

What
You
Need
To
Know
About™

Cancer of the Uterus

This booklet is about cancer of the uterus. The Cancer Information Service can help you learn more about this disease. The staff can talk with you in English or Spanish.

The number is 1-800-4-CANCER (1-800-422-6237). The number for deaf and hard of hearing callers with TTY equipment is 1-800-332-8615. The call is free.

Este folleto es acerca del cáncer del útero. Llame al Servicio de Información sobre el Cáncer para saber más sobre esta enfermedad. Este servicio tiene personal que habla español.

El número a llamar es el 1-800-4-CANCER (1-800-422-6237). Personas con dificultades de audición y que cuentan con equipo TTY pueden llamar al 1-800-332-8615. La llamada es gratis.

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What You Need To Know About™ Cancer of the Uterus

This National Cancer Institute (NCI) booklet has important information about *cancer** of the uterus. In the United States, cancer of the uterus is the most common cancer of the female reproductive system. It accounts for six percent of all cancers in women in this country.

This booklet has information about the possible causes, symptoms, diagnosis, and treatment of cancer of the uterus. It will help patients and their families and friends better understand and cope with this disease.

Research is increasing what we know about cancer of the uterus. Scientists are learning more about its causes. They are exploring new ways to prevent, detect, diagnose, and treat this disease. Research has helped to improve patients' quality of life and lower the chance of dying from this disease.

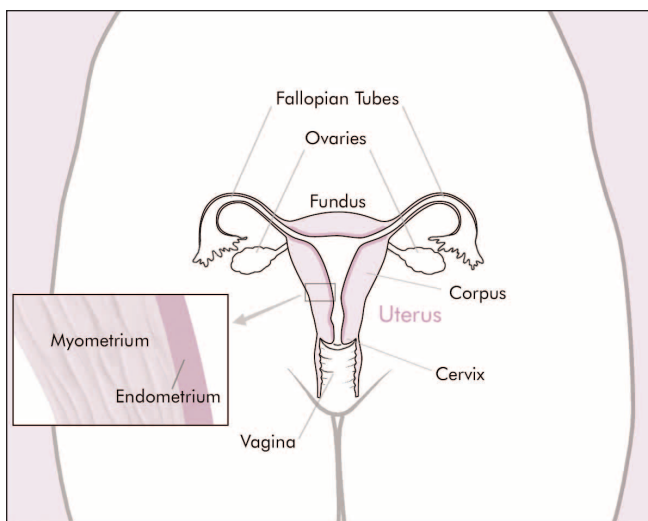
Information specialists at the Cancer Information Service can answer callers' questions about cancer and can send other National Cancer Institute publications. The number to call is 1-800-4-CANCER. Also, anyone may view or order NCI publications on the Internet at <http://cancer.gov/publications>.

*Words that may be new to readers are printed in *italics*. The "Dictionary" section gives definitions of these terms. Some words in the "Dictionary" have a "sounds-like" spelling to show how to pronounce them.

The Uterus

The *uterus* is part of a woman's *reproductive system*. It is the hollow, pear-shaped organ where a baby grows. The uterus is in the *pelvis* between the *bladder* and the *rectum*.

The narrow, lower portion of the uterus is the *cervix*. The broad, middle part of the uterus is the body or *corpus*. The dome-shaped top of the uterus is the *fundus*. The *fallopian tubes* extend from either side of the top of the uterus to the *ovaries*.



This picture shows the ovaries, fallopian tubes, and uterus (cervix, corpus, fundus, endometrium, and myometrium).

The wall of the uterus has two layers of *tissue*. The inner layer or lining is the *endometrium*. The outer layer of muscle tissue is the *myometrium*.

In women of childbearing age, the lining of the uterus grows and thickens each month to prepare for pregnancy. If a woman does not become pregnant, the thick, bloody lining flows out of the body through the *vagina*. This flow is called *menstruation*.

Understanding Cancer

Cancer is a group of many related diseases. All cancers begin in cells, the body's basic unit of life. Cells make up tissues, and tissues make up the organs of the body.

Normally, cells grow and divide to form new cells as the body needs them. When cells grow old and die, new cells take their place.

Sometimes this orderly process goes wrong. New cells form when the body does not need them, and old cells do not die when they should. These extra cells can form a mass of tissue called a growth or *tumor*.

Tumors can be *benign* or *malignant*:

- **Benign tumors** are not cancer. Usually, doctors can remove them. Cells from benign tumors do not spread to other parts of the body. In most cases, benign tumors do not come back after they are removed. Most important, benign tumors are rarely a threat to life.

Benign Conditions of the Uterus

- **Fibroids** are common benign tumors that grow in the muscle of the uterus. They occur mainly in women in their 40s. Women may have many fibroids at the same time. Fibroids do not develop into cancer. As a woman reaches *menopause*, fibroids are likely to become smaller, and sometimes they disappear.

Usually, fibroids cause no *symptoms* and need no treatment. But depending on their size and location, fibroids can cause bleeding, vaginal discharge, and frequent urination. Women with

these symptoms should see a doctor. If fibroids cause heavy bleeding, or if they press against nearby organs and cause pain, the doctor may suggest *surgery* or other treatment.

