

CERVICAL CANCER: A GUIDE FOR PATIENTS

PATIENT INFORMATION BASED ON ESMO CLINICAL PRACTICE GUIDELINES

This guide for patients has been prepared by the Anticancer Fund as a service to patients, to help patients and their relatives better understand the nature of cervical cancer and appreciate the best treatment choices available according to the subtype of cervical cancer. We recommend that patients ask their doctors about the tests or types of treatments needed for their type and stage of disease. The medical information described in this document is

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based on the clinical practice guidelines of the European Society for Medical Oncology (ESMO) for the management of cervical cancer. This guide for patients has been produced in collaboration with ESMO and is disseminated with the permission of ESMO. It has been written by a medical doctor and reviewed by two oncologists from ESMO including the lead author of the clinical practice guidelines for professionals. It has also been reviewed by patient representatives from ESMO's Cancer Patient Working Group.

More information about the Anticancer Fund:

www.anticancerfund.org

More information about the European Society for Medical Oncology: www.esmo.org

For words marked with an asterisk, a definition is provided at the end of the document.

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DEFINITION OF CERVICAL CANCER

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Cancer that forms in tissues of the cervix. The cervix is the organ connecting the uterus and the vagina. It is usually a slow-growing cancer that may not have symptoms but can be found with regular Pap tests*. This is a procedure in which cells are scraped from the cervix and looked at under a microscope. Cervical cancer is almost always caused by a human papillomavirus (*HPV*) infection*.

Important note regarding other types of cancer of the uterus

Other types of cancer might develop in the corpus of the uterus. Most of these cancers are endometrial cancers. Diagnosis and treatment of these types of

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cancer are different from cervical cancer. More information on endometrial cancer is available [here](#).

This guide is dedicated to cervical cancer only.

IS CERVICAL CANCER FREQUENT?

Cervical cancer is the third most frequent cancer in women. In Europe, 10.6 women in 100,000 were diagnosed with cervical cancer in 2008. This is about 4% of all cancers diagnosed in women. Nearly 1% of all women develop cervical cancer over their lifetime in Europe. Given the fact that a vaccine protecting against the most frequent types of human papilloma virus (HPV)* involved in cervical cancer is now available, cervical cancer will likely become less frequent in the future.

The risk for cervical cancer is higher in Eastern Europe (especially in Serbia, Romania, Bulgaria and Lithuania) because of the lack of organised population-based screening programmes. Unfortunately, the situation is much bleaker in developing countries, where 85% of new cases occur. Because of the frequent inaccessibility of screening and treatments the

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mortality rate is 10 times higher in developing countries than in developed countries. Moreover, presently, the cost of the prevention vaccination is such that it will likely remain unavailable for most women in many parts of the world.

WHAT CAUSES CERVICAL CANCER?

It has become clear that essentially all cervical cancers are caused by certain types of the human papilloma virus (HPV)*, a group of viruses akin to the virus that causes skin or genital warts. Infection with HPV is caused by direct contact and in the case of the cervix is usually aroused by sexual contact or even by skin-to-skin contact. HPV is very frequent in the general population. Almost all adult women have at some time contracted HPV, but in the overwhelming majority of cases HPV infection resolves within six months to two years without causing any signs of disease. However, in rare cases where HPV infection does not resolve, where the infection is persistent, the risk of developing pre-cancerous cervical lesions, which precedes the development of cervical cancer, is higher. A persistent infection with the so-called high-risk (carcinogenic, cancer causing) HPV types, notably HPV types 16 and

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18, which are the most common types found in cervical cancer cases worldwide, is necessary for cancer to develop. However, this is not sufficient as the development of cervical pre-cancerous lesions and cervical cancer takes several years (decades) to occur. Namely, other factors are also needed for cervical cancer to arise. Those factors are related either to a risk of being infected with HPV or to a risk of developing cervical cancer once HPV infection is established:

- **Risk factors for being infected with HPV***
 - Unprotected sexual intercourse with multiple partners or sexual intercourse with a man who has multiple sex partners.
 - Onset of sexual intercourse activity at an early age.
 - Long-term use of hormonal contraceptives.
 - Multiple pregnancies.
 - Poor hygiene.

- Other sexually transmitted genital infections, e.g. *Chlamydia trachomatis* and herpes simplex virus-2.
- **Risk factors for developing cervical cancer once HPV* infection is present**
Decreased immunological defences such as the immunodeficiency* caused by Human Immunodeficiency Virus (HIV*) infection or drug treatments that affect the immune system*, because the immune system normally clears HPV* infections, reducing the risk of cancer development.
- **Other factors that weaken the immune system and general health** like tobacco smoking, poor diet (e.g. low intake of fruit and vegetables), irregular sleeping patterns and lack of exercise.

Note that there are risk co-factors that may not have a risk-promoting effect by themselves, but are just associated with real risk factors. For example,

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hormonal contraception is more frequent in women with an early onset of sexual activity, while poverty and living in a developing country is a definite risk factor for not having regular gynaecological check-ups and screenings because of more difficult access to health services.

Early detection of cervical cancer can easily be made by an examination of swabs or smears from the cervix surface, obtained during a gynaecological examination*. When detected early, treatment of cervical cancer is simple and effective. Therefore, the main risk factor for life threatening cervical cancer is failing to have regular gynaecological examinations* and Pap smears*.

How is cervical cancer diagnosed?

Cervical cancer must be suspected in the following circumstances:

- Abnormalities upon gynaecological examination*.
- Severe abnormalities in cervical smears.
- Bleeding outside of menstruation periods.
- Bleeding after sexual intercourse.

The diagnosis of cervical cancer is based on the following examinations.

1. Clinical examination

The clinical examination is the inspection and palpation by the doctor. This includes gynaecological examination by bimanual rectal vaginal examination* to assess the location and volume of the tumor and whether it has extended to other organs in the pelvis

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(pelvic exam*). The doctor directly visualises the cervix after inserting a speculum* into the vagina. In healthy women without apparent disease, the doctor takes a smear of the surface of the cervix to be examined under the microscope (cytological examination*). If examination is difficult or there is uncertainty about the extent of the tumor, this examination can be done under anesthesia.

2. The Pap smear* test¹

Pre-cancerous cervical lesions may be present for many years without causing any symptoms. Its slow growth provides a long window of opportunity for early detection and easy cure. The cervix is palpable

¹ In some developing countries where Pap smears* are not available, direct visual inspection with acetic acid, may offer a reasonable alternative screening approach.

and visible upon gynaecological inspection so that the doctor can easily obtain smears from its surface for a cytological examination* of the cells that are shed from the surface of the cervix, the so-called Pap smear or Pap test*.

The cells in the smear are examined in the laboratory, allowing an early diagnosis of a pre-cancerous lesion, i.e. an abnormality of the cells of the cervical surface called dysplasia* which over the years might develop into a cancer. Also incipient cancer at this site is easily detected by smears before it becomes dangerous (malignant*).

Upon laboratory examination, the cells in the smear may:

- be normal.
- reveal mild dysplasia* which is usually due to an infection caused by HPV*. Other terms used to describe mild dysplasia* are low-grade squamous

intra-epithelial lesion (LSIL) and Cervical Intraepithelial Neoplasia* of grade 1 (CIN 1). Mild dysplasia* usually regresses* spontaneously but can progress to a more severe stage of dysplasia*.

