

# Be Aware, That Bump Could Be a Malignant Tumor

Both dogs and cats can get malignant mast cell tumors inside or outside on their bodies. Depending on its location and timing, it can be deadly, so it's a matter that deserves your awareness. Know where and what to look for on your pet's body, plus the breeds most at risk.

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## STORY AT-A-GLANCE

- When mast cells, which are found in all the tissues of your pet's body, replicate in abnormally high numbers, a mast cell tumor can be the result
- In cats, mast cell tumors are most often seen in the skin of the head or neck, and surgery often provides a complete cure
- In dogs, mast cell tumors are most often found on the trunk, the limbs and between the toes; prognosis depends on the tumor location, the extent and grade of the tumor, and the type of treatment given
- Mast cell tumors are graded on a scale of I to III in dogs, with grade III being the most serious and carrying the worst prognosis for recovery
- If your pet is diagnosed with a mast cell tumor, it's important to work with an integrative or holistic veterinarian who can offer a variety of complementary therapies, including diet recommendations

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Mast cells exist in all the tissues of your pet's body, but they are found in the highest concentrations in the skin, respiratory tract and gastrointestinal tract.

Mast cells are very rich in **histamine**, which is a vasodilator that promotes blood flow to tissues, and also heparin, an anticoagulant that prevents blood from clotting too quickly. Both of these naturally occurring chemicals play a role in all allergic responses, nonallergenic skin disease, wound healing and tissue remodeling. They can also increase stomach acid production.

## Signs to Watch For

When mast cells replicate in higher than normal numbers, a mast cell tumor can form. Mast cell tumors are actually quite common, accounting for about 20% of all skin tumors in dogs. If a pet has a mast cell tumor on the skin, there'll be a bump or a lesion of some kind. Sometimes it's a raised pink bump that looks like a pencil eraser on the surface of the skin. It may be ulcerated, scabby or oozing.

Sometimes the tumor will be a less-defined mass that feels like a lump under the skin, similar to a fatty lipoma. Because these tumors have the ability to mimic the appearance of many other types of skin problems, it's very important to have your veterinarian check out any new lumps or bumps on your pet.

Dogs usually develop a single tumor, whereas cats can develop multiple tumors, and although some may be benign, most mast cell tumors are cancerous (malignant). Mast cell tumors can be irritating, so pets will sometimes begin licking, scratching or picking at them. There can also be complications from the tumors, such as stomach problems from the overproduction of histamine and excessive bleeding from the release of heparin.

## **Diagnosing Mast Cell Tumors**

Definitive diagnosis of a mast cell tumor is made through physical examination and testing, including tumor aspiration or biopsy. If the fine needle aspirate reveals mast cells, it's very important that the veterinary surgeon takes large margins around the tumor.

This will reduce the likelihood of leaving tumor cells behind, which is unfortunately very common with mast cell resections. The tissue that is removed will be sent to a pathologist for staging or grading. This will let your veterinarian know how extensive the disease is and what type of treatment is needed.

## **Mast Cell Tumors in Cats**

In kitties, mast cell tumors are most often seen in the skin of the head or neck, but they can occur anywhere in the body. Cats with these tumors are usually middle-aged or older, but any cat can develop a mast cell tumor, including kittens. The Siamese seems to be at higher risk than other breeds. They develop a specific type of tumor called a histiocytic mast cell tumor.

In the majority of feline cutaneous (skin) mast cell tumors, the treatment is removal of the entire tumor with surgery. Usually, surgical intervention provides a complete cure. Frequently in cats, mast cell cutaneous lesions are benign. In some cases, surgery isn't even needed because the mast cells resolve on their own.

Unfortunately, kitties with mast cell tumors on the inside of their bodies — typically the gastrointestinal (GI) tract or the spleen — carry a much poorer prognosis than tumors occurring on the skin.

## **Mast Cell Tumors in Dogs**

In dogs, mast cell tumors are most often found on the trunk, the limbs and between the toes. The tumors are seen more often in certain breeds, including the bulldog, Boston terrier, boxer, pug, Labrador and golden retriever, cocker spaniel, schnauzer, Staffordshire terrier, beagle, Rhodesian ridgeback, Weimaraner and the shar-pei.

Prognosis for dogs depends on the tumor location, the extent of the tumor, the grade and the type of treatment given. Mast cell tumors of the skin are very different in dogs than in cats. Surgery to remove the tumor is less invasive in cats, and the prognosis for a full recovery is much better in cats than in dogs.

Mast cell tumors with a generally poor prognosis are those on the muscle, in the mouth, in the internal organs, the bloodstream or bone marrow, and ulcerated tumors. Mast cell tumors that cause GI ulceration or are large, fast-growing or recurring also carry a much poorer prognosis.

Mast cell tumors are typically graded on a scale of I to III in dogs, with grade III being the most serious and carrying the worst prognosis for recovery. Grade I tumors generally have an excellent cure rate, as long as the entire thing is removed. And again, it's important that your surgeon takes very wide margins.

If a dog goes 30 weeks post-surgery for a grade I tumor with no recurrence during that time, he's considered cured. Even with aggressive surgery, the recurrence rate for a grade II mast cell tumor is about 20%. The majority of dogs with grade III malignant mast cell tumors will experience spread of the tumor. Sadly, only about 10% of these dogs live longer than a year after surgery.

In addition to histopathology, which means looking at the cancer tissue microscopically, veterinarians also have the option to perform cell proliferation analysis through Michigan State University's diagnostic lab, which is something I highly recommend. You can find more information at Michigan State University Canine Cutaneous Mast Cell Tumor Panel and MSU Mast Cell Tumor Flowchart.

This wonderful technology analyzes three markers to assess the risk of systemic disease. Pets with external tumors can have this additional test, which shows what's going on inside the body. It can be very beneficial for the pet parent's peace of mind as well as for prognosis planning.

Veterinarians using this technology to help formulate a treatment plan will have a much more accurate blueprint of what's really going on with mast cells deep within the patient's body. If your pet has been diagnosed with a mast cell tumor, I recommend that you ask for this additional test.

## **Recommendations for Pets With Mast Cell Tumors**

I also recommend that you work with an **integrative or holistic veterinarian** to reduce the risk of recurrence, because these veterinarians use a variety of additional complementary therapies that can be very beneficial, such as Ayurvedic medicine and Chinese herbs that naturally decrease the number of circulating mast cells in the body.

There are also nutraceuticals and additional supplements that can help naturally reduce mast cell degranulation and histamine release, which keeps the patient much more comfortable.

I also recommend that you eliminate any foods with carbohydrates if your pet has mast cell tumors, because carbohydrates create inflammation in the body. My best dietary suggestion is to institute a **ketogenic diet** for four months, as the anti-inflammatory effects can be profound.

It's what animals really need when their bodies are really gearing up to fight off cancer or to heal from a surgical procedure. I also recommend supplementation with a rich source of omega-3 fatty acid, such as **krill oil**.

And I absolutely recommend if your pet has been diagnosed with mast cell tumors that you never vaccinate again. Additional vaccines can prompt a massive inflammatory response that can spur on additional mast cell tumors. From this point forward, if you have a dog or cat diagnosed with mast cell tumors, I recommend that you titer.

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