Healthcare transformation, we'll take you...

# THERE FOR VETS

Volume 1, Issue 1



**INTERVIEWS INSIDE WITH:**

**Marc De Fré,** Global Marketing Manager for Digital Radiography, Agfa HealthCare
**Simon Kirk-Johansen,** Project Manager, Jørgen KRUUSE A/S

AGFA HealthCare

# On track for better care

Is anything as graceful as a race horse? These animals, with their long and celebrated pedigrees, are known for their agility, speed and spirit. The same characteristics we have focused on in our solutions for veterinary medicine and animal care.

Agility: our direct radiography (DR) and computed radiography (CR) solutions can be used in any type of animal care practice, allowing vets to work with more flexibility and collaboratively. Speed: not only are these solutions faster than analog, but they are more efficient, requiring fewer retakes. Spirit: they provide high-quality and consistent images, quickly and easily, with minimal intervention.

In this first edition of *THERE FOR VETS*, we explore with you our own pedigree in animal healthcare, through seven real-life cases that demonstrate how our solutions are being used by vet practices and other animal care organizations. Across country borders, in small clinics and large, from private practices to university animal hospitals – you'll hear the same thing: veterinary care is evolving. More money is being spent in animal treatment, and increasingly, veterinarians are following the same trend towards medical specialization as doctors in human healthcare.

Technology is an important part of this evolution, as well. Interviews with Simon Kirk-Johansen from Scandinavian veterinary product distributor Jørgen KRUUSE, as well as with our own Marc De Fré, Global Marketing Manager for Digital Radiography,


highlight the role Agfa HealthCare's digital systems are playing – and will play in the future – in the new world of veterinary care.

The stories in this issue illustrate this evolution. Perhaps, as you read them, you will find echoes of your own story, the challenges you face as you run your own 'race' – and a glimpse of what the future of animal healthcare has in store.

HAPPY READING

***GEERTRUI DE SMET***
*Global Public Relations Manager*
*Editor-in-Chief THERE FOR VETS,*
*Agfa HealthCare*

# Content




The Agfa HealthCare editorial team would like to thank its customers, staff members and interview partners for their contribution to this publication.

# Healthcare transformation in veterinary care – making the leap from analog to digital

*THERE FOR VETS* spent some time with Marc De Fré, Global Marketing Manager for Digital Radiography at Agfa HealthCare. In this interview Marc De Fré talks about the drivers for the evolution from analog to digital in veterinary care, and Agfa HealthCare's response to this care industry's specific needs.

**INTERVIEW** Marc De Fré, Global Marketing Manager for Digital Radiography, Agfa HealthCare

**What trends have you observed in veterinary care over the past years?**

In developed countries, owners want their animals to be treated in the best possible way, making animal healthcare increasingly important. In a pharmaceutical context, almost 10% of all medicines dispensed today are used for treating animals. In the US, about 2.8 million dogs are diagnosed with cancer each year, 266,000 of which receive cancer treatment. This can include radiation therapy and/or chemotherapy, costing between 3,000 and 30,000 US$ per animal. There are now 100 cancer centers dedicated to animals.

X-rays and other types of radiological exams, such as ultrasound, are very important examination tools. More and more, medical imaging plays an essential role in veterinary care.

Traditionally, veterinarians have used conventional film. But as prices for digital systems have dropped dramatically in recent years, many veterinary services can now afford to convert their existing film equipment to digital imaging systems. We expect that this transformation will move very quickly in the coming years.

**What are the benefits of digital medical imaging for veterinary care?**

Veterinarians and animal health clinics can take advantage of many of the same cost, workflow and patient care benefits as hospitals for people.

With computed radiography (CR) and direct radiography (DR), there is no film development. That saves space (no dark room or film storage), and eliminates the use of environmentally unfriendly and hazardous chemicals. Film waste is eliminated, too. By avoiding repeat X-ray exposures – up to four or five per exam with conventional imaging – CR and DR offer cost savings and reduced radiation doses for the animal, its owner and the veterinarian.

> "For any body part or size or type of animal, the image processing ensures high-quality, consistent images, without any intervention by the veterinarian."
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> MARC DE FRÉ, Global Marketing Manager for Digital Radiography, Agfa HealthCare

> "The entire workflow is integrated and automated, and veterinarians can quickly familiarize themselves with working with it."
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Acquiring images is much faster: acquisition time in CR can be as low as 30 to 60 seconds. With DR, image acquisition is just a matter of seconds.

Digital imaging systems are also extremely easy to use. With Agfa HealthCare's CR and DR solutions, veterinarians just select an exam on their workstation. With a click of the mouse, the appropriate parameters are sent to the X-ray generator. Immediately after the exam, the images are sent back to the workstation, which optimizes them for reading. The entire workflow is integrated and automated, and veterinarians can quickly familiarize themselves with working with it.

For veterinary practices, the ease of transporting digital imaging systems in a mobile veterinary van is another important advantage, for making digital images in the field.

And as images can be stored electronically for follow-up and exchanged digitally with colleagues, obtaining a second opinion is very convenient. For example, when treating an exotic animal, one not commonly seen in the practice.

Finally, the practice can provide the animals' owners with a CD containing the images of their pet – a gesture appreciated by these clients.

Marc De Fré currently holds the position of Global Marcom Director at Agfa HealthCare. This interview took place while Marc De Fré still held his previous position as Global Marketing Manager for Digital Radiography at Agfa HealthCare. Marc joined Agfa's graphics division in 1987 as a Project Manager for Image Processing Software and Scanners. In 1998, he became Global Marketing Manager of the Digital Printing Systems business unit. Moving to Agfa HealthCare in 2002, he was named Sales & Marketing Manager Europe for Digital Radiography, before being appointed to the position of Global Marketing Manager for Digital Radiography in 2006.

> "Acquiring images is much faster: acquisition time in CR can be as low as 30 to 60 seconds. With DR, image acquisition is just a matter of seconds."
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> MARC DE FRÉ, Global Marketing Manager for Digital Radiography, Agfa HealthCare

**Both CR and DR solutions are suitable for veterinary care. Why would a facility choose one over the other?**

Compared to conventional imaging, CR and DR solutions both produce high-quality images in seconds. But there are substantial differences between the two systems.

The CR workflow has a similar feel to film-based systems. It uses phosphor imaging plates instead of film to capture the image. These plates are placed in a CR reader which generates a digital image.

Compared to DR, CR systems are a more affordable way to enter the digital world: they are about half the price of DR systems.

The main benefit of DR is the speed of image generation: there is no processing step. As soon as the image is taken, it appears on the computer monitor. In addition, DR tends to be more convenient in mobile applications, as there is no need for a digitizer at hand.

The potential drawback is the higher investment. This isn't just the initial investment: if a detector plate is damaged by a kick from a restless animal, for example, the entire system needs to be replaced. Replacing a CR cassette, on the other hand, is not really an issue.

Right now, specialties such as equine care, where the speed of image acquisition and the mobile applications are so very important, often choose a DR system. In practices or clinics specialized in treating companion animals, CR will be the preferred solution because of the more democratic price.

**Agfa HealthCare has invested highly in image processing techniques. What does this mean to veterinarians?**

Most veterinarians have not received extensive training in medical imaging. Agfa HealthCare's image processing software makes life easy for them by automating the image optimization process. For any body part or size or type of animal, the image processing ensures high-quality, consistent images, without any intervention by the veterinarian. Moreover, the same image can be optimized to detect both bone and soft tissue injuries, which in conventional imaging would require separate images.

**Agfa HealthCare has a long-standing tradition in human care. How is the company adapting its products to the specific needs of veterinarians?**

Today, Agfa HealthCare has around 1,400 digital solutions installed in veterinary care. It is obvious that some of our products must be adapted to the specific needs of veterinary care. For this purpose, we are closely collaborating with veterinarians.

An important example is our image processing software. While humans come in a more or less limited range of sizes, this is not the case for animals. Just as we have adapted our software for pediatrics and neonatal care, we have also adapted it to optimize images for both small and large animals.

Our flat-panel detectors are currently available as fixed as well as mobile solutions. But considering the importance of field work in veterinary care, wireless solutions are currently being developed. Moreover, these detector plates have to be easy to handle. Animals don't always keep still, and especially for larger animals such as horses, a vet should be able to quickly remove the detector when needed. To solve this, Agfa HealthCare is currently working on a smaller, lighter version of the detector plate, which will measure only 12 by 10 inch (instead of the current 17 by 14 inch).