- reveal moderate or severe dysplasia*. Other terms used to describe moderate or severe dysplasia* are high-grade squamous intra-epithelial lesion (HSIL) and Cervical Intraepithelial Neoplasia* of grade 2 or 3 (CIN 2/3). Such lesions could progress to cervical cancer if left untreated.
- reveal a cancer of the cervix.

Having a vaginal infection can prevent the correct examination of the cells from a smear. A new smear is then performed after the infection has been cured by appropriate treatment.

In addition to cytology, notably in case of undetermined cytological* diagnosis, the presence and the type of HPV* can be verified in the laboratory,

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which provides information about the risk of having abnormalities associated with the HPV infection. The results of the HPV test do not have any effect on further treatment plans.

Cervico-vaginal smears should be performed every 3 to 5 years in women 25 to 65 years of age, thus not giving a potential cancer time enough to grow to a dangerous size. Screening programmes assure that if an abnormality is detected, the woman is called back for a control smear and eventual further diagnostic investigation.

A suspicious smear is an indication that a biopsy* is necessary, i.e. the resection of a tissue sample containing all layers of the cervix and allowing visualisation not only of the cells, as in a smear, but of the structure of the tissue.

3. Colposcopy*

In case of severe abnormalities or doubts about the results of the Pap smear*, colposcopy* should be performed during the clinical examination. Colposcopy is a procedure in which the patient lays on the exam table as during the pelvic exam*. A speculum* is placed in the vagina to help the doctor visualize the cervix. The doctor will use a colposcope to examine the cervix. A colposcope is an instrument that has magnifying lenses similar to binoculars. From outside the body it allows the doctor to see the cervix closely and clearly. The doctor applies a weak solution of acetic acid (like vinegar) to the cervix to make any abnormal areas easier to see. When an abnormal area is seen on the cervix, a biopsy* is performed.

4. Histopathological examination*

This is usually performed after a suspicious Pap smear* and during colposcopy* in order to confirm the results of the Pap smear. It is the laboratory examination of the tumor tissue after removing a sample from the tumor (biopsy*). This laboratory examination is performed by a pathologist* who will confirm the diagnosis of cervical cancer and give more information on the characteristics of the pre-cancerous lesions (CIN 1 to 3) and cancer. The biopsy* is obtained manually by the doctor with a special device introduced into the vagina during colposcopy*.

5. Routine laboratory examination of blood and urine

Blood and urine samples are taken for laboratory analysis to verify general health and diagnose possible

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undiagnosed problems such as anemia*, liver or kidney malfunction, urinary infection, etc.

6. Medical imaging examinations

Medical imaging examinations are used to verify the extension of the tumor and exclude or detect eventual metastases*. CT-scan* and magnetic resonance imaging (MRI)* are used to visualize any spread of the tumor to the pelvis and in the lymph nodes* (located along the main vessels in the pelvis and along the aorta), which drain the tumor and can be sites of metastases*. MRI has been shown to be superior to the CT-scan* for this purpose. Basic complementary examination includes chest X-ray. To examine the urinary system (including the ureter ducts between the kidneys and the bladder, which can be compressed by an expanding cervical cancer or lymph nodes*) an intravenous* pyelogram is performed (an X-ray* visualisation of the urinary system after intravenous*

injection of a contrast fluid*). An intravenous pyelogram can be performed only after verification of the kidney function by blood testing because in case of kidney malfunction, special precautions (procedures and medication the doctor will prescribe) must be taken with the intravenous* contrast injection* to avoid kidney damage.

WHAT IS IMPORTANT TO KNOW TO GET THE OPTIMAL TREATMENT?

Doctors will need to consider many aspects of both the patient and the cancer in order to decide on the best treatment.

Relevant information about the patient

- Age and reproductive status, i.e. whether the patient has fulfilled her wish to give birth or not. In most cases of -early-stage cervical cancer, the uterus can be preserved, albeit sometimes accepting a minimal risk, thus still allowing pregnancy. If the patient does not want to have children, preserving fertility is not a consideration in the choice of treatment, and the simplest and most effective treatment can be chosen.

- General health and suitability for surgery: age, history of eventual other disease conditions such as diabetes*, heart diseases or respiratory problems that have to be taken into account in the choice of treatment.

Relevant information about the cancer

- **Staging**

The stage is the degree of spread of the disease in the body. Doctors use staging to assess the risks and prognosis* associated with the extent of the cancer and specific characteristics of the patient and of the cancer in order to determine which will be the appropriate treatment. The less advanced the stage, the better the prognosis, and therefore the less aggressive the appropriate treatment will be. Staging is performed twice: first before any treatment, by clinical and medical imaging examinations; so as to determine the best treatment, and a second time, if the

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treatment included surgery on the surgically removed tissues to verify the adequacy of the treatment. The histopathologic laboratory examination* of the removed tissues will allow for verification of the first (pre-surgical) staging and sometimes refining it. Indeed, the post-surgical findings may reveal evidence which makes further treatment advisable.

The table below presenting the different stages of cervical cancer is based on consensus in the Fédération Internationale de Gynécologie et Obstétrique (FIGO). **Some definitions are rather technical, so it is recommended to ask doctors for more explanations.** Staging is complete and conclusive only after all clinical, medical imaging results are available for comprehensive assessment.

The pre-cancerous disease (stage 0), each major cancer stage (I to IV), and the subdivisions of these stages are shown in the table below.

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Stage	Definition
Stage 0	This is the stage of <u>pre-cancerous disease</u> , i.e. small lesions confined to the superficial layer (epithelium) of the cervix (which resembles the skin). Such lesions are also called Carcinoma in situ* or Cervical Intraepithelial Neoplasia (CIN)*. <u>CIN grades 1 to 3</u> are distinguished according to whether the lesion is confined to the basal layer of the cervical surface epithelium (CIN1), reaches into the middle layer (CIN2) or extends to its upper layer (CIN3).
Stage I	The first stage of <u>invasive cancer</u> , even when it is not yet macroscopically visible but proven upon microscopic laboratory examination of biopsies* to have in depth grown into the stroma, i.e. the tissue under the superficial layer of the cervix. In width, the lesion does not extend beyond the cervix proper, i.e. it does not involve the vagina or parametria**. Depending on the dimensions of the lesion and its macroscopical visibility (i.e. visibility upon inspection with the naked eye), one distinguishes several sub-stages.
Stage IA	<u>Microscopically invasive</u> cancer which is not macroscopically visible and has grown less than 5 mm into the stroma and spread less than 7 mm in width.
Stage IA1	Stromal invasion* less than 3 mm in depth and lateral spread less than 7 mm.
Stage IA2	Stromal invasion* between 3 and 5 mm in depth and lateral spread less than 7 mm.
Stage IB	<u>Macroscopically visible</u> cancer or microscopically invasive cancer greater than stage IA2
Stage IB1	Lesion of less than 4 cm in greatest diameter.
Stage IB2	Lesion of more than 4 cm in greatest diameter.

