



# Uterine Sarcoma Early Detection, Diagnosis, and Staging

## Detection and Diagnosis

Catching cancer early often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that is not always the case.

- [Can Uterine Sarcoma Be Found Early?](#)
- [Signs and Symptoms of Uterine Sarcomas](#)
- [How Is Uterine Sarcoma Diagnosed?](#)

## Stages and Outlook (Prognosis)

After a cancer diagnosis, staging provides important information about the extent of cancer in the body and anticipated response to treatment.

- [How Is Uterine Sarcoma Staged?](#)
- [Survival Rates for Uterine Sarcoma, by Stage](#)

## Questions to Ask About Uterine Sarcoma

Here are some questions you can ask your cancer care team to help you better understand your cancer diagnosis and treatment options.

- [What Should You Ask Your Doctor About Uterine Sarcoma?](#)

## Can Uterine Sarcoma Be Found Early?

In some cases, knowing the [signs and symptoms](#) of uterine sarcoma and discussing them promptly with your health care professional can help find it at an early stage.

Unfortunately, many uterine sarcomas reach an advanced stage before recognizable signs and symptoms are present. The signs and symptoms for the main types of uterine sarcoma are different. (See [How is uterine sarcoma diagnosed?](#))

## Screening tests

*Screening* refers to testing to find a disease such as cancer in people who do not have symptoms of that disease. At this time, there are no tests or exams to detect uterine sarcomas in women without symptoms (asymptomatic). The Pap test, which screens for cervical cancer, can occasionally find some early uterine sarcomas, but it is not a good test for this type of cancer.

The Pap test is very effective, however, in finding early carcinomas of the cervix (the lower part of the uterus). For information on screening tests for cervical cancer, see [Cervical Cancer](#).

- [References](#)

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## Signs and Symptoms of Uterine Sarcomas

In most cases, the possibility of uterine sarcoma is suggested by certain symptoms. These symptoms do not always mean that a woman has a uterine sarcoma. In fact, they are more often caused by something else, such as non-cancerous changes in the uterus, pre-cancerous overgrowth of the endometrium, or endometrial carcinoma. Still, if you are having these problems, you should see a doctor to see find the cause and get any needed treatment.

### Abnormal bleeding or spotting

If you have gone through menopause, any vaginal bleeding or spotting is abnormal, and it should be reported to your health care professional right away. About 85% of patients diagnosed with uterine sarcomas have irregular vaginal bleeding (between periods) or bleeding after menopause. This symptom is more often caused by something other than cancer, but it is important to have a medical evaluation of any irregular bleeding right away. Of the uterine sarcomas, leiomyosarcomas are less likely to cause abnormal bleeding than endometrial stromal sarcomas and undifferentiated sarcomas.

## Vaginal discharge

About 10% of women with uterine sarcomas have a vaginal discharge that does not have any visible blood. A discharge is most often a sign of infection or another benign condition, but it also can be a sign of cancer. Any abnormal discharge should be investigated by your health care professional.

## Pelvic pain and/or a mass

When they are first diagnosed, about 10% of women with uterine sarcomas have pelvic pain and/or a mass (tumor) that can be felt. You or your doctor may be able to feel the mass in your uterus, or you might have a feeling of fullness in your pelvis.

- [References](#)

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## How Is Uterine Sarcoma Diagnosed?

Some uterine sarcomas are diagnosed during or after surgery for what is thought to be benign fibroid tumors. Most, though, are diagnosed because of symptoms.

If you have symptoms of uterine cancer, the first step is to see your doctor. He or she will examine you and may order some tests.

Consultation, medical history, and physical exam

Your doctor will ask you about your personal and family medical history. You also will be asked about any symptoms, risk factors, and other health problems. You will be given a general physical and a pelvic exam. If your doctor suspects cancer, you may be referred to a gynecologist or a doctor specializing in cancers of the female reproductive system (gynecologic oncologist).

## **Sampling and testing endometrial tissue**

To find the cause of abnormal uterine bleeding, a sample of tissue will be removed from the lining of the uterus and looked at under a microscope. The tissue can be removed by endometrial biopsy or by dilation and curettage (D&C). Often a hysteroscopy is done with the D&C (see below).

