



The inside track on the University of Florida's Mobile Equine Diagnostic Service



Message from Porter...

As MEDS continues to develop and finds its niche within the equine community, it is evident that there is a big demand for advanced musculoskeletal imaging. Over 50% of the cases seen by MEDS involve lameness evaluations along with high-definition imaging. The following case reports give some example of the work MEDS is doing.

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Proximal Suspensory Desmitis (PSD) of the Forelimb

Student Case Study #1

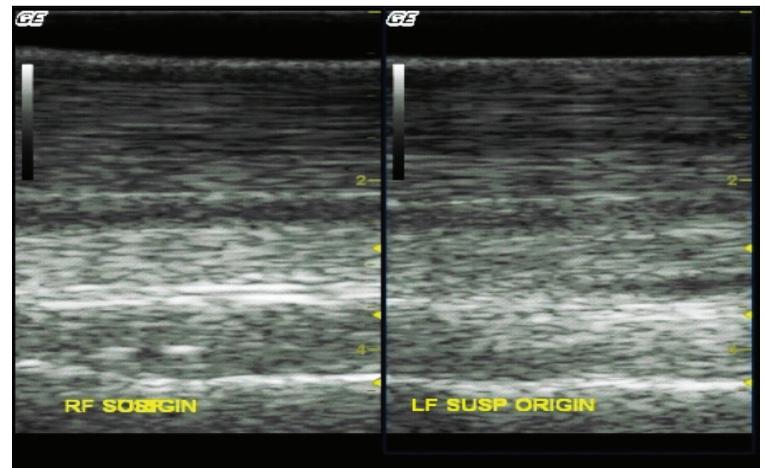
By: Heather Caplan, Class of 2006

A 9 year old Arab gelding used as an endurance horse was evaluated for lameness. He has been intermittently lame in the front end for the last year. Usually, the lameness begins after he has been at work for a long period 20+ miles. On palpation the gelding was reactive to palpation of the right front forelimb in the area of the proximal suspensory ligament (SL) and a thickening was appreciated of the distal aspect of the lateral splint bone. Initial examination included radiographs and ultrasound of the McIII region.

Radiographs showed periosteal proliferation at proximal aspect of lateral splint bone. In addition, there were several small (1-3cm) round mineralized structures in the region of the origin of the SL. Ultrasound exam of the proximal suspensory noted multiple areas of apparent

mineralized ligament and an enlarged cross-sectional area when compared to the opposite limb. The gelding was diagnosed with chronic proximal suspensory desmitis associated with the periostitis of the lateral splint bone.

Proximal suspensory desmitis (PSD) is a common injury in the forelimbs of athletic horses and may occur unilaterally or bilaterally. PSD may result lameness that varies from mild to moderate and is rarely severe unless the lesion is extensive.



LONGITUDINAL VIEW OF THE RF AND LF PROXIMAL SUSPENSORY LIGAMENT. NOTE THE HYPERCHOIC AREAS CONSISTENT WITH MINERALIZATION AND/OR SPLINT BONE IMPINGEMENT.

Ultrasound Work-Up and Treatment

The MEDS Unit can provide the following for the evaluation and treatment of lame horses with potential ligament and tendon injuries:

*Extensive lameness exams focused on lesion identification

*High definition digital ultrasound

*Digital Radiography

*Extracorporeal shockwave treatment

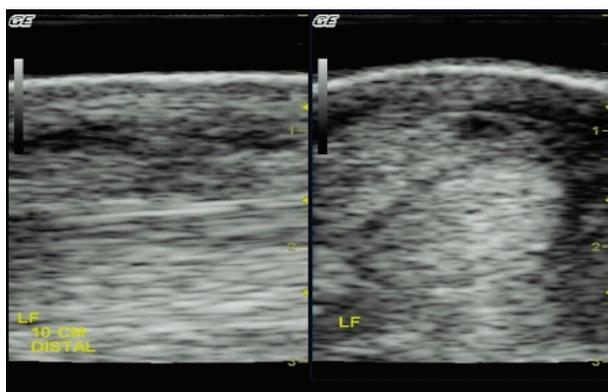


Extracorporeal Shock Wave Therapy and Equine Orthopedic Disease

Student Case Study #2

By: Rena Borucki, Class of 2006

Shock waves are high amplitude, high energy, short build-up acoustic waves which have been the treatment of choice for nephrolithiasis in humans for over 20 years. Recently, it has become a common therapeutic option for the treatment of orthopedic conditions in equines, including metacarpal stress fractures, navicular syndrome, osteoarthritis, tendonitis, and desmitis. Historically, these conditions require prolonged periods of stall rest with few other treatment options available. Tendon and ligament injuries are slow to heal due to their poor blood supply and slow cellular repair mechanisms. Today, there are new therapies (extracorporeal shock wave therapy (ESWT) and stem cell injections) available that may significantly increase the rate of healing and provide analgesia to the injured area.