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Stage II	Cancer extending into the tissues beyond the uterus, but not as far as the pelvic bones or the lower third of the vagina.		
	Stage IIA	<u>Macroscopically visible (visible to the naked eye)</u> cancer extending beyond the cervix, without extension into the parametria*	
		Stage IIA1	the macroscopically visible lesion being less than 4 cm in the largest diameter
		Stage IIA2	the macroscopically visible lesion being more than 4 cm in the largest diameter
Stage IIB	<u>Macroscopically visible</u> cancer with extension into the parametria*.		
Stage III	Cancer extending to the pelvic wall, bones and/or to the lower third of the vagina and/or compressing one or both ureters*		
	Stage IIIA	No extension into the pelvic sidewall, but involvement of the lower third of the vagina.	
	Stage IIIB	Cancer extending to the pelvic wall and/or compressing one or both ureters.	
Stage IV	Advanced and metastatic* cancer.		
	Stage IVA	Invading adjacent pelvic organs (bladder, rectum) and/or extending beyond the true pelvis, i.e. into the abdomen or the groin.	
	Stage IVB	With distant metastases*, e.g. to the lungs or liver.	

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- **Laboratory examination of the biopsy* and, if surgery has been performed, of the surgically removed material.**

Tissue samples obtained by the initial diagnostic biopsy* will be examined in the histopathology* laboratory. When treatment consists of surgery (as for early stages of the disease, and whichever surgical specimen was removed: cervical cone*, uterus or resected or biopsied lymph nodes*) there is a second, post-surgical histopathological examination* involving the examination of the removed material. This verifies the type of the cancer and allows verifying and refining the first staging of the disease, to know how advanced it could be. This additional information is necessary in order to decide which, if any, further treatment is needed. Results of the examination of the biopsy* should include:

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- **Histological types*** of cervical cancer:
 - Squamous cell (also called epidermoid, malpighian or spindle-cell) cancer, which is the most frequent (80-90% of all cervical cancer patients), arising from the outer part of the cervix, and
 - Adenocarcinoma (10-15% of all cervical cancer patients), the type arising from the glandular* tissue of the inner cervical canal (endocervix). Its prognosis* is worse than the previous type.
 - There are more rare histological types* (e.g. neuroendocrine and clear-cell carcinoma).
- **Grade** of cancer is the degree of abnormality of the tumor cells and tissue under a microscopic examination, it also reflects the estimation of its rate of growth and aggressiveness. Cancers can range between well differentiated, meaning that they resemble the tissue of origin well, and undifferentiated, meaning that they have lost resemblance with the tissue they originate from.

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Usually, well-differentiated tumors have a better prognosis* than undifferentiated tumors.

- **If the tumor has been removed, the following examinations should be performed:**
 - **Margins:** the outer margins of the surgically resected tumor sample are examined for presence of tumor cells. If any are present, further treatment is needed because it is assumed the tumor was not completely resected.
 - **Lympho-vascular invasion*:** the lymph and blood vessels are examined for the presence of tumor cells. This is because the primary mode of dissemination of cervical cancer is through the lymphatic vessels*, which drain the cervix and lead to lymph nodes*. The microscopic detection of tumor cells in lymph vessels denotes a risk for spread beyond the surgical resection specimen and is an indication of the need for further

treatment with chemotherapy* and radiotherapy*.

- **Presence of tumor cells in the lymph nodes*:** In this case, a complete removal of all lymph nodes within the pelvis can be recommended (pelvic lymphadenectomy*) in addition to the surgical intervention on the cervix (or on the whole uterus). This is especially the case when there is lympho-vascular invasion*, which suggests that cancer cells might have spread to the lymph nodes. Lymph nodes within the pelvis will be removed by surgery to check whether this is true or not.
- **Extension to the parametria*:** if the parametria* on either side of the uterus are found to contain a tumor, this raises the stage of the tumor to stage IIB and is an indication of the need for further treatment with chemotherapy* and radiotherapy* because there is a greater risk that some

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cancer cells have disseminated in the lymphatic vessels* and nodes.

WHAT ARE THE TREATMENT OPTIONS?

Planning of the treatment involves an inter-disciplinary team of medical professionals with different areas of specialization. This usually implies a meeting of different specialists, called multidisciplinary opinion* meeting or tumor board review. In this meeting, the planning of treatment will be discussed using the relevant information from clinical, medical imaging and laboratory examinations and following the international guidelines and evidence-based medical precepts.

The type and extent of the treatment will depend on the stage of the cervical cancer, on the characteristics of the tumor and on the risks involved.

At the earliest stages, only local surgical treatment will suffice for cure. At more advanced stages the

treatment will usually combine chemo-* and radiotherapy*.

Treatments listed below have their benefits, their risks and their contraindications*. It is recommended to ask your oncologist* about the expected benefits and risks of every treatment in order to be informed of the consequences of the treatment. For some cases, several treatment possibilities are available and the choice should be discussed according to the balance between benefits and risks in each individual patient.

Stage 0 and stage IA1

Stage 0 denotes a pre-cancerous lesion, i.e. small lesions confined to the superficial layer (epithelium) of the cervix. Such lesions include Carcinoma in situ and Cervical Intraepithelial Neoplasia* (CIN1, CIN2 and CIN3).*

Stage IA1 denotes an invasive cancer which can only be seen with a microscope but not with the naked eye. It

measures no more than 3 mm in depth and 7 mm in width.

Conization*

The standard treatment is surgical and is called conization*. Nevertheless a pre-cancerous lesion CIN* of grade 1 (or Low-grade Squamous Intraepithelial Lesion or LSIL) has high probability of regression* without treatment. It can only require close follow-up for approximately one year more or less. Thus, only CIN grade 2 and 3 lesions (or High-grade Squamous Intraepithelial Lesion or HSIL) are treated by conization*.

In a conization* a cone-shaped piece of tissue of the cervix around the uterine orifice that connects to the vagina and in depth including the inner cervical canal is removed. This is done by 'cold' knife, by laser, or with a loop electrosurgical excision procedure*. If upon histopathological examination* of the resected conical specimen no invasion is found and the margins at the

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periphery of the specimen are microscopically free of tumor cells, the treatment was curative, and no further treatment is required.

An alternative to conization* is the removal of the uterus which is called simple hysterectomy*. This can be proposed to women who no longer wish to be pregnant. Any risk of later suffering from cancer of the womb is thus eliminated.

For a limited number of cases, removal of the lymph nodes* within the pelvis can be recommended in addition to the surgical intervention on the cervix (or on the whole uterus). This is the case when during the histopathological examination* of the initial biopsy*, cancer cells are found in the lymph vessels* and blood vessels around the tumor. This is called lympho-vascular invasion* and suggests that cancer cells might have spread to the lymph nodes. It raises the suspicion that the tumor may be at a stage higher than stage IA1. In this case, lymph nodes within the pelvis will be

removed by surgery to check whether this is true or not.

Immediate complications such as excessive bleeding are rare and not severe. However, if the treatment is performed during pregnancy, excessive bleeding is more common, and there is an estimated two-fold increased risk of pregnancy complications later on, such as premature labour. Often treatment of stage 0 is deferred until after pregnancy.

Long-term complications of conization* are very rare. They may include cervical incompetence, resulting in increased risk of premature labour.

Note that conization* is also used as a so-called “excision biopsy*”, i.e. a diagnostic procedure in which not a fragment of the suspect lesion is taken, but the lesion is sufficiently small and accessible to be resected entirely. Depending on the stage found upon histopathological examination* of the conization

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specimen, diagnostic conization may be curative, with no further treatment required.

