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**MEET THE FACULTY**



**DR. JERRY SALIKI**

Dr. Saliki has been Director of AVDL since August 2007, is a full professor in the Department of Infectious Diseases, and also is the Head of the AVDL Serology/Virology Section.

Dr. Saliki received his DVM in 1984 from the University of Liège in Belgium and a PhD in Virology from Cornell University in 1993. He was a visiting scientist at the USDA's Plum Island Animal Disease Center (N.Y.) from 1991-93 before moving to Oklahoma State University where he served as Head of the Serology/Virology Section at the Oklahoma Animal Disease Diagnostic Lab from 1993-2005. Dr. Saliki was board-certified in virology in 1994. He has 27 years of post-DVM diagnostic and research experience in Europe, Africa, and three states (Georgia, New York, Oklahoma).

He is a 2003 recipient of the Pfizer award for Research Excellence and the 2010 Charles Dobbins Award for Excellence in Service. His interests are in diagnosis of virus diseases of domestic and marine mammals.

**DR. MARCIA ILHA**

Dr. Ilha is an Assistant Professor in the Department of Pathology at UGA. She has been a veterinary pathologist at the VDIL in Tifton since 2009.

Dr. Ilha received her DVM in 1999 from the Federal University of Santa Maria (UFSM) in Brazil, and completed her MSc at UFSM, Brazil, in 2001. She earned a graduate diploma in veterinary pathology from the University of Guelph, Canada, in 2007, completed her residency program in Veterinary Pathology at the University of Tennessee in 2009, and became a board-certified pathologist with the American College of Veterinary Pathologists in September 2009. She has acquired training in diagnostic pathology in multiple institutions in three different countries.

She enjoys necropsies and currently is the Head of the Clinical Pathology section at the TVDIL. Dr. Ilha is an assistant editor for this newsletter. Her broad interests are diagnostic pathology, applied research, and pathology of wildlife species.

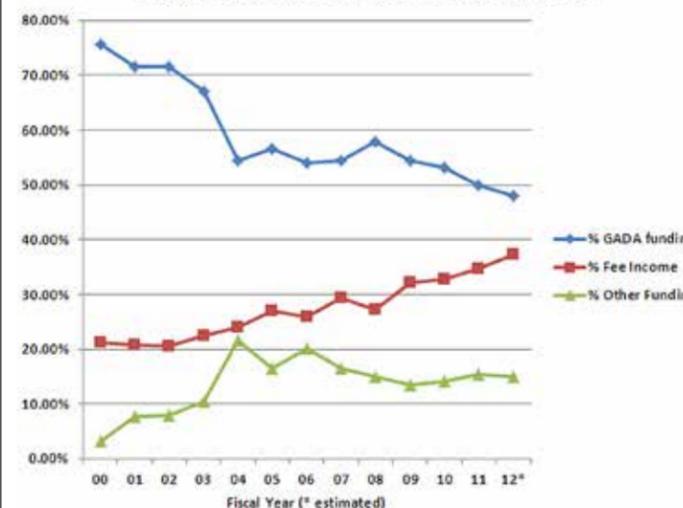


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**Diagnostic Lab Percent of Total Funding**



**MESSAGE FROM THE DIRECTORS**

Jeremiah (Jerry) T. Saliki and Murray E. Hines II

The last two years have been challenging for our lab system, as we continue to deal with steep state budget cuts and rising costs of operations. The ongoing budget difficulties derive mostly from state budget cuts totaling 20% in the last three fiscal years, compounded by a 39% reduction in federal support in 2011 through the National Animal Health Network (NAHLN) (as seen in the graph, bottom left). These difficulties notwithstanding, we continue to provide a wide range of services with the help of our highly trained and dedicated staff by operating more efficiently, postponing equipment replacements, reducing staffing levels, and eliminating some services such as electron microscopy in Tifton.

We are currently in the process of converting the Tifton Laboratory heating system and incinerator to natural gas from heating oil in order to further reduce the cost of our operations. Once completed, this conversion will save the Tifton Lab about two-thirds of current expenses on heating oil. Another example of increased efficiency in the delivery of services to you is our new D-Lab web portal for obtaining results and making invoice payments online. It is now possible

for you to view the results of all your cases submitted to either the Athens or Tifton laboratory, view and print invoices, and pay your bill online. We welcome any suggestions from you on further technological improvements or other means to keep down operation costs and increase efficiency.

