

CANINE MELANOMA VACCINE

Melanoma is a tumor of melanocytes. Canine cutaneous melanomas are often behaviorally benign. The malignant form tends to occur in the oral cavity, mucocutaneous junctions, and nailbed. However, on rare occasion, features seen on the biopsy of a cutaneous melanoma may confirm that it is malignant.

Malignant oral melanomas tend to grow rapidly, may be ulcerated or have variable pigmentation, and can be greater than 2cm in diameter. Tumors with a malignant biologic behavior have a guarded prognosis, with reported metastatic rates between 30-75%. This cancer tends to be very aggressive, with patients often succumbing to metastatic disease spread (to the lungs or local lymph nodes) rather than local tumor growth when surgery completely removes the primary tumor. However, when local control is not achieved, recurrence of the original tumor can sometimes interfere with the patient's ability to eat, and therefore significantly compromise quality of life. Because it tends to spread quickly to other locations, patients who are not treated have a median survival time of only a few months.

Prognostic indicators of melanomas include size (smaller is better), location (tumors in the back of the mouth are worse), mitotic index (lower is better), evidence of lymphatic or vascular invasion (presence is worse), and spread to the lymph nodes or lungs (spread is worse). The stage of a tumor (the size of the oral mass and whether it has spread to the lymph nodes or lungs) has a very strong correlation with prognosis. Tumors less than 2cm without spread (Stage I) can have survival times of 15-18 months on average with surgery alone. Once tumors are 2cm or larger, the prognosis with surgery alone decreases. Tumors 2-4cm (Stage II) have median survival times of approximately 6 months with surgery alone, while tumors larger than 4cm or with lymph node spread (Stage III) have a prognosis of 3-4 months with surgery alone. The poorest prognosis is associated with disease that has already spread to the lungs (Stage IV). Patients with Stage IV likely have a prognosis of 1-2 months.

Surgery is often the first treatment step taken for oral malignant melanomas. To achieve adequate control of incompletely excised tumors, either a second surgery with possible lymph node removal or hypofractionated radiation therapy is indicated. In most cases, the surgery needs to be aggressive and requires removal of some jawbone. A CT scan or MRI is helpful prior to surgery to guide surgical removal. The options of a more aggressive surgery are typically reserved for patients in which there is no obvious metastatic disease already present in the lymph nodes or lungs.



Hypofractionated radiation can be substituted for surgery to try to minimize the cancer cells at the tumor site. Hypofractionated radiation may also be indicated after surgery if cancer cells are left behind at the surgery site or in the lymph node. Melanoma cells tend to be sensitive to this form of radiation. Hypofractionated radiation is given to once a week for 4-6 total treatments. Side effects are minimal, but could include a mild burn to the skin or irritation within the oral cavity. These side effects, if seen, typically manifest at the third or fourth treatment and resolve within 2 weeks after treatment.

Malignant melanomas are often resistant to chemotherapy treatment. With one chemotherapy agent, carboplatin, the reported overall response rate was 28% (in a study with 25 dogs with measurable melanoma disease).



Suzanne Rau
DVM, DACVIM
(Oncology)

NEWS & EVENTS

UPCOMING CONTINUING EDUCATION & EVENTS

Strategic Planning for your Practice

April 28

10am – 4pm

(see back page for details)

TECHNICIAN'S

The New Clinical CPR Guidelines "The Technicians Role"

June 27

6:30pm – 9pm

Samantha Frabizzio, B.A., CVT, VTS (ECC)
2 PVMA credits

"The Veterinary Technical Nutritional Counselor Program"

November 2

7 CE credits

"WHAT'S NEW IN ONCOLOGY" at Seasons 52

October 10

6:30pm

Suzanne Rau, DVM, DACVIM (Oncology)
2 RACE credits

IMAGING ROUNDS

Imaging rounds will take place the
first Wednesday of every month

COMING THIS FALL SAVE THE DATE – MVA 5K

October 12

Benefiting the Main Line Animal Rescue

Client Education CPR

More details to follow

**METROPOLITAN VETERINARY ASSOCIATES
& EMERGENCY SERVICES**

2626 Van Buren Avenue

Norristown, PA 19403

610.666.1060 – fax 610.666.1199

METROPOLITAN VETERINARY ASSOCIATES

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Providing Specialized Veterinary Services
& 24 HOUR EMERGENCY CARE