Adjuvant treatment when there is a risk of recurrence*

An adjuvant treatment is a treatment given in addition to an initial treatment when there is a suspicion that this initial treatment may not have been curative. Its intent is curing the cancer by reducing the risk of recurrence.

In the case of preoperative stage IA1 cervical cancer, if the histopathological examination* of the resection specimen confirms the stage IA1, the tumor is cured, and no adjuvant treatment is necessary. However, the histopathological examination* of the resection specimen may in some cases show that the tumor has spread more widely than expected, i.e. is of a higher stage than IA1. This will certainly be the case if the resection specimen shows invasion deeper than 3 mm

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and if the resection margins of a conization* specimen shows the presence of tumor tissue. A higher stage must also be suspected if there is tumor in the lymphovascular spaces. Adjuvant treatment will then be indicated.

To summarize, the adjuvant treatment is recommended if two out of three risk factors are present: a larger-than-expected primary tumor, deep stromal invasion* and lymphovascular invasion*. Adjuvant treatment will also be indicated if lymphovascular invasion in the initial biopsy* has led to a hysterectomy* with removal of the pelvic lymph nodes* and after the operation is found they contain tumor and/or tumor was found in the parametria*.

The adjuvant treatment will be concomitant chemoradiotherapy, i.e. external radiotherapy* and chemotherapy* given concomitantly. In external radiotherapy, radiation is produced by an external source and directed to the pelvic area where the

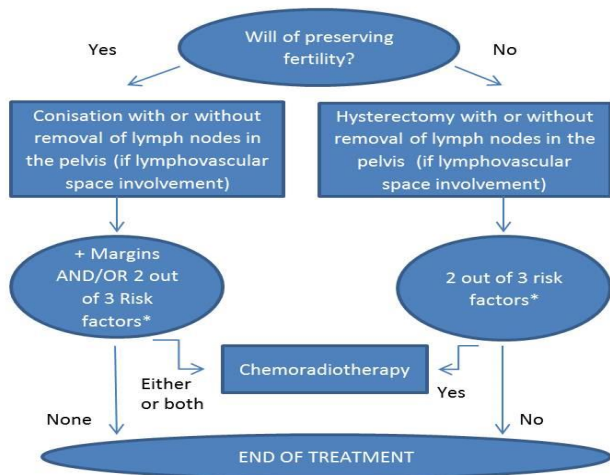
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tumor was along with lymph vessels* and lymph nodes*. The chemotherapy* consists of drugs that are able to kill the cancer cells all over the body, but with the intent, in this case, to kill cancer cells possibly present in lymph vessels and lymph nodes in the pelvis and also to potentiate the action of radiation. For concomitant chemoradiotherapy of cervical cancer the most commonly used regimen is cisplatin* 40 mg/m² of body surface once a week during the radiotherapy. It is accompanied by abundant intravenous* fluid administration to prevent kidney damage.

Treatment for patients with Stage IA1 cervical cancer



*Risk factors

- Tumor larger than expected
- Deep stromal invasion
- Lymphovascular invasion

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Stage IA2

Stage IA2 denotes an invasive cancer which can only be seen with a microscope but not with the naked eye, and which measures between 3 and 5 mm in depth and less than 7 mm in width.

Surgery

The standard treatment is surgical. It includes a surgical intervention on the uterus and the removal of lymph nodes* within the pelvis.

- Young patients with a wish of pregnancy can have uterus-preserving surgery. A large cone* of the cervix can be removed by conization* or the whole cervix can be removed (a procedure called trachelectomy).
- Other patients could undergo a simple removal of the uterus which is called simple hysterectomy* or a resection of the parametria*, the ovaries and the upper part of

the vagina in addition to the uterus, which is called radical hysterectomy*.

Adjuvant treatment

The results of the histopathological examination* of the tissue removed by surgery (tumor, uterus and lymph nodes*) will give the information necessary to decide whether an adjuvant treatment is needed. As also detailed in the section of stage IA1, an adjuvant treatment is a treatment given in addition to surgery when it is suspected that not all cancer tissue has been removed, or if the cancer extends to adjacent tissues, such as the parametria* or lymph nodes, with the intent of curing the cancer.

Like in stage IA1, when cancer cells are found in the pelvic lymph nodes that were removed by surgery, or when margins at the periphery of the tissue of the cervix that has been removed are not microscopically free of tumor cells (positive margins), an adjuvant treatment is recommended.

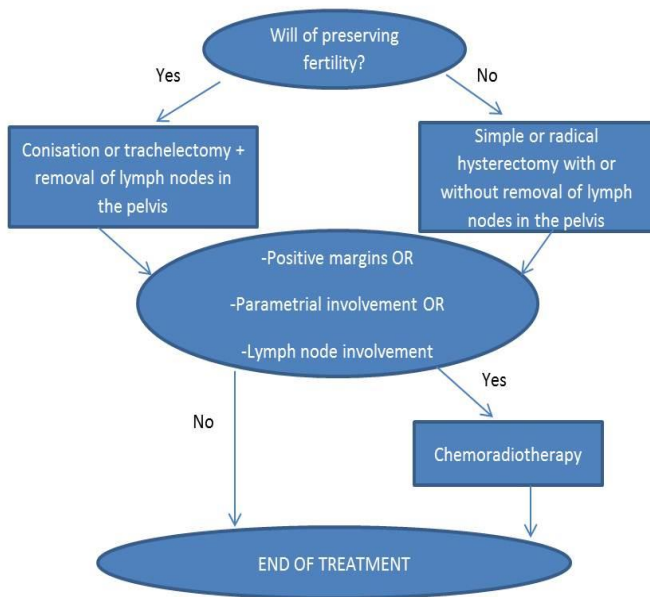
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In these situations, external radiotherapy* and chemotherapy* will be given concomitantly. In external radiotherapy, radiation is produced by an external source and directed to the pelvic area where the tumor was and also lymph vessels* and lymph nodes*. The chemotherapy* consists of drugs that are able to kill the cancer cells all over the body, but with the intent, in this case, to kill cancer cells possibly present in lymph vessels and lymph nodes in the pelvis. For cervical cancer, the most commonly used drug in concomitant chemoradiotherapy is cisplatin* 40mg/m² of body surface once a week for the duration of the radiotherapy.

Treatment for patients with Stage IA2 cervical cancer



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Stage IB1

Stage IB1 denotes macroscopically visible or microscopically invasive cancer greater than stage IA2, but the lesion is less than 4 cm in greatest diameter.

For this stage of cervical cancer, several treatment options are available:

- Surgery alone;
- Or radiotherapy* combining external irradiation plus brachytherapy*, which is a topical irradiation from a short-range radioactive* source placed in contact with the tumor;
- Or combined radiotherapy and surgery.

Overall, none of these treatment methods has been proven to be definitely superior to the others. The choice between them must be based on

- 1) Specific features of the disease or the individual patient;
- 2) Preferences of the patient, if any;
- 3) The expertise and experience of the treatment centre.