Our goal is to continue to provide high-quality diagnostic and disease surveillance services to the citizens of Georgia. However, equipment breakdowns are beginning to impact our service mission. Consequently, there is a need to adjust some of our service fees to assure that we can continue to provide the services you expect. This selective fee increase to only 58 of almost 500 tests offered by our laboratory system will be implemented effective October 1, 2011.

Even with this nominal fee increase, we hope you agree that the service and testing the diagnostic labs perform provides great value to you and your clients. If you did not receive a notice of the fee increase by e-mail, fax or mail, the complete updated fee schedule is available on the Diagnostic Laboratory website.

We look forward to our continuous partnership with you and the Department of Agriculture in fulfilling our mission of promoting animal health, protecting agriculture, and contributing to economic well-being and public health in the state of Georgia. 

# PERSONNEL HIGHLIGHTS

## ATHENS VETERINARY DIAGNOSTIC LABORATORY

1. **Dr. Susan Sanchez** was selected as an Administrative Fellow under the Southeastern Academic Conference (SECAC) Administrative Leadership Development Program (ALDP) for the 2011-2012 academic year. The skills and experience she will acquire in this program will further enhance her service our clients, the lab and the greater UGA community.
2. We've had two important changes in our Administrative area. **Amy Lavender**, known to our clients for many years as the kind and knowledgeable voice on the phone, was appointed as the new Accountant. Please help us welcome **Joanne Greenway** as the new Receptionist and friendly voice answering your calls.
3. We extend congratulations to **Wendy Cunkle** in Accessions/Receiving. She was recently certified as a Notary Public. She has also volunteered to serve as the AVDL representative to the University Staff Representative Group.
4. **Sarah Quattlebaum** is a new addition to the Bacteriology & Molecular Diagnostics Section. She just recently completed her Bachelor's degree in Microbiology right here at UGA!
5. In 2011 the AVDL successfully completed the following federally administered proficiency tests:
  - NVSL Salmonella Group D Proficiency Test (**Bacteriology staff**)
  - EVA proficiency test (Serology staff with 100% identity and 98% accuracy score)
  - Avian influenza proficiency test (**Sara Bates, Paula Bartlett & Ingrid Fernandez**)
  - Swine influenza proficiency test (Sara Bates, Paula Bartlett & Ingrid Fernandez)
  - Newcastle disease proficiency test (Sara Bates, Paula Bartlett & Ingrid Fernandez).
  - Equine infectious anemia, bluetongue & bovine leukemia proficiency tests (**Serology staff**)

## TIFTON VETERINARY DIAGNOSTIC AND INVESTIGATIONAL LABORATORY

- Congratulations to **Dr. Murray Hines** who received the Charles Dobbins Award for Excellence in Service from the UGA College of Veterinary Medicine. This award is given to one faculty person each year for sustained excellence in service to the citizens of Georgia and for outstanding contributions to the profession of veterinary medicine.
- Congratulations to **Dr. Sreekumari (Sree) Rajeev** who received the Outstanding Laboratory Service Award from the UGA College of Veterinary Medicine. This award is given to a faculty person that has demonstrated sustained excellence in providing laboratory support for clinical veterinary medicine and outstanding contributions to the profession of veterinary medicine.
- At the annual Staff Appreciation Luncheon, **Mary Byrd, Randall Gay, Renae Hall, Dr. Sree Rajeev** and **Dr. Moges Woldemeskell** received awards for 5 years of service. **Dallas Ingram** and **Jill Johnson** received awards for 10 years of service. **Debbie Blakey** and **Teri Register** received awards for 20 years of service.
- Congratulations to **Melissa Gandy** from the TVDIL Histology Section! She graduated from the Abraham Baldwin Agricultural College (ABAC) spring semester with an Associate Degree in Science.
- **Dr. Sue Turnquist** is the new anatomic pathologist for the TVDIL and an Associate Professor in the Department of Pathology. She has her DVM from Louisiana State University (LSU, 1984), a residency in Food Animal Preventative Medicine and Master of Science in Epidemiology (LSU, 1988), and worked as a mixed animal practitioner for one year before her graduate work. Sue was boarded in pathology in 1993 and received a PhD in veterinary pathology at the University of Missouri in 1994. She continued on as a faculty member in the Missouri Veterinary Medical Diagnostic Laboratory until 2003 before working as a Toxicologic Pathologist with Pfizer, Inc. Sue has an interest in oncologic pathology, surgical biopsies, and a background in John's disease research. Sue enjoys running, quilting, gardening and training her Australian Shepherd, Jesse. 