CARDIOLOGY

Michael Miller, MS, VMD, ABVP
Risa Roland, DVM, DACVIM (Cardiology)

DENTISTRY

Paul Orsini, DVM, DACVS, DAVDC

DERMATOLOGY

Karen B. Farver, DVM, DACVD

EMERGENCY SERVICES

James Buckman, VMD, PhD
Jason Chamberlin, VMD
Owen Fink, DVM
Jennifer McGough, VMD
Nicolas Rose, VMD
Marisa Suvannavejh, VMD
Dana Yard, VMD

INTERNAL MEDICINE

John V. DeBiasio, DVM, DACVIM
James F. Dougherty, MS, VMD
Leslie A. Kuczynski, VMD, DACVIM

NEUROLOGY

Jerry W. Northington, DVM

ONCOLOGY

Suzanne Rau, DVM, DACVIM (Oncology)

OPHTHALMOLOGY

Amanda Corr, VMD, DACVO
Stephen L. Gross, VMD, DACVO

RADIOLOGY

Robert C. McLear, VMD, DACVR

REHABILITATION

Ann M. Caulfield, VMD, CCRP, CVA

SURGERY

Lori W. Cabell, DVM, DACVS
Scott Christopher, VMD, CCRP
A. Jon Nannos, DVM
Jacqui Niles, BVETMed, SAS, DACVS
Catherine Popovitch, DVM, DACVS, DECVS
Timothy M. Schwab, VMD

HOSPITAL ADMINISTRATOR

Stacey Connell

HOSPITAL MANAGER

Kara Bilardo, CVT



Until recently, treatment of these cancers was limited to surgery, radiation, and chemotherapy. An additional systemic treatment that has shown promise is the canine melanoma vaccine developed by Merial, called ONCEPT. The vaccine alerts the immune system to the presence of the melanoma tumor protein tyrosinase. The vaccine uses a gene for human tyrosinase inserted into a DNA plasmid. The human tyrosinase produced is different enough from canine tyrosinase that it stimulates an immune response, yet similar enough to the canine tyrosinase that the immune response is directed against melanoma cells.

The canine melanoma vaccine is designed to be administered in an initial vaccination series of one dose every two weeks for a total of four doses. Following the initial series, one booster dose is administered every six months. Merial has also introduced its canine transdermal device, a spring-powered device used to inject the vaccine intramuscularly without a needle. The vaccine works best when there is adequate local control of the melanoma, though responses have been seen in dogs with gross disease burden. The vaccine can therefore be used alone, or in combination with surgery or radiation as recommended for each patient. The vaccine is currently available to patients through boarded specialists in oncology and internal medicine.

In a recently published study, 75% of dogs with Stage II and III disease treated with adequate local control in combination with the melanoma vaccine were alive over 15 months. This is a significant improvement from dogs treated without the vaccine that historically have a median survival times in the 3-6 month range for Stage II and III disease.

The melanoma vaccine has been shown to be effective for canine malignant melanomas in other locations as well. The reported median survival time for canine digital melanomas treated with surgery alone is one year, with 11-13% of dogs surviving 2 years or longer. Approximately one third of patients have evidence of tumor spread to the lymph node or lungs at diagnosis, though most will ultimately develop cancer spread in the future.

A recent study has evaluated the efficacy of the melanoma vaccine for dogs with digital melanoma. In dogs with digital melanoma that have no obvious sign of cancer spread that were treated with the vaccine, the median survival time was approaching 500 days, with nearly half of patients surviving 2 years or longer. However, in dogs that already had evidence of melanoma metastasis, the median survival time was significantly shorter at 105 days.

As studies have evaluated vaccine efficacy in oral and digital melanomas, it could theoretically be effective in dogs with digital melanomas, as well. Theoretically, it could be effective in malignant melanomas in all locations, including the skin. The one year survival rate for patients with cutaneous malignant melanoma is approximately 46%, meaning that these patients could benefit from a treatment to help prevent future cancer metastasis.