These procedures let the doctor see if the bleeding is caused by benign endometrial overgrowth (hyperplasia), endometrial carcinoma, uterine sarcoma, or some other disease. The tests will find many endometrial stromal sarcomas and undifferentiated sarcomas, but less than half of leiomyosarcomas (abbreviated LMSs). These tests don't find all LMSs because these cancers begin in the muscle layer of the wall of the uterus. To be found by an endometrial biopsy or D&C, they need to have spread from the middle (muscle) layer to the inner lining of the uterus. Often it is only possible to diagnose a LMS by removing it (with surgery).

### **Endometrial biopsy**

In this procedure, a very thin, flexible tube is inserted into the uterus through the cervix. Then, using suction, a small amount of the uterine lining (endometrium) is removed through the tube. Suctioning takes about a minute or less. The discomfort is similar to severe menstrual cramps and can be helped by taking a nonsteroidal anti-inflammatory drug such as ibuprofen an hour before starting. This procedure is usually done in the doctor's office.

### **Hysteroscopy**

This is a procedure that allows doctors to look inside the uterus. A tiny telescope is inserted into the uterus through the cervix. To get a better view, the uterus is then expanded by filling it with salt water (saline). This lets the doctor see and biopsy anything abnormal, such as a cancer or a polyp. This procedure is usually done with the patient awake, using local anesthesia (numbing medicine). But if a polyp or mass has to

be removed, general or regional anesthesia is sometimes used (with general anesthesia, drugs are given that put you into a deep sleep and keep you from feeling pain; regional anesthesia is a nerve block that numbs a larger area of the body).

## **Dilation and curettage**

If the results of the endometrial biopsy are not conclusive (meaning they can't tell for sure if cancer is present), a procedure called *dilation and curettage* (D&C) must be done. A D&C is usually done in the outpatient surgery area of a clinic or hospital. This procedure is done while the woman is under general or regional anesthesia or conscious sedation (medicine is given into a vein to make her drowsy) and takes about an hour. In a D&C, the cervix is dilated and a special surgical instrument is used to scrape the endometrial tissue from inside the uterus. A hysteroscopy may be done as well. Most women have little discomfort after this procedure.

## **Testing endometrial tissue**

Any tissue samples obtained by these procedures are looked at under a microscope to see if cancer is present. If cancer is found, the lab report will say if it is a carcinoma or sarcoma, what [type](#) it is, and its grade.

A tumor's grade is based on how much it looks like normal tissue under the microscope. If the tumor looks a lot like normal tissue, it is called low grade. If it doesn't at all look like normal tissue, it is high grade. The rate at which the cancer cells appear to be growing is another important factor in grading a uterine sarcoma. High-grade sarcomas tend to grow and spread more quickly than low-grade sarcomas.

The tissue may also be tested to see if the cancer cells have *estrogen receptors* and *progesterone receptors*. These hormone receptors are found on many endometrial stromal sarcomas. Cancers with estrogen receptors on the cells are more likely to grow in response to estrogen, while those with progesterone receptors often have their growth decreased by progesterone. These cancers may stop growing (or even shrink) when treated with certain hormone drugs. Checking for these receptors helps predict which patients will benefit from treatment with these drugs.

## **Cystoscopy and proctoscopy**

If a woman has signs or symptoms that suggest uterine sarcoma has spread to the bladder or rectum, the inside of these organs can be looked at through a lighted tube. These examinations are called *cystoscopy* and *proctoscopy*, respectively. They are rarely done in the diagnosis and work-up of patients with uterine sarcoma.

# Imaging tests

## Transvaginal ultrasound

Ultrasound tests use sound waves to take pictures of parts of the body. For a transvaginal ultrasound, a probe that gives off sound waves is inserted into the vagina. The sound waves are used to create images of the uterus and other pelvic organs. These images can often show any tumor that is present and whether or not it affects the myometrium (muscular layer of the uterus).

For an ultrahysterosonogram or saline infusion sonogram, salt water (saline) is placed into the uterus through a small tube before the transvaginal sonogram. This allows the doctor to see abnormalities of the uterine lining more clearly.