An important application in vet care is intraoral medicine. According to the American Veterinary Dental Society, animals are very susceptible to developing gum diseases. By the age of three years, 80 percent of dogs and 70 of cats have such a disease. Agfa HealthCare is currently developing CR plates of different sizes that fit into the mouth of different types of animals. A horse, with teeth of about 12 centimeters, will of course need a larger image plate than a cat or a dog.

And with Agfa HealthCare, veterinary facilities will enjoy the same benefits as human healthcare enterprises. Agfa HealthCare has a vast and experienced service organization working with customers all around the world. There is always an office close to the clinic or practice. In addition, Agfa HealthCare's products answer the strict standards that are valid in human care. For example, Agfa HealthCare guarantees a lifetime of seven years for its equipment. •

UNIVERSITY VETERINARY CLINIC (CVU), UNIVERSITY OF LIÈGE, FACULTY OF VETERINARY MEDICINE, LIÈGE, BELGIUM

# ULg veterinary faculty shares long history with Agfa HealthCare

## From film, to CR, to PACS – Agfa HealthCare supports Imaging Department's mission to teach, treat and research

**INTERVIEWEE** Professor Frédéric Snaps, Head of the Imaging Department, veterinarian, PhD and Dipl. ECVDI

**In a simple room near the back entrance to the Imaging Department of the University of Liège's (ULg) Faculty of Veterinary Medicine, students crowd around a tired-looking horse and an ultrasound machine. As one runs the scanner over the animal's chest and stomach, the rest look at the resulting images displayed on the monitor mounted high on the wall. "Respiratory problems," explains one. Further down the hall, a nervous cat is positioned under an X-ray machine by a veterinarian and an assistant, as the owner watches nearby.**

The atmosphere is calm but busy – not surprising in an imaging facility that sees over 2500 animals – cats, dogs, horses, bovines and 'new pets' – come through the doors each year. They aren't alone, of course: some 250 veterinary students roam the halls annually, joining the six staff veterinarians to learn about medical imaging for animals.

### UNIVERSITY VETERINARY CLINIC PLAYS MULTIPLE ROLES

"Our veterinary hospital plays three roles," explains Professor Frédéric Snaps, Head of the Imaging Department and a veterinarian with both a PhD and credentials from the European College of Veterinary Diagnostic Imaging (ECVDI). "Our animal clinic provides service to our community. We also provide training for the 1600 students at the veterinary school. Finally, as part of the University, we carry out research. The Imaging Department participates fully in all three of those roles."

All students of veterinary medicine at the ULg must spend time in the Imaging Department, just as they do in other areas such as surgery, dermatology, medicine, etc. Those who then want to specialize in imaging do a longer and more complete residency in the department after graduating.

Professor Snaps explains: "In addition to our three full veterinarians who are imaging specialists (including myself as the Head of the service), we have three assistants, who are doing their residencies in imaging with us."

### SPECIAL CARE FOR LARGE AND SMALL ANIMALS

Professor Snaps joined the Imaging Department at the moment when its growth was just taking off. "The Veterinary Clinic moved to Liège in 1991, which gave us room to grow from an imaging unit with a single specialist, to our current complement."

For example, the department has two separate X-ray rooms, one for small animals, with an X-ray table and workstation, and one for larger animals. This room contains only the ceiling-mounted X-ray. "Horses in particular can be recalcitrant, and we can't risk

> "As a university, we have the opportunity to collaborate with companies in developing technology. Agfa HealthCare spoke with us and worked with us to adapt its CR system for veterinary usage."
>
> PROFESSOR FRÉDÉRIC SNAPS, Head of the Imaging Department, veterinarian, PhD and Dipl. ECVDI

damaging them or the equipment," explains Professor Snaps. In between the two X-ray rooms is the imaging room, containing Agfa HealthCare's computed radiography (CR) digitizer, with MUSICA$^2$ image processing. "We have had the CR system since 2003. Before that, we had an Agfa HealthCare film system. We've been partnering with Agfa HealthCare for a very long time," comments Professor Snaps.

## CR MAKES WORKING WITH ANIMALS AND IMAGES EASIER AND FASTER

"We're a university hospital, so we have a responsibility to keep up with medical evolutions, which meant changing from analog to digital," he continues. "While we did look at different vendors of CR systems, we were very happy with our collaboration with Agfa HealthCare. What's more, we work very closely with the Liège University Hospital (CHU), which already had a CR system from Agfa HealthCare, and it made sense for us to use the same system. They were also satisfied, and if Agfa HealthCare's CR system was good enough for a big hospital like CHU, then it certainly would meet our needs."

Despite the passing of time, he remembers very clearly the reaction to installing the new system. "It was so much faster!" he smiles. "Not just in the speed of taking images, but also of getting good images since the software corrects, to a degree, mistakes or poor parameters. The ease of use and of archiving were also benefits we immediately appreciated."

### AGFA HEALTHCARE'S CONTRIBUTION

» CR with NX workstation and MUSICA$^2$ image processing.

## SOFTWARE WITH VETERINARY-SPECIFIC PARAMETERS

At the time that the CR system was installed, veterinary software wasn't available, however. "As a university, we have the opportunity to collaborate with companies in this type of situation. Agfa HealthCare spoke with us and worked with us to adapt the system for veterinary usage," says Professor Snaps. "For example, there is a much wider range of exams used for humans than for animals. On the other hand, humans are much more similar to each other. To give an idea, the human knee is basically the same from one person to another, from male to female. But if we consider only one animal species, like dogs, we see that the knee of a small Yorkshire can't be compared to that of a Saint Bernard. The new software took these kinds of parameters into account."

## BEST FIT FOR LARGE ANIMALS

Thanks to these developments in CR, Professor Snaps considers it to be the best fit for the Imaging Department. "Many of our students will never even see a film imaging system; fewer and fewer veterinary practices have them. Of course, many will use direct radiography (DR) in private practices. It can be useful for small animals, as it is even faster than CR. But it isn't appropriate for us, with our large animal practice. Firstly, because the larger DR flat panels aren't yet very cost-effective, and secondly because

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DR still requires physical connection to the system. We can't use a system with cables between a horse's legs! If the horse kicks – and they do – it would be a catastrophe. If a CR cassette gets kicked, even if it breaks, that's not so bad. And CR is certainly fast enough for our purposes."

## EXPANDING THE POSSIBILITIES, WITH IMPAX

For Professor Snaps, the CR system meets all the technical needs of the Imaging Department, and he has no plans to change it in the future. But he does look forward to the availability of new functionality for archiving and retrieval of images when the veterinary Imaging Department connects to Agfa HealthCare's IMPAX picture archiving and communication system (PACS) at CHU in the coming weeks.

"We currently have something of a do-it-yourself PACS here, which is very limited. It's hard to call up exams from different modalities, for example," he explains. "The CHU IMPAX system has almost unlimited space for our images. And once we have our new NX Workstations, we will be able to compare e.g. ultrasound images with X-rays on a single screen. This will help our patients, of course, but it will also be a very important advance in terms of our teaching function." •

> "The CHU IMPAX PACS system has almost unlimited space for our images."
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> PROFESSOR FRÉDÉRIC SNAPS, Head of the Imaging Department, veterinarian, PhD and Dipl. ECVDI

### DID YOU KNOW...

» The University Veterinary Clinic was originally located in Brussels, but space constraints prevented it from expanding. The move to Sart Tilman outside Liège in 1991 has allowed the Faculty to continue to grow to accommodate new trends in medicine and technology.

» The Imaging Department has recently invested in a CT, and expects to acquire an MRI within the next three years. In this way, says Professor Snaps, it will have the full complement of imaging technology, with the exception of nuclear medicine.

"If a big hospital like CHU was satisfied with Agfa HealthCare's CR system, then it certainly would meet our needs, as well."

PROFESSOR FRÉDÉRIC SNAPS,
Head of the Imaging Department,
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CHRISTCHURCH VETERINARY SURGERY AND VETERINARY REFERRALS, IPSWICH, UK

# DR takes its place in specialist vet clinic

## For Christchurch Veterinary Surgery, Agfa HealthCare's DX-D 10G digital detector[1] is an essential part of its referral service

**INTERVIEWEE** Dr. Shane Morrison, BVSc CertSAS MRCVS, principal veterinarian, co-owner of Christchurch Veterinary Surgery and Veterinary Referrals

"The use of imaging technology in veterinary medicine will continue to evolve, I'm sure. 50 years ago, almost no vet practice had an X-ray system. Now, DR is definitely the future for animal healthcare."