# SERVICE REMINDERS

## ONLINE SERVICES

Visit our website at <http://www.vet.uga.edu/dlab/> to make secure credit card payments to your account, view and print all test results and invoices.

**Not sure what we offer?** View our catalog of available tests, recommended samples, turn-around times, fees, etc.: <https://dlab.vet.uga.edu/LabsPortal/webportalCatalog/list>

When using the UGA website to make credit card payments, please do not use the "back" button on your web browser. If this button is used the payment will not properly post and your monthly statement will indicate you have not made a payment.

## BRUCELLOSIS TESTING

The AVDL and TVDIL are now certified by the USDA as an official Brucellosis testing lab. Before closing its doors, the Georgia Department of Agriculture laboratory in Atlanta was the sole official state laboratory running this test.

## DISCOUNTED SHIPPING CHARGES

Take advantage of our discounted shipping rate through UPS or FedEx Recipient/Receiver billing option. Simply contact the lab for prefilled labels. Place the appropriate shipping label and ship your package as you normally would. We will apply the discounted shipping cost to your monthly bill.

## SUBMITTING/PACKAGING SAMPLES

To protect our Receiving staff from sharp items and hazardous materials, please properly package your samples. AVMA guidelines on shipping can be viewed online:

[www.avma.org/issues/pack\\_ship\\_lab\\_specimens.asp](http://www.avma.org/issues/pack_ship_lab_specimens.asp)

You can also refer to our newsletter Volume 1, Issue 1, Fall 2008, for submission and shipping information.

This can be viewed online:

[www.vet.uga.edu/dlab/pdfs/news/Fall-2008.pdf](http://www.vet.uga.edu/dlab/pdfs/news/Fall-2008.pdf)

Any questions? Call the lab at 706.542.5568 (Athens) or 229.386.3340 (Tifton) for additional assistance

## NEW CRYPTOSPORIDIUM/GIARDIA TEST

The **Tifton Diagnostic Lab** now offers Cryptosporidium/Giardia FA testing for small and large animals.

Specimen required: 1gr of feces

Cost: \$12.50 per sample

Turnaround time: 1-2 days

## ATHENS LAB OFFERS SLIDE HOLDERS

The **Athens Veterinary Diagnostic Laboratory** is now offering a convenient new service. For a nominal fee of \$10 (to be added to your monthly invoice) we will ship to you an assortment of 50 recycled slide holders, depending upon availability. Please call 706.542.5568.

We mourn the loss of Krista "Kris" Mattocks (1963–2011), who passed away on June 11, 2011.

Kris was employed by the University of Georgia for 23 years and specifically at the Tifton Veterinary Diagnostic Laboratory (TVDIL) for 19 years.

She was of immeasurable help to the clients and staff of the TVDIL over her years of service, first as a medical transcriptionist and finally as associate accountant.

In addition, she assisted with SEVPAC and SGVMA meetings. Her pleasant personality, sense of humor, and hard work will be sorely missed by her friends and colleagues.

*In Memory*



## TURNAROUND TIME IN BACTERIOLOGY

### ~ Why does it take so long to turn around tests submitted for culture?

The time from when we receive your sample until we have bacterial identification and sensitivity varies. Completion of culture and sensitivity can take anywhere from 2 days to 6 weeks. Most aerobic and anaerobic cultures will be fast (2-4 days), but others such as *Mycobacterium spp.*, *Mycoplasma spp.* and fungal cultures can take up to 6 weeks. Most of the common pathogenic bacteria are readily identified, but environmental or rare nutritionally deficient organisms grow poorly and are often not reactive, making identification slow and difficult. Our laboratory sends preliminary results to keep you posted on the progress of your sample.

### ~ Can I get just sensitivities without bacterial identification?

Break points for antimicrobial susceptibility are dependent upon the patient species, the drug and the bacteria that we are testing. Without these three pieces of information in most cases it is not possible to give accurate susceptibility results. We strive to find identifications whenever possible to make our reports precise so your treatment can be tailored to your patient's needs.

*Answers from Dr. Susan Sanchez,  
Athens Veterinary Diagnostic Laboratory  
Bacteriology & Molecular Diagnostics Section Head*

## SERVICE REMINDERS

### CALLING ABOUT RESULTS

When calling the lab for results, pricing information, or account questions, please have one of the following identifiers available:

- Veterinarian's License Number
- Accession Number
- Account Number

This safeguard helps us ensure we give and discuss information only to the appropriate individuals.

