

## Don't Ignore the Early Signs of This Aggressive Tumor

A devastating illness that hits 8,000 to 10,000 pets per year, the early symptoms can be subtle and hard to recognize. Pay close attention as your pet grows older, especially if he falls into one of these high-risk groups. Plus, what to do if you can't or won't do surgery.

**Analysis by Dr. Karen Shaw Becker**

### STORY AT-A-GLANCE

- Osteosarcoma is a very aggressive bone cancer that is diagnosed in 8,000 to 10,000 dogs annually
- The disease is rare in cats and is seen most often in large and giant breed dogs. Dogs over 90 pounds account for about 33% of osteosarcoma cases
- Early symptoms of bone cancer are often subtle and can include swelling, intermittent lameness, and fractures. As the disease progresses, pain and lameness rapidly increase
- Osteosarcoma is diagnosed via x-rays and tissue samples. The cancer is then categorized as stage I, II, or III (the most advanced stage)
- Unfortunately, osteosarcoma has a poor prognosis. The goal of treatment is to relieve pain and extend quantity and quality of life for as long as possible

***Editor's Note: This article is a reprint. It was originally published August 02, 2015.***

Osteosarcoma is a very aggressive cancer of the bone that unfortunately tends to spread rapidly (metastasize) to other parts of the body. Osteosarcoma is rare in cats, but is diagnosed in 8,000 to 10,000 dogs each year in the US, and accounts for about 85% of all canine bone tumors.

### Dogs At Highest Risk for Osteosarcoma

The median age at diagnosis is about 8 years, and dogs over 90 pounds account for almost one-third of cases. In large and giant breed dogs, most tumors occur in the limbs, called the appendicular skeleton.

Breeds at highest risk for osteosarcoma include the Saint Bernard, Great Dane, Irish Setter, Doberman Pinscher, Rottweiler, German Shepherd, and Golden Retriever.

Dogs under 30 pounds account for less than 5% of osteosarcoma cases. In these dogs, the cancer typically affects the axial skeleton, which includes the bones of the skull, vertebral column, ribs, and sternum. Environmental factors that can increase risk include:

- Rapid growth in large and giant breed puppies
- Gender (males are at 20% to 50% increased risk)
- Placement of metallic implants to repair fractures

- Spaying or neutering at an early age
- Possibly trauma to the bones, especially blunt bone injuries

## Symptoms of Osteosarcoma

Many of the early signs of bone cancer are subtle and can include swelling, intermittent lameness, and joint or bone pain. Sometimes there is also lethargy and loss of appetite. Because a bone with a cancerous tumor isn't as strong as a normal bone, even a minor injury can cause a pathologic fracture of the weakened bone.

If the osteosarcoma is in another part of the body, symptoms will depend on the location. For example, if the cancer is in the jawbone, the animal will have difficulty opening his mouth or eating. In cats, the nasal bones are occasionally affected by this type of tumor, which can cause nasal discharge and breathing problems.

As the disease progresses, it becomes more painful as the tumor grows and the bone is destroyed. Intermittent lameness will become more frequent until it's constant, typically within 1 to 3 months of onset.

## Diagnosing and Staging Osteosarcoma

The primary diagnostic tests for osteosarcoma are X-rays and histopathology (examination of tissue). On an X-ray, osteosarcoma has a characteristic lytic or "moth-eaten" appearance. A fine-needle aspirate or bone biopsy of suspicious areas must be performed to confirm the diagnosis.

Since many kitties become more lame and painful after a bone biopsy, it's preferred when possible to do a fine-needle aspirate instead.

Blood tests and chest X-rays are usually performed as well, to look for additional lesions and underlying medical conditions. Since up to 90% of osteosarcoma tumors have spread to the lungs by the time the disease is diagnosed, computed tomography (CT) scans and magnetic resonance imaging (MRI) are also often used to better assess lung involvement and to evaluate a pet's overall condition in more detail.

The disease will also be categorized as stage I (low-grade tumors without evidence of metastasis), stage II (high-grade tumors without metastasis), or stage III (metastasis has occurred).

## Treatment Options

Unfortunately, many pets diagnosed with osteosarcoma have a poor prognosis. Treatment is aimed at relieving pain and extending the animal's quantity and quality of life for as long as possible.

Depending on the situation, traditional treatment options are surgery, which may or may not involve amputation of the affected limb, and chemotherapy for animals that undergo amputation. Radiation therapy, which is used strictly as a palliative treatment to relieve bone pain and discomfort, may also be prescribed along with pain medications.

Sadly, often pet owners must make what is known as the "leg or life decision" for their pet. Survival times of about 1 year are achieved in 50% of dogs with osteosarcoma that undergo amputation of the affected limb, followed by chemotherapy. However, some dogs have actually survived 5 to 6 years after diagnosis.

Chemo is only given in cases where the primary tumor has been surgically removed, and is totally ineffective in animals that aren't candidates for surgery. I never advocate chemotherapy for these patients, as I have not seen it dramatically improve lifespan.

Many owners of dogs diagnosed with osteosarcoma choose not to pursue amputation and focus instead on giving their pets the best quality of life for the time they have left.

I follow veterinarian and naturopathic physician Dr. Steve Marsden's protocol for my patients whose guardians choose not to pursue surgery. His protocol involves using the injectable form of vitamins A and D, bromelain, omega-3 fatty acids, and a blend of herbs called the Hoxsey Formula with boneset. I have also found using Chinese herbs in conjunction with Dr. Marsden's protocol to be beneficial.

I really feel that this protocol in combination with eliminating all processed foods and reducing carbohydrate intake is important for cancer patients and can give them good quality of life for the time they have left.

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