VETERINARY 2011 No.1

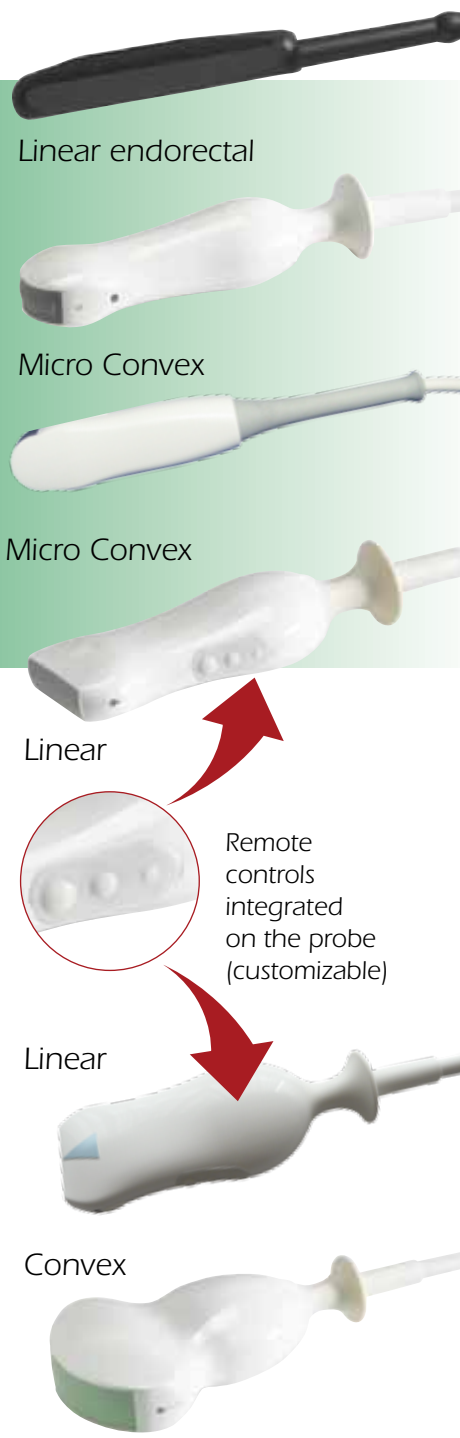
e news

THE ESAOTE MAGAZINE

Meet the **Worldwide Leader** in Veterinary Imaging

MyLabOne™ VET

In touch with **Veterinary**



- > **Quick and precise** animal care
- > **Ease** of Use
- > **Dedicated Simplified** Interface
- > Full **touch screen** control

Esaote has always been recognized as a leader in veterinary ultrasound imaging. To maintain this leadership, appreciated by users, all the systems are developed together with experienced veterinarians.

The MyLabOneVET is an innovative system which can be easily operated through the 12' high resolution full touch screen control. The dedicated veterinary user interface offers quick and precise imaging, diagnosing and printing. Esaote is constantly looking to improve their systems with new technologies and features, resulting in reaching the highest level of clinical results in all the applications and modalities.

> Focus Touch technology

With the implementation of Focus Touch it is possible to optimize the image in the region of interest just by indicating the relevant area with a single touch on the image. This way the system is much easier, faster and more intuitive for the veterinary user.

