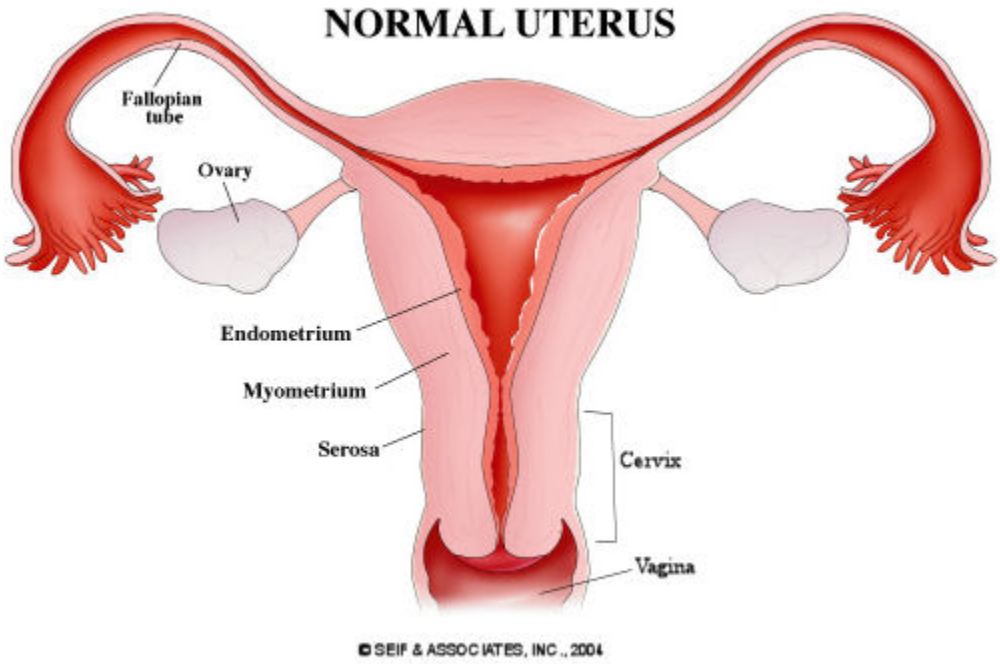
Cancer of the Uterus

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 fallopian tubes extend from either side of the top of the uterus to the ovaries. The wall of the uterus has two layers of tissue. The inner layer, or lining, is the endometrium. The outer layer is muscle tissue called 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.

TYPES OF UTERINE CANCER

- 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. It is seen in 2% to 3% of women.
- A different type of cancer, uterine sarcoma, develops in the muscle (*myometrium*). Cancer that begins in the cervix is also a different type of cancer.
- Rarely, a noncancerous fibroid tumor of the uterus develops into a sarcoma.

CAUSES

No one knows the exact causes of uterine cancer. But 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 (*enlarged endometrium*).** The risk of uterine cancer is higher if a woman has endometrial hyperplasia.
  - **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 still have their uterus, and 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 from developing cancer.
  - **Obesity and related conditions.** The body stores and releases some of its estrogen in fatty tissue. That is 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. These conditions 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.
- **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.
- Infertility.
- Beginning menstrual periods before age 12.
- Having menstrual periods after age 52.
- History of cancer of the ovary or intestine.
- Family history of uterine cancer.
- Having diabetes, high blood pressure, thyroid or gall bladder disease.
- Long- term use of high does of birth control pills. Birth control pills today are low in hormone doses.
- Radiation to the abdomen or pelvis.
- Smoking.

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 caregiver 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.
- Increased girth (*growth*) of the stomach.
- Any vaginal bleeding after menopause.
- Unexplained weight loss.

These symptoms can be caused by cancer or other less serious conditions. Most often they are not cancer. But a thorough evaluation is needed to be certain.

DIAGNOSIS

If a woman has symptoms that suggest uterine cancer, her caregiver may check her general health and may order blood and urine tests. The caregiver also may perform one or more of these exams or tests.

- **Blood and urine tests and chest x-rays**. The woman also may have:
  - Other x-rays.
  - CT scans.
  - Ultrasound test.
  - Magnetic resonance imaging (MRI).
  - Sigmoidoscopy.
  - Colonoscopy.
- **Pelvic exam**. A woman will have a pelvic exam to check the vagina, uterus, bladder, and rectum. The caregiver 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 caregiver inserts an instrument called a speculum into the vagina.
- **Pap test**. The caregiver collects cells from the cervix and upper vagina. A medical laboratory checks for abnormal cells. The Pap test is better for detecting cancer of the cervix. But cells from inside the uterus usually do not show up on a Pap test. It is not a reliable test for uterine cancer.
- **Transvaginal ultrasound**. The medical caregiver 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 caregiver can do a biopsy.
- **Biopsy**. The medical caregiver removes a sample of tissue from the uterine lining. This usually can be done

in the caregiver's office.

