

Vet Connect

A Publication of the Boren Veterinary Medical Hospital

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Food Animal Medicine and Surgery

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John Gilliam *DVM, MS, DACVIM, DABVP*

Meredyth Jones *DVM, MS, DACVIM (Large Animal)*

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Director's Notes

I am excited to be writing to you for the first time as the hospital director at Oklahoma State University's Boren Veterinary Medical Hospital. I hope that this newsletter finds you well. Being an alumnus of the Center for Veterinary Health Sciences, having grown up in nearby Wichita Falls, Texas, and having practiced the last three years in Oklahoma City, I know many of you. To those whom I do not know yet, I look forward to meeting you and working with you as we collaborate to make this the nation's premier facility for veterinary care and training.

I have spent much of my first three months interviewing those within the hospital and many of you as well. What is very clear through all of this feedback is that we continue to provide unparalleled care to our patients. This, combined with the fantastic team in place, was a driving force to my coming here. However, what is also very clear is that we can do a better job taking care of our mutual clients and communicating with you, our partners. One of the ways we plan on communicating better with you is through this quarterly newsletter. We will use it to introduce new faculty and services. It will also be a great place to pass along any other information that we feel will be useful to you.

In this issue of the newsletter, you will find introductions to myself and three other faculty members who have joined our team recently. You will also find some interesting information about the only practicing board-certified equine sports medicine and rehabilitation specialists in the state and region. And last, but certainly not least, is some information about the nation's first focused ultrasound service, right here in our hospital. I have no doubt that many of your patients can benefit from these unique services.

I want to thank you personally for welcoming me to this position. I am committed to making sure we serve you, your patients and your clients as we would treat our friends and families. I welcome any feedback you have. Feel free to call me at the hospital: (405) 744-7000 or email me at jeff.studer@okstate.edu.

Go Pokes,



J. Jeff Studer, DVM, DACVO

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Shaping the Future through Discovery, Education and Unparalleled Veterinary Care

Meet Our New Clinicians

Dr. Jeff Studer *Hospital Director*

Jeff Studer, DVM, DACVO, is the director of the Veterinary Medical Hospital and a clinical assistant professor in the Department of Veterinary Clinical Sciences. Originally from Wichita Falls, Texas, Dr. Studer earned his DVM degree at Oklahoma State University in 2006. Following graduation, he completed a small animal rotating medicine and surgery internship at Florida Veterinary Specialists and Cancer Treatment Center located in Tampa, Florida. He then went to The Animal Ophthalmology Clinic in Dallas, Texas, to complete a residency. In 2011, he became a diplomate of the American College of Veterinary Ophthalmologists. Most recently, Dr. Studer served as Medical Director and ophthalmologist at BluePearl in Oklahoma City.

While Dr. Studer will see client cases as one of our four board certified ophthalmologists, his primary focus will be on his Hospital director duties and the day-to-day operation of the facility. His goal is to enhance the hospital experience for both the client and the referring veterinarian.

He is a member of the American Veterinary Medical Association and the Oklahoma Veterinary Medical Association.

In his spare time, Jeff enjoys spending time with his wife and two little boys. They can often be found outside with their many animals: dogs, cats, chickens and three goats named Larry, Mo and Curly. He is also active in his church.



Dr. Katelyn Fentiman *Ophthalmologist*

Katelyn Fentiman, DVM, DACVO, is an assistant professor of Ophthalmology in the Department of Veterinary Clinical Sciences at OSU's Veterinary Medical Hospital. Originally from Monument, Colorado, she earned her DVM degree from Kansas State University.

Dr. Fentiman's research interests include ocular pharmacology and glaucoma treatment.

Katelyn has hiked to the top of two 14ers, which are mountains higher than 14,000 feet at the peak. In her spare time, she enjoys reading, gardening, skiing and hiking.