### SUBMISSION FORMS

To help prevent data entry errors, please download and print the current version of our submission form which can also be filled in online. The older forms are inaccurate and lack required information. Please note we no longer provide packets of printed forms.

The current form is available under the Submission Information tab on our website:

Athens Laboratory:

[http://www.vet.uga.edu/dlab/pdfs/forms/DLab\\_AVDL\\_submissionform.pdf](http://www.vet.uga.edu/dlab/pdfs/forms/DLab_AVDL_submissionform.pdf)

Tifton Laboratory:

[http://www.vet.uga.edu/dlab/pdfs/forms/DLab\\_TVDEL\\_submissionform.pdf](http://www.vet.uga.edu/dlab/pdfs/forms/DLab_TVDEL_submissionform.pdf)

### TVDIL CLINICAL PATHOLOGY SECTION REMINDERS

1. Due to lack of demand, we are temporarily discontinuing Vitamin B12 and Folate tests.
2. Thyroid hormones can be ordered in panels of two to five tests for a discounted price:
  - T3, T4, FT3, and FT4: \$18 each hormone
  - TSH: \$25
  - 2-Test Panel (any two thyroid hormones): \$30
  - 3-Test Panel (any three thyroid hormones): \$40
  - 4-Test Panel (any four thyroid hormones): \$50
  - 5-Test Panel (all five): \$60
3. Endocrinology tests offered also include: Digoxin, Estradiol, Testosterone, Progesterone, Cortisol (ACTH stimulation and Dexamethasone Suppression), and Insulin.
4. Our section also offers iron and blood ammonia. EDTA plasma is necessary for blood ammonia testing. Samples should be refrigerated immediately and kept cold at all times. Please call the lab if you need assistance on how to collect and ship samples for blood ammonia.

## RENAL PATHOLOGY CONSULTATION SERVICE

By Cathy Brown, VMD, PhD, DACVP

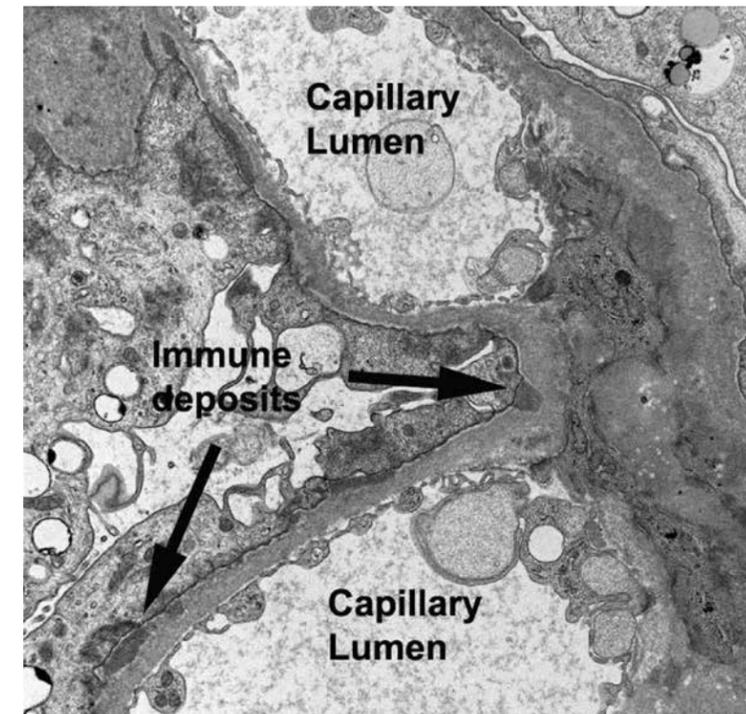
Scott A. Brown, VMD, PhD, DACVIM

Kidney disease is a leading cause of illness and death in dogs and cats. Treatment of acute and chronic kidney disease is most effective when the disease is recognized early in its course and when treatment is instituted with knowledge of the underlying disease process. To aid in the diagnosis and treatment of kidney disease, the Athens Veterinary Diagnostic Laboratory is now offering renal diagnostic and treatment expertise through its newly established Renal Pathology Consultation Service. The service is provided under the direction of Dr. Cathy Brown, a board certified veterinary pathologist, who is an internationally recognized expert in renal pathology. She is a member of the World Small Animal Veterinary Association's Renal Standardization group. She has authored or co-authored multiple book chapters on evaluation of the renal biopsy and numerous publications characterizing renal disease. Dr. Scott Brown, a board certified small animal internist, is also a member of the Renal Pathology Consultation Service. He was the founding chairman of the International Renal Interest Society (IRIS) and led the establishment of the IRIS kidney disease staging system.