DR. SHANE MORRISON, principal veterinarian, co-owner of Christchurch Veterinary Surgery and Veterinary Referrals

**If you were building your ideal new specialist veterinary clinic from the ground up, what would you put in it? For the Christchurch Veterinary Surgery's surgical referral practice, which recently did just that, the answer was the latest imaging technology, including Agfa HealthCare's direct radiography (DR) DX-D 10G detector with NX Workstation. "We had a room built especially for the X-ray table with the digital detector," says veterinarian Shane Morrison who, together with his wife Charlotte (a veterinary nurse and manager of the practice) owns the Christchurch Veterinary Surgery. The practice is made up of two distinct but linked services: a first opinion clinic and a specialized referral practice.**

### REFERRAL PRACTICE OFFERS SPECIALIST ANIMAL SURGERY

Referral surgery, where a 'family' vet sends a patient to a specialist for a specific treatment, is an important part of animal healthcare in the very large and established UK veterinary sector. "When we first purchased an existing veterinary clinic in Ipswich in 2001, we knew we wanted to build up our referral practice," explains Dr. Shane Morrison, who holds a specialist qualification in small animal surgery from the Royal College of Veterinary Surgeons (RCVS).



[1] Not available in Canada or the USA

## AGFA HEALTHCARE'S CONTRIBUTION

DX-D 10 digital detector:

- » Offers fast image availability after image capture.
- » Comes with Agfa HealthCare's 'gold standard' MUSICA² image processing software for consistent image quality and high contrast detail.
- » Offers the smallest pixel size available, supporting a more confident diagnosis.
- » Is easy to operate, with an NX workstation for smooth workflow.
- » Can be used for mobile applications, or integrated in any standard bucky tray.

"The DX-D 10G detector is amazingly fast. I love that I can just click a button, walk back into the room and the image is already there."

DR. SHANE MORRISON, principal veterinarian, co-owner of Christchurch Veterinary Surgery and Veterinary Referrals

Together with colleague John Prior, who has a specialist qualification in orthopaedics (also from the RCVS), they have expanded the referral service. "We do a lot of orthopaedic, soft tissue and spinal surgery, all for small animals: dogs, cats and the occasional rabbit, for example. About 60 first opinion clinics use us for all their referrals," comments Dr. Morrison. In addition to the two referral vets, the practice has two first opinion veterinarians, ten qualified veterinary nurses and four full-time receptionists.

### A ROOM OF THEIR OWN: DIGITAL IMAGE STORAGE FREES UP NEEDED SPACE

Christchurch Veterinary Surgery has always striven to be a pioneer in using advanced technology. "Four years ago, we switched from our conventional system to digital, with Agfa HealthCare's CR 30-X computed radiography (CR) solution", says Dr. Morrison. "We were one of the first vet practices in the UK to do this. The CR 30-X was brilliant – the benefits of going digital were really clear to us. In particular, we appreciated the digital storage of our X-rays."

"We would make some 100-150 images each week. We would keep every X-ray

DID YOU KNOW...

» The Royal College of Veterinary Surgeons (RCVS) is a regulatory body that sets standards for veterinary surgeons and veterinary nurses practicing in the UK.
» Christchurch Veterinary Referrals is the only veterinary practice in North Essex and East Suffolk with vets who hold Certificates in Small Animal Surgery (CertSAS) and Small Animal Orthopaedics (CertSAO).
» The CertSAS postgraduate qualification in small animal surgery is awarded to fewer than 15 vets in Britain each year.


film in the clinic for six months, then move them to an external storage facility. But even so, we had boxes and boxes of images, taking up so much room. Now, it's all kept on the computer, and we can call up an image, send it by email to referring vets, even give copies of images to our patients' owners. Plus, we were pleased to get rid of the dark room – which we turned into a dedicated laboratory – and the chemical waste. Finally, the faster imaging procedure is better for the animal: since we have to anesthetize any animal in order to perform X-rays, the less time it takes, the less anesthesia we have to use."

## DESIGNING DR INTO THE PLANS

Up until summer 2011, the first opinion and referral services of Christchurch Veterinary Surgery shared the original premises in Ipswich, and both used the CR 30-X for all their X-rays. "But with our referral service growing so quickly, there just wasn't enough room under one roof anymore," explains Dr. Morrison. So they decided to move the referral practice to another location close by. A new build, it offered the Morrisons the opportunity to design the clinic to meet their exact needs.

As the CR 30-X would stay in the first opinion clinic, they had to choose what imaging solutions to install in the new building. "Originally, we went with a CR system because we could use it with the tiltable table, which was necessary for spinal surgery patients," explains Dr. Morrison. "But in the new referral practice site we installed an MRI for the myelograms, and a tiltable table wasn't necessary anymore. That meant we could opt for the faster DR, which doesn't require plates and cassettes. While it was more expensive, that wasn't a focus point for us: we wanted the most convenient system."

This decision was then built directly into the building plans, in the form of a dedicated X-ray room with a DX-D 10G DR detector, which was integrated into a general X-ray table/generator. The DX-D 10G was installed in the new referral clinic during the month before the referral service moved. "The installation went perfectly; the Agfa HealthCare installers were very professional. The DR room was ready to go the moment we moved in. And since the DX-D 10G detector uses the same software as the CR 30-X, we literally needed no training in working with it. That, along with the quality of Agfa HealthCare's solutions, was one of the big motivators to go with the DX-D 10G."

## "THE BEST PIECE OF KIT WE'VE GOT": DX-D 10G PROVES ITS WORTH

"The DX-D 10G is the best piece of kit we've got. It's absolutely critical for our orthopaedics practice – we use it with every single orthopaedics patient we have. We do a lot of canine total hip replacements, for example – about one every one to two weeks. For those, we take a minimum of four images – two pre-operation and two post-operation. Some other procedures, such as complex fractures, require a lot more images."

He continues, "The DX-D 10G detector is amazingly fast. I love that I can just click a button, walk back into the room and the image is already there. With both the CR 30-X and DX-D 10G, it is also extremely easy to measure angles. And both are very convenient: we can draw on the X-rays, we can use any exposure – we just alter the contrast and we get a great picture. That kind of convenience is critical to us."

## AN INDELIBLE PART OF THE FUTURE OF ANIMAL HEALTHCARE

With the DR room, plus the MRI and an ultrasound, Dr. Morrison believes that the site offers all of the imaging technology now needed for a specialist practice. "It's important for people to see that we have the latest technology when they come in; in fact, I think pet owners expect it these days. The use of imaging technology in veterinary medicine will continue to evolve, I'm sure. 50 years ago, almost no vet practice had an X-ray system. Now, DR is definitely the future for animal healthcare. I think in 20 years – or even less – you'll see digital imaging, and DR, pretty much in every vet clinic."

VET-RAD VETERINARY DIAGNOSTIC IMAGING, OHIO, USA

# Teleradiology goes Vet

Teleradiology is becoming popular in the animal care profession, due in part to the growing number of veterinary digital imaging systems capable of sending images over the Internet. One such system, Agfa HealthCare's CR 30-X, provides excellent image quality to help veterinarians do this effectively.

**INTERVIEWEE** Bennett Fagin, Doctor of Veterinary Medicine, Diplomate American College of Veterinary Radiology

**What began 21 years ago as a film-based, mail-in consultation service for veterinary practices in Northern Ohio, is today undergoing a significant expansion thanks to teleradiology and the growth of highly reliable, in-office digital imaging systems. By linking these two platforms through the Internet, and affiliating with nearby veterinary medical referral centers, Vet-Rad Veterinary Diagnostic Imaging's five board-certified veterinary radiologists not only support animal care on the front lines, but offer their X-ray interpretive skills and clinical experience nationwide.**

"Years ago, I used to take films home with me each evening," says veterinary radiologist Bennett Fagin. But as high-speed Internet access grew across America in the late 1990s, radiographic images produced digitally could be transmitted almost instantly to a radiology workstation, and displayed on a high-resolution computer monitor.

In 2001, Vet-Rad, the radiology practice Dr. Fagin started in 1990, initiated a teleradiology service. The result has been nothing short of phenomenal, especially in its growth over the past three years.

"Each week, we see hundreds of images sent by all types of vet practices using a wide range of equipment. Images produced by Agfa HealthCare's CR 30-X are among the best we receive."

DR. BENNETT FAGIN,
Doctor of Veterinary Medicine,
Vet-Rad Ltd., Veterinary Diagnostic Imaging

"Image quality is every radiologist's gold standard in evaluating the many in-office, digital systems now available."