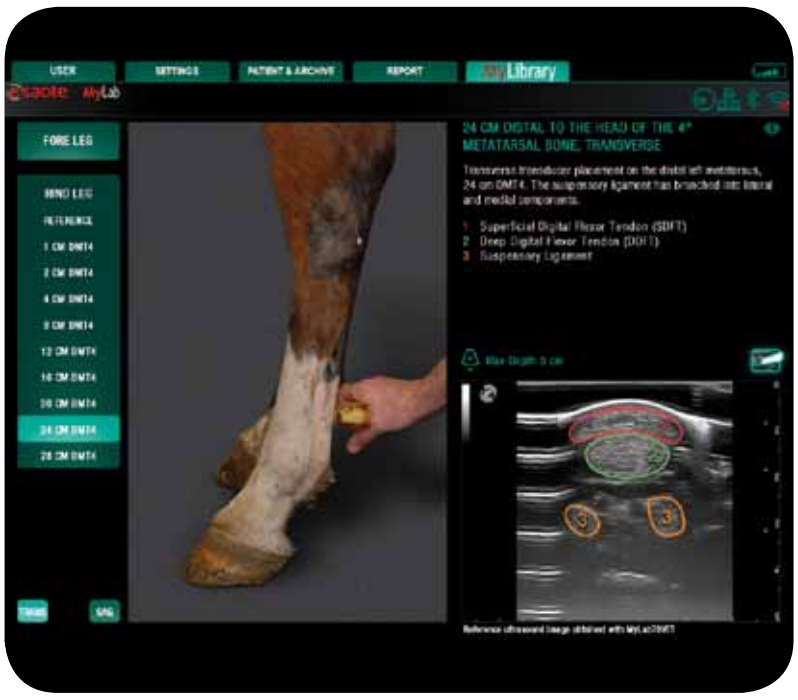
> Implementation of MView on the MyLabOneVET

MView

M-View is the powerful technique that enables the veterinarian to look at the same tomographic view of the animals' body from multiple directions. Different pulses from different angles, correlated to form one final image give dramatically enhanced contrast and more detailed resolution, which leads in particular to better tendon imaging.

MyLibrary

Equin tendon

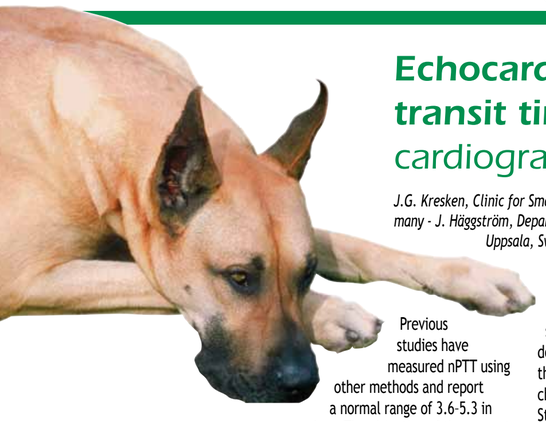


It compromises:

- How to do reference pictures
- Complete overview of the equine tendons in fore and hind leg
- Both Transversal and Sagittal Probe positions are shown.

MyLibrary for Equine Tendon has been developed in cooperation with Dr John Mattoon and Dr. Gregory Roberts, Department of Veterinary Clinical Sciences, Washington State University, Pullman, United States of America.

MyLibrary is an educational tool integrated in the MylabOneVET aimed to provide information about scanning fore and hind legs of horses for the optimal visualization of equine tendons. The environment can be displayed any time on the system by touching the MyLibrary tab on top of the screen.



Echocardiographical estimation of pulmonary transit time (PTT, nPTT) in dogs using the echocardiographic contrast media SonoVue®

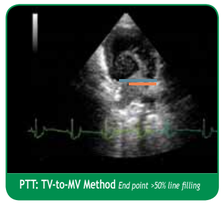
J.G. Kresken, Clinic for Small Animals Kaiserberg, Duisburg, Germany - R.T. Wendt, Referral centre for Cardiology and Ophthalmology Wetzlar, Germany - J. Häggström, Department of Small Animal Medicine and Surgery, Faculty of Veterinary Medicine, Swedish University of Agricultural Science, Uppsala, Sweden

Pulmonary transit time (PTT) is an index of cardiac performance and is the time required for a unit of blood to pass through the lung circulation. PTT is usually normalized for heart rate (nPTT) according to the formula nPTT= PTT/mRR, where mRR is the mean RR interval duration. The nPTT is equal to the number of stroke volumes that the pulmonary vascular bed holds at any given moment and it is a measurement which is unaffected by heart rate and body size, but changes with reduced cardiac pump function.