The primary focus of the Renal Pathology Consultation Service will be to provide detailed pathologic and consultative service to veterinarians submitting renal biopsies. In addition to providing disease diagnosis and prognostic information by a pathologist specializing in kidney diseases, the pathology results will be reviewed by a veterinary clinical nephrologist. Clinical information, including clinical history, treatments, clinical pathology data (including urine protein/creatinine ratio) will be reviewed in the context of the pathologic find-

ings to render a clinical assessment and suggest further diagnostic and treatment options.

Renal biopsy is most useful in dogs and cats with persistent proteinuria (with or without azotemia) or in animals with acute renal disease that is not responding as expected or in which an etiologic diagnosis may be needed. Biopsies from animals with advanced chronic kidney disease (IRIS Stages III and IV), particularly those with irregular scarred kidneys, are generally not useful as the renal damage is irreversible and the information obtained is unlikely to change treatment strategies. Renal biopsies submitted to the Renal Pathology Consultation Service will be evaluated by a veterinary nephropathologist via light microscopy using a battery of stains. Biopsies from animals with protein-losing nephropathy will also be examined via electron microscopy (EM) to evaluate ultrastructural morphology,



**Ultrastructure of glomerulus from a dog with severe proteinuria, hypoalbuminemia, ascites, and a normal creatinine.**

Biopsies (wedge or needle biopsies) for light microscopy should be submitted in 10% formalin. Care should be taken when handling needle biopsies to limit crush artifact. If protein-losing glomerular disease has been identified, an additional cortical biopsy should be minced, using a scalpel blade, into 1 mm squares and submitted in EM fixative (glutaraldehyde). Vials of EM fixative are available from the diagnostic laboratory, and should be obtained prior to the biopsy procedure.

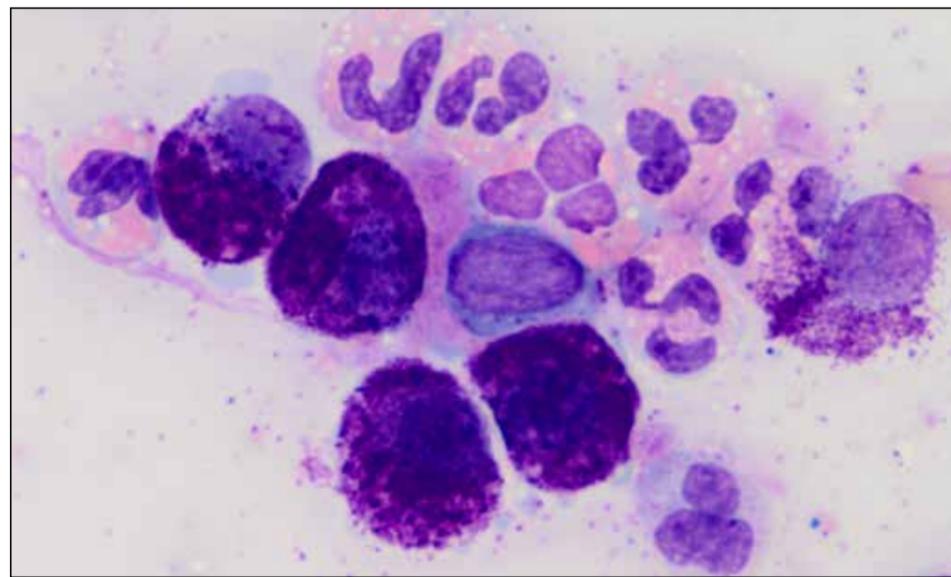
Our goal is to increase the quality of our diagnostic service and case management for animals with kidney disease. If you have questions about our new Renal Pathology Consultation Service, please contact Dr. Cathy Brown at 706.542.5568. 