- **Dilatation and Curettage (D&C)**. In some cases, a woman may need to have a D&C. D&C is usually done as same-day surgery with anesthesia in a hospital. A pathologist examines the tissue (*lining of the uterus*) to check for cancer cells and other conditions.

STAGING

- If uterine cancer is diagnosed, the caregiver 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.
- 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 of the body.
- Staging is done at the time of surgery. In most cases, the most reliable way to stage this disease is to remove the uterus, cervix, tubes, ovaries, and lymph nodes. A pathologist uses a microscope to examine the uterus and other tissues removed by the surgeon, to determine the extent of the cancer in the pelvis.
- If lymph nodes have cancer cells, other parts of the body are examined, to see if it has spread to other organs.

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. It may have spread beyond the pelvis to other body parts.

TREATMENT

Women with uterine cancer have many treatment options. Most women with uterine cancer are treated with surgery. Some have radiation or chemotherapy. A smaller number of women may be treated with hormonal therapy. Some patients receive a combination of therapies. You may want to consult with another cancer doctor for a second opinion. The caregiver (usually a cancer doctor) is the best person to describe your treatment choices and to discuss the expected results of treatment.

SURGERY

- Most women with uterine cancer have surgery to remove the uterus, cervix, tubes, and ovaries (*total hysterectomy*). This is usually done through an incision in the abdomen.
- 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.

RADIATION THERAPY

- 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. 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 usually does not stay overnight (*outpatient*) at the 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 cervix, into the uterus, 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.**

CHEMOTHERAPY

Chemotherapy is not usually used for endometrial cancer of the uterus. However, with sarcoma of the uterus or of the fibroid, it may be used in combination with surgery. Chemotherapy may also be used with recurring sarcoma, and in patients who cannot have surgery.

HORMONE THERAPY

Hormonal therapy involves substances that prevent cancer cells from multiplying or growing by attaching to hormone receptors. This causes changes in cancer cells. Before therapy begins, the caregiver may request a hormone receptor test. This special lab test of uterine tissue helps the caregiver 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 or injection.
- 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.
- 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.
- Hormone therapy can be used in combination with surgery or radiation.

HOME CARE INSTRUCTIONS

- Maintain a normal weight with a healthy balanced diet and exercise.
- If you have diabetes, high blood pressure, thyroid or gall bladder disease, keep them in control with your caregiver's treatment and recommendations.
- Do not smoke.
- Do not take estrogen without taking progesterone with it, for menopausal symptoms.
- Join a support group or get counseling, if you would like help dealing with your cancer.
- If you are on hormone replacement therapy, see your caregiver as recommended, and be informed about the side effects of HRT.
- Women with known risk factors should ask their caregiver what symptoms to look for and how often they should have an examination.
- Keep your follow-up appointments and take your medicines as advised.
- Write your questions down, and take them with you to your caregiver's appointments.
- You may want another person to be with you for your appointments, so you do not miss any instructions.

SEEK MEDICAL CARE IF:

- You have any abnormal vaginal bleeding.
- You are having menstrual periods at the age of 52 or older.
- You have bleeding after sexual intercourse.
- You are taking tomoxifen and develop vaginal bleeding.
- Your stomach is growing, and you are not pregnant.
- You have pain with sexual intercourse.
- You have stomach or pelvis pain.
- You have weight loss for no known reason.

- You have pain or difficulty with urination.

NATIONAL CANCER INSTITUTE BOOKLETS

Cancer Information Service (CIS) provides accurate, up-to-date information on cancer to patients and their families, health professionals, and the general public:
Phone: 1-800-4-CANCER (1-800-422-6237)
Internet: http://www.cancer.gov

NCI's website contains complete information about cancer causes and prevention, screening and diagnosis, treatment and survivorship, clinical trials, statistics, funding, training, and employment opportunities, and the Institute and its programs.

CLINICAL TRIALS

A woman who is interested in being part of a clinical trial should talk with her caregiver. NCI's website (http://www.cancer.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.

Most of this information courtesy of the National Cancer Institute, a branch of the National Institute of Health.

Document Released: 12/18/2006 Document Re-Released: 12/06/2010
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