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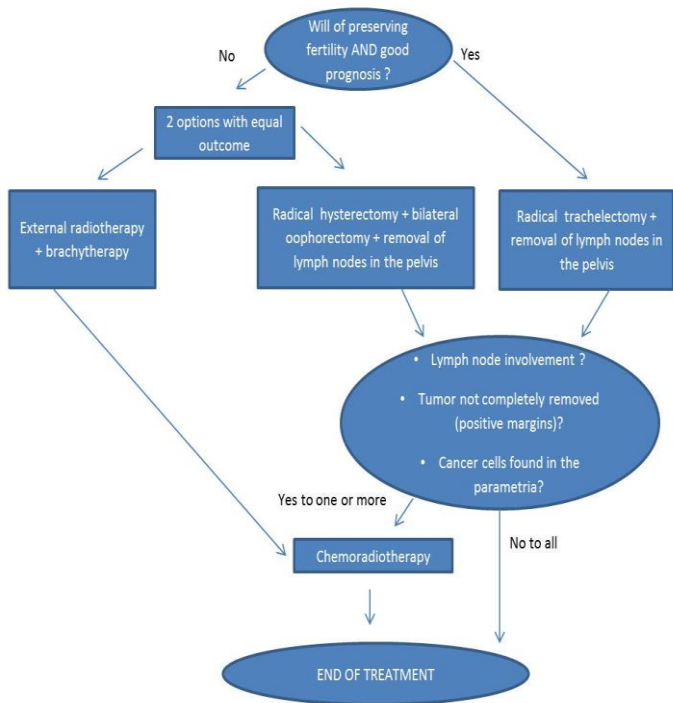
The standard surgery consists of the removal of the entire uterus (hysterectomy*) with bilateral (both sides) removal of the parametria* and ovaries and removal of the lymph nodes* in the pelvis (lymphadenectomy*), the so-called radical hysterectomy*.

More limited fertility-sparing surgery (radical trachelectomy, i.e. removal of only the cervix with or without the parametria*) can be considered in young patients with a wish for future pregnancy, if the tumor presents excellent prognostic* features. The characteristics allowing the uterus to be spared without taking risks are: the largest diameter of the tumor should be less than 20 mm, the microscopic examination of the biopsy* should show no tumor cells in the lymph vessels* and the lymph nodes* should be clinically free of tumor.

As described for stages IA tumors, in patients treated with upfront surgery, if the laboratory examination of the surgical specimen reveals that the surgery may not

have completely removed the tumor, further treatment, by chemoradiation, i.e. a combination of chemotherapy* and radiation in the same timeframe, is necessary. This will be the case if tumor cells are found in the margins of the resected specimen and if there is disease within the parametria* or lymph nodes*.

Treatment for patients with Stage IB1 cervical cancer



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Stages IB2 to IVA

Stage IB2 denotes macroscopically visible or microscopically invasive cancer greater than stage IA2 with a lesion of more than 4 cm in greatest diameter.

Stage IVA denotes advanced cancer invading other pelvic organs (bladder, rectum) and/or extending beyond the true pelvis, i.e. into the abdomen or the groin.

The standard treatment is radiotherapy* together with chemotherapy*. Radiation aims at killing the primary tumor and potentially involved lymph nodes* and chemotherapy* has two objectives: making the radiotherapy more effective and eliminating tumor cells at a distance from the irradiated sites. The drug cisplatin* alone is the most common chemotherapy* when it is associated with concomitant radiotherapy, but non-platinum based drug regimens* appear to be as efficient as platinum-based chemotherapy*. Radiation therapy consists of external irradiation (with concomitant chemotherapy*) and brachytherapy* which

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is usually performed after the end of external irradiation.

The total treatment time should be within 55 days. If the para-aortic nodes* are involved, then the external irradiation is extended to the para-aortic area*.

If according to medical imaging results, the disease has not completely disappeared after completion of the radiotherapy* (including brachytherapy*) together with chemotherapy*, there is an option for additional treatment: complementary surgical removal of the entire uterus (radical surgery). In the more advanced cases, even when the disease appears completely controlled after the radiotherapy together with chemotherapy* course, there may be some undetectable residual disease, which will cause relapse. According to some studies, continued adjuvant chemotherapy* then offers further benefit, but this is not standard practice. Adjuvant chemotherapy* could be considered even if the tumor

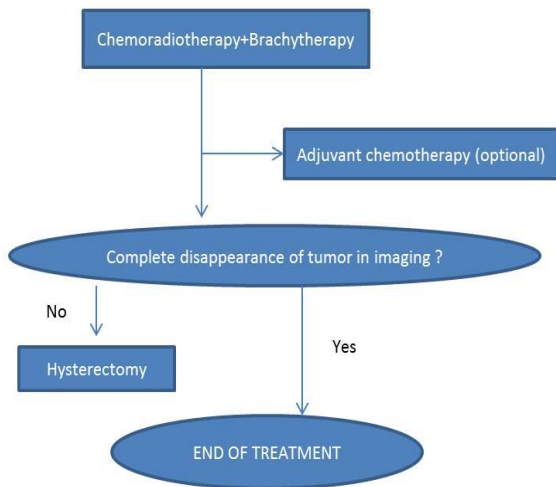
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has disappeared, with a rationale to minimize the risk of metastasis*, but the efficacy of additional chemotherapy* is not quite established and therefore it is recommended to be given only in the framework of a clinical trial*.

Treatment for patients with Stage IB2 to Stage IVA cervical cancer



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Stage IVB

Stage IVB denotes advanced cancer invading distant organs (metastases), e.g. lungs or liver.*

Chemotherapy*, although not curative, is able to induce remissions or stabilise the disease. The mainstay of chemotherapy is with platinum compounds, usually cisplatin*. Combined chemotherapy with e.g. topotecan* or paclitaxel* in addition to the platinum compound increases the response rate and the time to progression of the disease, at a cost of more side effects. The choice of chemotherapeutic drugs takes into account pre-existing specific risks for severe side effects, such as kidney, neurological* and heart conditions. This chemotherapy is usually given by intravenous* infusions in the chemotherapy day unit. To prevent *immediate* side effects such as digestive upset and allergic reactions, a corticosteroid* such as dexamethasone* and an anti-vomiting drug are given

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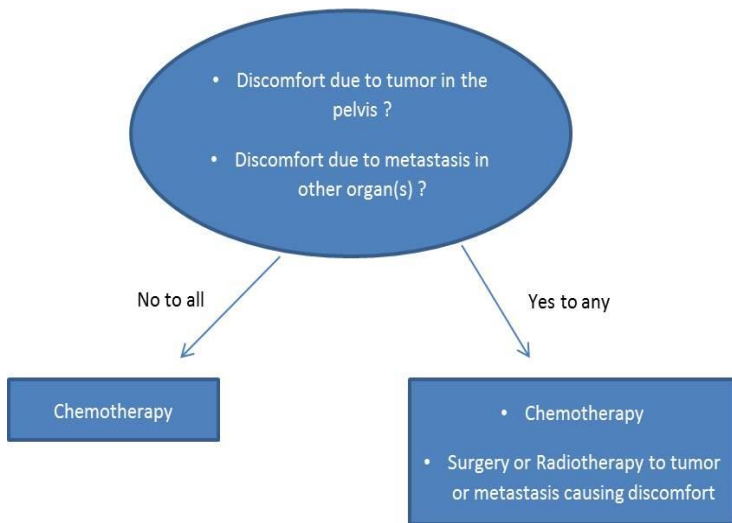
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just before the chemotherapy, and it is accompanied by abundant intravenous* fluid administration to prevent kidney damage in case of cisplatin*. Like most other chemotherapeutic regimens, there are also *intermediate and longer-term* side effects. Within weeks of administration, impairment of blood cell production could occur. If blood tests reveal excessive temporary reductions in white blood cell or platelet* counts, the next course of treatment must be delayed and its dosage must be adapted. Cisplatin* can in some cases cause nerve problems affecting the hands and/or feet (tingling feelings in the skin, numbness and/or pain) and changes in hearing.