- **Endometriosis** is another benign condition that affects the uterus. It is most common in women in their thirties and forties, especially in women who have never been pregnant. It occurs when endometrial tissue begins to grow on the outside of the uterus and on nearby organs. This condition may cause painful menstrual periods, abnormal vaginal bleeding, and sometimes loss of *fertility* (ability to get pregnant), but it does not cause cancer. Women with endometriosis may be treated with *hormones* or surgery.
- **Endometrial hyperplasia** is an increase in the number of cells in the lining of the uterus. It is not cancer. Sometimes it develops into cancer. Heavy menstrual periods, bleeding between periods, and bleeding after menopause are common symptoms of hyperplasia. It is most common after age 40.

To prevent endometrial hyperplasia from developing into cancer, the doctor may recommend surgery to remove the uterus (*hysterectomy*) or treatment with hormones (*progesterone*) and regular followup exams.

- **Malignant tumors** are cancer. They are generally more serious and may be life threatening. Cancer cells can invade and damage nearby tissues and organs. Also, cancer cells can break away from a malignant tumor and enter the bloodstream or *lymphatic system*. That is how cancer cells spread

from the original (primary) tumor to form new tumors in other organs. The spread of cancer is called *metastasis*.

When uterine cancer spreads (*metastasizes*) outside the uterus, cancer cells are often found in nearby *lymph nodes*, nerves, or blood vessels. If the cancer has reached the lymph nodes, cancer cells may have spread to other lymph nodes and other organs, such as the lungs, liver, and bones.

When cancer spreads from its original place to another part of the body, the new tumor has the same kind of abnormal cells and the same name as the *primary tumor*. For example, if cancer of the uterus spreads to the lungs, the cancer cells in the lungs are actually uterine cancer cells. The disease is metastatic uterine cancer, not lung cancer. It is treated as uterine cancer, not lung cancer. Doctors sometimes call the new tumor “distant” disease.

The most common type of cancer of the uterus begins in the lining (endometrium). It is called endometrial cancer, uterine cancer, or cancer of the uterus. In this booklet, we will use the terms uterine cancer or cancer of the uterus to refer to cancer that begins in the endometrium.

A different type of cancer, uterine sarcoma, develops in the outer layer of muscle (myometrium). Cancer that begins in the cervix is also a different type of cancer. This booklet does not deal with uterine sarcoma or with cancer of the cervix. The Cancer Information Service (1-800-4-CANCER) can provide information about these types of cancer. Also, National Cancer Institute publications may be viewed or ordered on the Internet at <http://cancer.gov.publications>.

Uterine Cancer: Who's at Risk?

No one knows the exact causes of uterine cancer. However, it is clear that this disease is not contagious. No one can “catch” cancer from another person.

Women who get this disease are more likely than other women to have certain *risk factors*. A risk factor is something that increases a person's chance of developing the disease.

Most women who have known risk factors do not get uterine cancer. On the other hand, many who do get this disease have none of these factors. Doctors can seldom explain why one woman gets uterine cancer and another does not.

Studies have found the following risk factors:

- **Age.** Cancer of the uterus occurs mostly in women over age 50.
- **Endometrial hyperplasia.** The risk of uterine cancer is higher if a woman has endometrial hyperplasia. This condition and its treatment are described on page 4.
- **Hormone replacement therapy (HRT).** HRT is used to control the symptoms of menopause, to prevent *osteoporosis* (thinning of the bones), and to reduce the risk of heart disease or stroke. Women who use *estrogen* without *progesterone* have an increased risk of uterine cancer. Long-term use and large doses of estrogen seem to increase this risk.

Women who use a combination of estrogen and progesterone have a lower risk of uterine cancer than women who use estrogen alone. The progesterone protects the uterus.

Women should discuss the benefits and risks of HRT with their doctor. Also, having regular checkups while taking HRT may improve the chance that the doctor will find uterine cancer at an early stage, if it does develop.

- **Obesity and related conditions.** The body makes some of its estrogen in fatty tissue. That's why obese women are more likely than thin women to have higher levels of estrogen in their bodies. High levels of estrogen may be the reason that obese women have an increased risk of developing uterine cancer. The risk of this disease is also higher in women with diabetes or high blood pressure (conditions that occur in many obese women).
- ***Tamoxifen.*** Women taking the drug tamoxifen to prevent or treat breast cancer have an increased risk of uterine cancer. This risk appears to be related to the estrogen-like effect of this drug on the uterus. Doctors monitor women taking tamoxifen for possible signs or symptoms of uterine cancer. The benefits of tamoxifen to treat breast cancer outweigh the risk of developing other cancers. Still, each woman is different. Any woman considering taking tamoxifen should discuss with the doctor her personal and family medical history and her concerns.
- **Race.** White women are more likely than African-American women to get uterine cancer.
- ***Colorectal cancer.*** Women who have had an inherited form of colorectal cancer have a higher risk of developing uterine cancer than other women.

Other risk factors are related to how long a woman's body is exposed to estrogen. Women who have no children, begin menstruation at a very young age, or enter menopause late in life are exposed to estrogen longer and have a higher risk.

Women with known risk factors and those who are concerned about uterine cancer should ask their doctor about the symptoms to watch for and how often to have checkups. The doctor's advice will be based on the woman's age, medical history, and other factors.

Symptoms

Uterine cancer usually occurs after menopause. But it may also occur around the time that menopause begins. Abnormal vaginal bleeding is the most common symptom of uterine cancer. Bleeding may start as a watery, blood-streaked flow that gradually contains more blood. Women should not assume that abnormal vaginal bleeding is part of menopause.