It is hoped that this same vaccine may also play roles in the treatment of melanoma in other species (horses, cats, etc.) due to its xenogenic origins. ■

MELANOMA VACCINE: ONCEPT

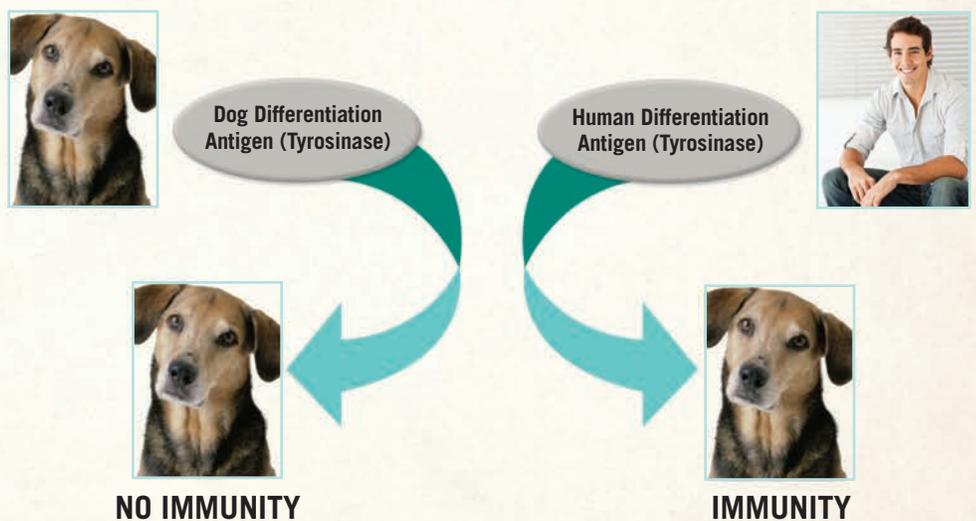


Figure 1. (see above)

With the melanoma vaccine, melanoma differentiation antigens of the tyrosinase family are targeted. Tyrosinase is a melanosomal glycoprotein that is essential in melanin synthesis. Immunization with xenogeneic (*i.e. different species*) human DNA encoding tyrosinase family proteins can induce antibodies and cytotoxic T-cells against melanoma cells in dogs. However, immunization with a dog tyrosinase-related DNA would not induce detectable immunity. Thus, xenogeneic DNA vaccination can break tolerance against a self-tumor differentiation antigen, inducing antibody, T-cell, and anti-tumor responses.

SCHEDULE A LUNCHEON MEET & GREET



Dr. Risa Roland

Cardiology

Risa Roland, DVM, DACVIM (Cardiology)

Dr. Roland performs numerous specialized procedures which include, but are not limited to, echocardiography, electrocardiography, pacemaker implantation, patent ductus arteriosus embolization, balloon valvuloplasty, diagnostic catheterization, portosystemic shunt embolization, urethral stent placement, tracheal stent placement and heartworm retrieval.



Dr. Leslie Kuczynski

Internal
Medicine

Leslie Kuczynski, VMD, DACVIM

Dr. Kuczynski performs numerous specialized procedures which include, but are not limited to, ultrasonography, gastroduodenoscopy, colonoscopy, rhinoscopy, bronchoscopy, urethrocystoscopy, feeding tube placement, arthrocentesis, and bone marrow aspirates and biopsies.



Dr. Suzanne Rau

Oncology

Suzanne Rau, DVM, DACVIM (Oncology)

Dr. Rau's areas of special interest include lymphoma and prevention of chemotherapy induced gastrointestinal side effects.



Dr. Amanda Corr

Ophthalmology

Amanda Corr, VMD, DACVO

Dr. Corr enjoys all aspects of veterinary ophthalmology but is particularly interested in corneal disease, inherited ocular disease and surgery.

LUNCH IS SERVED

Please contact Sarah Spurgeon to set up a convenient time for one of the above clinicians to visit your hospital for casual discussions on specific case studies, answer questions, treatment options, etc.

