About Uterine Sarcoma

Overview and Types

If you have been diagnosed with uterine sarcoma or are worried about it, you likely have a lot of questions. Learning some basics is a good place to start.

- What Is Uterine Sarcoma?

Research and Statistics

See the latest estimates for new cases of uterine sarcoma and deaths in the US and what research is currently being done.

- Key Statistics for Uterine Sarcoma
- What's New in Uterine Sarcoma Research?

What Is Uterine Sarcoma?

Cancer starts when cells in the body begin to grow out of control. Uterine sarcoma is a cancer that starts in the muscle and supporting tissues of the uterus (womb). Compared to other types of uterine cancers, uterine sarcomas are rare.

To learn more about how cancers start and spread, see What Is Cancer?
The uterus

The uterus is a hollow organ, normally about the size and shape of a medium-sized pear.

- The lower end of the uterus is the cervix, which sits above the vagina.
- The upper part of the uterus is the body, and is also known as the corpus.

The body of the uterus has 3 layers.

- The inner layer or lining is the endometrium.
- The serosa is the layer of tissue coating the outside of the uterus.
- In the middle is a thick layer of muscle known as the myometrium. This muscle layer is needed to push a baby out during childbirth.

Cancers of the uterus and endometrium

Sarcomas are cancers that start from tissues like muscle, fat, bone, and fibrous tissue (the material that forms tendons and ligaments). Cancers that start in epithelial cells, the cells that line or cover most organs, are called carcinomas.
More than 95% of uterine cancers are carcinomas. If a carcinoma starts in the cervix, it is a **cervical carcinoma**. Carcinomas starting in the endometrium, the lining of the uterus, are **endometrial carcinomas**. Information for these types of cancer is in *Cervical Cancer*[^2] and *Endometrial (Uterine) Cancer*[^3].

Another type of cancer that starts in the uterus is called **carcinosarcoma**. These cancers start in the endometrium and have features of both sarcomas and carcinomas. These cancers were known as malignant mixed mesodermal tumors or malignant mixed mullerian tumors. Uterine carcinosarcomas are covered in *Endometrial (Uterine) Cancer*[^4].

### Types of uterine sarcoma

Most uterine sarcomas are put into a category, based on the type of cell they start in:

**Uterine leiomyosarcoma (LMS)**

These tumors start in the muscle layer of the uterus (the **myometrium**). They are the most common type. These tumors can grow and spread quickly.

**Endometrial stromal sarcoma (ESS)**

ESS tumors start in the supporting connective tissue (**stroma**) of the lining of the uterus (the **endometrium**).

ESS tumors are often given a grade which helps to understand how fast it’s likely to grow and spread.

- **If the tumor is low grade**, the cancer cells only look slightly different from normal cells and the tumor tends to grow slowly. Women with low-grade ESS tumors tend to have a better outlook (prognosis) than women with other kinds of uterine sarcomas. Most low-grade ESS tumors also have proteins called estrogen receptors (ER) and/or progesterone receptors (PR), like some breast cancers. Having these proteins often means certain hormone drugs can help treat these types of uterine sarcomas.
- **A high-grade** ESS tumor means the cancer cells look very different from normal cells, and the tumor is growing quickly. This type of ESS tumor is most often found when the tumor is already large and/or has spread. These tumors are often harder to treat.
Undifferentiated sarcoma

These cancers start in the endometrium or the myometrium. They grow and spread quickly and tend to have a poor outlook.

Adenosarcoma

This type of sarcoma has normal gland cells that are mixed with cancer cells of the stroma (supporting connective tissue). These are generally low-grade cancers and usually have a good prognosis (outlook).

Benign uterine tumors

Several types of benign (not cancer) tumors can also develop in the connective tissues of the uterus. These tumors, such as leiomyomas, adenofibromas, and adenomyomas are also known as types of fibroid tumors. In many people, these tumors don't need to be treated. But treatment may be needed if they start causing problems, like pelvic pain, heavy bleeding, frequent urination, or constipation.

In some cases, only the tumor is removed, leaving the rest of the uterus in place. This surgery is called a myomectomy. Other treatments destroy these benign tumors, by blocking the blood vessels that feed them, by killing the tumor cells with electric current, or by freezing them with liquid nitrogen.

