Premium performance and innovation

In today’s veterinary clinic efficiency and productivity are of great importance. The change of clinical needs requires medical equipment to deliver high performance, ease of use and innovative solutions.

The MyLabClassCVET is a high-level ultrasound system which is based on these key concepts to deliver a reliable diagnosis and to ensure daily productivity. With just one glance you will understand that simplicity has never been seen before on such a high level ultrasound scanner. This compact system is easy to move and has a height-adjustable keyboard as well as a multi-plane articulated monitor arm for optimal positioning at all times. The large high quality touch screen is well positioned near the most important working area of the control panel.

The unique MyLabTwiceVET is based on the same idea, but offers Premium Performance together with Point-of-Care-Ultrasound, meaning that besides the office-based system the MyLabSat-VET unit can be used where it is needed, from clinic to barn and the field. The possibility to seamlessly integrate the results from both systems will provide an improved workflow leading to fast and accurate diagnoses.

Esaote advanced technologies
Create diagnostic confidence by optimizing your image with a range of Esaote technologies

START
Clinical image of a dog kidney. The following chosen settings are case specific.

Dynamic Range: In case of the increase of the dynamic range, the operator gets a softer image that helps to better differentiate between different tissue structures. When using high dynamic range the user needs to increase the gain to improve the image. If the operator uses a high dynamic range and maximum gain setting it could decrease the penetration capacity. To get a deeper penetration, it could be helpful to decrease dynamic range as well as the frequency.

XView elaborates the pattern of every single frame at the pixel level, eliminating speckle and noise artifacts, dynamically enhancing tissue margins, improving tissue conspicuity and increasing diagnostic confidence through real-time adaptive algorithm.

MView is Esaote’s revolutionary technology which improves quality of ultrasound images by reducing the presence of artefacts, shadowing and speckle. MView enables the user to define shapes and structures more clearly also in applications such as equine tendon and MSK companion animals.

F Frequency 8.0 MHz
D Depth 7 cm
PRC Dynamic Range - Sharpness - Density
PST Post-Processing - Grey Map
G Gain MAX
XV XView Custom
PRS Persistence 2
MV MView 1
Measurement of Pulmonary Transit Time in Cats using Echocardiography and the blood pool contrast media SonoVue®. – A new tool in feline cardiology?

Why it is so interesting and how far we are now?

Pulmonary Transit Time (PTT) is the time a sample of blood needs to pass the pulmonary circuit and is dependent on cardiac output and pulmonary blood volume. It is usually normalized by the mean R-R interval (nPPT). Thus, nPPT represents the number of stroke volumes necessary to drive one erythrocyte from the pulmonary valve to the left atrium. 

Based on first pass radionucleide angiography it has been found out that nPPT is independent on body size and loading conditions. In dogs, significantly different nPTT values were calculated in patients suffering from DMVD with and without heart failure. 

It has recently been shown that PTT and nPTT can be measured using ultrasound and the blood pool contrast media SonoVue® with low interobserver variability and high repeatability. Congestive heart failure (CHF) is a common sequela of feline cardiomyopathy and usually causes severe clinical signs of acute onset. Moreover, a clear differentiation between CHF and respiratory disease can sometimes be difficult. For this reason, an accurate hemodynamic assessment and risk analysis would be desirable for patients suffering from cardiomyopathy.

Systolic and diastolic function is evaluated mainly on the basis of 2D measurements and indirect (Doppler) estimation of flows and pressures. A functional parameter like PTT/nPTT, the pulmonary transit time, could possibly be evaluated. Still, this needs to be further investigated.

The aim of our work is to find out if nPPT measurements could be a tool for assessing the risk of congestive heart failure in cats. Furthermore, the effect of different medications on cardiac performance and pulmonary blood volume could possibly be evaluated. Still, this needs to be further investigated.

The study population consisted of 40 healthy cats. Contrast studies were done with the MyLab70VetXV with the cat positioned in right lateral recumbency. A right parasternal short axis view was displayed using a 7.5-10 MHz phased array probe with the ECG recorded simultaneously. Time was recorded (two decimals of seconds) while a bolus of 0.05-0.07 ml/kg of SonoVue® was injected into the cephalic vein through a venous catheter. PTT measurements were then performed offline and independently by three different observers. The frame where the contrast media was first seen to pass the pulmonic valve was defined as the beginning time point of PTT. The end point was specified as the frame when the contrast media were first noticed within the left atrium.

The method and the results were presented at the 21st ECVVM-CA Congress in Sevilla (8th-10th Sept. 2011). A written publication is currently in submission.

The median inter observer variation was 7.7%, the within-day variability was 13.2%, 12.9% and 12.9% for the low, medium and high experienced observer, respectively.

Normal values for nPTT were 4.1 +/- 1.02 (mean +/- SD). We did not notice any adverse reactions attributable to the injection of SonoVue®.

Further studies are underway to estimate the effect of left atrial size and pulmonary congestion on nPTT values in cats. What we can already say is that differences in nPTT between healthy cats and cats with left atrial enlargement are huge.

