

What is osteosarcoma?

Osteosarcoma is a malignant cancer of the bone. This cancer can arise from the long bones in the limbs, or bones such as ribs or vertebrae, jaw bones or skull.

What are the symptoms of osteosarcoma?

Osteosarcoma can cause limping or you may see a mass growing on the leg associated with limping. If you notice that your pet is limping and it is not responding to pain medications, talk to your veterinarian, as radiographs may be indicated.

What is the behavior of this type of cancer?

Osteosarcoma is very locally aggressive to the bone (destroys the bone in the area of the tumor), but is also highly metastatic (has a high potential to spread to other parts of the body), even if we do not currently see evidence of spread. The spread may be microscopic, meaning that we cannot actually see an accumulation of tumor cells on tests such as a radiograph or ultrasound at the time the main tumor is identified.

What are treatment options for osteosarcoma?

Surgery: Surgery, which typically involves amputation (or other surgery depending on the location of the tumor) is aimed at removing the source of the pain and the tumor. We follow the amputation with chemotherapy to try to combat metastasis.

Chemotherapy: Usually intravenous chemotherapy is recommended about every 3-4 weeks for several treatments, depending on the treatment protocol used. The chemotherapy is aimed at delaying metastasis (spread) of the cancer. In general, chemotherapy is tolerated very well by dogs and cats. Side effects may include bone marrow suppression (decreased white blood cells, platelets, or red blood cells) and gastrointestinal upset (vomiting, diarrhea, decreased appetite). Please see our [Chemotherapy](#) handout for more information about side effects.

Osteosarcoma vaccine: We are currently participating in a clinical trial using an osteosarcoma vaccine, which may stimulate the immune system to battle microscopic metastasis. Please see our [clinical trials](#) page for more information.

If surgery is not the right decision for your pet, there are other options available to try to decrease pain, and we can use a combination of the following:

Radiation: Radiation therapy is offered in our [SAGE Campbell](#) location with [PetCureOncology](#). Radiation therapy is typically once weekly for four treatments and each treatment is under light anesthesia. This treatment is aimed primarily at controlling pain. About 70% of the patients will have increased comfort for an average of about 3-6 months. We can do chemotherapy following the radiation therapy to try to help combat metastatic disease. Please refer to the [Radiation Therapy and Stereotactic Radiosurgery \(SRS\)](#) handout for more information.

Bisphosphonates: This type of medication is used to inhibit bone destruction and in doing so, may control pain. Reports indicate that about 30-40% of patients show improvement in comfort with this drug. It is given in the vein every 3-4 weeks. We can combine this treatment with chemotherapy and radiation. Side effects are minimal, but may rarely include toxicity to the kidneys. We check kidney values prior to every treatment.

Oral pain medications: We can also manage pain control with oral medications, including non-steroidal anti-inflammatory drugs and tramadol, an opioid-like pain medication. We can combine these oral medications with the above treatments.

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SAGE

OSTEOSARCOMA (CANINE)

What is the risk if amputation is not the right option?

The presence of osteosarcoma predisposes your pet to fractures of the bone. This can happen at any time, even if your pet is just standing, getting up, or walking because the bone is damaged by the tumor.

How do dogs handle walking on three legs?

The majority of patients do very well on three legs, and after the post-operative healing period, dogs can lead a normal lifestyle, go on walks and run. Even pets with arthritis can do well on three legs; your oncologist can help you determine if this is the right decision for your pet. Often people state that after amputation, their dog regains energy and feels better because the source of pain has been removed.