A woman should see her doctor if she has any of the following symptoms:

- Unusual vaginal bleeding or discharge
- Difficult or painful urination
- Pain during intercourse
- Pain in the *pelvic* area

These symptoms can be caused by cancer or other less serious conditions. Most often they are not cancer, but only a doctor can tell for sure.

Diagnosis

If a woman has symptoms that suggest uterine cancer, her doctor may check general signs of health and may order blood and urine tests. The doctor also may perform one or more of the exams described on the next pages.



- **Pelvic exam**—A woman has a pelvic exam to check the vagina, uterus, bladder, and rectum. The doctor feels these organs for any lumps or changes in their shape or size. To see the upper part of the vagina and the cervix, the doctor inserts an instrument called a *speculum* into the vagina.
- **Pap test**—The doctor collects cells from the cervix and upper vagina. A medical laboratory checks for abnormal cells. Although the Pap test can detect cancer of the cervix, cells from inside the uterus usually do not show up on a Pap test. This is why the doctor collects samples of cells from inside the uterus in a procedure called a *biopsy*.

- **Transvaginal ultrasound**—The doctor inserts an instrument into the vagina. The instrument aims high-frequency sound waves at the uterus. The pattern of the echoes they produce creates a picture. If the endometrium looks too thick, the doctor can do a biopsy.
- **Biopsy**—The doctor removes a sample of tissue from the uterine lining. This usually can be done in the doctor's office. In some cases, however, a woman may need to have a *dilation and curettage* (D&C). A D&C is usually done as same-day surgery with *anesthesia* in a hospital. A *pathologist* examines the tissue to check for cancer cells, hyperplasia, and other conditions. For a short time after the biopsy, some women have cramps and vaginal bleeding.

A woman who needs a biopsy may want to ask the doctor the following questions:

- What type of biopsy will I have? Why?
- How long will it take? Will I be awake? Will it hurt?
- How soon will I know the results?
- Are there any risks? What is the chance of infection or bleeding afterward?
- If I do have cancer, who will talk with me about treatment? When?

Staging

If uterine cancer is diagnosed, the doctor needs to know the *stage*, or extent, of the disease to plan the best treatment. *Staging* is a careful attempt to find out whether the cancer has spread, and if so, to what parts of the body.

The doctor may order blood and urine tests and chest *x-rays*. The woman also may have other x-rays, *CT scans*, an *ultrasound test*, *magnetic resonance imaging (MRI)*, *sigmoidoscopy*, or *colonoscopy*.

In most cases, the most reliable way to stage this disease is to remove the uterus (hysterectomy). (The description of surgery in the “Methods of Treatment” section has more information.) After the uterus has been removed, the surgeon can look for obvious signs that the cancer has invaded the muscle of the uterus. The surgeon also can check the lymph nodes and other organs in the pelvic area for signs of cancer. A pathologist uses a microscope to examine the uterus and other tissues removed by the surgeon.

These are the main features of each stage of the disease:

- Stage I—The cancer is only in the body of the uterus. It is not in the cervix.
- Stage II—The cancer has spread from the body of the uterus to the cervix.
- Stage III—The cancer has spread outside the uterus, but not outside the pelvis (and not to the bladder or rectum). Lymph nodes in the pelvis may contain cancer cells.
- Stage IV—The cancer has spread into the bladder or rectum. Or it has spread beyond the pelvis to other body parts.

Treatment

Many women want to take an active part in making decisions about their medical care. They want to learn all they can about their disease and their treatment choices. However, the shock and stress that people may feel after a diagnosis of cancer can make it hard for them to think of everything they want to ask the doctor. It often helps to make a list of questions before an appointment. To help remember what the doctor says, patients may take notes or ask whether they may use a tape recorder. Some women also want to have a family member or friend with them when they talk to the doctor—to take part in the discussion, to take notes, or just to listen.

The patient's doctor may refer her to doctors who specialize in treating cancer, or she may ask for a referral. Treatment generally begins within a few weeks after the diagnosis. There will be time for the woman to talk with the doctor about her treatment choices, get a second opinion, and learn more about uterine cancer.

Getting a Second Opinion

Before starting treatment, a woman might want a second opinion about the diagnosis, the stage of cancer, and the treatment plan. Some insurance companies require a second opinion; others may cover a second opinion if the woman requests it. Gathering medical records and arranging to see another doctor may take a little time. In most cases, a brief delay does not make treatment less effective.

There are a number of ways to find a doctor for a second opinion:

- The patient's doctor may refer her to one or more specialists. Specialists who treat women with uterine cancer include surgeons, *gynecologic oncologists*, *medical oncologists*, and *radiation oncologists*. At cancer centers, these doctors often work together as a team.
- The Cancer Information Service, at 1-800-4-CANCER, can tell callers about treatment facilities, including cancer centers and other programs supported by the National Cancer Institute.
- People can get the names of specialists from their local medical society, a nearby hospital, or a medical school.
- The *Official ABMS Directory of Board Certified Medical Specialists* lists doctors' names along with their speciality and their educational background. This resource is available in most public libraries. The American Board of Medical Specialties (ABMS) also has telephone and Internet services. People may use these services to check whether a doctor is board certified. The telephone number is 1-866-ASK-ABMS (1-866-275-2267). The Internet address is <http://www.abms.org/newsearch.asp>.

Preparing for Treatment

The choice of treatment depends on the size of the tumor, the stage of the disease, whether female hormones affect tumor growth, and the tumor *grade*. (The grade tells how closely the cancer cells resemble normal cells and suggests how fast the cancer is likely to grow. Low-grade cancers are likely to grow and spread more slowly than high-grade cancers.) The doctor also considers other factors, including the woman's age and general health.