In some cases of advanced disease treated with chemotherapy*, the primary tumor that had been left in place may bleed or become infected, or otherwise cause major discomfort. Relief can then be obtained by palliative radiotherapy* or by surgical removal. The same may apply for metastatic* lesions that would be particularly painful like, bone metastases*.

Treatment for patients with Stage IVB cervical cancer



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WHAT ARE THE POSSIBLE SIDE EFFECTS OF THE TREATMENTS?

Risks and side effects of surgery

Some risks are common for every surgical intervention performed under general anaesthesia*. These complications are unusual and include deep vein thrombosis*, heart or breathing problems, bleeding, infection, or reaction to the anaesthesia*.

The female reproductive organs are located in the pelvis together with the lower urinary tract and the lower digestive tract. During the surgical intervention, the urinary tract and the intestines are at risk of being damaged.

When lymph nodes* in the pelvis and along the aorta are removed, this can damage or block the lymph

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system resulting in lymphoedema, a condition where lymph fluid accumulates in the legs and makes them swell. It can occur right after the intervention, but also later. There is also a risk of lymphocele, which is a collection of lymph fluid within the area which was subjected to surgery. This usually disappears spontaneously.

If a compression of the ureters occurs which endangers the kidney, then urine flow can be restored by inserting a device (drain) in the renal pelvis, by which a channel is established for exit of urine (nephrostomy).

Having a hysterectomy* also increases the risk of urinary incontinence and vaginal prolapse years after the surgical intervention, because it can damage or weaken the supporting pelvic floor muscles.

Women operated on before menopause* and for whom the operation included removal of the ovaries

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will experience symptoms of menopause quickly after the operation. Hot flashes, mood swings, night sweats, vaginal dryness and trouble concentrating are then frequent.

Side effects can be relieved through the proper consultation and advice provided by the oncologist* and gynaecologists.

Risks and side effects of non-surgical therapies

The most frequent side effects of **non-surgical** therapies (radiotherapy and chemotherapy*) are usually reversible after treatment. Some strategies are available to prevent, or relieve, a certain range of these side effects. This should be discussed upfront with your doctor.

Pelvic radiotherapy

Side effects of external radiotherapy* to treat cervical cancer are mainly due to the irradiation of the organs surrounding the cervix and the uterus. Effects of radiation on the urinary tract include painful urination, bladder spasms resulting in an urgent need to urinate, ulceration or necrosis* of the inner lining of the bladder, presence of blood in the urine and urinary tract obstruction. Effects of radiation on the lower digestive tract include rectal discomfort, diarrhea, mucous* and bloody rectal discharge, and, rarely, perforation of the intestines. Vaginal narrowing is another possible late effect of pelvic radiotherapy. Treatment for these post-radiation reactions should be advised by the oncologist*. Modern techniques in external radiotherapy, such as Intensity Modulated Radiotherapy (IMRT)*, are intended to reduce its toxicity.

Brachytherapy

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The aforementioned side effects of external radiotherapy* can also appear with brachytherapy* but less frequently, since this type of radiotherapy is better targeted. Vaginal dryness is frequent after the treatment. Vaginal narrowing and dryness can also occur and can result in long-term sexual dysfunction. In young women radiation stops the ovarian function and this may result in further vaginal dryness and sexual dysfunction. It may also result in a higher risk for osteoporosis* and/or fractures of pelvic bones. Women must be under the care of a specialist for these problems. As cervical cancers are not hormone-dependent, in the absence of contraindications* a hormonal treatment can be prescribed to avoid these side effects.

Chemotherapy

Side effects of chemotherapy* are very frequent. They will depend on the drug(s) administered, on the doses and on individual factors. If you have suffered from

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other problems (such as heart problems) in the past, some precautions should be taken and/or adaptation of the treatment should be made. Combinations of different drugs usually lead to more side effects than the use of a single drug.

The most frequent side effect of the chemotherapy* drugs used in cervical cancer are kidney damage, hair loss and decreased blood cell count. To prevent kidney damage by cisplatin*, an abundant intravenous* fluid administration is recommended. Platinum chemotherapy alone does not cause hair loss. Decreased blood cell count can result in anemia*, bleeding and infections. Once the chemotherapy is over, the hair grows back and the blood cell count returns to normal.

Other side effects include, in decreasing order of frequency:

- tiredness,
- lack of appetite,
- nausea, vomiting and diarrhea,
- dehydration,
- mild changes in nails and skin which soon disappear,
- inflammation of areas such as the lining of the mouth,
- loss of sense of taste,
- painful swelling and inflammation where the injection is given
- allergic reactions, such as flushing and rash,
- nerve problems affecting the hands and/or feet (peripheral neuropathy), which can cause tingling feelings in the skin, numbness and/or pain,
- temporary loss of, or changes in your eyesight,
- ringing in the ears or changes in your hearing,

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- low blood pressure,
- slow heart beat,
- muscle, or joint pain, and
- seizures.

Other rare but more serious side effects can occur. These especially include stroke, myocardial infarction* and damage to the normal function of the kidneys and liver.

All symptoms or abnormalities should be promptly reported to a doctor.

WHAT HAPPENS AFTER THE TREATMENT?

It is not unusual to experience treatment-related symptoms once the treatment is over.

- Anxiety, sleep problems or depression may occur in the post-treatment phase; patients suffering from these symptoms may need special psychological support.
- Most surgical treatments of cervical cancer leave sexual function unimpaired. Radiotherapy* may weaken the linings of the bladder, rectum and vagina, and cause some usually reversible residual urinary, defecation and sexual intercourse problems.
- Memory deficiencies, difficulties to concentrate and fatigue are not uncommon side effects of

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chemotherapy* and are generally reversible within a few months.

Follow-up with doctors

After the treatment has been completed, doctors will propose a follow-up program consisting of consultations on a regular basis and aiming to:

- Detect possible recurrence* of the tumor:
 - For a treated stage 0, if three sequential Pap tests* within two years show no abnormality, the patient's risk of recurrence* is not higher than for a healthy woman to develop cervical carcinoma. These former patients can, after two years, return to the regular screening that is practiced for healthy women, i.e. Pap tests every 3 years.
 - For higher stages, clinical and gynaecological examination* including Pap

- smear* is recommended every 3 months for the first 2 years, then every 6 months for the next 3 years, and hereafter yearly
- For treated higher stages, there should be regular history-taking, inquiry about symptoms, physical examination and further tests in the case of any abnormality.
 - Evaluate adverse effects of the treatment and treat them.
 - Provide psychological support and information to promote returning to normal life.