Sarah Spurgeon: 610.666.1050 or sspurgeon@metro-vet.com

METROPOLITAN WOULD LIKE TO WELCOME NICOLAS ROSE, VMD, TO OUR METROPOLITAN EMERGENCY SERVICES TEAM

Dr. Rose was born and raised in North Carolina, receiving his BS in cell and molecular biology from Tulane University. After performing HIV vaccine research for four years and completing a master's degree at Johns Hopkins University, he went back to school and received his veterinary degree from the University of Pennsylvania in 2009. Prior to working at Metropolitan Dr. Rose worked as an emergency clinician. In his spare time, he enjoys gardening, cooking, and spending time with his wife Marilyn, and their dog and cat, Cassius and Mr. Poopers.



Dr. Rose will start with MES on
WEDNESDAY, APRIL 24, 2013.

YOU'RE INVITED

10:00AM TO 4:00PM

Strategic Planning for the Entire Practice

SUNDAY
4.28.13

ABOUT: Four experienced veterinary practice professionals lead your ENTIRE leadership team in developing a **STRATEGIC PLAN FOR YOUR PRACTICE** that looks out one full year! Bring your laptop (*with Excel*), your mission statement and any statistics if you'd like (although not required). Or use the information from our case study. Lunch provided.

PRESENTERS: Bash Halow, CVPM, LVT • Brenda Tassava, CVPM, CVJ
Brie Messier, MBA • Jill Renfrew, CVPM

REGISTRATION: Halowtassava.com/Events • **QUESTIONS:** 866.336.3019
Cost for up to 3 Team Members \$225 • \$45/Additional Team Members
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Metro-Vet.com

PET LOSS SUPPORT GROUP

Many of our employees understand the depth of loss experienced when a beloved four-legged family member passes. For that reason, Metropolitan provides a pet loss support group to help grieving owners in need. Our support group is designed to provide grieving pet parents with a safe, confidential environment to share their feelings with others who have experienced pet loss.

Meetings are held once a month onsite at Metropolitan and are free of charge for your clients (all family members are invited to attend). The group is led by Dr. Cari Thomson and co-led by psychiatrist Dr. Carol Tavani.

Please contact us at 610.666.1050 if you would like to have Pet Loss Support Group brochures mailed to your office. Clients are able to visit our website to find meeting dates and times, general information and recommendations on obtaining help outside of the group setting.

Pet Loss Support Group meetings held monthly for your clients (and are free of charge). Please contact us at 610.666.1050 for more information or for brochures.



PRACTICE MANAGEMENT AVOID THESE MISSTEPS

Metropolitan Veterinary Associates considers its clientele to be both the pet owner and their referring veterinarian. Good communication and cooperation with you and your team is essential to help us meet our goals of providing ongoing, exceptional customer service.

One of the ways we're available to help partner with you is through practice management, so I am going to share some 'PRACTICE PITFALLS' to stay away from.

- **Employee Discounts** on products and/or provided services and the IRS – do you know how the IRS defines a discount, an employee and the allowed exclusions? Per the IRS, employees are able to receive a discount on services of 20% of the price you charge nonemployee customers for the same service. For a discount on merchandise or other property, your gross profit percentage multiplied by the price you charge nonemployee customers for the property is allowed. It sounds straightforward but there are some caveats to these rules – if interested in receiving further information please check with your financial advisor or e-mail **Stacey Connell** at sconnell@Metro-Vet.com.
- **Sales and Use Tax** – Are you charging sales tax appropriately? Are you tracking purchases to ensure sales tax has been charged? Please remember that if you make an online purchase of goods and the provider did not apply sales tax that you're responsible to pay use tax on the product in PA (if taxable). If you'd like a list of taxable items or further information please check with your financial advisor or e-mail **Stacey Connell** at sconnell@Metro-Vet.com.
- **Act 32 for Practices in PA** – If you need help in determining your employees 'LIVED IN' municipality, use this website to search by address and obtain their PSD code and tax rate. Remember that even if an employee provides you with their information on the Act 32 form it's the employers responsibility to verify the information (and hold onto those original, signed forms). Munstatspa.dced.state.pa.us

Stacey Connell is the Hospital Administrator at Metropolitan and joined the practice in 2007. She previously worked in the corporate world for over 20 years at both a Fortune 500 and Fortune Global 500 company as a multi-site regional manager. She achieved her certification as a Six Sigma Black Belt in 2003.