DR. BENNETT FAGIN,
Doctor of Veterinary Medicine,
Vet-Rad Ltd., Veterinary Diagnostic Imaging

## MANY FACTORS DRIVE DIGITAL

That growth was spurred by the advent of compact computed radiography (CR) imaging systems specially designed for veterinarians' offices. "Our first clients were small animal practices whose partners realized their original X-ray machines or film processors needed replacement," Dr. Fagin says. "Those veterinarians had the foresight to enter the digital age. Today, I don't know a single veterinarian with a digital system who doesn't take more images than they did before they 'went digital'. In fact, they usually regret that they didn't switch to digital sooner."

Added to this is the ability to transmit images almost immediately for referral or consultation. In addition, digital systems have large image archival capacity with highly automated software that retrieves and displays previous images with current ones, all at the click of a mouse. "No more rummaging about the office looking for films that fell behind the file cabinet months ago," Dr. Fagin says. Digital storage also lets practices easily retain backup copies off-site in the event of fire or structural damage.

Finally, there is today's intense interest in animal healthcare by pet owners. Small animal practices perceived as being on the cutting edge of technology receive a greater share of the tighter pet care dollar, despite challenging economic conditions. "Thanks to the new CR systems, a veterinarian can now economically provide clients a CD of their pet's images to view at home. This helps demonstrate their use of cutting-edge technology," he adds.

To this day, Vet-Rad focuses on small animal practices and remains the only facility of its kind based in Northern Ohio. But they're no longer confined there. "Thanks to teleradiology, we now serve more than 700 veterinary hospitals, referral centers, and emergency clinics nationwide," he adds. In a typical month, Vet-Rad performs over 2,000 diagnostic consultations, using the latest workstation computers and multiple, 24-inch high-resolution monitors.

## MORE THAN READING IMAGES

However, Vet-Rad's success is attributed to more than the latest bold technology. Dr. Fagin says a key Vet-Rad benefit is its partners' clinical expertise. "We don't sit in dimly lit rooms all day viewing images," he says. "Instead, we are clinical radiologists at major referral centers. These include the nearby Akron Veterinary Referral & Emergency Center, Cleveland Veterinary Referral Service, Great Lakes Veterinary Specialists, and the Metropolitan Veterinary Hospital. This clinical exposure includes collaboration with board-certified specialists in internal medicine, surgery, oncology, cardiology, neurology, ophthalmology and veterinary practice. This collaboration enables the Vet-Rad radiologists to provide valuable clinical recommendations to their clients.

### AGFA HEALTHCARE'S CONTRIBUTION

- Reliable, tabletop CR system with MUSICA² software for uncompromising and consistent image quality.
- Ideally suited to support a wide range of veterinary imaging.
- Compact footprint – easy to position in small rooms.
- Cost effective – uses standard office electrical current. No special installation needed.

As a result, Vet-Rad's service facilitates exceptional confidence in helping veterinarians understand and correctly diagnose from digital images. "We routinely pick up pathology that was overlooked," Dr. Fagin says. "It's a valuable learning experience for our clients." Another benefit is speed. Once received, Vet-Rad's radiologists are able to review images and return a report by e-mail and/or fax in a matter of minutes.

## IMAGE QUALITY PARAMOUNT

"Image quality is every radiologist's gold standard in evaluating the many in-office, digital systems now available," Dr. Fagin says. "Each week, we see hundreds of images sent by all types of vet practices using a wide range of equipment. Images produced by Agfa HealthCare's CR 30-X are among the best we receive."

In side by side comparisons, he finds images produced by the CR 30-X tabletop digitizer are preferred over many other systems for a variety of reasons.

Dr. Fagin cites the system's MUSICA$^2$ intelligent image processing software, which automatically optimizes the final image quality without manual intervention. The CR 30-X first scans a phosphor plate with a spatial resolution of 10 pixels/mm, then feeds the data to the MUSICA$^2$ software. "There are very few systems I've seen that produce better images," he says, "regardless of price."

The CR 30-X's time to first image is approximately 30 seconds. The system also runs off standard office current versus the higher voltage required by larger, more costly systems, so there's no added expense for special wiring. The CR 30-X can be installed, quality-checked, and functioning in one day. As a tabletop, it fits in the tightest locations.

"The old adage, 'you get what you pay for', is not always true." Dr. Fagin says. "Image quality should be the primary factor in your decision. Veterinarians should consider the CR 30-X among the best of its breed." •

### DID YOU KNOW...

» Vet-Rad's standards for image transfer and presentation in its veterinary teleradiology practice are similar to those used for human teleradiology. This enables a higher diagnostic accuracy of interpretations.

» Until the late 1990s, teleradiology was used by medical radiologists to interpret emergency studies from offsite locations, such as the radiologists' home. Connections were made through standard analog phone lines.

VET-RAD

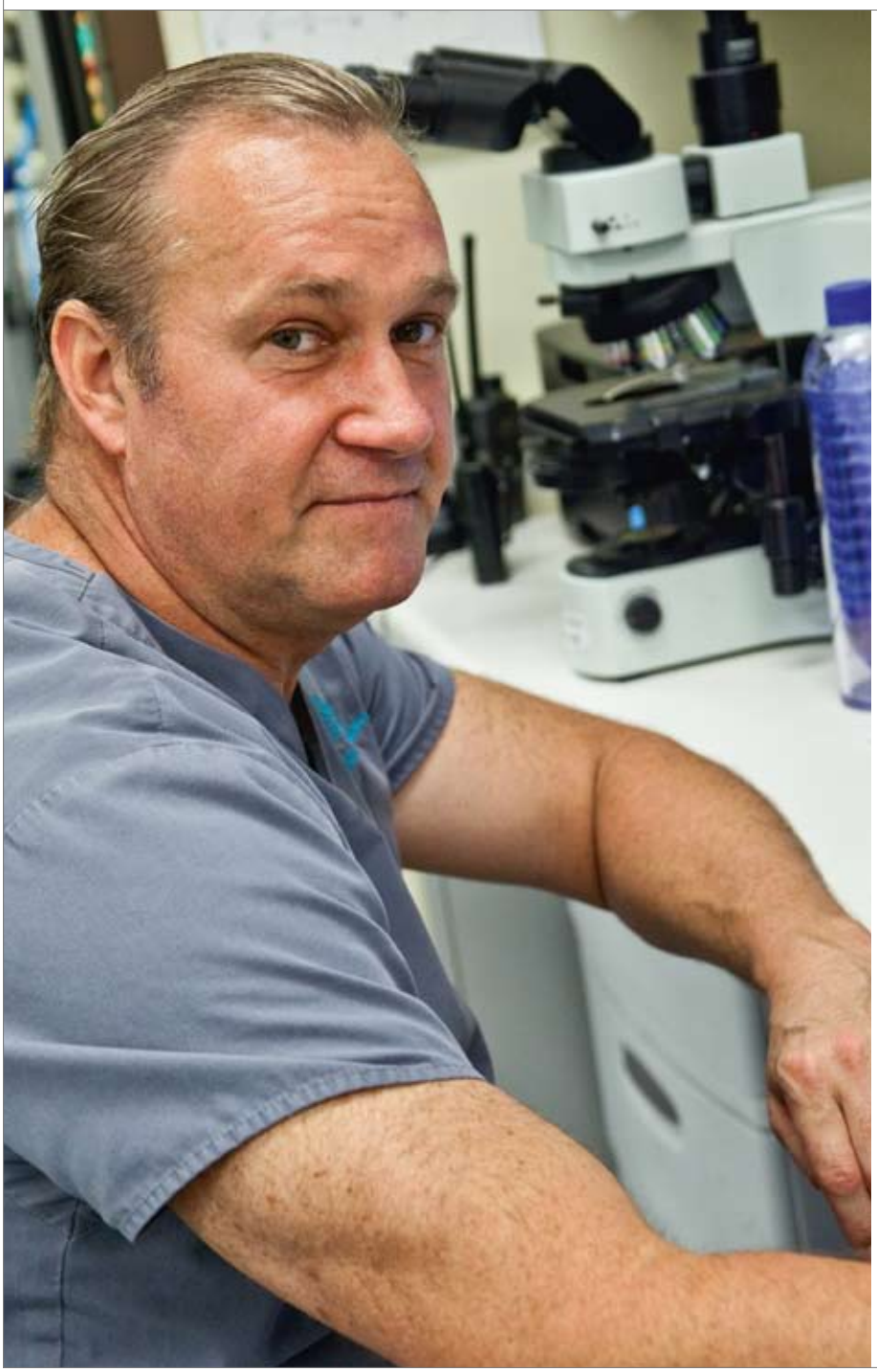
VETERINARY DIAGNOSTIC IMAGING

GEORGIA SEA TURTLE CENTER, JEKYLL ISLAND, GEORGIA, USA

# Digital imaging plays an important role in turtle rehabilitation and care

## Getting under the shell: the Georgia Sea Turtle Center

**INTERVIEWEE** Dr. Terry Norton, DVM, Diplomate ACZM, Director and Veterinarian for the Georgia Sea Turtle Center



**"Wildlife conservation is about more than one program or one organization," says Dr. Terry Norton, Doctor in Veterinary Medicine (DVM) and Director of the Georgia Sea Turtle Center (GSTC). "If we want to impact turtle populations in a big way, we need programs that address the range of issues being faced – today and for the future." That's a challenge the GSTC, a department of the Jekyll Island Authority, takes on using a four-pronged approach, with programs that cover rehabilitation, education, research and monitoring.**