Return to normal life

It can be hard to live with the idea that the cancer can come back. This is extremely exceptional for correctly treated lower stages. If the initial disease is at a more advanced stage, the risk is higher. Recurrence* may be local (e.g. in the vagina or within the pelvis), regional (e.g. in lymph nodes* of the groin), or at a distance

(e.g. liver, bone or lung metastases*). From what is known today, no specific way of decreasing the risk of recurrence after completion of the treatment can be recommended. As a consequence of the cancer itself and of the treatment, return to normal life may not be easy for some people. Questions related to body image, sexuality, fatigue, work, emotions or lifestyle may be of concern to you. Discussing these questions with relatives, friends or doctors may be helpful. Support from ex-patients' groups or telephone information services and helplines is available in many countries.

What if the cancer comes back?

If the cancer comes back, it is called a recurrence*. Recurrence may be local (e.g. at the level of the cervix, in the vagina or within the pelvis), regional (e.g. in lymph nodes* of the groin) or at a distance (e.g. liver, bone or lung metastases*).

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The treatment depends on the extent of the recurrence. Treatment will be as appropriate for the stage that is attained by the recurrence. In case of local recurrence, depending on the case, cure or disease control can still be obtained by surgery, radiotherapy and chemotherapy* or a combination thereof. For example, the treatment of a recurrence of a tumor previously treated only by surgery will usually also involve radiotherapy* and chemotherapy*. Previous brachytherapy* does not necessarily preclude later external beam radiotherapy. If external beam radiotherapy has been given before, it can only exceptionally be applied again.

When local or regional control of the disease by these means is no longer possible, so-called palliative chemotherapy* (i.e. no longer aiming at cure, but at temporary control of the disease and prolonged survival) is a possible choice. In rare cases of locoregional recurrence affecting pelvic organs such as

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the bladder or the rectum, their surgical removal (pelvic exenteration) can be proposed. It may then be necessary to create stomas for urinary and fecal evacuation.

If the cancer recurs as a metastatic* cancer it should be treated as stage IVB cancer, with chemotherapy*. In this case and whenever possible, a biopsy* of the suspect lesion should be made for a laboratory examination to verify that it is a metastasis of the cervical cancer and not a metastasis of another cancer, or not a metastasis at all. As in initial stage IVB cancer surgery or radiotherapy of any isolated metastasis could also be considered in order to control a particularly threatening lesion and to improve quality of life.

DEFINITIONS OF DIFFICULT WORDS

Acquired Immune Deficiency Syndrome (AIDS)

Acquired immune deficiency syndrome or acquired immunodeficiency syndrome (AIDS) is a disease of the human immune system* caused by the human immunodeficiency virus (HIV*). The immune system of people with AIDS weakens allowing opportunistic infections and tumors that rarely affect people with healthy immune systems.

Anemia

Condition characterized by the shortage of red blood cells or hemoglobin, the iron that contains the hemoglobin carries oxygen from the lungs to the whole body, this process is diminished in this condition.

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Anesthesia

Reversible state of loss of awareness in which the patient feels no pain, has no normal reflexes, and responds less to stress. It is induced artificially by the employment of certain substances known as anesthetics*. It can be complete or partial and allows patients to undergo surgery.

Bimanual rectal vaginal examination

Part of the gynaecological exam in which the doctor inserts his or her index finger into the vagina and his middle finger into the rectum. With their other hand, he or she simultaneously will palpate the abdomen. This part of the examination, although a bit uncomfortable, provides important information on possible abnormalities in the pelvic organs.

Biopsy

The removal of cells or tissues for examination by a pathologist. The pathologist may study the tissue under a microscope or perform other tests on the cells or tissue. There are many different types of biopsy procedures. The

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most common types include: (1) incisional biopsy, in which only a sample of tissue is removed; (2) excisional biopsy, in which an entire lump or suspicious area is removed; and (3) needle biopsy, in which a sample of tissue or fluid is removed with a needle. When a wide needle is used, the procedure is called a core biopsy. When a thin needle is used, the procedure is called a fine-needle aspiration biopsy.

Blood platelet

Small cell fragments that play a fundamental role in the formation of blood clots. Patients with a low platelet count are at risk of severe bleeding. Patients with a high count are at risk of thrombosis, the formation of blood clots that can block blood vessels and result in stroke or other severe conditions, and can also be at risk of severe bleeding because of platelet dysfunction.

Brachytherapy

A type of radiation therapy in which radioactive* material sealed in needles, seeds, wires, or catheters is placed directly into or near a tumor. Also called

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implant radiation therapy, internal radiation therapy, and radiation brachytherapy.

Carcinoma *in situ* (CIS)

Early form of cancer that begins in the skin or in tissues that line or cover internal organs and do not invade other layers of the organ affected.

Cervical Intraepithelial Neoplasia (CIN)

Growth of abnormal cells on the surface of the cervix. Numbers from 1 to 3 may be used to describe how abnormal the cells are and how much of the cervical tissue is involved.

Chemotherapy

A type of cancer treatment using drugs that kill cancer cells and/or limit their growth. These drugs are usually administered to the patient by slow infusion into a vein but can also be administered orally, by direct infusion to the limb or by infusion to the liver, according to cancer location.

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Cisplatin

A drug used to treat many types of cancer. Cisplatin contains the metal platinum. It kills cancer cells by damaging their DNA and stopping them from dividing. Cisplatin is a type of alkylating agent.

Clinical trial/study

A type of research study that tests how well new medical approaches work in people. These studies test new methods of screening, prevention, diagnosis, or treatment of a disease. Also called clinical study.

Cone biopsy

Surgery to remove a cone-shaped piece of tissue from the cervix and cervical canal. Cone biopsy may be used to diagnose or treat a cervical condition. Also called conization*.

Contraindication

Condition or symptom that prevents the administration of a given treatment or procedure to

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the patient. Contraindications are either absolute, meaning the treatment should never be given to patients with this condition or symptom, or relative, meaning that the risk can be outweighed by the benefits in some patients with this condition or symptom.

Contrast fluid/Contrast injection

A dye or other substance that helps show abnormal areas inside the body. It is given by injection into a vein, by enema, or by mouth. Contrast material may be used with X-rays*, CT scans*, MRI*, or other imaging tests.

Corticosteroid

Any steroid hormone made in the outer part of the adrenal gland. They are also made in the laboratory. Corticosteroids have many different effects in the body, and are used to treat many different conditions. They may be used as hormone replacement, to suppress the immune system*, and to treat some side

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effects of cancer and its treatment. Corticosteroids are also used to treat certain lymphomas and lymphoid leukemias.

Colposcopy

Procedure in which the doctor uses a colposcope (instrument that has magnifying lenses similar to binoculars) to examine the cervix.

Cytological (examination)

Of or relating to cytology, which is the science that studies the structure and function of the cells.

Computed Tomography (CT)

A form of radiography in which body organs are scanned with X-rays* and the results are synthesized by a computer to generate images of parts of the body.

Deep vein thrombosis

The formation of a blood clot in a deep vein of the leg or lower pelvis. Symptoms may include pain, swelling,

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warmth, and redness in the affected area. Also called DVT.

Diabetes

Diabetes usually refers to diabetes mellitus in which there is a high level of glucose (a type of sugar) in the blood because the body does not make enough insulin or use it the way it should.

Dexamethasone

A synthetic steroid (similar to steroid hormones produced naturally in the adrenal gland). Dexamethasone is used to treat leukemia and lymphoma and may be used to treat some of the problems caused by other cancers and their treatment.