These are some questions a woman may want to ask the doctor:

- What kind of uterine cancer do I have?
- Has the cancer spread? What is the stage of the disease?
- Do I need any more tests to check for spread of the disease?
- What is the grade of the tumor?
- What are my treatment choices? Which do you recommend for me? Why?
- What are the expected benefits of each kind of treatment?
- What are the risks and possible *side effects* of each treatment?
- What is the treatment likely to cost?
- How will treatment affect my normal activities?
- How often should I have checkups?
- Would a *clinical trial* (research study) be appropriate for me?

Women do not need to ask all their questions or understand all the answers at once. They will have other chances to ask the doctor to explain things that are not clear and to ask for more information.

Methods of Treatment

Women with uterine cancer have many treatment options. Most women with uterine cancer are treated with surgery. Some have *radiation therapy*. A smaller



number of women may be treated with *hormonal therapy*. Some patients receive a combination of therapies.

The doctor is the best person to describe the treatment choices and discuss the expected results of treatment.

A woman may want to talk with her doctor about taking part in a clinical trial, a research study of new treatment methods. Clinical trials are an important option for women with all stages of uterine cancer. The section on “The Promise of Cancer Research” has more information about clinical trials.

Most women with uterine cancer have **surgery** to remove the uterus (hysterectomy) through an incision in the *abdomen*. During a hysterectomy, the doctor also removes both fallopian tubes and both ovaries. (This operation is called a bilateral *salpingo-oophorectomy*.)

The doctor may also remove the lymph nodes near the tumor to see if they contain cancer. If cancer cells have reached the lymph nodes, it may mean that the disease has spread to other parts of the body. If cancer cells have not spread beyond the endometrium, the woman may not need to have any other treatment. The length of the hospital stay may vary from several days to a week.

These are some questions a woman may want to ask the doctor about surgery:

- What kind of operation will it be?
- How will I feel after the operation?
- What help will I get if I have pain?
- How long will I have to stay in the hospital?
- Will I have any long-term effects because of this operation?
- When will I be able to resume my normal activities?
- Will the surgery affect my sex life?
- Will followup visits be necessary?

In **radiation therapy**, high-energy rays are used to kill cancer cells. Like surgery, radiation therapy is a *local therapy*. It affects cancer cells only in the treated area.

Some women with Stage I, II, or III uterine cancer need both radiation therapy and surgery. They may have radiation before surgery to shrink the tumor or after surgery to destroy any cancer cells that remain in the area. Also, the doctor may suggest radiation treatments for the small number of women who cannot have surgery.

Doctors use two types of radiation therapy to treat uterine cancer:

- ***External radiation:*** In external radiation therapy, a large machine outside the body is used to aim radiation at the tumor area. The woman is usually an outpatient in a hospital or clinic and receives external radiation 5 days a week for several weeks. This schedule helps protect healthy cells and tissue by spreading out the total dose of radiation. No radioactive materials are put into the body for external radiation therapy.
- ***Internal radiation:*** In internal radiation therapy, tiny tubes containing a radioactive substance are inserted through the vagina and left in place for a few days. The woman stays in the hospital during this treatment. To protect others from radiation exposure, the patient may not be able to have visitors or may have visitors only for a short period of time while the implant is in place. Once the implant is removed, the woman has no radioactivity in her body.

Some patients need both external and internal radiation therapies.

These are some questions a woman may want to ask the doctor about radiation therapy:

- What is the goal of this treatment?
- How will the radiation be given?
- Will I need to stay in the hospital? For how long?
- When will the treatments begin? When will they end?
- How will I feel during therapy? Are there side effects?
- What can I do to take care of myself during therapy?
- How will we know if the radiation therapy is working?
- Will I be able to continue my normal activities during treatment?
- How will radiation therapy affect my sex life?
- Will followup visits be necessary?

Hormonal therapy involves substances that prevent cancer cells from getting or using the hormones they may need to grow. Hormones can attach to *hormone receptors*, causing changes in uterine tissue. Before therapy begins, the doctor may request a *hormone receptor test*. This special lab test of uterine tissue helps the doctor learn if estrogen and progesterone receptors are present. If the tissue has receptors, the woman is more likely to respond to hormonal therapy.

Hormonal therapy is called a *systemic therapy* because it can affect cancer cells throughout the body. Usually, hormonal therapy is a type of progesterone taken as a pill.

The doctor may use hormonal therapy for women with uterine cancer who are unable to have surgery or radiation therapy. Also, the doctor may give hormonal therapy to women with uterine cancer that has spread to the lungs or other distant sites. It is also given to women with uterine cancer that has come back.

These are some questions a woman may want to ask the doctor about hormonal therapy:

- Why do I need this treatment?
- What were the results of the hormone receptor test?
- What hormones will I be taking? What will they do?
- Will I have side effects? What can I do about them?
- How long will I be on this treatment?

Side Effects of Cancer Treatment

Because cancer treatment may damage healthy cells and tissues, unwanted side effects sometimes occur. These side effects depend on many factors, including the type and extent of the treatment. Side effects may not be the same for each person, and they may even change from one treatment session to the next. Before treatment starts, doctors and nurses will explain the possible side effects and how they will help you manage them.

The NCI provides helpful booklets about cancer treatments and coping with side effects, such as *Radiation Therapy and You* and *Eating Hints for Cancer Patients*. See the sections “National Cancer

Institute Information Resources” and “National Cancer Institute Booklets” for other sources of information about side effects.