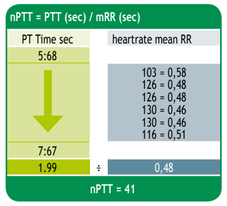
Previous studies have measured nPTT using other methods and report a normal range of 3.6-5.3 in dogs. The objective of the present study was to measure the PTT and nPTT using the echocardiographic contrast media SonoVue® in normal dogs and to assess if reference points for measurement influence PTT and nPTT.

Material and Methods

A 0.03-0.015 ml/kg bolus dose of SonoVue® followed by 5 ml saline was administered into the cephalic vein in 35 normal dogs of different breeds and sizes (range 3-50 kg). Two methods were used to measure PTT echocardiographically under ECG monitoring: in 21 dogs, time from the pulmonary artery to left atrium in the right parasternal short axis view (PA-LA), in 14 dogs, time from the tricuspid to the mitral valve in the left apical 4 chamber view (TV-MV).
Statistical methods include Kruskal-Wallis test and linear regression analysis.
Values are reported as median and interquartile range IQR. Level of significance was set at P<0.05.



PTT: TV-to-MV Method *End point >50% line filling*

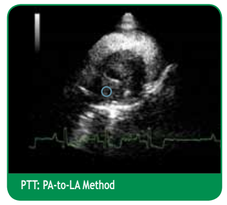


Results

PA-LA method (n=21): Heart rate was 114 (111-124) BPM, PTT was 2.3 (2.2-2.6) sec, and nPTT was 4.3 (4.1-4.5). TV-MV method: (n=14 dogs) Heart rate was 103 (100-108) BPM, PTT was: 3.0 (2.7-3.3) sec and nPTT was 5.2 (5.0-5.4). The PTT and nPTT was significantly higher in the TV-MV group (P<0.001).
No effect of age, gender, body weight or heart rate on nPTT could be identified. No adverse side reaction to the contrast media was observed.

Conclusions

Values of nPPT in normal dogs in this study are similar to those previously reported, which indicates that nPPT may be estimated under clinical conditions using SonoVue® and echocardiography. Reference points for measurement influence the estimates of PTT and nPTT.



PTT: PA-to-LA Method

In The Spotlight

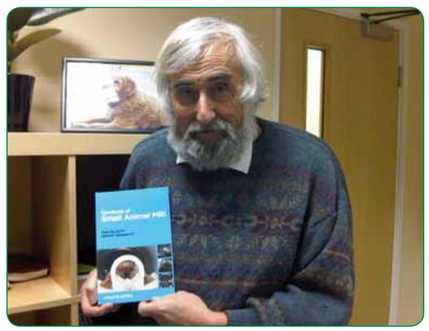
The Cães e Gatos 24Hs Veterinary Hospital

This time, the spotlight of the Esaote Veterinary Community is on the Cães e Gatos 24Hs Veterinary Hospital at Rua Narciso Sturlini, 186 - Osasco - at the heart of the metropolitan São Paulo City in Brazil.
The Cães e Gatos 24Hs Veterinary Hospital opened its facilities 30 years ago in 1980 and now employs 110 staff, consisting of 30 veterinary specialist and surgeons. The clinic owns an Esaote Vet MR Grande and 2 MyLab70 XV VET, which are used in the Clinical Images, Internal Medicine and Cardiology field. With these systems serve the Brazilian community as well as visitors who come from overseas.
On top of this, DVM. Francisco Hato, owner and Veterinary Surgeon, envisions the growth of Veterinary practice with dedicated Veterinary tools and opened cooperation with teaching centers like Universidade de São Paulo, UNESP - Universidade Estadual Paulista, Universidade Santo Amaro, Universidade de Guarulhos and Zoo for special procedures and patient's support.
He strongly believes that people's health is supported by strong veterinary practice for the owners' companion animals, due to human-animal increasing relationship. For that purpose he continues improving in technical support and knowledge update like the above equipments bought from Esaote Healthcare do Brasil, through Cimex, Esaote's dealer in Brazil.
Recently on October 28th 2010, was performed the First Lion Male examination in Latin America's Region where a MRI exam was done, the patient's name is Ariel and this procedure was driven by Dr. Robson Giglio DVM, MSc, PhD, graduated from Universidade Paulista in 2001 and has been practicing companion and exotics animal medicine since then. Over the years of his veterinary practice both in Brazil and USA, he has developed special interest in small animal and exotic pets. Although Dr. Giglio also does abdominal ultrasound scanning and X-Ray examinations, however his focus is on MRI. Esaote is proud to have a professional clinic like the Cães e Gatos 24Hs Veterinary Hospital among its customers and as a happy member of the Esaote Veterinary Community.