Another option is to remove the entire uterus with a type of surgery called a hysterectomy.

Hyperlinks

1. www.cancer.org/treatment/understanding-your-diagnosis/what-is-cancer.html

References

Alektiar KM, Abu-Rustum NR, and Fleming GF. Chapter 75- Cancer of the Uterine
Uterine sarcomas are rare and make up about 2% to 5% of all uterine cancers. The most common types of uterine sarcomas are leiomyosarcoma and endometrial stromal sarcoma (ESS).

Most uterine sarcomas happen in people over the age of 40 and the average age at diagnosis is about 60 years old.

Black women tend to have uterine leiomyosarcomas twice as often as White women, but not other types of uterine sarcomas.
Visit the American Cancer Society’s Cancer Statistics Center\(^1\) for more key statistics.

**Hyperlinks**

1. cancerstatisticscenter.cancer.org/

**References**


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**What's New in Uterine Sarcoma Research?**

Since uterine sarcomas are very rare, there’s not been a lot of research done on them. Most experts agree that if available, treatment in a clinical trial should be considered for any type of uterine sarcoma. New ways to prevent and treat uterine sarcoma now are being researched. Some of the promising new developments include the following.
Gene changes

Recent research has improved our understanding of how changes in certain genes can cause normal cells to become cancer. We know that if mutations (changes) in important genes⁠¹ that control cell growth are damaged, uncontrolled growth may lead to cancer.

Research on uterine sarcomas has found many changes in the genes that control cell growth. For example, changes in the *RB1*, *TP53*, and *PTEN* genes have been found in uterine leiomyosarcomas. Doctors are looking at how these gene changes might be useful in discovering new imaging tests or new targeted drug therapies to help diagnose and treat uterine sarcomas. They are also studying how these changes might help improve the doctor’s ability to diagnose the specific type of uterine sarcoma, as well as predict a person’s outcome (prognosis).

Imaging tests

Imaging tests² to more accurately diagnose uterine sarcomas is an active area of research. Treatment options for uterine tumors greatly depend on whether it is cancer or not, such as a leiomyoma (fibroid). Knowing this will help decide if surgery is needed, and, if so, would a cancer specialist be needed to remove the tumor. Efforts to improve imaging tests for these rare tumors have also led researchers to look at how these tests might be used to learn more about the tumor, such as whether chemo will be needed after surgery and the possible outcomes.

PET scans³ using different tracers are being studied, so are contrast-enhanced MRIs⁴. And researchers are trying to find other factors that, used along with imaging tests, may help point to a uterine sarcoma, such as certain blood tests, tumor size, and the person’s body weight.

Chemotherapy

New combinations of chemotherapy⁵ drugs, new drugs, and better ways to give chemo also are active areas of research. Surgery⁶ is the standard treatment for uterine sarcoma, but chemo with or without radiation treatments after surgery may help keep cancer from coming back⁷. Studies are also being done to find out if giving certain chemo drugs after surgery can help some women with uterine sarcoma live longer.

Hormone therapy

Hormone therapy⁸ may help treat and control some uterine sarcomas that have
estrogen receptors and/or progesterone receptors. Researchers are trying to find out if drugs that control estrogen might help delay or even prevent these cancers from coming back after surgery. They are also looking at whether the ovaries need to be removed as part of treatment in all women with uterine sarcoma, or if it’s safe to leave them, especially in young women with leiomyosarcoma or stage I cancers.

Targeted drug therapy and immunotherapy

Doctors are also studying targeted drug therapies\(^9\) and immunotherapies\(^{10}\) as treatments for uterine sarcoma. These drugs don't work the same as chemotherapy drugs and may be used when chemo doesn't work or when uterine sarcoma comes back after treatment. Your doctor might test your cancer or blood for certain gene and protein changes that could help predict if your cancer could be treated with one of these targeted drugs or immunotherapy drugs.

Hyperlinks

2. [www.cancer.org/treatment/understanding-your-diagnosis/tests.html](http://www.cancer.org/treatment/understanding-your-diagnosis/tests.html)
4. [www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html](http://www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html)

References