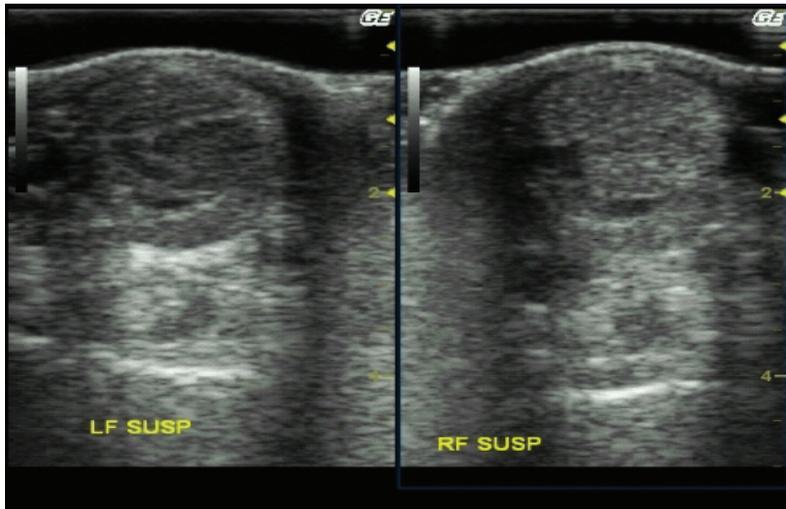


LONGITUDINAL AND CROSS-SECTIONAL VIEW OF THE SUPERFICIAL DIGITAL FLEXOR (SLIGHTLY OBLIQUE VIEW). NOTE THE DISTINCT "CORE LESION" THAT WAS APPROXIMATELY 20% OF THE CROSS-SECTIONAL AREA

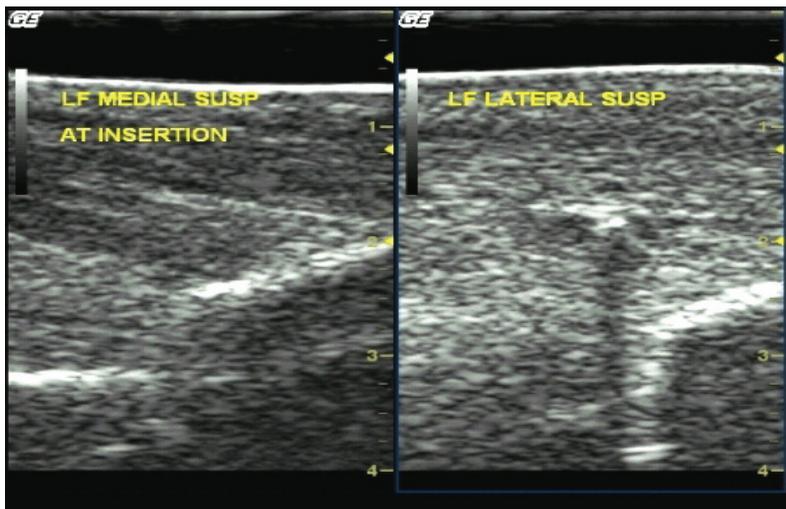
Shock waves travel through tissue and are deflected at sites of acoustic impedance, similar to the process which allows ultrasound to produce an image. When the wave is reflected and refracted, it forces the tissue interface to be altered in order to absorb the kinetic energy. The primary benefits of ESWT appear to be an increased rate of healing and transitory anesthesia at the site,

but the physiology behind these results remains to be elucidated. Present hypotheses include acceleration of neovascularization, secretion of local growth factors, increased cellular division and tissue regeneration at border zones. Osteogenesis may be due to the production of transforming growth factor B1 (TGF-B1) and osteoclastin which alter osteoblast activity, neovascularization, and NO synthase activity.