# CANINE MAST CELL TUMOR UPDATE

By Paula M. Krimer, DVM, DVSc, DACVP

**Canine mast cell tumors** have been graded in North America predominantly by the Patnaik system since the system was proposed in 1984.<sup>1</sup> The goal of a grading system is to provide an accurate prognosis and guidance for proper therapeutic intervention. This system classifies tumors into grade I (well-differentiated), II (intermediate), or III (poorly differentiated) based on criteria outlined in Table 1. However, most mast cell tumors fall into the grade II category, and the prognosis and course of treatment often remain uncertain. Some tumors do not meet the criteria for a grade III tumor due to low mitotic rate, yet are still biologically aggressive. In addition, there is some variation in how individual pathologists use and apply this grading system.

Recently, a working group composed of oncologists and pathologists conducted a multi-institutional study to address these issues in the article: Proposal of a 2-tier histological grading system for canine cutaneous mast cell tumors to more accurately predict biological behavior.<sup>2</sup> In this study, 95 cutaneous mast cell tumors were evaluated by 28 experienced surgical veterinary pathologists using the Patnaik system. There was only 75% concordance for the diagnosis of

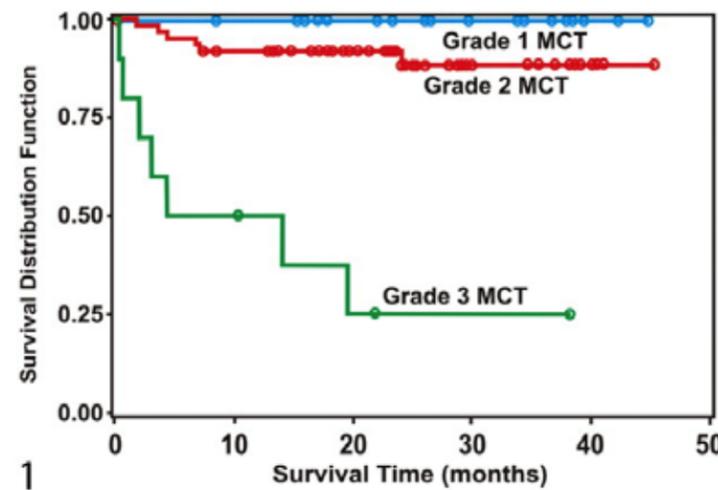


Cytology of a mast cell tumor; 5 mast cells, 1 lymphocyte and several eosinophils.

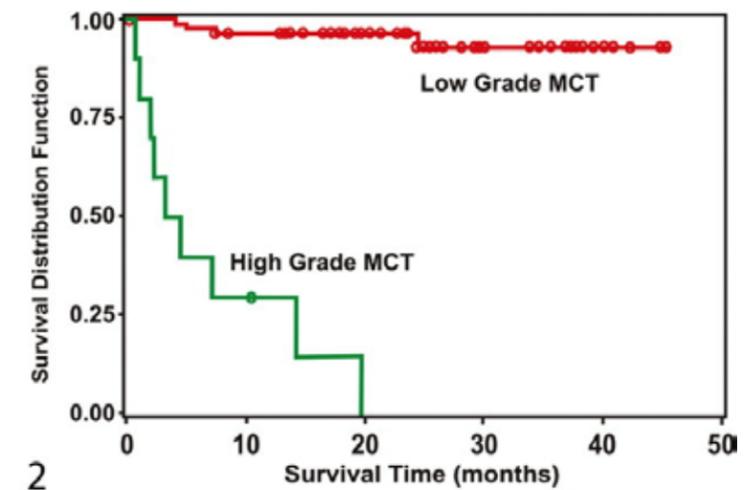
grade III mast cell tumors and only 64% for grade I and grade II mast cell tumors, confirming the previously-documented difficulty in using this widely-adopted system. The study group proposed an alternative grading scheme that had only two categories: high grade or low grade tumors. High grade tumors fulfill any one of the following criteria: at least 7 mitotic figures/10 high powered fields (HPF), at least 3 multinucleated (3 or more nuclei) cells/10 HPF, at least 3 bizarre nuclei/10HPF, or karyomegaly (at least 10% of cells have nuclei that vary by at least 2-fold).

When this **novel 2-tier grading system** was applied by 6 pathologists to the same 95 cases, there was a 96.8% consistency in classification of tumors as high or low grade between pathologists. Multivariate analysis of survival using the new system showed that high-grade tumors were associated with significantly shorter survival time and shorter times to metastasis or additional tumor development (Figures 1 and 2).<sup>2</sup> Dogs with high grade tumors had a median survival time of less than 4 months while it was more than 2 years for those with low grade mast cell tumors. Overall, it appears to be a better predictor of survival

**Figure 1.** Survival curves for mortality due to mast cell tumors (MCTs), stratified by median histologic grades according to Patnaik et al 10 from 95 cases.