### A NATURAL NESTING HABITAT

Jekyll Island, where the GSTC is located, lies off the coast of the state of Georgia. This barrier island has 10 miles (16 km) of beach, as well as inland marshlands, and is a natural nesting site for loggerhead turtles. "Sea turtles face a variety of problems that impact them individually and as a population," Dr. Norton continues. "This can be anything from swallowing a fish hook, to being hit by a boat propeller, to the loss of their habitat." Before the GSTC was set up, turtles, tortoises and terrapins in the area were treated at various vet clinics and facilities, but it was clear that there was a need for a dedicated facility.

"Agfa HealthCare's CR 30-X system met all our requirements: it gave us the functionalities and speed we were looking for, at a reasonable price. And it has excellent image quality: the images are really clear and detailed."

DR. TERRY NORTON, DVM, Diplomate ACZM, Director and Veterinarian for the Georgia Sea Turtle Center

AGFA HEALTHCARE'S CONTRIBUTION

» CR 30-X computed radiography solution.
» Integrated MUSICA² image processing software, providing consistent image quality and high contrast detail, without any manual intervention by the veterinarian.
» Easy-to-use NX operator workstation, with a touch screen and intuitive interface.


"We first started discussing the idea in 2001," explains Dr. Norton. "And in 2007, we opened up the GSTC." The 15 full time staff members are joined by AmeriCorps and individual volunteers who participate in the many projects and programs. The GSTC also collaborates with the University of Georgia, the University of West Indies, Ross University and more. About 120 rescued turtles come into the Center each year, including loggerhead, green and Kemp's ridley sea turtles – even land-based diamond-back terrapins, which often get struck by cars while seeking a place to lay their eggs in May through July.

## EDUCATION ENSURES THE FUTURE

The GSTC runs a host of educational programs, both for visitors and for local children. "They are our future, and the future for the sea turtles," comments Dr. Norton. "We have children from disadvantaged areas in Georgia who don't even know they live near the ocean, let alone about its ecosystem. The sea turtles are their local heritage. By helping to educate these kids and raise their awareness, we are giving them an opportunity to take on the challenges to the turtles, and the ecology itself, in the future."

Adults are not left out, either. "We have programs for teachers, a very important volunteer program and network, and of course the Center itself, where people can visit and learn about the turtles and our efforts."

## INHABITANTS OF ANOTHER WORLD

As sea turtles are essentially aquatic, and humans essentially terrestrial, there is a basic and physical barrier that has limited how much could be learned about them. Despite that, much research has been carried out in the past 30 or so years, and the work continues. The GSTC took over the turtle monitoring program for Jekyll Island, which has been running since 1972. Since 2007,

DID YOU KNOW...

» Sea turtles are born on land, but once hatched they spend their entire lives in the ocean, except when females come on land for nesting.
» Because of this it can be difficult to estimate a sea turtle's exact age. Researchers estimate that some sea turtles can live as long as 80-100 years. But only about 1 out of 4000 hatchlings will live to be a reproductively mature adult.
» Satellite tracking transmitters are attached to former patients of the GSTC when they are released back into the ocean. The transmitter sends a signal to a satellite when the turtle comes up to surface to breathe, allowing its movements to be tracked.


the Center has monitored 422 sea turtle nests of three different species and tagged 149 nesting females, including a green sea turtle and the first leatherback to visit Jekyll Island in over 10 years.

Other GSTC research programs include sea turtle nutrition and diet, nesting behavior and human impact studies, to name a few. Dr. Norton is closely involved in research into Debilitated Loggerhead Sea Turtle Syndrome. In 2003, there was an increasing trend of emaciated loggerhead sea turtles with small barnacles on the skin stranding from Florida to North Carolina, and ongoing research is exploring the potential causes.

## AGFA HEALTHCARE X-RAYS OFFER ANOTHER VIEW

As the GSTC's veterinarian, Dr. Norton is very involved as well in the rehabilitation of injured or sick turtles, and the center's CR 30-X computed radiography (CR) system from Agfa HealthCare plays an early and critical role in this. Among the first things Dr. Norton does to diagnose and treat turtles brought into the GSTC is to take images. "X-ray is one of our most important diagnostic tools. Every live turtle that comes in gets a series of X-rays, including dorsal-ventral, horizontal AP and lateral views. Initially, we look for fish hooks, gas or air in the intestinal tract, etc. Some turtles require regular X-rays for us to assess their condition; for example if a turtle is constipated, we will regularly X-ray it to check on the progress of the blockage. We even use X-rays when we are inducing a gravid turtle, to make sure all of the eggs have been laid. It's really an all-around tool for us."

Since these images are so critical to the turtles' care, choosing an X-ray solution for the new center in 2007 was key. "We wanted the most state-of-the-art technology available, which meant digital. And we also needed those horizontal beam views. A turtle isn't a cat or dog; you can't just position it on its side. Agfa HealthCare's CR 30-X system met all our requirements: it gave us the functionalities and speed we were looking for, at a reasonable price. And it has excellent image quality: the images are really clear and detailed. Since 2011, Todd Pickler from Midlands X-ray has been servicing the system, and we are now very pleased with both the solution performance and the service."

## STEWARDS FOR THE ENVIRONMENT

Dr. Norton explains that turtles can stay at the Center for rehabilitation anywhere from one month to three years. If a turtle for some reason cannot be released, the GSTC tries to find a new home for it. But the real pleasure comes from returning a turtle back to the ocean. "We are here to be stewards of the environment," Dr. Norton concludes. "That's a group effort: it takes a lot of people and dedication." •

"X-ray is one of our most important diagnostic tools... Every live turtle that comes in gets a series of X-rays. We wanted the most state-of-the-art technology available."

DR. TERRY NORTON, DVM, Diplomate ACZM, Director and Veterinarian for the Georgia Sea Turtle Center

# Time savings plus excellent image quality – Scandinavian veterinary clinics enjoy the benefits of digital imaging

Traditionally, medical practitioners in Scandinavian countries have been early adopters of digital technologies. This seems to be the case in veterinary imaging as well. *THERE FOR VETS* spoke with Simon Kirk-Johansen, Project Manager at Jørgen KRUUSE A/S, the largest and most diverse distributor of veterinary products in Scandinavia.

**INTERVIEW** Simon Kirk-Johansen, Project Manager at Jørgen KRUUSE A/S

**Veterinary practices in Scandinavia are rapidly adopting digital imaging systems. How do you explain this?**

Legacy imaging processes are, by modern standards, time-consuming and labor intensive. In addition, veterinarians and nurses here are mostly women who tend to be more attuned to health and environmental issues related to conventional methods than their male colleagues. These are reasons enough to seek an alternative.

The switch from analog to digital first became apparent in Sweden, which is ahead of the curve when it comes to digital imaging in veterinary care. I feel this is due to almost 90% of Swedish pet owners having healthcare insurance for their animals. This insurance also exists in Denmark, but only around 15% of pet owners there purchase it.

Around 2004, the larger animal clinics started acquiring a computed radiography (CR) system. Back then, the investment was three times as high as it is today. Later, medium-sized clinics having a high turnaround of patients made the transition.

**What´s the situation today?**

Today, we see clinics with just one or two vets investing in a CR system. Considering the cost of other imaging platforms, we've calculated that practices making two images per day are better off with CR. Today's CR systems are really cost-effective. To be honest, I can see no reason why a veterinarian wouldn't buy a digital system.

In September 2010, we started selling Agfa HealthCare's direct radiography (DR) systems as well. By February 2011, we had already installed three DR systems at a clinic in Denmark, one at a Swedish clinic and two in Norway. All of these clinics, and especially the huge, 70-employee facility in Malmö, Sweden, have a high patient turnover. For them, time is really an issue. With a DR system, image acquisition takes only seconds, compared to CR which can take up to one minute. For these large clinics, a DR system's speed is worth the investment.

