

Soft Tissue Sarcoma

Information for people with cancer

This information should not be used to diagnose yourself or in place of a doctor's care.

Soft tissue sarcomas are cancers that form in the soft tissues anywhere in the body. They are most commonly found in the arms and legs.

Soft tissue connects, supports and surrounds the organs and structures in the body.

Soft tissue includes muscles, joints, fat, blood vessels, tendons, synovial tissues (tissues around joints) and nerves.

Diagnosis and Staging

What are the signs and symptoms of soft tissue sarcomas?

Symptoms will be different depending on where the tumour is in the body.

- The first symptom is usually a painless lump growing in the muscle or under the skin.
- If the tumour is pressing against nearby organs, nerves or muscles there may be more symptoms such as weight loss or fever.
- If you have any signs or symptoms that you are worried about, please talk to your family doctor or nurse practitioner.

How is soft tissue sarcoma diagnosed?

Tests that may help diagnose soft tissue sarcoma include:

- **Physical exam.**
- **Chest X-ray:** to see if cancer has spread to the lungs.
- **CT (computed tomography) scan:** to show the tumour in more detail and to check for cancer spread to the lungs.

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- **MRI (Magnetic Resonance Imaging):** to show the tumour in more detail.
- **Biopsy:** a small amount of tissue from the tumour is removed so that a specialist (pathologist) can examine it under the microscope and see if it is cancer.
- **Bone scan:** to check if cancer has spread to the bone.

For more information on tests used to diagnose cancer, see our Screening and Diagnosis pathfinder: bccancer.libguides.com/pathfinder-screening

What are the types of soft tissue sarcoma?

Soft tissue sarcomas are named after the tissue they started in.

Fibrosarcoma

- Often develop around scars, muscles, nerves, tendons and the lining of the bone.
- Can spread through the bloodstream to the lungs.
- More common in older adults.

Liposarcoma

- One of the most common types in adults.
- Tumours develop in the fat tissue of the thigh, groin, buttocks (butt), or abdomen (area between your ribs and your pelvis).
- Tumours may be large. This does not always mean that they are fast-growing.
- Different from lipomas (non-cancerous fatty tumours).

Rhabdomyosarcomas

- Most common soft tissue sarcoma diagnosed in children. Usually affects children between the ages of two and six.

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- Starts in skeletal muscle (muscles that you control to move your body).
- Can spread quickly through the bloodstream to other parts of the body.

Leiomyosarcomas

- One of the most common types in adults.
- Tumours that develop in the smooth muscle (muscles that work without you controlling them).
- Commonly start in the uterus or blood vessels.

Angiosarcomas and Lymphangiosarcomas

- **Angiosarcomas:** develop in the vascular tissue (blood vessels such as arteries and veins).
- **Lymphangiosarcomas:** develop in the lymphatic system. People with chronic lymphedema (when lymph fluid does not drain properly and it builds up in a part of the body) may get this type of cancer.
- Can easily spread into the bloodstream.

Synovial cell sarcomas

- Usually develop in tissue next to the joints, especially in the knee, ankle and hand.
- Can develop anywhere in the body, including the heart.
- Sometimes they may spread to the skin and often to the scalp.
- Do not usually spread to the lymph nodes.

Undifferentiated pleomorphic sarcoma

- Usually found in the arms and legs.

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Malignant Peripheral Nerve Sheath tumour (MPNST) (used to be called Neurofibrosarcoma)

- Develops in the cells that surround a nerve.
- Can develop in people with neurofibromatosis (a genetic disorder of the nervous system that affects the development of nerve cell tissues).
- Tumour may cause pain or dysfunction (nerves will not work properly).

Gastrointestinal Stromal Tumour (GIST)

- One of the most common types of sarcoma with about 50 cases per year in B.C.
- Symptoms may include a lump in the abdomen or very low red blood cells counts (anemia).
- Sometimes discovered when a person has a scan or operation for a different reason.
- Can develop anywhere in the abdomen but most common in the stomach and small intestine (small bowel).
- Cells behave like normal cells and grow slowly.
- If cancer spreads, it usually spreads to the liver first.

Kaposi Sarcoma (KS)

- A rare cancer that starts in the cells that line the lymph vessels or blood vessels.
- Can also start in other parts of the body, such as the mouth, throat, and lungs.
- Can appear in several places in the body at the same time.

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What are the stages of soft tissue sarcoma?

Staging describes the cancer. Staging is based on how much cancer is in the body, where it was first diagnosed, if the cancer has spread and where it has spread to.

The stage of the cancer can help your health care team plan your treatment. It can also tell them how your cancer might respond to treatment and the chance that your cancer may come back (recur).

Staging is not the same for each type of soft tissue sarcoma. Some sarcomas are not given a stage. Some are only grouped by type and size of the tumour. Staging also depends on the grade of the cancer.