Dr. Meredyth Jones *Food Animal Medicine and Surgery*

Meredyth Jones, DVM, MS, DACVIM-LA, is an associate professor of Food Animal Medicine and Surgery in the Department of Veterinary Clinical Sciences at the OSU Veterinary Medical Hospital. Originally from Brandenburg, Kentucky, she earned her DVM and MS degrees from Oklahoma State University in 2002 and 2006 respectively. She is a diplomate of the American College of Veterinary Internal Medicine - Large Animal.

Dr. Jones' research interests include small ruminant urolithiasis, beef cattle lameness, and student learning methods.

Meredyth is a second generation veterinarian and teacher. The first time she ate a peanut butter and jelly sandwich she was 36 years old and in a Texas prison, where she was working their cattle. She has traveled around the Mongolian Desert for two weeks teaching veterinarians camel medicine skills. In her free time, she enjoys gardening, biking, reading, and knitting.



Dr. Nicola Di Girolamo *Avian, Exotics and Zoo Medicine*

Nicola Di Girolamo, DMV, MSc (EBHC), GP Cert (ExAP), PhD, DECZM (Herp), is an associate professor in the Department of Veterinary Clinical Sciences at OSU's Veterinary Medical Hospital. Originally from Rome, Italy, he earned his DMV (DVM equivalent) and a PhD in Veterinary Sciences from the University of Bologna in Italy and a MSc in evidence-based healthcare from the University of Oxford. "Dr. Nic" is also a diplomate of the European College of Zoological Medicine (Herpetology). He comes to OSU from the Tai Wai Small Animal and Exotic Hospital located in Hong Kong. His research interests range from diagnostic techniques in exotics to the application of evidence-based practice and meta-research in veterinary medicine.

When Dr. Di Girolamo was in veterinary college, he collected snakes in the dorm much to the dismay of some of his fellow students. In his spare time, he enjoys Brazilian jujitsu and surfing.

Sports Medicine and Rehabilitation:

What it Means for the Horse Owner



TREATING THE INJURED

Dr. Mike Schoonover treats a horse's back with Extracorporeal Shock Wave Therapy (ESWT).

As with human medicine, veterinary medicine has many specialties. OSU's Veterinary Medical Hospital is home to 27 board certified specialists in many areas including but not limited to cardiology, equine internal medicine, ophthalmology, anesthesiology, equine surgery, and sports medicine and rehabilitation. For the equine owner that means one thing—an entire team of highly qualified specialists is treating your horse!

The American College of Sports Medicine and Rehabilitation is a relatively young college coming to fruition about 10 years ago. Two of OSU's equine specialists were among the first veterinarians to become board certified in this specialty—Drs. Todd Holbrook and Mike Schoonover.

"We had to have certain publications in sports medicine in horses, a certain number of years of experience," explained Todd Holbrook, DVM, DACVIM (LA), DACVSMR, professor of equine internal medicine, June Jacobs Endowed Chair in Veterinary Medicine, and equine section chief. "They essentially evaluate your credential application and if approved, you take the examination."

"Once they go through your credentials and determine you are eligible, you sit for the certifying exam," echoed Mike Schoonover, DVM, MS, DACVS, DACVSMR, associate professor of equine surgery.

"The certifying exam was somewhat difficult. Being a surgeon and dealing a lot with orthopedics, those type of things weren't quite as difficult. Getting caught up on all of the current literature relating to the cardiopulmonary aspects of sports medicine was a little like going back to study hall."

Both Holbrook and Schoonover trace their interest in sports medicine back to the beginning of their careers.

"After I completed my residency in internal medicine, I went into practice primarily focusing on sport horses," stated Holbrook. "So my interest in sports medicine developed there along with an interest in endurance exercise. I have worked with endurance horses for more than two decades."

"I have been involved with performance horses since I was in high school when I competed in western rodeo events," said Schoonover. "While in veterinary college I decided I wanted to specialize in equine surgery. I discovered that within the equine surgery specialty, especially when dealing with performance horses, there is a considerable need for knowledge of sports medicine as a whole, so the next step was to pursue certification in sports medicine."