Surgery

After a hysterectomy, women usually have some pain and feel extremely tired. Most women return to their normal activities within 4 to 8 weeks after surgery. Some may need more time than that.

Some women may have problems with nausea and vomiting after surgery, and some may have bladder and bowel problems. The doctor may restrict the woman’s diet to liquids at first, with a gradual return to solid food.

Women who have had a hysterectomy no longer have menstrual periods and can no longer get pregnant. When the ovaries are removed, menopause occurs at once. Hot flashes and other symptoms of menopause caused by surgery may be more severe than those caused by natural menopause. Hormone replacement therapy (HRT) is often given to women who have not had uterine cancer to relieve these problems. However, doctors usually do not give the hormone estrogen to women who have had uterine cancer. Because estrogen is a risk factor for this disease (see “Uterine Cancer: Who’s at Risk?”), many doctors are concerned that estrogen may cause uterine cancer to return. Other doctors point out that there is no scientific evidence that estrogen increases the risk that cancer will come back. NCI is sponsoring a large research study to learn whether women who have had early stage uterine cancer can take estrogen safely.

For some women, a hysterectomy can affect sexual intimacy. A woman may have feelings of loss that may

make intimacy difficult. Sharing these feelings with her partner may be helpful.

Radiation Therapy

The side effects of radiation therapy depend mainly on the treatment dose and the part of the body that is treated. Common side effects of radiation include dry, reddened skin and hair loss in the treated area, loss of appetite, and extreme tiredness. Some women may have dryness, itching, tightening, and burning in the vagina. Radiation also may cause diarrhea or frequent and uncomfortable urination. It may reduce the number of white blood cells, which help protect the body against infection.

Doctors may advise their patients not to have intercourse during radiation therapy. However, most can resume sexual activity within a few weeks after treatment ends. The doctor or nurse may suggest ways to relieve any vaginal discomfort related to treatment.

Hormonal Therapy

Hormonal therapy can cause a number of side effects. Women taking progesterone may retain fluid, have an increased appetite, and gain weight. Women who are still menstruating may have changes in their periods.



Nutrition

People need to eat well during cancer therapy. They need enough calories and protein to promote healing, maintain strength, and keep a healthy weight. Eating well often helps people with cancer feel better and have more energy.

Patients may not feel like eating if they are uncomfortable or tired. Also, the side effects of treatment such as poor appetite, nausea, or vomiting can make eating difficult. Foods may taste different.

The doctor, dietitian, or other health care provider can advise patients about ways to maintain a healthy diet. Patients and their families may want to read the National Cancer Institute booklet *Eating Hints for Cancer Patients*, which contains many useful suggestions and recipes. The section “National Cancer Institute Booklets” tells how to get this publication.

Followup Care

Followup care after treatment for uterine cancer is important. Women should not hesitate to discuss followup with their doctor. Regular checkups ensure that any changes in health are noticed. Any problem that develops can be found and treated as soon as possible. Checkups may include a physical exam, a pelvic exam, x-rays, and laboratory tests.

Support for Women with Uterine Cancer

Living with a serious disease such as cancer is not easy. Some people find they need help coping with the emotional and practical aspects of their disease. Support groups can help. In these groups, patients or their family members get together to share what they have learned about coping with the disease and the effects of treatment. Patients may want to talk with a member of their health care team about finding a support group.

It is natural for a woman to be worried about the effects of uterine cancer and its treatment on her sexuality. She may want to talk with the doctor about possible side effects and whether these effects are likely to be temporary or permanent. Whatever the outlook, it may be helpful for women and their partners to talk about their feelings and help one another find ways to share intimacy during and after treatment.

People living with cancer may worry about caring for their families, holding on to their jobs, or keeping up with daily activities. Concerns about treatments and managing side effects, hospital stays, and medical bills are also common. Doctors, nurses, and other members of the health care team will answer questions about treatment, working, or other activities. Meeting with a social worker, counselor, or member of the clergy can be helpful to those who want to talk about their feelings or discuss their concerns. Often, a social worker can suggest resources for financial aid, transportation, home care, or emotional support.

Printed materials are available from the Cancer Information Service and through other sources listed in the “National Cancer Institute Information Resources” section. The Cancer Information Service can also provide information to help patients and their families locate programs, services, and publications.

The Promise of Cancer Research

Doctors all over the country are conducting many types of clinical trials, research studies in which people take part voluntarily. Many treatment studies for women with uterine cancer are under way. Research has already led to advances, and researchers continue to search for more effective approaches.

Patients who take part in clinical trials have the first chance to benefit from treatments that have shown promise in earlier research. They also make an important contribution to medical science by helping doctors learn more about the disease. Although clinical trials may pose some risks, researchers take many very careful steps to protect people who take part.

In a large trial with hundreds of women, doctors are studying a less extensive method of surgery to remove the uterus. Normally, the doctor makes an incision in the abdomen to remove the uterus. In this study, doctors use a *laparoscope* (a lighted tube) to help remove the uterus through the vagina. Also, the doctor can use the laparoscope to help remove the ovaries and lymph nodes and to look into the abdomen for signs of cancer.

Other researchers are looking at the effectiveness of radiation therapy after surgery, as well as at the combination of surgery, radiation, and *chemotherapy*. Other trials are studying new drugs, new drug combinations, and *biological therapies*. Some of these studies are designed to find ways to reduce the side effects of treatment and to improve the quality of women's lives.