Esaoe has a history in veterinary MRI in Germany which goes back to 2003 when the first two Esaoe Vet MR systems for small animals were installed. Both of these systems, and all others installed since are still in use today. From 2003, a dozen Vet MR's have been installed all over Germany and tens of thousands of images have been made since then and are still being made. Meanwhile, in 2006 the Vet MR Grande was introduced with its significantly larger field of view and gantry opening. Several Vet MR Grandes have been sold and are on average doing 6 to 8 pets per week. As an evolution now the first VET MR will be replaced by new Esaoe Vet MR Grande in the first quarter of 2012.

The newest development is the Esaoe Vet MR Grande Rotating for equine and small animals, a special version of the regular Esaoe Vet MR Grande, with a tilting mechanism to rotate the magnet. This feature makes this system the best system to do MRI of the extremities of horses, including the stifle or knee, part of the spine and the head. Although there is one high field system on the market which can also do stifles, due to the anatomy of many types of horses, in practice this system has a limited application and can only do horses which fit the system. The Vet MR Rotating Grande on the other hand, due to its open architecture is able to scan many more types and sizes of horses. As of this writing, in January 2012, 4 Vet MR Grande Rotating systems are in use in the United States. And now the first system in Europe has been installed, in the Pferdeklinik Aschheim, a busy equine referral clinic in Aschheim, between Franz Josefs Strauss Airport and the center of Munich, in Southern Germany. Pferdeklinik Aschheim is owned and managed by Dr. Med. Vet. Hubertus Luzt, and Dr. Med. Vet. Anja Schuette (member of AAE), both equine surgeons, and a team of highly skilled veterinary doctors and assistants take care of the horses during the MRI procedure, which includes full anesthesia and the related extensive monitoring of the wellbeing of the horse to reduce any risk associated with anesthesia to the absolute minimum. With current fee levels, a system of this kind can be economically operated with 2-3 scans per week and usually leads to a much more complete and accurate diagnosis and subsequent-ly better choices of treatment as opposed to CT or with other, more limited MRI systems.

The opening of the new facility at Aschheim took place on the 12th October 2011, after an intensive training given by Dr. Alexia McKnight, veterinary radiologist and owner of McKnight Insight LLC from Philadelphia, U.S.A., and by staff from Esaoe. The Open House which was organized for the occasion, in typical Bavarian style, was attended by more than 60 veterinarians from the region. They were treated to lectures on Equine MRI, with explanation on the technology, the different fields of interest of MRI in comparison with CT and the importance of seeing the whole picture and not just the lower limb. Many high quality clinical images were shown and explained to make clear why referral of specific cases to Aschheim and the Esaoe Vet MR Grande Rotating is a wise thing to do.

Esaoe veterinary MRI, a unique approach
Esaoe is the only company with a consistent dedicated line of MRI products for the veterinarian that comprises the Vet-MR and the Vet-MR Grande. Next to these standard products, we can deliver on a project base 2 special build products the Ellegro and the Vet-MR Grande Rotating both tuned to the equine market. What makes us different from the rest?

Experience
Simply, we can guide the whole project from site design to the delivery of collateral materials to training and education as Esaoe has over 10 years’ experience in veterinary MRI, equine as well as small animals.

Dedicated to Vet
When we say dedicated we mean dedicated: MRI with a dedicated veterinary user interface; preprogrammed special veterinary scan protocols for pets as well as equine; dedicated vet application support; vet education; dedicated vet-mri brochures; veterinary project knowledge (such as anesthesia, RF cage and horse table); special vet patient table; etc.

Vet economics
Esaoe makes affordable MRI systems with a breakeven of 2-3 patient per week for the Vet-MR and about 6-7 patients per week for the Vet-MR Grande. This includes the complete project, service, application training and a 5 year finance.

Low risk & low cost start with a clear growth path for the future
Start with a low-cost and low-risk Vet-MR and upgrade to the Vet-MR Grande when the case load is growing. Only Esaoe can offer a growth path as the Vet-Grande can be installed in the same space and RF cage as Vet-MR, so without any additional siting cost. Only Esaoe can let your MRI grow when your clinic grows.

Esaoe, your veterinary MRI company.
Meet the Worldwide Leader in Veterinary Ultrasound and MRI

Annually dozens of veterinary courses are organised locally. Please contact us for more information.

The 6th Edition of MRI in Veterinary Medicine
9-10 September 2011
Miami, USA

This year’s edition was successful with participants from all over the world. Most of the veterinarians were from the Canada & USA, others were from Latin America, Korea and Europe.

The goal of these annual meetings was to provide a forum for those who work with MRI and are interested in enhancing their knowledge of this modality.

By hosting the meeting in Miami it gave the veterinarians from North America and the Esaote Team an opportunity to build their relationship.

The two-day scientific programme provided participants with an opportunity to learn about new developments, obtain expert insights into techniques, exchange ideas and forge new friendships.

Equine ultrasound workshop - advanced orthopaedics
22-23 September 2011
Tirol, Austria

In September 2011 an equine workshop was organised by our Austrian dealer Haslauer Medizintechnik at the veterinary clinic Gnadenwald in Tirol.

Our dealer invited ten MyLab30 VET users to attend to this workshop. The course which focused on advanced orthopaedics (from tendons till knee) was given by Dr. Philippe Benoit, one of the top international horse show veterinarians in the world connected to the equine clinic Les Brevaires in France.

The first day covered the theoretic part, supported by Power Point presentations, whereas the second day consisted of hands-on activities at the clinic.