- **Low grade:** cancer cells are abnormal but look like normal cells. These cancers usually grow slowly and are less likely to spread.
- **High grade:** cancers cells do not look like normal cells. These cancers usually grow more quickly and are more likely to spread.

It is best to speak with your doctor about the staging of your soft tissue sarcoma.

For more information on staging, see our About Cancer page:

bccancer.bc.ca/health-info/types-of-cancer/about-cancer

What are the grades of soft tissue sarcoma?

The grade of the cancer describes how different the cancer cells look from normal cells and how fast the cancer cells are growing. A pathologist will give the cancer a grade after looking at the cells under a microscope.

Soft tissue sarcoma is usually given a grade of 1, 2 or 3. The lower the number, the lower the grade.

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Low grade: cells are abnormal but look a lot like normal cells. Low grade cancers usually grow slowly and are less likely to spread.

High grade: cells are abnormal and do not look like normal cells. High grade cancers usually grow more quickly and are more likely to spread.

The grade of the cancer can help your health care team plan your treatment.

Treatment

What is the treatment for soft tissue sarcoma?

Cancer treatment may be different for each person. It depends on your particular cancer. Your treatment may be different from what is listed here.

The most effective treatment for soft tissue sarcoma is to try and surgically remove the entire tumour.

For tumours in the arms, legs or on the skin of the trunk (middle part of your body, including the chest, abdomen and back), radiation therapy may be used before or after surgery. This is to try and lower the chance of the cancer coming back, especially for fast-growing tumours.

For people whose cancer has spread to the lungs, surgery to the lung may be a treatment option.

Some soft tissue sarcomas may also be treated with systemic therapy (chemotherapy).

For more information about radiation therapy, go to:

bccancer.bc.ca/our-services/treatments/radiation-therapy

For more information about systemic therapy, go to:

[bccancer.bc.ca/our-services/treatments/systemic-therapy-\(chemotherapy\)](http://bccancer.bc.ca/our-services/treatments/systemic-therapy-(chemotherapy))

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What is the follow-up after treatment?

- Follow-up testing and appointments are based on your type of cancer.
- Guidelines for follow-up after treatment for soft tissue sarcoma are on our website: www.bccancer.bc.ca/health-professionals/clinical-resources/cancer-management-manual/musculoskeletal-cancer-sarcoma/musculoskeletal-and-sarcoma#Follow-up1211-4034
- These are guidelines written for your doctor, nurse practitioner or specialist. You can look at them to see what appointments and tests you might need after treatment.
- After treatment, you may return to the care of your family doctor or specialist for regular follow-up. If you do not have a family doctor, please talk to your BC Cancer health care team.
- The BC Cancer Life after Cancer page has information on issues that cancer survivors may face: bccancer.bc.ca/lifeaftercancer

More Information

What causes soft tissue sarcoma and who gets it?

In most cases, we do not know the cause of soft tissue sarcoma.

These are some of the risk factors for this cancer. Not all of these risk factors may cause this cancer, but they may help the cancer start growing.

- Having an abnormality in tumour suppressor genes, such as the retinoblastoma (Rb) gene or the p-52 (p-glycoprotein) gene. Tumour suppressor genes stop cells from dividing too quickly. If these genes are not working properly, cells can grow out of

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control and lead to cancer.

- Past systemic therapy or radiation therapy.
- High amount of occupational (work) exposure to herbicides such as phenoxyacetic acids, wood preservatives such as chlorophenols, and plastic manufacturing chemicals such as vinyl chloride.

Statistics for soft tissue sarcoma:

- B.C. statistics: www.bccancer.bc.ca/health-info/disease-system-statistics/statistics-by-cancer-type
- Canada statistics: www.cancer.ca/en/cancer-information/cancer-type/soft-tissue-sarcoma/statistics/?region=bc

Note: Available statistics do not have information about the inclusion of transgender and gender diverse participants. It is unknown how these statistics apply to transgender and gender diverse people. Patients are advised to speak with their primary care provider or specialists about their individual considerations and recommendations.

Can I help prevent soft tissue sarcoma?

One way to prevent soft tissue sarcoma is to limit your exposure to chemicals such as phenoxyacetic acids, chlorophenols and vinyl chloride.

Is there screening for soft tissue sarcoma?

There is no screening program for soft tissue sarcoma.



Provincial Health Services Authority

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Where can I find more information?

- If you have questions about soft tissue sarcoma, please talk to your health care team.
- Our librarians can help you find the information you need. Visit our Library page: bccancer.bc.ca/our-services/services/library
- BC Cancer Library Soft Tissue Sarcoma pathfinder: bccancer.libguides.com/pathfinder-soft-tissue-sarcoma
- Managing Your Symptoms: www.bccancer.bc.ca/health-info/coping-with-cancer/managing-symptoms-side-effects
- Emotional Support: www.bccancer.bc.ca/health-info/coping-with-cancer/emotional-support