A woman who is interested in being part of a clinical trial should talk with her doctor. She may want to read *Taking Part in Clinical Trials: What Cancer Patients Need To Know*. This NCI booklet describes how research studies are carried out and explains their possible benefits and risks. NCI's cancerTrials™ Web site at <http://cancertrials.nci.nih.gov> provides general information about clinical trials. It also offers detailed information about specific ongoing studies of uterine cancer by linking to PDQ®, a cancer information database developed by the NCI. The Cancer Information Service at 1-800-4-CANCER can answer questions about cancer and provide information from the PDQ database.

Dictionary

Abdomen (AB-do-men): The part of the body that contains the pancreas, stomach, intestines, liver, gallbladder, reproductive organs, and other organs.

Anesthesia (an-es-THEE-zha): Loss of feeling or awareness. Local anesthetics cause loss of feeling in a part of the body. General anesthetics put the person to sleep.

Benign (beh-NINE): Not cancerous; does not invade nearby tissue or spread to other parts of the body.

Biological therapy (by-o-LAHJ-i-kul): Treatment to stimulate or restore the ability of the immune system to fight infection and disease. Also used to lessen side effects of some cancer treatments. Also known as immunotherapy, biotherapy, or biological response modifier (BRM) therapy.

Biopsy (BY-ahp-see): The removal of cells or tissues for examination under a microscope. When only a sample of tissue is removed, the procedure is called an incisional biopsy or core biopsy. When an entire tumor or lesion is removed, the procedure is called an excisional biopsy. When a sample of tissue or fluid is removed with a needle, the procedure is called a needle biopsy or fine-needle aspiration.

Bladder: The organ that stores urine.

Cancer: A term for diseases in which abnormal cells divide without control. Cancer cells can invade nearby tissues and can spread through the bloodstream and lymphatic system to other parts of the body.

Cervix (SER-viks): The lower, narrow end of the uterus that forms a canal between the body of the uterus and the vagina.

Chemotherapy (kee-mo-THER-a-pee): Treatment with anticancer drugs.

Clinical trial: A research study that tests how well new medical treatments or other interventions work in people. Each study is designed to test new methods of screening, prevention, diagnosis, or treatment of a disease.

Colonoscopy (ko-lun-AHS-ko-pee): An examination of the inside of the colon using a thin, lighted tube (called a colonoscope) inserted into the rectum. If abnormal areas are seen, tissue can be removed and examined under a microscope to determine whether disease is present.

Colorectal (ko-lo-REK-tul): Having to do with the colon or the rectum.

Corpus: The body of the uterus.

CT scan: Computed tomography scan. A series of detailed pictures of areas inside the body taken from different angles; the pictures are created by a computer linked to an x-ray machine. Also called computerized tomography and computerized axial tomography (CAT) scan.

Dilation and curettage (dye-LAY-shun and kyoo-reh-TAHZH): D&C. A procedure that expands the cervix so that the cervical canal and uterine lining can be scraped with a spoon-shaped instrument called a curette.

Endometriosis (en-do-mee-tree-O-sis): A benign condition in which tissue that looks like endometrial tissue grows in abnormal places in the abdomen.

Endometrium (en-do-MEE-tree-um): The layer of tissue that lines the uterus.

Estrogens (ES-tro-jins): A family of hormones that promote the development and maintenance of female sex characteristics.

External radiation (ray-dee-AY-shun): Radiation therapy that uses a machine to aim high-energy rays at the cancer. Also called external-beam radiation.

Fallopian tubes (fa-LO-pee-in): Part of the female reproductive tract. The long slender tubes through which eggs pass from the ovaries to the uterus.

Fertility (fer-TIL-i-tee): The ability to produce children.

Fibroid (FYE-broyd): A benign, smooth-muscle tumor, usually in the uterus or gastrointestinal tract. Also called leiomyoma.

Fundus: In a hollow organ (such as the bladder, gallbladder, stomach, uterus, eye, or cavity of the middle ear), the larger part that is farthest away from the organ's opening.

Grade: The grade of a tumor depends on how abnormal the cancer cells look under a microscope and how quickly the tumor is likely to grow and spread. Grading systems are different for each type of cancer.

Gynecologic oncologist (guy-neh-ko-LAH-jik on-KOL-o-jist): A doctor who specializes in treating cancers of the female reproductive organs.

Hormonal therapy: Treatment of cancer by removing, blocking, or adding hormones. Also called hormone therapy or endocrine therapy.

Hormone receptors: Certain proteins found in the tissue of the breast, uterus, and other organs. Hormones can attach to these proteins, causing changes in the tissue.

Hormone receptor test: A test to measure the amount of certain proteins, called hormone receptors, in cancer tissue. Hormones can attach to these proteins. A high level of hormone receptors may mean that hormones help the cancer grow.

Hormone replacement therapy: HRT. Hormones (estrogen, progesterone, or both) given to postmenopausal women or women who have had their ovaries surgically removed to replace the estrogen no longer produced by the ovaries.

Hormones: Chemicals produced by glands in the body and circulated in the bloodstream. Hormones control the actions of certain cells or organs.

Hyperplasia (hye-per-PLAY-zha): An abnormal increase in the number of cells in an organ or tissue.

Hysterectomy (hiss-ter-EK-toe-mee): An operation in which the uterus is removed.

Internal radiation (ray-dee-AY-shun): A procedure in which radioactive material sealed in needles, seeds, wires, or catheters is placed directly into or near the tumor. Also called brachytherapy, implant radiation, or interstitial radiation therapy.