So what does all this mean for referring veterinarians and their clients?

"We can offer a whole horse evaluation," said Schoonover. "We can do a pre-season evaluation, a checkup if you will, to determine if a horse's heart and lungs are functioning appropriately and how the horse looks from a soundness standpoint. When people think about equine sports medicine, they generally think of lameness. But there are a lot of other areas that can cause poor performance."

"There are a lot of different body systems that have to perform at their highest level to really allow them to get their job done for their owners," added Holbrook. "It could be lameness but it could also be cardiac function or lung functions. We can evaluate horses essentially from the ground level all the way through the organ systems that are all involved with athletic performance."

Both specialists have had success working with performance horses.

"A horse was actually referred to us for a tie-back surgery, which is a surgery that treats a disease called laryngeal hemiplegia, commonly called a paralyzed flapper," explained Schoonover. "We decided to evaluate that horse with a dynamic endoscope which allows us to exercise the horse with the scope or camera in the horse's airway so we can

see what's happening to the airway in real time."

Once the horse was exercising under the saddle, Dr. Schoonover and his team discovered that not one but both of the horse's arytenoids or flappers were closing down, completely occluding the airway.

"Since this wasn't a routine flapper problem that a normal tie-back surgery could solve, through testing we diagnosed this horse as having EPM, which is a neurological disease," continued Schoonover. "The muscles that were holding those arytenoids open were dysfunctional. We treated the horse for EPM, the condition improved, and the horse went on to perform. Had we just done the surgery and not taken the extra diagnostic step of dynamic endoscopy, we wouldn't have helped that horse."

"We had a dressage horse referred to us with a cardiac problem as well as some lameness issues," recalled Holbrook. "He has a heart murmur that we continue to

monitor for safety and health concerns every six months or so. It wasn't limiting his performance. More than likely lameness issues were, so we addressed some issues in his back. Using injections and shock wave therapy, we treated some areas of his spine that were impinging along his thorax under the saddle area. He's done well and he and his talented young rider have gone on to do quite well in different competitions across the U.S."

"When it comes to rehabilitation, a lot of the techniques we use have been adopted from human medicine," added Schoonover. "Thirty years ago when people had knee surgery, they were placed in a cast and immobilized. Today these patients are walking and undergoing rehabilitation the day after surgery. We try to apply those techniques to our veterinary patients as well and get the owner involved in the rehabilitation process."

Horses are elite athletes. Lameness, respiratory problems or cardiac issues can all limit their performance.

"Look at the poor performing horse with an open mind," advised Schoonover. "Evaluate all the avenues from the get go rather than jumping to conclusions. It can probably save time and money for the horse owner."

"We have a great opportunity to collaborate with many board certified specialists here at OSU," said Holbrook. "It's important for horse owners to know about the specialists available to treat their horses. If they see or feel something that isn't right, we can help them determine what the problem is and the best way to treat it."

FOR MORE INFORMATION

on Equine Sports Medicine and Rehabilitation, contact our equine team at **(405) 744-7000, ext. 2.**

Introducing an Innovative Cancer Therapy

Non-Invasive Treatment of Tumors and Infected Wounds

We are excited to offer treatment options for pets that may not have any other options. The Oklahoma State University Center for Veterinary Health Sciences is pioneering the use of High-Frequency Ultrasound (HiFU) to treat neoplasia and infections in animals. Danielle Dugat, DVM, MS, DACVS (Small Animal) and Ashish Ranjan, BVSc, PhD, are now offering this exciting therapy to patients in the Boren Veterinary Medical Hospital. Dr. Ranjan brought this technology with him from his prior position at the National Institutes of Health five years ago. Through his internationally-renowned work with this technology, he has since been funded by the Focused Ultrasound Foundation to conduct clinical trials in dogs and cats with cancer and non-healing wound infections. While we are not the only veterinary college working with this technology, we are the first veterinary hospital in the country to offer its benefits clinically, thanks to Dr. Ranjan's extensive experience. We are currently offering it

for locoregional treatment of cancerous tumors, infected soft-tissue wounds and bone infections. We are hoping to also be able to use it on metastatic neoplasia in the near future.