website: http://www.caesegatos24h.com.br
email: contato@caesegatos24h.com.br

Books

Handbook of Small Animal MRI by Ian Elliott and Geoff Skerritt



The Handbook of Small Animal MRI will help veterinary surgeons make the most of one of the greatest advancements in veterinary practice in recent years -magnetic resonance imaging. Anyone fortunate enough to have access to MRI will benefit from this book. It provides a clear and comprehensive account of how this important diagnostic tool works. In addition this easy reference handbook offers guidance on the interpretation of images of common clinical conditions. This book has been written by two of the pioneers in the field of veterinary MRI with a combined experience of over 20,000 MRI studies of veterinary patients.

Frodo the Ferret

Case study by Dr. Martin Deutschland, DVet Med MRCVS - ChesterGates Referral Hospital, Chester, UK

The last two years of my Neurology Residency have been very interesting but I have found moments when I miss my non-canine and non-feline patients and I cheerfully clip parrot's nails and perform rabbit dentals. Therefore I was over the moon when I received this ferret referral.

However, my heart sank when I examined Frodo for the first time as he was completely tetraplegic and had difficulty even lifting up his head! He looked very depressed and so did his lovely owners. He had started to show hindlimb ataxia seven days before presentation and since then had turned from a very active, litter tray-trained (!) and harness-loving ferret into a non-ambulatory patient with low muscle tone and a lack of a hindlimb withdrawal reflex. At the time of presentation he was just eight months old, completely vaccinated and lived on his own with his owners.

MRI scans of Frodo's brain and cervicothoracic spine revealed an increased hyperintense region of the cerebellum and the spinal cord on a dorsal FLAIR (fast fluid-attenuated inversion-recovery) images.

The superficial cervical lymph nodes and the bone marrow of the humerus and radius also showed high signalling. So far an infectious or inflammatory disease could not be completely ruled, out although protein electrophoresis did point towards Aleutian disease and Toxoplasma and Neospora titres proved no exposure. Distemper titre reflected previous vaccination. The devastating confirmation came through cerebrospinal fluid analysis: monomorphic atypical lymphoid population within the liquor, most likely caused by lymphoma.

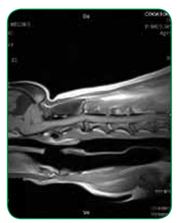
Frodo is most likely suffering from the 'juvenile' form of lymphoma, which usually affects ferrets younger than 2-3 years of age. It is also known as the 'lymphoblastic' form. In this case, many visceral organs are infiltrated by lymphocytes with resulting enlargement of these organs; however this could not be found in Frodo despite repeated radiographs and abdominal ultrasound examinations. His palpable lymph nodes remained normal in size.

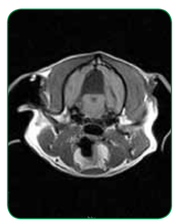
Therefore he must be affected by a very rare CNS form of lymphoma. This second form of lymphoma is often described in the literature as the 'lymphocytic' form, or It is usually seen in ferrets older than 3 years of age. In this form of the disease the most common presentation is a 'healthy' animal with significantly enlarged peripheral lymph nodes. Over time lymphocytes will eventually infiltrate every organ and the cause of death in the advanced state is usually organ failure. While the distinction between the two forms of the disease can be very useful, it is possible for this disease to present in many different ways (Mayer, Joerg (2006). "Update on ferret lymphoma". Proceedings of the North American Veterinary Conference. Vol. 20. 7-11 January 2006, Orlando, Florida, USA).