Laparoscope (LAP-a-rah-scope): A thin, lighted tube that is inserted through the abdominal wall to inspect the inside of the abdomen and remove tissue samples.

Laparotomy (lap-a-RAH-toe-mee): A surgical incision made in the wall of the abdomen.

Local therapy: Treatment that affects cells in the tumor and the area close to it.

Lymph node: A rounded mass of lymphatic tissue that is surrounded by a capsule of connective tissue. Also known as a lymph gland. Lymph nodes are spread out along lymphatic vessels and contain many lymphocytes, which filter the lymphatic fluid (lymph).

Lymphatic system (lim-FAT-ik): The tissues and organs that produce, store, and carry white blood cells, which fight infection and other diseases. This system includes the bone marrow, spleen, thymus, and lymph nodes and a network of thin tubes that carry lymph and white blood cells. These tubes branch, like blood vessels, into all the tissues of the body.

Magnetic resonance imaging (mag-NET-ik REZ-o-nans IM-a-jing): MRI. A procedure in which a magnet linked to a computer is used to create detailed pictures of areas inside the body.

Malignant (ma-LIG-nant): Cancerous; a growth with a tendency to invade and destroy nearby tissue and spread to other parts of the body.

Medical oncologist (on-KOL-o-jist): A doctor who specializes in diagnosing and treating cancer using chemotherapy, hormonal therapy, and biological therapy. A medical oncologist often serves as the main caretaker of someone who has cancer and coordinates treatment provided by other specialists.

Menopause (MEN-o-pawz): The time of life when a woman's menstrual periods stop permanently. Also called "change of life."

Menstruation: Periodic discharge of blood and tissue from the uterus. Until menopause, menstruation occurs approximately every 28 days when a woman is not pregnant.

Metastasis (meh-TAS-ta-sis): The spread of cancer from one part of the body to another. Tumors formed from cells that have spread are called "secondary tumors" and contain cells that are like those in the original (primary) tumor. The plural is metastases.

Metastasize (meh-TAS-ta-size): To spread from one part of the body to another. When cancer cells metastasize and form secondary tumors, the cells in the metastatic tumor are like those in the original (primary) tumor.

MRI: Magnetic resonance imaging (mag-NET-ik REZ-o-nans IM-a-jing). A procedure in which a magnet linked to a computer is used to create detailed pictures of areas inside the body.

Myometrium (mye-oh-MEE-tree-um): The muscular outer layer of the uterus.

Osteoporosis (OSS-tee-oh-pa-ROW-sis): A condition that is characterized by a decrease in bone mass and density, causing bones to become fragile.

Ovaries (O-va-reez): The pair of female reproductive glands in which the ova, or eggs, are formed. The ovaries are located in the pelvis, one on each side of the uterus.

Pap test: The collection of cells from the cervix for examination under a microscope. It is used to detect changes that may be cancer or may lead to cancer, and can show noncancerous conditions, such as infection or inflammation. Also called a Pap smear.

Pathologist (pa-THOL-o-jist): A doctor who identifies diseases by studying cells and tissues under a microscope.

Pelvic: Of or relating to the pelvis, the lower part of the abdomen. The pelvic area is located between the hip bones.

Pelvis: The lower part of the abdomen, located between the hip bones.

Primary tumor: The original tumor.

Progesterone (pro-JES-ter-own): A female hormone.

Radiation oncologist (ray-dee-AY-shun on-KOL-o-jist): A doctor who specializes in using radiation to treat cancer.

Radiation therapy (ray-dee-AY-shun): The use of high-energy radiation from x-rays, gamma rays, neutrons, and other sources to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external-beam radiation therapy), or it may come from radioactive material that is placed in the body in the area near cancer cells (internal radiation therapy, implant radiation, or brachytherapy). Systemic radiation therapy uses a radioactive substance, such as a radio-labeled monoclonal antibody, that circulates throughout the body. Also called radiotherapy.

Rectum: The last 8 to 10 inches of the large intestine.

Reproductive system: In women, this system includes the ovaries, the fallopian tubes, the uterus (womb), the cervix, and the vagina (birth canal). The reproductive system in men includes the prostate, the testes, and the penis.

Risk factor: A habit, trait, condition, or genetic alteration that increases a person's chance of developing a disease.

Salpingo-oophorectomy (sal-PIN-go o-o-for-EK-toe-me): Surgical removal of the fallopian tubes and ovaries.

Side effects: Problems that occur when treatment affects healthy cells. Common side effects of cancer treatment are fatigue, nausea, vomiting, decreased blood cell counts, hair loss, and mouth sores.

Sigmoidoscopy (sig-moid-OSS-ko-pee): Inspection of the lower colon using a thin, lighted tube called a sigmoidoscope. Samples of tissue or cells may be collected for examination under a microscope to learn whether disease is present. Also called proctosigmoidoscopy.

Speculum (SPEK-yoo-lum): An instrument used to widen an opening of the body to make it easier to look inside.

Stage: The extent of a cancer, especially whether the disease has spread from the original site to other parts of the body.

Staging: Performing exams and tests to learn the extent of the cancer within the body, especially whether the disease has spread from the original site to other parts of the body.

Surgery: A procedure to remove or repair a part of the body or to find out whether disease is present.

Symptom: A sign that a person has a condition or disease. Some examples of symptoms are headache, fever, fatigue, nausea, vomiting, and pain.