**Figure 2.** Survival curves for mortality due to mast cell tumors (MCTs), stratified by histologic grades of proposed 2-tier grading system from 95 cases.



Kiupel M et al. Vet Pathol 2010;48:147-155. © American College of Veterinary Pathologists; reprinted with permission.

than the Patnaik system. This grading system has not yet gained wide acceptance in the veterinary pathologist community, partially because it is so new. However, it is important that clinicians be aware of the new scheme if they see it on histological reports, and to monitor for future mast cell tumor studies that use this system.

Interestingly, the novel grading system relies solely on cytological criteria in the histological sections. If there is a sufficient sample size, it may be **theoretically possible to grade mast cell tumors on cytology** rather than histology. This would be useful to clinicians, as they could give clients a more accurate prognosis and estimate cost of treatment before performing an invasive biopsy. To this end, a study has been initiated to correlate the findings in matched pairs of cytological and histological specimens of the same mast cell tumor. Clinicians that submit a sufficiently cellular mast cell tumor on cytology may be contacted to request submission of any

biopsy specimen to Dr. Krimer. Alternatively, samples can also be included if the veterinarian submits unstained cytological specimens along with the biopsy of any mast cell tumors diagnosed in-house.

If you have an in-house or reported cytological diagnosis of a canine mast cell tumor and are willing to contribute your case, please contact Dr. Krimer for additional information

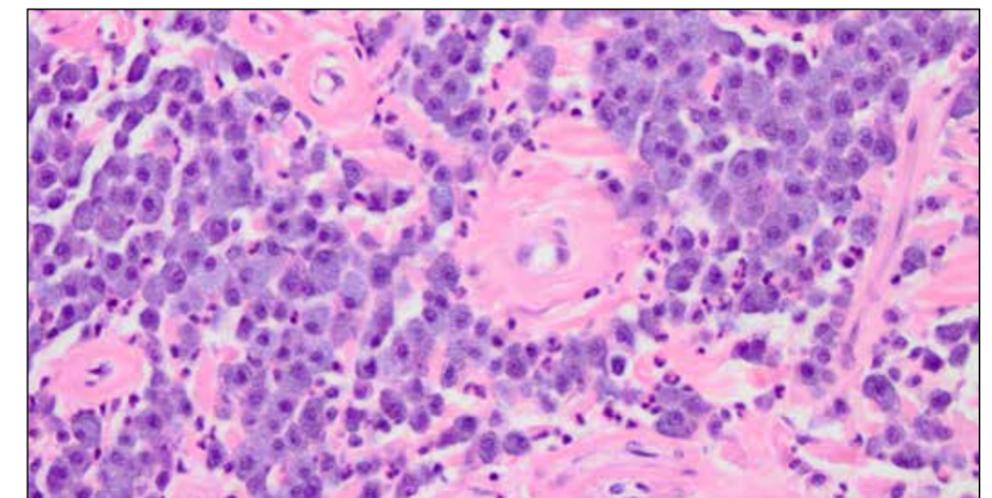
about this study at 706.542.5568. 

## References

1. Patnaik AK, et al. Canine cutaneous mast cell tumor: Morphologic grading and survival time in 83 dogs. Vet Pathol. 1984, 21:469-74.
2. Kiupel M, et al. Proposal of a 2-tier histological grading system for canine cutaneous mast cell tumors to more accurately predict biological behavior. Vet Pathol. 2011, 48:147-55.

**Table 1. Patnaik criteria for classification of canine mast cell tumors<sup>1</sup>**

	Grade I	Grade II	Grade III
<b>Differentiation</b>	<b>Well</b>	<b>Intermediate</b>	<b>Poor</b>
Cellularity	Low	Intermediate	High
Cells	Uniform	Anisocytosis moderate	Anisocytosis marked
Giant Cells	Zero	Few	Frequent
Pleomorphism	Zero	Moderate	Common
Cytoplasmic granules	Obvious	Visible	Inconspicuous to Absent
Nuclei	Uniform, round to oval	Anisokaryosis	Anisokaryosis
Mitoses/10HPF	<2	2-8	>8



h 5

Histology of a mast cell tumor.