In Nordic countries, we've currently sold around 150 CR systems. We estimate selling 45 CR systems per year. For every five CR systems sold this year, we expect to sell a DR system.

**Which benefits do your customers appreciate most when working with a digital system?**

The main advantages are time savings plus the ability to quickly manipulate images electronically. If veterinarians are concerned about a small spot in an image, they can immediately zoom in on that spot. Window leveling is another beneficial feature. Such performance is not as easily possible on non-digital systems.

> "I think Agfa HealthCare is offering the best products currently available. My customers also like to work with the solutions: They often tell me that the systems are very easy and intuitive to use; almost 'fool-proof'."
>
> SIMON KIRK-JOHANSEN,
> Project Manager at Jørgen KRUUSE A/S

My customers are really happy with these systems' image quality. We always sell our DR and CR solutions in combination with Agfa HealthCare's MUSICA$^2$ image processing. With this software, images are optimized automatically.

A few months ago, I was traveling through Denmark with my sales people. We had put Agfa HealthCare's tabletop CR 30-X system in the back of our car and stopped by several clinics to demonstrate it. Then, we visited a small clinic where we placed the system next to their brand-new, competitive CR system acquired the month before. After a short demo, the clinic's staff were so overwhelmed by the CR 30-X's image quality that they immediately bought one and sent the other system back to the supplier.

"Today, we see clinics with just one or two vets investing in a CR system. Considering the cost of other imaging platforms, we've calculated that practices making two images per day are better off with CR."

SIMON KIRK-JOHANSEN,
Project Manager at Jørgen KRUUSE A/S

I think Agfa HealthCare is offering the best products currently available. My customers also like to work with the solutions: They often tell me that the systems are very easy and intuitive to use; almost 'fool-proof'.

Another interesting feature of digital imaging is that images can be directly linked to an electronic patient record (EPR) so that all information is available in one location. And finally, together with the CR and DR systems, we offer a picture archiving and communication system (PACS) in which the images are electronically stored, accessed and distributed. The user pays in relation to the storage space being used, which makes the system affordable for smaller practices.

DID YOU KNOW...

» The KRUUSE Group was founded in 1896, initially as a chemist store. In 1927, it moved into the veterinary field as a one-stop-shop for veterinarians. KRUUSE's home markets are the Scandinavian countries: Denmark, Norway, Sweden and also the UK. The company is globally renowned for its products sold to veterinarians, pet shops and farmers in about 100 countries through a network of 350 distributors.

**What will the future bring to veterinary imaging in your region?**

I believe there is still a lot of room to expand CR and DR, especially among veterinarians in Denmark and Norway. The Swedish market is now rather saturated with CR, with less room for growth.

For DR systems, there is a huge potential in the equine market. For example, when selling a horse, 20 to 30 images need to be made, and saving time in producing so many views becomes critically important. But for imaging the horse's legs, a smaller detector plate is needed, which is not yet offered by Agfa HealthCare. However, the company is working on it, and I hope it will be available soon.

We also see that vet clinics are beginning to invest in CT and MRI, modalities that my company is currently looking into. And with images coming from different modalities and locations, the need for central image storage and management is growing, including support for the emerging EPR. •

"The main advantages are time savings plus the ability to quickly manipulate images electronically."

SIMON KIRK-JOHANSEN,
Project Manager at Jørgen KRUUSE A/S

FAMILIEDYRLAEGERNE, HOBRO, DENMARK

# First DX-D detector plate for veterinary imaging installed in Denmark

## Agfa HealthCare's DR brings top-quality images and greater collaboration for multisite practice

**INTERVIEWEE** Dr. Torben Lindbjerg, CEO and veterinarian specialized in animal dentistry

"We knew that the image quality would be improved, but we didn't realize by how much. With the better image quality, we can see more in the images than ever before, which is extremely helpful in diagnosis."

DR. TORBEN LINDBJERG,
CEO and veterinarian specialized
in animal dentistry

**In Denmark as in other countries, trends in veterinary care are evolving, fuelled by demand by pet owners. "People are investing more in pet care, to provide a good quality of life for their animals," says Torben Lindbjerg, veterinarian and CEO of the Familiedyrlaegerne. In response, veterinarians are increasingly specializing in specific care areas.**

"This means a higher level of care for the animals," he continues, "but collaboration also plays a bigger role." So when Familiedyrlaegerne decided it was time to invest in a new imaging system, moving from analog to digital offered clear benefits, both for image quality and for the ability to share images quickly and easily. In December 2010, this practice became the first in Denmark to install Agfa HealthCare's DX-D detector plates for veterinary care – installing one in each of its three main locations. "The results have exceeded our expectations," says Torben Lindbjerg.

### SPECIALIZATION REQUIRES MORE COOPERATION

Familiedyrlaegerne works only with small animals, primarily family pets, treating between 15,000 and 20,000 each year. It has three animal hospitals, plus a small satellite clinic, all in the

AGFA HEALTHCARE'S CONTRIBUTION

» Three DX-D systems with NX workstation and MUSICA$^2$ image processing.

"Direct radiography offers good quality images, it is easy and it is quick. This makes it the technology of today for veterinary practices."

DR. TORBEN LINDBJERG,
CEO and veterinarian specialized in animal dentistry

Himmerland region of Denmark. "The sites were picked strategically," explains Torben Lindbjerg. "Each is some 30 to 50 km apart. This means that we can serve a much broader base of clients, but at the same time it's not too far for a client to take a pet from one of our clinics to another, to see a particular specialist."

Familiedyrlaegerne counts ten veterinarians in total, some of whom rotate between the four clinics, and some of whom always work out of one clinic. An additional 20 nurses and administrative staff assist them in providing the animal care. Specialization allows Familiedyrlaegerne to give a full service to clients, says Torben Lindbjerg. He himself specializes in dentistry, and Familiedyrlaegerne also has specialists in orthopaedics, skin diseases, radiology and more. But specialization means collaboration has become even more critical. "To give a patient the best care, it may need to be seen by more than one vet, and those vets need to consult on diagnosis and care. Imaging of course plays an important role in this," adds Torben Lindbjerg. With veterinarians spread over the multiple clinic locations, having digital images that could be shared easily became increasingly important.

## DIRECT RADIOLOGY A GOOD FIT FOR VETERINARY PRACTICE

In December 2010, Familiedyrlaegerne replaced its analog film system with Agfa HealthCare's DX-D portable detectors in all three of its main clinics. "We knew we wanted a direct radiography (DR) system," says Torben Lindbjerg. "We did a lot of research, and saw it would fit into our type of practice. It would give us good quality, in a fast and easy-to-use system that is appropriate to use with small animals."

"Price was of course an important consideration in the selection: we were buying three systems at once, so it was a big investment. If we had upgraded to digital a few years ago, we would have likely gone with computed radiography (CR). But now DR has the quality we need and is even faster than CR. DR is the system of today for vet clinics."

## AGFA HEALTHCARE ADAPTS PRODUCTS AND SERVICE TO VET CLINIC'S NEEDS

After discussing with a number of other veterinary clinics in Denmark that had installed Agfa HealthCare's CR solutions, Torben Lindbjerg chose the DX-D for veterinary imaging. "Agfa HealthCare is well-known among my veterinarian colleagues. The systems have been adapted for veterinary use – for example, for specific positions needed in animal imaging. And the service from Agfa HealthCare and its partner Kruuse is very good."

The three DX-Ds were installed one by one in the three sites, over only a few days. "The first installation took the most time: two days," recalls Torben Lindbjerg. "The other two only took a half-day each. And after a one-hour training, we could work on the new systems right away. We also have a helpdesk to call if we do need assistance."

## DX-D IMAGE QUALITY EXCEEDS EXPECTATIONS

Although the DX-Ds have only been operating for a few months, the veterinarians and staff are already seeing the difference. As required, sharing images between sites is now much easier. And the image quality definitely meets the practices' needs. "We knew that the image quality would be improved, but we didn't realize by how much," smiles Torben Lindbjerg. "My colleagues keep coming to me with the images and exclaiming over the clarity. We are actually taking more images now, because it is so quick and easy. If we think an X-ray would be useful, we can do it, with no delay. And there are no

'missed' shots. This will allow us to give better care to our patients."

And yet, despite the increased number of images, he says imaging is taking less time overall. "It takes very little time out of our busy day: just click-and-go." Clients are also impressed with the new system: "We can show them the very clear pictures, and can even give them a CD of images to take with them. And they can see that we have invested in top-level technology to care for their pets. We are proud to be the first in the country with Agfa HealthCare's DR solution."

