

What is a mast cell tumor?

A mast cell tumor is a cancer of a specific type of inflammatory cell, usually in the skin. Mast cell tumors may originate from other areas such as the gastrointestinal tract, spleen, liver, or mouth, but they are far more commonly found on the skin.

What are the symptoms of a mast cell tumor?

Mast cell tumors on the skin can be red, hairless, and itchy. They can also feel soft or firm, and look like many other types of masses. Because they release histamine, they can grow and shrink periodically.

How do you diagnose a mast cell tumor?

A fine needle aspirate of the mass is performed and evaluated under a microscope for cytology. Cytology determines the type of tumor, however further diagnostics such as a biopsy (histopathology) are needed to further categorize or grade a mast cell tumor.

What is the behavior of this type of tumor?

Mast cell tumors are graded 1, 2, or 3 based on microscopic analysis of a biopsy specimen. Grade 1 tumors typically behave like benign tumors and have a low potential to spread (metastasize). Grade 3 tumors are aggressive and have a high potential to metastasize to the lymph nodes and possibly the liver, spleen, or bone marrow. Grade 2 tumors may behave either like a Grade 1 or 3 tumor. A newer grading system will determine whether a mast cell tumor is low grade or high grade. Many pathologists will use both systems to help provide as much information as possible. There are also additional tests that can be performed, if needed, to help predict the behavior of a mast cell tumor.

What is the treatment?

The treatment of a mast cell tumor is removal with surgery first. We remove the mast cell tumor itself (the obvious mass) and an additional portion of normal appearing tissue to obtain as much of the tumor as we can. We send the sample in for histopathology so we can evaluate the tumor on a microscopic level for adequate excision and grade. Depending on the grade and the margins, we may recommend any of the following:

Radiation therapy:

The radiation is given daily under anesthesia for 3.5 to 4 weeks (weekends off). The aim of this treatment is to kill off residual microscopic disease and minimize/prevent regrowth. Please refer to the [Radiation Therapy](#) handout for more information.

Chemotherapy:

Depending on the type of chemotherapy recommended by your pet's oncologist, this may be injected into the vein or may be given orally. The goal is to delay regrowth and/or prevent metastasis. Please refer to the [Chemotherapy](#) handout for more information.

Electrochemotherapy (ECT):

SAGE is the first and currently the only California veterinary practice to offer ECT. ECT uses electric stimulation (electroporation) to open up cell pores to allow chemotherapy to enter tumor cells. Side effects are minimal and mostly limited to mild skin reactions. Each treatment is given under short, light anesthesia and patients typically go home the day of treatment. Please refer to the [Electrochemotherapy](#) handout for more information.)

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MAST CELL TUMOR (CANINE)

Supportive medications:

Because mast cell tumors release histamine, which can cause inflammation, tissue swelling, or ulcers of the stomach, often we will place your pet on an antihistamine and an antacid prior to or during treatment. This may include diphenhydramine (Benadryl) or other antihistamine, famotidine (Pepcid) or omeprazole (Prilosec).

What do I monitor if my pet has developed a mast cell tumor in the past?

Any new masses should be evaluated with a fine-needle aspirate. Ten to 30 percent of the dogs that have had one mast cell tumor will ultimately get new ones. These new mast cell tumors are not necessarily spread by, nor are they part of, the first one. These patients, though, have genetic changes that make them predisposed to getting new mast cell tumors.