Systemic therapy (sis-TEM-ik): Treatment that uses substances that travel through the bloodstream, reaching and affecting cells all over the body.

Tamoxifen: An anticancer drug that belongs to the family of drugs called antiestrogens. Tamoxifen blocks the effects of the hormone estrogen in the body. It is used to prevent or delay the return of breast cancer or to control its spread. It is also used to prevent breast cancer in women at increased risk for this disease.

Tissue (TISH-oo): A group or layer of cells that are alike in type and work together to perform a specific function.

Transvaginal ultrasound: A procedure used to examine the vagina, uterus, fallopian tubes, and bladder. An instrument is inserted into the vagina, and sound waves bounce off organs inside the pelvic area. These sound waves create echoes, which a computer uses to create a picture called a sonogram. Also called TVS.

Tumor (TOO-mer): An abnormal mass of tissue that results from excessive cell division. Tumors perform no useful body function. They may be benign (not cancerous) or malignant (cancerous).

Ultrasonography (UL-tra-son-OG-ra-fee): A procedure in which sound waves (called ultrasound) are bounced off tissues and the echoes produce a picture (sonogram).

Ultrasound test: A test that bounces sound waves off tissues and internal organs and changes the echoes into pictures (sonograms).

Uterus (YOO-ter-us): The small, hollow, pear-shaped organ in a woman's pelvis. This is the organ in which a fetus develops. Also called the womb.

Vagina (vah-JYE-na): The muscular canal extending from the uterus to the exterior of the body. Also called the birth canal.

X-ray: High-energy radiation used in low doses to diagnose diseases and in high doses to treat cancer.

National Cancer Institute Information Resources

You may want more information for yourself, your family, and your doctor. The following National Cancer Institute (NCI) services are available to help you.

Telephone

Cancer Information Service (CIS)

Provides accurate, up-to-date information on cancer to patients and their families, health professionals, and the general public. Information specialists translate the latest scientific information into understandable language and respond in English, Spanish, or on TTY equipment.

Toll-free: 1-800-4-CANCER (1-800-422-6237)

TTY: 1-800-332-8615

Internet

These Web sites may be useful:

<http://cancer.gov>

NCI's primary Web site; contains information about the Institute and its programs.

<http://cancertrials.nci.nih.gov>

cancerTrials™; NCI's comprehensive clinical trials information center for patients, health professionals, and the public. Includes information on understanding trials, deciding whether to participate in a trial, finding specific trials, plus research news and other resources.

<http://cancernet.nci.nih.gov>

CancerNet™; contains material for health professionals, patients, and the public, including information from PDQ® about cancer treatment, screening, prevention, supportive care, and clinical trials; and CANCERLIT®, a bibliographic database; and a dictionary of medical terms related to cancer and its treatment.

E-mail

CancerMail

Includes NCI information about cancer treatment, screening, prevention, and supportive care. To obtain a contents list, send an e-mail to cancermail@cips.nci.nih.gov with the word “help” in the body of the message.

Fax

CancerFax®

Includes NCI information about cancer treatment, screening, prevention, and supportive care. To obtain a contents list, dial 1-800-624-2511 or 301-402-5874 from your touch-tone phone or fax machine handset and follow the recorded instructions.

National Cancer Institute Booklets

These National Cancer Institute (NCI) booklets are available from the Cancer Information Service by calling 1–800–4–CANCER. They are also available on the NCI Web site, which is located at **<http://cancer.gov/publications>** on the Internet.

Booklets About Cancer Treatment

- *Chemotherapy and You: A Guide to Self-Help During Treatment*
- *Help Yourself During Chemotherapy: 4 Steps for Patients*
- *Radiation Therapy and You: A Guide to Self-Help During Treatment*
- *Get Relief From Cancer Pain*
- *Understanding Cancer Pain*
- *Pain Control: A Guide for People with Cancer and Their Families*
- *Eating Hints for Cancer Patients*
- *Taking Part in Clinical Trials: What Cancer Patients Need To Know*
- *Datos sobre el tratamiento de quimioterapia contra el cáncer (Facts About Chemotherapy)*
- *El dolor relacionado con el cáncer (Understanding Cancer Pain)*
- *El tratamiento de radioterapia: Guía para el paciente durante el tratamiento (Radiation Therapy and You: A Guide to Self-Help During Treatment)*

- *¿En qué consisten los estudios clínicos? Un folleto para los pacientes de cáncer (What Are Clinical Trials All About? A Guide for Cancer Patients)*

Booklets About Living with Cancer

- *Advanced Cancer: Living Each Day*
- *Facing Forward: A Guide for Cancer Survivors*
- *Taking Time: Support for People With Cancer and the People Who Care About Them*
- *When Cancer Recurs: Meeting the Challenge*

This booklet was written and published by the National Cancer Institute (NCI), 31 Center Drive, MSC 2580, Bethesda, MD 20892–2580. The NCI, the largest component of the National Institutes of Health, coordinates a national research program on cancer causes and prevention, detection and diagnosis, and treatment. In addition, NCI's mission includes dissemination of information about cancer to patients, the public, and health professionals.

The National Cancer Act, passed by Congress in 1971, made research a National priority. Since that time, the NCI, the lead Federal agency for cancer research, has collaborated with top researchers and facilities across the country to conduct innovative research leading to progress in cancer prevention, detection, diagnosis, and treatment. These efforts have resulted in a decrease in the overall cancer death rate, and have helped improve and extend the lives of millions of Americans.

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