## Computed tomography

The CT scan is an x-ray test that produces detailed cross-sectional images of your body. Instead of taking one picture, like a standard x-ray, a CT scanner takes many pictures as it rotates around you. A computer then combines these pictures into an image of a slice of your body.

A CT scanner has been described as a large donut, with a narrow table in the middle opening. You will need to lie still on the table while the scan is being done. CT scans take longer than regular x-rays, and you might feel a bit confined by the ring while the pictures are being taken.

Before the test, you may be asked to drink 1 to 2 pints of a liquid called *oral contrast*. This helps outline the intestine so that certain areas are not mistaken for tumors. You may also receive an IV line through which a different kind of contrast dye (IV contrast) is injected. This helps better outline structures such as blood vessels in your body.

The injection can cause some flushing (redness and warm feeling). A few people are allergic to the dye and get hives or, rarely, have more serious reactions like trouble breathing and low blood pressure. Be sure to tell the doctor if you have any allergies or have ever had a reaction to any contrast material used for x-rays.

CT scans are rarely used to diagnose uterine cancer, but they may be helpful in seeing if the cancer has spread to other organs.

**CT-guided needle biopsy:** CT scans can also be used to guide a biopsy needle

precisely into a suspected tumor. For this procedure, the patient remains on the CT scanning table while the doctor advances a biopsy needle through the skin and toward the tumor. CT scans are repeated until the needle is within the mass. A fine needle biopsy sample or a larger core needle biopsy sample is then removed to be looked at under a microscope. This isn't used to biopsy tumors of the uterus, but can be used to biopsy suspected areas of metastasis.

## **Magnetic resonance imaging**

Magnetic resonance imaging (MRI) scans use radio waves and strong magnets instead of x-rays. The energy from the radio waves is absorbed and then released in a pattern formed by the type of tissue and by certain diseases. A computer translates the pattern of radio waves given off by the tissues into a very detailed image of parts of the body. Not only does this produce cross-sectional slices of the body like a CT scanner, it can also produce slices that are parallel with the length of your body. A contrast material might be injected just as with CT scans but is used less often. MRI scans can help tell if a uterine tumor looks like cancer, but a biopsy is still needed to tell for sure.

MRI scans are also particularly helpful in looking for cancer that has spread to the brain and spinal cord.

MRI scans take longer than CT scans-- often up to an hour. You are placed inside a tube, which is confining and can upset people with claustrophobia. The machine also makes clicking or buzzing noises that some people may find disturbing. Most places provide headphones and music to block this sound.

## **Positron emission tomography scan**

In the positron emission tomography (PET) scan, radioactive glucose (sugar) is injected into the patient's vein. Because many cancers use glucose at a higher rate than normal tissues, the radioactivity will tend to concentrate in the cancer. A scanner can spot the radioactive deposits. This test can be helpful for spotting small collections of cancer cells. It may also help tell if a tumor is benign or malignant. PET scans are not routinely used to work-up a pelvic mass or abnormal bleeding in patients who are not known to have cancer.

## **Chest x-ray**

A regular (plain) x-ray of the chest may be done to see if a uterine sarcoma has metastasized (spread) to the lungs and as part of the testing before surgery.

- [References](#)

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## How Is Uterine Sarcoma Staged?

*Staging* is the process of analyzing information about a tumor to find out how far the cancer has spread. The stage of a uterine sarcoma is an important factor in choosing treatment. Ask your health care team to explain your cancer's stage so that you can make fully informed choices about your treatment.

The systems used for staging uterine sarcoma, the *FIGO* (International Federation of Gynecology and Obstetrics) system and the American Joint Committee on Cancer TNM staging system, are the same.

Staging is based on: the size or extent of the tumor (T), whether the cancer has spread to lymph nodes (N) and whether it has spread to distant sites (M). Uterine sarcoma is staged based on examination of tissue removed during an operation. This is known as *surgical staging* and means that doctors can't tell for sure what stage the cancer is in until after surgery is done (in most cases). The staging system classifies the cancer in stages I through IV, with each of these stages being further divided by letters (for example, stages IIA and IIB).

