

## [Sarcoma, Soft Tissue - Latest Research](#) [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 05/2016

**ON THIS PAGE:** You will read about the scientific research being done now to learn more about this type of cancer and how to treat it. To see other pages, use the menu.

Doctors are working to learn more about sarcoma, ways to prevent it, how to best treat it, and how to provide the best care to people diagnosed with this disease. The following areas of research may include new options for patients through clinical trials. Always talk with your doctor about the diagnostic and treatment options best for you.

- **Immunotherapy.** Immunotherapy comes in many forms. There has been much recent excitement about immune checkpoint inhibitors. These drugs are targeted monoclonal antibodies (proteins) that non-specifically turn on immune responses in the body by taking the brakes off the immune system. The molecules that are blocked have names such as CTLA4, PD1, OX40, LAG3, and TIM3. They have proved helpful in many cancers and in research studies about sarcomas.

Chimeric antigen receptor (CAR) T-cell therapy uses white blood cells from a patient's blood to destroy cancer cells. The patient's cells are removed from the patient and then changed in a laboratory so they have specific proteins called receptors. These receptors allow those T-cells to recognize the cancer cells. The changed T-cells are grown in large numbers in the laboratory and returned to the patient's body. Once there, they seek out and destroy cancer cells. This technique shows the most promise when there is a known target on the sarcoma, such as in synovial sarcoma and myxoid-round cell liposarcoma. Clinical trials are underway to investigate this exciting but complex form of immunotherapy.

Vaccines against specific sarcoma proteins or other molecules are also being studied, often in addition to immune checkpoint inhibitors.

- **Proton beam radiation therapy.** Proton therapy is a type of external-beam radiation treatment that uses protons rather than x-rays. At high energy, protons can destroy cancer cells. Learn more about [proton therapy](#) [3]. Radiation treatment using heavier charged particles, known as carbon ion radiation therapy, is being studied for the treatment of sarcomas in Japan and Germany.
- **Improved drug delivery.** Some chemotherapy drugs are incorporated into fat molecules called liposomes to improve the absorption and distribution of the drug in the patient's body. Other new ways to get a chemotherapy drug into a cancer cell are being studied. For example, chemotherapy drugs can be attached to proteins so the chemotherapy drugs can enter into the cancer cells. In some cases, these proteins are antibodies that aim at a specific marker on a cancer cell, so the chemotherapy is delivered only to cancer cells and not to normal cells.
- **New drugs.** New medications are being developed and tested that may be effective in treating some subtypes of STS. Clinical trials of olaratumab (a monoclonal antibody/targeted drug) and aldoxorubicin (a chemotherapy) are underway. These are 2 examples of novel drugs being studied. Learn more about the process of [drug development and approval](#) [4].
- **Targeted therapy.** As explained in the [Treatment Options](#) [5] section, several targeted therapies have been approved to treat specific types of sarcoma recently. This is an active area of research for sarcoma. Currently, researchers are identifying new kinase inhibitors and evaluating the order that the drugs should be used in a patient's treatment plan.
- **Targeted oncogene treatments.** Drugs are being researched that may block 1 or more of the proteins found in tumor cells that help the tumor grow and spread.
- **Tumor genetics.** Researchers are learning that some sarcomas have unique genetic "fingerprints." Understanding these fingerprints may help doctors determine better treatments and possibly better predict a patient's prognosis. A number of cancer centers and companies now offer genetic tests of cancers to determine whether people with sarcoma might benefit from newer treatments.
- **Palliative care.** Clinical trials are underway to find better ways of reducing symptoms and side effects of current sarcoma treatments to improve patients' comfort and quality of life.

## Looking for More About the Latest Research?

If you would like additional information about the latest areas of research regarding soft-tissue sarcoma, explore these related items that take you outside of this guide:

- To find clinical trials specific to your diagnosis, talk with your doctor or [search online clinical trial databases now](#) [6].
- Review research announced at recent scientific meetings about advanced in the treatment of sarcoma, by reading [easy-to-understand summaries](#) [7].
- Visit the website of the [Conquer Cancer Foundation](#) [8] to find out how to help support research for every cancer type. Please note this link takes you to a separate ASCO website.

The [next section in this guide is Coping with Treatment](#) [9]. It offers some guidance in how to cope with the physical, emotional, and social changes that cancer and its treatment can bring. Or, use the menu to choose another section to continue reading this guide.

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### Links

[1] <http://www.cancer.net/cancer-types/sarcoma-soft-tissue/latest-research>

[2] <http://www.cancer.net/about-us>

[3] <http://www.cancer.net/node/24521>

[4] <http://www.cancer.net/node/24505>

[5] <http://www.cancer.net/node/19611>

[6] <http://www.cancer.net/node/24878>

[7]

[http://www.cancer.net/research-and-advocacy/research-summaries?field\\_page\\_topic\\_tid\\_2=All&field\\_page\\_topi\\_c\\_tid=946&date\\_filter%5bvalue%5d%5byear%5d=](http://www.cancer.net/research-and-advocacy/research-summaries?field_page_topic_tid_2=All&field_page_topi_c_tid=946&date_filter%5bvalue%5d%5byear%5d=)

[8] <https://www.conquercancerfoundation.org/research-results>

[9] <http://www.cancer.net/node/19613>