The two most critical benefits to focused ultrasound treatment over traditional treatments like surgery, chemotherapy, or radiation are that it is non-invasive and non-toxic, unlike traditional surgical or chemotherapeutic treatments. There is also a cost benefit. The cost of this type of therapy is typically about half of that of surgical therapy. Additionally, this treatment can usually be performed on an outpatient basis, a factor very important to most owners.

The HiFU procedure typically requires that the patient be very still for about an hour. Patients receive anesthesia and pain control during each procedure.

"Our state of the art system comes equipped with an imaging and treatment transducer. We use the ultrasound imaging transducer to locate the tumor," stated

Ranjan. "Once we have localized the tumor, we set boundaries for treatment, which we call a region of interest. We have an image screen where we can see the cancerous mass and then we administer treatment to those regions of interest using the built-in therapeutic HiFU system. Depending on the disease profile, the energy from the therapeutic transducer is altered to attain various effects in the region of interest including local mild heating, tissue damage, and non-heat related cellular and bacterial stress."

"My experience currently with the clinical trial cases has been very rewarding," said Dugat. "We're learning as we go what type of cancers may be more responsive or less responsive. Through this trial we are gaining information on how different tumors may react. Two cases that pop in the top of my mind are ones where the tumors have completely gone away. So for a patient where maybe surgery would have meant removing half of their jaw or reconstructing their lip, now they didn't

have to have any surgery and the tumor was removed via this method. That is the real rewarding part of this technology. When we know more information in the future, then maybe we can offer this as a first step or a first line of treatment before we even think about surgery.”

Thus far, some cases have responded better than others. Some of the responses are quite dramatic.

“In some cases we had complete remission,” reported Ranjan. “The tumor was gone after one or two treatments. In other cases, we had control of the disease. In other words, the tumor did not grow beyond what it was when the patient came to us.”

According to Drs. Dugat and Ranjan, owners have been very willing to participate in the clinical trial.

“Owners are happy to try to advance medical care not only to get good results in their own patient but to give us more information so we can help future patients,” said Dugat. “So it’s been very positive even in the cases that haven’t worked. The owners have been very thankful that they have gotten the chance to try and see if there was anything that could be done.”

We are currently offering treatment for dogs and cats and are looking into treatment options in horses.

CONTACT THE HOSPITAL

If you have a patient who you think would benefit from this therapy, please reach out to:
Dr. Dugat at danielle.dugat@okstate.edu
Dr. Ranjan at ashish.ranjan@okstate.edu
or you may have your client call the hospital to schedule an appointment with Dr. Dugat at **(405) 744-7000, ext. 1.**

CASE PRESENTATION

Oreo: 9 year old Shetland Sheepdog, Castrated Male

History: Presented for a mass on the lower right lip margin at the level of the canine/premolars. The mass was previously removed a couple of months prior and biopsy revealed plasmacytoma. Mass returned (Fig.1) and the owner sought surgical options.

Mass Appearance: Red, hairless. On lip margin and into labial mucosa. Located from lower canine to 2nd premolar. Extends to gum margin. Length = 25mm. Width = 20mm.

Treatment: Performed two focused ultrasound treatments for 3-5 min each non-invasively. Recheck evaluation in 3 weeks suggested clearance of cancer with no ulcers present.

Fig. 1. Clearance of oral plasmacytoma with focused ultrasound within 3 weeks without complications.



DAY 1

Lip margins showing cancerous growth



DAY 21

Efficient regression of tumor with no ulceration