## INVESTMENT IN QUALITY SYSTEMS PAYS OFF

Torben Lindbjerg is very clear about the benefits the multisite clinic sees from the new system. "The images are better, and we can share them between clinics immediately. We save a lot of time, so in the future we will be able to schedule more consultations each day. In addition, we no longer need to use space for developing film and storing images, and no more chemicals means less cost and harm to the environment. I know some clinics that try to cut investment costs by buying cheap systems. I can tell you, it's not worth it. It's better to invest in quality – it will pay off." •

### DID YOU KNOW...

» Familiedyrlaegerne used to be part of a big animal care company, working with horses, farm animals and pets. Now, it specializes specifically in small animal pets, i.e. dogs, cats, rabbits and other rodents, birds and 'exotics'.

» Pet insurance is a growing trend in Denmark, as well as in other Western countries. In the US about 1 million pets have health insurance. In Sweden, some 80% of dogs and horses are insured, with other Nordic countries not far behind.


# Technology corner

## Specialized solutions for veterinary needs

As a leader in imaging, Agfa HealthCare offers a full range of digital imaging solutions that are ideal for the veterinary environment. We are committed to providing our veterinary customers with the same high quality we provide to human healthcare, but adapted when necessary to specific animal healthcare needs. These solutions offer veterinary clinics and practices the full workflow and benefits of digital imaging, including speed, top-quality images, easy image processing, convenient comparison of exams and extensive archiving.

### Direct radiography for very fast imaging: DX-D 10 and DX-D 20

As part of a digital solution, the DX-D 10 and DX-D 20 digital detectors offer veterinary practices a fast and effective way to get the benefits of high-quality digital imaging. Suitable for both conventional and mobile digital X-ray systems, they improve workflow and speed up exam time. Images are ready in seconds, retakes can be made immediately without changing cassettes and there is no risk of patients' cassettes being mixed up. The DX-D 20 also has a strong enclosure with a handle for easy placement, making it versatile for a wide range of exams.

### Easy image archiving and distribution: SE

The average veterinary practice makes about 6,000 medical images each year. SE is the ideal archiving and distribution solution for these practices, as it can store up to 42,000 images. This allows the practice to store all images for a period of seven years – with plenty of opportunity to call up exams for comparison when needed. With SE, vets can also share digital images with colleagues, for example to get a second opinion from a specialist.

### Optimized for animal imaging: MUSICA$^2$

Our 'gold standard' MUSICA$^2$ image processing provides consistent image quality and high contrast detail for both computed and direct radiography (CR and DR). This software analyzes an image and automatically applies the appropriate image enhancement parameters, independent of the exam type. Just as we have adapted the software for specialties like pediatric and neonatal care, we have also customized it for veterinary needs, to optimize images for both large and small animals.

### NX receives veterinary DICOM validation at Animal Insides SHOWDOWN

DICOM stands for Digital Imaging and Communications in Medicine and is the most common standard for handling, storing, printing and transmitting information in medical imaging. It has been widely adopted in hospitals, and in 2006 veterinary DICOM attributes were established.

Participation in the veterinary DICOM validation is voluntary, and is handled by independent organization Animal Insides. Each year, Animal Insides holds its annual Digital Radiography SHOWDOWN. Veterinary digital radiography and PACS vendors allow their systems to be tested in an open and objective manner, over a period of six months. At the last SHOWDOWN, completed on December 16, 2010, our NX workstation received a very good ranking and was validated for Veterinary DICOM.

This means that images generated with our solutions can be shared with other organizations, e.g. insurance companies or equine inspection organizations, and viewed correctly on equipment from another vendor, independent of the computing platform.

CHEROKEE TRAIL VETERINARY HOSPITAL, LEXINGTON, SC, USA

# Agfa HealthCare's CR 30-X supports clinic in addressing modern animal care issues

## Balancing act: Cherokee Trail Veterinary Hospital combines technology with 'the personal touch'

**INTERVIEWEE** Ginger Macaulay, veterinarian, owner of Cherokee Trail Veterinary Hospital (plus input from Heyward Boyette, veterinarian, co-owner)

**Today's animal healthcare requires balance. Balance of the needs of the pet and the owner. Balance of prevention and treatment. Balance of the possible and the practical. At the Cherokee Trail Veterinary Hospital, owners Ginger Macaulay and Heyward Boyette strive to achieve this balance by providing a top level of care and support for the whole family: human and animal. And they do so by combining the advantages of up-to-date technology with the 'personal' expertise of the vet.**

### 'FAMILY PETS' ARE FAMILY, TOO

Cherokee Trail Veterinary Hospital, in Lexington, South Carolina, opened in 1976. Dr. Macaulay worked there as a student intern, and then joined the staff permanently in 1986. In 1998, she bought the hospital, with Dr. Boyette joining her as a partner in 2000.

The hospital treats only cats and dogs. "Our clients don't see their animals as just pets," says Dr. Macaulay. "They see them as family. So we have to be sensitive to the needs of the whole family. At the same time, we must always remember that we are here to do what's best for the animal."

"With the CR 30-X system, the quality of the images is better, so we see more. And since we can zoom in and adapt the image, we can show clients what we find: they can really see what we're explaining."

DR. GINGER MACAULAY, veterinarian, owner of Cherokee Trail Veterinary Hospital

## AGFA HEALTHCARE'S CONTRIBUTION

» CR 30-X computed radiography solution.
» Integrated MUSICA² image processing software, providing consistent image quality and high contrast detail, without any manual intervention by the veterinarian.
» Easy-to-use NX operator workstation, with a touch screen and intuitive interface.


Seven veterinarians work at Cherokee Trail, along with 35 other staff members. The hospital also has a small satellite clinic at Lake Murray, where Drs. Macaulay and Boyette take turns on duty.

### COMMUNITY INVOLVEMENT LEADS TO LONG-TERM RELATIONSHIPS

Committed to building lasting relationships, Cherokee Trail Veterinary Hospital is now seeing its second generation of clients and their animals. "The children of our clients, now grown up themselves, bring in their pets, too. It's great to know that they trust us enough to keep coming back."

Cherokee Trail keeps close to its community roots. "We have a work/study program with the local high school's vocational training program," explains Dr. Macaulay. "The kids come in and find out about careers in animal healthcare, and see how we do things. They definitely keep us on our toes!"

The animal hospital also offers puppy classes for families adopting a new dog, and participates in a support group program for pet loss. It's all part of the hospital's goal to accompany the client and animal from 'adoption to end-of-life'.

### WHERE DOES TECHNOLOGY FIT IN THE FAMILY VET PRACTICE?

For Drs. Boyette and Macaulay, one of the biggest challenges facing vets today is how to balance technology with personal care. As Dr. Boyette says, "Animal care begins and ends with the personal touch."

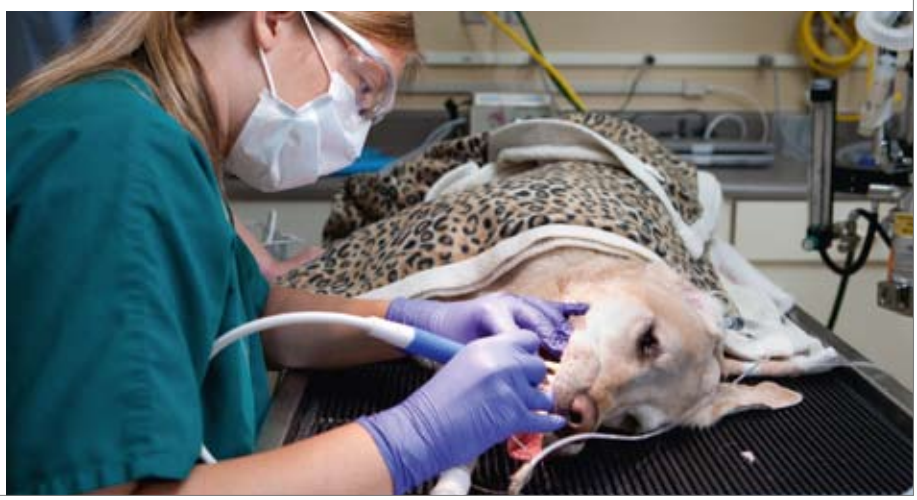
However, they are clear that evolutions in medical equipment have been key to improving pet care and wellness. "There is no substitute for a good initial physical exam: that's the 'art of medicine'. But then X-rays or ultrasound are critical in helping decide on treatment."