Dysplasia (mild/severe)

Cells that look more or less abnormal under a microscope which are not cancer, but could be precursors of cancer.

Loop Electrosurgical Excision Procedure (LEEP)

It is a procedure in which a thin wire inserted through tissues delivers low-voltage electrical current to remove abnormal areas of the cervix. Local anesthesia is used and a chemical is applied afterwards to prevent bleeding.

Histological type

The category in which a tumor is grouped, considering the characteristics of its cells and other structures under the microscope.

Histopathologic laboratory examination/histopathological examination

The study of diseased cells and tissues using a microscope and other tools and methods.

Human Immunodeficiency Virus (HIV)

Human Immunodeficiency Virus is the virus that causes AIDS*. It is transmitted through sex, contaminated

blood, lactation or from mothers to their unborn children.

Human Papillomavirus (HPV)

The HPV represents a family of viruses that cause local skin or mucosal infection. There are two subgroups of HPV types infecting the genital tract, the low-risk types causing warts in the genital areas and the high-risk types causing cancers of the cervix, vagina, vulva, and anus in women, and cancers of the penis and anus in men.

Hysterectomy (simple/radical)

Surgical procedure to remove the uterus and, sometimes, the cervix. If both the uterus and the cervix are removed, it is called total or simple hysterectomy. If only the uterus is removed, then it is called partial or supracervical hysterectomy. Radical hysterectomy is the removal of the uterus, cervix, and part of the vagina. The ovaries, fallopian tubes, and nearby lymph nodes* may also be removed.

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Immune system

The immune system is a biological system of structures and processes that protects the body from diseases by identifying and killing tumor cells and foreign invaders such as viruses and bacteria.

Immunodeficiency

The decreased ability of the body to fight infections and other diseases.

Intensity Modulated Radiotherapy (IMRT)

A type of 3-dimensional radiation therapy that uses computer-generated images to show the size and shape of the tumor. Thin beams of radiation of different intensities are aimed at the tumor from many angles. This type of radiation therapy reduces the damage to healthy tissue near the tumor.

Intravenous (IV)

Into or within a vein. Intravenous usually refers to a way of giving a drug or other substance through a needle or tube inserted into a vein.

Lymphadenectomy

A surgical procedure in which the lymph nodes are removed and a sample of tissue is checked under a microscope for signs of cancer. For a regional lymphadenectomy, some of the lymph nodes in the tumor area are removed; for a radical lymphadenectomy, most or all of the lymph nodes in the tumor area are removed. Also called lymph node dissection

Lymphatic vessel

A thin tube that carries lymph (lymphatic fluid) and white blood cells through the lymphatic system. Also called lymph vessel.

Lymph node

A rounded mass of lymphatic tissue that is surrounded by a capsule of connective tissue. Lymph nodes filter lymph and they store lymphocytes. They are located along lymphatic vessels*. Also called lymph gland.

Lympho-vascular invasion

Spread of the cancer into the lymphatic or blood vessels.

Magnetic Resonance Imaging (MRI)

An imaging technique that is used in medicine. It uses magnetic resonance. Sometimes a fluid is injected that enhances the contrast between different tissues to make structures more clearly visible.

Malignant

Malignant is used to describe a severe and progressively worsening disease. A malignant tumor is synonym for cancer.

Menopause

The offstage of life when a woman's ovaries stop producing hormones and menstrual periods stop. Natural menopause usually occurs around age 50. A woman is said to be in menopause when she hasn't had a period for 12 months in a row. Symptoms of menopause include hot flashes, mood swings, night sweats, vaginal dryness, trouble concentrating, and infertility.

Metastasis

The spread of cancer cells from one part of the body to another. A tumor formed by cells that have spread is called a metastatic tumor or a metastasis. The metastatic tumor contains cells that are similar to those in the original tumor.

Mucous discharge

Release of mucus or mucus-like substance from the body. Mucus is a gel-like material that normally moistens and protects inner body surfaces.

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Multidisciplinary opinion

A treatment planning approach in which a number of doctors who are experts in different areas (disciplines) review and discuss the medical condition and treatment options of a patient. In cancer treatment, a multidisciplinary opinion may include that of a medical oncologist* (who provides cancer treatment with drugs), a surgical oncologist (who provides cancer treatment with surgery), and a radiation oncologist (who provides cancer treatment with radiation). Also called tumor board review.

Myocardial infarction

A myocardial infarction or heart attack is the interruption of blood supply to a part of the heart, causing heart cells to die. If left untreated, a heart attack can cause significant damage to the heart muscle or even death.

Necrosis

Refers to the death of living tissues.

Neurological

Having to do with nerves or the nervous system.

Oncologist

A doctor who specializes in treating cancer. Some oncologists specialize in a particular type of cancer treatment. For example, a radiation oncologist specializes in treating cancer with radiation.

Osteoporosis

A condition that is marked by a decrease in bone mass and density, causing bones to become fragile.

Paclitaxel

A drug used to treat breast cancer, ovarian cancer, and AIDS*-related Kaposi sarcoma. It is also used in the treatment of cervical cancer and non-small cell lung cancer combined with other drugs. Paclitaxel is also

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being studied in the treatment of other types of cancer. It blocks cell growth by stopping cell division and may kill cancer cells.

Pap smear/test

A procedure in which cells are scraped from the cervix for examination under a microscope. It is used to detect cancer and changes that may lead to cancer. A Pap smear can also show conditions, such as infection or inflammation that are not cancer. Also called Pap test and Papanicolaou test.

Para-aortic nodes/area

Group of lymph nodes* that are located in front of the lumbar vertebrae near the aorta. These lymph nodes receive drainage from the lower gastrointestinal tract and the pelvic organs.

Parametria

The spaces on either side of the lower part of the uterus.

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Pathologist

A doctor specialized in histopathology; the study of diseased cells and tissues using a microscope.

Pelvic/Gynaecological examination

A physical examination in which the health care professional will feel for lumps or changes in the shape of the vagina, cervix, uterus, fallopian tubes, ovaries, and rectum. The health care professional will also use a speculum* to open the vagina to look at the cervix and take samples for a Pap test*.

Platinum-based drug regimens

Treatment that uses drugs that are derived from the element platinum. It includes cisplatin*, carboplatin and oxaliplatin.

Prognosis

The likely outcome or course of a disease; the chance of recovery or recurrence*.

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Radioactive

Giving off radiation.

Radiotherapy

A therapy in which radiation is used in the treatment of cancer always oriented to the specific area of the cancer.

Recurrence

Cancer or disease that has come back, usually after a period of time during which the cancer or disease was not present or could not be detected. This may happen at the same location as the original (primary) tumor or in another area of the body. Also called recurrent cancer or disease.

Regression

A decrease in the size of a tumor or in the extent of cancer in the body.

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Speculum

An instrument used to open the vagina in order to make it easier to look inside.

Stromal invasion

Extension of cancer cells into the framework of connective tissue and blood vessels that support an organ.

Topotecan

Anticancer medicine that belongs to the group 'topoisomerase inhibitors'. It blocks an enzyme called topoisomerase I, which is involved in the division of DNA. When the enzyme is blocked, the DNA strands break. This prevents the cancer cells from dividing and they eventually die.

X-ray

X-rays are a form of radiation used to take images of the inside of objects. In medicine, X-rays are commonly used to take images of the inside of the body.

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