present within cancer cells. By blocking these weaknesses, targeted drug treatments can cause cancer cells to die. Targeted drug therapy is usually combined with chemotherapy for treating advanced endometrial cancer.

## ➤ **Immunotherapy**

- For endometrial cancer, immunotherapy might be considered if the cancer is advanced and other treatments haven't helped.