The staging system looks at how far the cancer has spread:

- It can spread **locally** to other parts of the uterus and to tissues of the pelvis, including the fallopian tubes, ovaries, and tissue near the uterus.
- It can also spread **regionally** to nearby lymph nodes (bean-sized organs that are part of the immune system) and other parts of the pelvis. The regional lymph nodes are found in the pelvis and farther away along the aorta (the main artery that runs from the heart down along the back of the abdomen and pelvis). The lymph nodes along the aorta are called the para-aortic nodes.
- Finally, the cancer can spread to **distant** lymph nodes or organs such as the lungs,



liver, bone, brain, and others.

## **Tumor extent (T)**

**T0:** No signs of a tumor in the uterus can be found.

**T1:** The tumor is growing in the uterus, but has not started growing outside the uterus.

- **T1a:** The tumor is only in the uterus and is no larger than 5 cm across (5 cm is about 2 inches).
- **T1b:** The tumor is only in the uterus and is larger than 5 cm across.

**T2:** The tumor is growing outside the uterus but is not growing outside of the pelvis.

- **T2a:** The tumor is growing into the adnexa (the ovaries and fallopian tubes).
- **T2b:** The tumor is growing into tissues of the pelvis other than the adnexa.

**T3:** The tumor is growing into tissues of the abdomen.

- **T3a:** The tumor is growing into tissues of the abdomen in one place only.
- **T3b:** The tumor is growing into tissues of the abdomen in 2 or more places.

**T4:** The tumor is growing into the bladder or rectum.

## **Lymph node spread (N)**

**NX:** Spread to nearby lymph nodes cannot be assessed.

**N0:** The cancer has not spread to nearby lymph nodes.

**N1:** Cancer has spread to nearby lymph nodes.

## **Distant spread (M)**

**M0:** The cancer has not spread to distant lymph nodes, organs, or tissues.

**M1:** The cancer has spread to distant organs (such as the lungs or liver).

## **Stage grouping**

Information about the tumor, lymph nodes, and any cancer spread is combined to assign the stage of disease. This process is called *stage grouping*. The stages are described using Roman numerals from I to IV. Some stages are divided into sub-stages indicated by letters.

**Stage I (T1, N0, M0):** The cancer is only in the uterus (T1). It has not spread to lymph nodes (N0) or distant sites (M0).

- **Stage IA (T1a, N0, M0):** The cancer is only in the uterus and is no larger than 5 cm across (T1a). It has not spread to nearby lymph nodes (N0) or distant sites (M0).
- **Stage IB (T1b, N0, M0):** The cancer is only in the uterus and is larger than 5 cm across (T1b). It has not spread to nearby lymph nodes (N0) or distant sites (M0).

**Stage II (T2, N0, M0):** The cancer is growing outside the uterus but is not growing outside of the pelvis (T2). The cancer has not spread to nearby lymph nodes (N0) or distant sites (M0).

- **Stage IIA (T2a, N0, M0):** The cancer is growing into the adnexa (the ovaries and fallopian tubes) (T2a). It has not spread to nearby lymph nodes (N0) or distant sites (M0).
- **Stage IIB (T2b, N0, M0):** The cancer is growing into tissues of the pelvis other than the adnexa (T2b). It has not spread to nearby lymph nodes (N0) or distant sites (M0).

**Stage III:** Any of the following:

- **Stage IIIA (T3a, N0, M0):** The cancer is growing into tissues of the abdomen in one place only (T3a). It has not spread to nearby lymph nodes (N0) or distant sites (M0).
- **Stage IIIB (T3b, N0, M0):** The cancer is growing into tissues of the abdomen in 2 or more places (T3b). It has not spread to lymph nodes (N0) or distant sites (M0).
- **Stage IIIC (T1 to T3, N1, M0):** The cancer in the uterus can be any size and may have grown into tissues in the pelvis and/or abdomen. It has not spread to the bladder or rectum (T1 to T3). The cancer has spread to lymph nodes near the uterus (pelvic and/or para-aortic lymph nodes) (N1). It has not spread to distant sites (M0).

**Stage IV:** The cancer has spread to the urinary bladder or the rectum (lower part of the large intestine), and/or to distant organs, such as the bones or lungs.

- **Stage IVA (T4, any N, M0):** The cancer has spread to the rectum or urinary bladder (T4). It may also be in the lymph nodes (any N) but has not spread to distant sites

(M0).

