# Canine Melanoma

Canine melanomas are tumors comprised of pigmented cells called melanocytes. Unlike in people, melanomas in the skin of dogs are typically benign. Malignant melanomas in dogs arise in the mouth (oral melanoma), along mucocutaneous junctions, or in the toes/nail beds. These tumors are highly aggressive, and tend to readily invade local soft tissue and bone, and also metastasize readily to lymph nodes then the lungs and potentially other organs. Oral melanoma is often seen in older, black-coated dogs. These dogs often have halitosis (bad breath) and may have difficulties eating or pain when chewing. Tumors are diagnosed based on fine needle aspiration or biopsy of the mass. Chest radiographs should be taken as well, and local lymph nodes aspirated to monitor for spread of the disease. Treatment involves controlling the local tumor via surgery and/or radiation therapy. If local lymph nodes are already invaded by the cancer, then they may be removed at the time of surgery. Local control of the primary tumor should be followed by systemic therapy. Traditionally chemotherapy was used but the efficacy of these treatments were poor. Now a vaccine containing Human DNA that encodes a protein expressed on melanocytes is used to treat/slow progression of metastatic lesions. Clinical staging of oral melanoma is based on tumor size and degree of metastasis. Prognosis is guarded for oral melanoma with median survival times of 5-7 months depending on stage at presentation.

Human melanoma is a malignant disease often found on the skin as asymmetrical, multicolor, nodules that change over time. Melanomas in people are staged in a similar fashion to canines, with tumor size and distant spread influencing the prognosis. Treatment for humans involves surgery, chemotherapy, immunotherapy and targeted therapies. Several different forms of immunotherapies are being tested in melanoma patients, including vaccines similar to the canine melanoma vaccine.