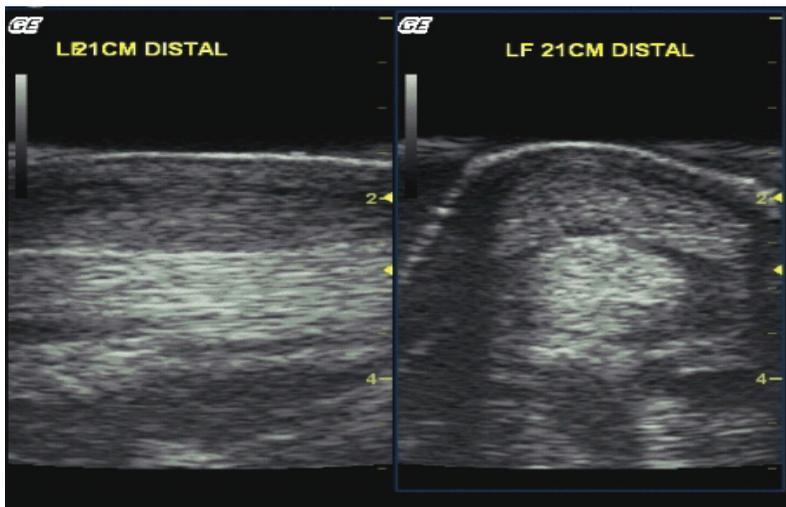
Each probe (R05, R20, R45, and R80 VersaTron®) generates a wave capable of penetrating to a given depth, allowing the shock wave to be focused on injuries at various tissue depths. The energy level of the wave and the number of pulses can also be set to maximize the therapeutic efficacy while minimizing the risk of injury. Depending on the injury, it is typically recommended to provide 3 treatments at 2-3 week intervals. In order to assess clinical improvement, an ultrasound exam with digital image capture is performed prior to the first treatment and several weeks after the last shock wave treatment.



CROSS-SECTIONAL VIEWS OF THE RF AND LF PROXIMAL SUSPENSORY LIGAMENTS. EVIDENCE OF BILATERAL, CHRONIC SUSPENSORY DESMITIS (CORE LESIONS).



LONGITUDINAL VIEW OF THE MEDIAL AND LATERAL BRANCH OF THE SUSPENSORY LIGAMENT AT THE INSERTION SITE. EVIDENCE OF DESMITIS AND ENTHESOPHYTE FORMATION WITHIN THE LATERAL SUSPENSORY BRANCH.

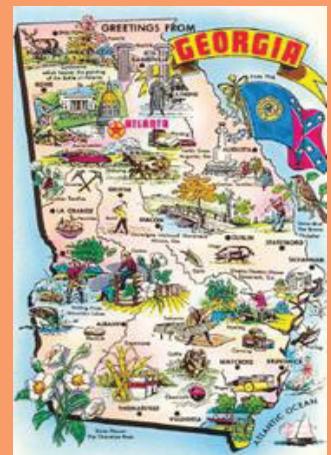


LONGITUDINAL AND CROSS-SECTIONAL VIEW OF THE FLEXOR TENDONS. EMPHASIS ON THE DIFFUSE DESMITIS OF THE SUPERFICIAL DIGITAL FLEXOR TENDON.

A Special Thanks to Southern Georgia Referring Veterinarians

Although we may have differences during the Gator Football Season, the veterinarians in Southern-Georgia have been very supportive of the MEDS program. In particular, Dr. Mary Rogers has provided a steady case load that requires visits into the state of Georgia every 4-6 weeks. Most of these communities are half-way between Gainesville and Athens making the MEDS unit a reasonable solution. Finally, we are proud to announce that one of our very own, Dr. Kelly Taylor (Class of 2006) will be joining Drs. Hodges and Malphus in Thomasville, Georgia. I am sure that she will make the Gator Nation proud!

Dr. Mary Rogers
 Dr. Dale Hodges
 Dr. Becky Malphus
 Dr. Alex M. Greenberg
 Dr. Steve Fisch
 Dr. Todd Cooley
 Dr. Guy Cheek





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UFVMC

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Friends of MEDS

In 2004, the University of Florida's College of Veterinary Medicine unveiled plans to create a unique medical diagnostic and treatment system that could be put to use by any equine or food animal veterinarian in Florida. This system would mobilize the cutting-edge technology and the extensive medical expertise found at UF's Veterinary Medical Center and put it within the reach of veterinarians in the field. The new service would give veterinarians new resources, new tools, and new allies in their mission to improve animal healthcare.

Today, the Mobile Equine Diagnostic Service (MEDS) is a reality, and it is creating new treatment options for animal patients everywhere. MEDS works for your veterinarian, using digital and satellite technology to put the resources of the University of Florida and the experience of the Veterinary Medical Center faculty at his or her command. Thanks to the state-of-the-art MEDS truck, digital radiography, ultrasound, endoscopy, specialist consultations and more can now be utilized anywhere from urban veterinary hospitals to the most remote pastures of Florida.

Dr. Porter and MEDS are dedicated to keeping this service available and affordable for those who need it. The ingenuity and cooperation of veterinarians like yours has made MEDS possible, but it needs your support to succeed and expand. MEDS, the MEDS truck, and the veterinarians, specialists, students, and nurses who make it work, are all supported entirely by the care they provide and by donations from friends, animal lovers, and people who want to help make veterinary medicine better. We like to call these people "Friends of MEDS."

For more info regarding how to make a charitable donation to the Friends of MEDS Fund please contact: Dr. Michael B. Porter @ 352-392-4700 ext 4036 or Karen Hickok, Development Office, College of Veterinary Medicine, 352-392-4700 ext 5213

Go Gators!