- **Stage IVB (any T, any N, M1):** The cancer in the uterus can be any size and may or may not have grown into tissues in the pelvis and/or abdomen (including the bladder or rectum) (any T). The cancer may or may not have spread to lymph nodes near the uterus (any N). The cancer has spread to organs that are not next to the uterus, such as the bones or lungs, or it has spread to distant lymph nodes, such as those in the groin area (M1).

- [References](#)

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## Survival Rates for Uterine Sarcoma, by Stage

Survival rates are often used by doctors as a standard way of discussing a person's prognosis (outlook). Some patients with cancer may want to know the survival statistics for people in similar situations, while others may not find the numbers helpful, or may even not want to know them. If you decide that you do not want to know about the survival rates for uterine sarcoma given in the next few paragraphs, skip to the next section.

The 5-year survival rate refers to the percentage of patients who live at least 5 years after their cancer is diagnosed. Of course, many people live much longer than 5 years (and many are cured).

Five-year *relative* survival rates compare the survival of people with the cancer to the survival for people without the cancer. This is a way to take into account deaths from causes other than cancer. The 5-year relative survival rate is a better way to describe the impact of a particular type and stage of cancer on survival.

In order to get 5-year survival rates, doctors have to look at people who were treated at least 5 years ago. Improvements in treatment since then may result in a more favorable

outlook for people now being diagnosed with uterine sarcoma.

Survival rates are often based on previous outcomes of large numbers of people who had the disease, but they cannot predict what will happen in any particular person's case. Many factors may affect a person's outlook, such as:

- The [stage](#) of the cancer
- The [type](#) of sarcoma (leiomyosarcoma or endometrial stromal sarcoma)
- The grade of the sarcoma (low grade versus high grade)
- The woman's general state of health
- The [treatment](#) received

Your doctor can tell you how the numbers below may apply to you, as he or she is familiar with your particular situation.

The survival statistics noted below come from the National Cancer Institute's SEER program. They are based on women diagnosed with uterine sarcomas from 2004 to 2010. SEER doesn't break down these statistics by AJCC or FIGO stage. Instead, SEER uses something called summary stages: localized, regional, and distant.

- Localized means the cancer is only in the uterus, and corresponds to stage I.
- Regional means the cancer has spread to nearby tissues or lymph nodes and includes stages II, and III.
- Distant means the cancer has spread further and includes stages IVA and IVB.

## Leiomyosarcoma

- | • Stage     | • 5-Year Relative Survival |
|-------------|----------------------------|
| • Localized | • 63%                      |
| • Regional  | • 36%                      |
| • Distant   | • 14%                      |

## Undifferentiated sarcoma

- | • Stage     | • 5-Year Relative Survival |
|-------------|----------------------------|
| • Localized | • 70%                      |
| • Regional  | • 43%                      |
| • Distant   | • 23%                      |

## Endometrial stromal sarcoma:

- **Stage**
- Localized
- Regional
- Distant
- [References](#)
- **5-Year Relative Survival**
- 99%
- 94%
- 69%

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# What Should You Ask Your Doctor About Uterine Sarcoma?

It is important for you to have honest, open discussions with your cancer care team. The following are some questions to consider:

- What type and grade of uterine sarcoma do I have?
- Has the cancer spread beyond my uterus?
- What is the stage of my cancer and what does that mean for me?
- What treatments are appropriate for me? What do you recommend? Why?
- Can I be evaluated by a gynecologic oncologist?
- Am I eligible for a clinical trial?
- What should I do to be ready for treatment?
- What risks or side effects should I expect?
- What are the chances of recurrence of my cancer with the treatment options we have discussed?
- Should I follow a special diet?
- Will I be able to have children after my treatment?
- What is my prognosis, based on what you know about my cancer?
- When will I be able to return to daily activities?

- How will this affect my sex life?
- Does this cancer prevent me from considering estrogen replacement therapy?

In addition to these sample questions, be sure to write down some of your own. For instance, you may need specific information about anticipated recovery times so that you can plan your work schedule. You may also want to ask about second opinions or about clinical trials for which you may qualify.

- [References](#)

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