

**VETERINARY VOICE:**  
Tips of the Trade

<b>Oncology – Mast Cell Tumors in Dogs</b>	
<b>Definition</b>	Mast cell tumors are the most common skin tumors seen in dogs. These tumors consist of a neoplastic proliferation of the allergic response cells (mast cells) in the body.
<b>Signalment and Clinical Signs</b>	Mast cell tumors are more commonly seen in Brachycephalic breeds of dogs such as Boxers, Boston Terriers, and Pugs as well as Labradors and mixed breed dogs. Clinical signs generally include a swelling or mass of the skin or subcutaneous tissue which can vary from soft to firm. These tumors occasionally can cause systemic effects related to the cancer cells release of histamine, heparin and other vasoactive amines such as erythema and wheal formation, gastrointestinal ulceration leading to vomiting, anorexia, melena and abdominal pain.
<b>Diagnosis</b>	In order to determine the type of lesion and if it is a cancerous process, fine-needle aspirates of any masses should be performed. Mast cell tumors exfoliate very well and can usually be diagnosed by aspiration cytology. Since the first place the tumors will spread is the local lymph node, we also recommend aspirating the draining lymph node if possible.
<b>Treatment</b>	<p>The primary treatment of mast cell tumors is surgical excision of the mass and the local lymph node if it appears to be involved. Many mast cell tumors can be treated successfully with surgery.</p> <p>Once excised, pathologic review of all tissue is necessary to determine how aggressive that specific mast cell tumor appears to be. Mast cell tumors are graded by the pathologist after removal – Grade 1 tumors behave the least aggressively and are often cured with surgical removal. Grade 3 tumors are the most aggressive and have a high chance of spread (metastasis) to other parts of the body. Grade 2 tumors can vary, so we look at other criteria in the biopsy report such as how fast the cancer cells are dividing (mitotic index) to get a better idea of the chance of the tumor spreading.</p> <p>If the biopsy report after surgery suggests a more aggressive mast cell tumor (Grade 3, 'high' Grade 2 or any mast cell tumor with confirmed lymph node metastasis), we recommend further treatments such as chemotherapy with Vinblastine and/or Lomustine and steroids to try and decrease or prevent metastasis. Palladia is also a new drug on the market used to try and decreased growth or spread of aggressive mast cell tumors. This drug targets a growth receptor (c-KIT) found on the surface of 30-50% of mast cell tumors.</p> <p>Other medications that can be used palliatively to treat mast cell tumors if they cannot be removed or owners decline surgery include prednisone, famotidine and diphenhydramine in order to decrease side effects as the mast cell disease progresses.</p>
<b>Prognosis</b>	Mast cell tumor on the skin in dogs can vary dramatically in behavior with many having good long-term control with appropriate excision and others developing spread to the local lymph nodes as well as occasionally to internal organs such as liver/spleen. Every now and then these tumors can be found originating in the lymph node and we are not able to find a separate primary skin tumor. Unfortunately, when a mast cell tumor is in a lymph node we worry about the cancer cells spreading further.
<b>Questions? Oncology Expert: Anna Szivek, DVM, Diplomate, ACVIM (Oncology)</b>	The Veterinary specialty Center of Tucson has a board-certified oncologist available for questions and consultations during the weekdays. Board-certified oncologists have four additional years of training and are certified by the American College of Veterinary Internal Medicine to assure competency in veterinary oncology.