However, I wasn't prepared to give up on Frodo and nor were his owners! We commenced therapy with prednisolone at 2mg/kg once daily and gave him his first intravenous injection of vincristine (0.10mg/1.5kg) and his cyclophosphamide 50mg tablet (a very high dose but it is not recommended to split the tablets) three days later. Frodo recovered very well within days and regained his full mobility within 7 days. At a check up 14 days later the placing response of the left hindlimb was delayed but he did not show any other spinal nerve deficits.

We will continue the chemotherapy for some time and Frodo's owners are aware that the long-term prognosis is still very guarded. Nevertheless he is enjoying every day playing with his toy rabbit and doesn't care about statistics!

Images created with Vet-MR Grande





Meet the Worldwide Leader in Veterinary Imaging

ChesterGates Referral Hospital

ChesterGates Referral Hospital is the culmination of our dream to establish a state of the art referral and diagnostic imaging centre. Geoff lectured neuro-anatomy in the veterinary Faculty at Liverpool for over 20 years before going into private practice. Firm in the belief that access to MR imaging was vital to neurology, we were instrumental in establishing the first veterinary dedicated mobile MR service in the world in 1997.

With the need for MR imaging to enhance neurology ever growing, we decided to move away from the mobiles and establish a fixed MR centre at ChesterGates. The first MR scanner was in 2004 and in 2007 we took delivery of the first Esaote Vet MR Grande scanner in the UK. This is allows us the offer a 24/7 MR and neurology referral service.

As part of our commitment to offering veterinary care of the highest possible standard we have expanded to become a multidiscipline referral centre to include internal medicine, cardiology, orthopaedic surgery, spinal surgery, soft tissue surgery ,diagnostic imaging and reporting and rehabilitation. The hospital is staffed throughout the day and night and emergencies are accepted out of hours.

However, it is thanks to the care and dedication of the truly superb team at ChesterGates that we are able to offer the level of care possible to our patients.

Geoff Skerritt, BVSc DECVN FRCVS, RCVS & European Specialist in Veterinary Neurology - Judith Skerritt,BSc MSc PhD

List of Publications from ChesterGates

1. Luca Motta, Ivan Doran. **Self Assessment: Haemorrhagic diarrhoea.** Uk Vet, 14 (7); 2009
2. Luca Motta, **Discospondylitis: an updated review.** Veterinary Times, 34 (Aug); 2009
3. Ulrike Michal, Luca Motta, Jenny Woolley, Geoff Skerritt. **CLINICAL SIGNS IN ASSOCIATION WITH RATHKE'S POUCH CYST IN 11 DOGS.** Abstract. Journal of Veterinary Internal Medicine, Feb 2010
4. Michal Altay U, Cottriall S, Skerritt GC. **Physiotherapy rehabilitation for acute spinal injury in dogs and cats.** Consulta 2011, article in press
5. Michal Altay U, Skerritt GC, Hilbe M, Ehrensperger F, Steffen F. Feline **Cerebrovascular disease: clinical and histopathologic findings in 16 cats.** DOI 10.5326/JAAHA-MS-5480

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Vet-MR | Vet-MR Grande

Upcoming events

Advanced Veterinary Diagnostic Imaging - Practical and interactive MRI workshop
Cremona, Italy - April 14-16, 2011

EVC Voorjaarsdagen Conference
Amsterdam, The Netherlands - April 27-29, 2011

The EAVDI Annual Conference
London, United Kingdom - August 30 -September 3, 2011

ECVIM – The Congress of the European College of Veterinary Internal Medicine
Sevilla, Spain - September, 8-11, 2011

SEVC – Southern European Veterinary Congress
Barcelona, Spain - October 29-31, 2011

WSAVA – World Small Animal Veterinary Association Congress
Jeju, Korea - October 14-17, 2011

6th Edition of MRI in Veterinary Medicine 2011, USA
Further details to follow

Committed to **Education**

Congress Workshops

Meet the Expert Sessions

On board libraries

Local Seminars

Pictures taken at several workshops supported with Esaote equipment as a contribution to the correct use of ultrasound in the veterinary application.

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