Three years ago, Cherokee Trail replaced its Agfa HealthCare film system with Agfa HealthCare's CR 30-X computed radiography (CR) solution. "We do a lot of X-rays at our main hospital, and it was time to replace the system. So it was the right moment to upgrade," says Dr. Macaulay.

### CR 30-X'S QUICK LEARNING PROCESS A REAL ADVANTAGE

Drs. Boyette and Macaulay looked at different brands of both CR and direct radiography (DR) solutions. Agfa HealthCare's CR 30-X system offered them everything they needed, and was supported by their long-term supplier, Todd Pickler of Midlands X-ray. "Todd has worked with Cherokee Trail for some 20 years now and his support has always been great," comments Dr. Macaulay. "He took us through the advantages of each system and gave us a demo. DR is a bit faster, but CR provides the quality images we need, and is certainly fast enough for us!"

"When I showed them the CR 30-X, they fell in love with it," comments Todd Pickler. "So we set it up for them. The implementation and staff training took about four hours, and then they were good to go." The quick learning process was a big plus for Dr. Macaulay. "The staff didn't really have to learn a new procedure, just a new way to do something. Once they got used to it, they were very happy."



> "If you do a lot of X-rays, it's definitely worthwhile to consider going digital. You'll take more X-rays and the system will pay for itself."
>
> DR. GINGER MACAULAY, veterinarian, owner of Cherokee Trail Veterinary Hospital

### "GIVE ME ANOTHER VIEW": CR 30-X EXPANDS THE X-RAY POSSIBILITIES

Sure enough, the CR 30-X system was able to provide all the benefits Todd Pickler had explained. "It has brought a real change in how we care for the animals, and to the service we can give to our clients," says Dr. Macaulay. "We can take more views, which means we can get the right views without retakes. The quality of the images is better too, so we see more. And since we can zoom in and adapt the image, we can show clients what we find: they can really see what we're explaining."

At the same time, service and care are also sped up. Dr. Macaulay gives an example: "We had a 120 lb (55 kg) dog in here, and it wasn't easy to get the right views. Before, we would have had to take the views, maybe call them back for retakes, and then telephone later with the results. But with the CR 30-X, we had the results in ten minutes; we could talk to the client immediately about the treatment protocol and get started – all in one visit. That's better for the animal, for the client and for us."

### DON'T FORGET EDUCATION AND PREVENTION

For Drs. Macaulay and Boyette, prevention and wellness can be just as important as treatment in addressing modern health challenges pets face, such as cancer, obesity and dental disease. They have put a lot of thought and effort into using new media. The hospital's website goes far beyond offering information on opening hours and contact details. It also includes sections explaining in detail what to expect the first time a client visits the hospital; information on how to choose a new pet; and common animal health risks to watch out for. "We set up our website with two main goals in mind," explains Dr. Boyette, who was responsible for putting the site together last year. "Firstly, we want to inform clients about our hospital and the standard of care we offer. But we also want to educate people on how to provide their pet with better care at home."

The animal hospital also has a Facebook page, and hopes to start a blog soon. "It needs to be easy for people to find us online, and then to learn about what we do," says Dr. Macaulay.

### SOLUTIONS THAT PAY FOR THEMSELVES

For now, the main Cherokee Trail hospital uses the CR 30-X system, while the previous Agfa HealthCare film system was moved to the Lake Murray clinic. "Eventually, we would like to have a CR 30-X at both sites, but we don't yet do a lot of X-rays at Lake Murray," says Dr. Macaulay. "If you do a lot of X-rays, it's definitely worthwhile to consider going digital. You'll take more X-rays and the system will pay for itself. Our CR 30-X has certainly done that for us!" •

**DID YOU KNOW...**

- » According to the U.S. Pet Ownership and Demographics Sourcebook, veterinarians in private clinical practice in the USA are responsible for the health of approximately 53 million dogs and 59 million cats.
- » Cherokee Trail Veterinary Hospital is a full service veterinary hospital, offering vaccinations, surgery, radiology, ultrasound, dentistry, hospital care, and much more. It is also one of only a few hospitals in its area to be certified by the American Animal Hospital Association.

Heyward Boyette, veterinarian, co-owner

GROUP PRACTICE CLOS FLEURI, GHENT, BELGIUM

# Images can't go wrong with Agfa HealthCare's CR solution

## Belgian veterinary group practice adopts CR and realizes considerable efficiency gains

**INTERVIEWEE** Dr. Ingrid Putcuyps, veterinarian with a special interest in medical imaging, ultrasound and thorax diseases

**Located near Ghent, Clos Fleuri is a veterinary group practice delivering first- and second-line care for cats and dogs. Four veterinarians, each experienced in different subspecialties (medical imaging, thorax, internal medicine and ophthalmology) see about 500 patients per month. An intern stays overnight to supervise the intensive care unit with up to 13 in-patients. In addition, the group practice organizes 7/7 emergency care.**

Ingrid Putcuyps, one of the practice's founders, has a special interest in medical imaging, ultrasound and diseases of the thorax. She's also a clinical instructor at the Faculty of Veterinary Medicine of Ghent University.

In early 2010, Dr. Putcuyps and her partner made the leap from conventional to digital imaging, investing in Agfa HealthCare's computed radiography (CR) solution.

### ON THE OUTLOOK FOR MORE EFFICIENT IMAGING

The veterinarians working at Clos Fleuri share one room with X-ray equipment. Thorax images represent about 80% of all studies performed. Before acquiring the CR system, conventional film was used. Dr. Putcuyps relates: "I was pleased with the quality of the images, but

> "Images never fail. Even when I've selected less than optimal settings and expect the image to be under- or overexposed, I'm surprised with the final image quality that appears on my screen."
>
> DR. INGRID PUTCUYPS, veterinarian

working the analog way was not exactly convenient. Developing film was time-consuming and images were taking up a lot of storage space. Our dark room was located in the basement and I constantly had to run up and down the stairs. And it was expensive too."

"The system is very easy to use. I just select the exam on my NX workstation. The correct imaging parameters are sent right to the X-ray generator. When the image is made, it is immediately processed with the MUSICA$^2$ image processing software. This takes about one minute."

DR. INGRID PUTCUYPS, veterinarian

## IMAGE QUALITY COUNTS, AND CR DELIVERS

Ingrid Putcuyps: "I wanted to convert to a digital system, but I was not initially pleased with the quality of some images I saw. But one day, I saw images from a colleague that were really convincing. I inquired about the supplier of the digital imaging equipment, and it was Agfa HealthCare. This is what brought me to them."

Clos Fleuri installed its first CR system in 2010. As technical service and support were also important to Dr. Putcuyps, she turned to X-Ray Equipment Verachtert, an Agfa HealthCare partner for imaging systems specifically configured for veterinarians. They had been supplying the practices' film and analog equipment, and Dr. Putcuyps was pleased with their approach and support.

## EFFORTLESS, AUTOMATIC IMAGE PROCESSING FOR NO-FAIL IMAGES

Dr. Putcuyps comments: "The CR system's introduction at our practice was not really a big deal. The system is very easy to use. I just select the exam on my NX workstation, such as a thorax of a medium-sized dog. The correct imaging parameters are sent right to the X-ray generator. When the image is made, it is immediately processed with the MUSICA$^2$ image processing software. This takes about one minute."

Dr. Putcuyps particularly likes the image processing. It struck her that the thorax images generated with Agfa HealthCare's CR are of considerably higher quality than images made in other practices with another supplier's CR system. As a second-line veterinarian, Dr. Putcuyps often reads thorax images from colleagues. It happens that these images are made with Agfa HealthCare's CR system, but without the MUSICA$^2$ image processing software. Without this software, the quality of the images cannot be compared.

Ingrid Putcuyps says: "Vets usually haven't received extensive training in

## AGFA HEALTHCARE'S CONTRIBUTION

» CR 30-X digitizer together with the NX workstation and MUSICA$^2$ image processing.

medical imaging, but now we are able to make high-quality images, effortlessly and automatically. Images never fail. Even when I've selected less than optimal settings and expect the image to be under- or overexposed, I'm surprised with the final image quality that appears on my screen."

### DIGITAL BENEFITS FOR PETS, OWNERS AND STAFF

The benefits of going digital became apparent quickly. In the past, the animals sometimes had to stay in the practice for hours until images could be exposed and developed. Now, pets can always leave with their owner as the images are ready very quickly. Next to the time savings, space savings are another important benefit. Part of the building used to be crammed with film. Today, images are only stored digitally and are much easier to retrieve. Ingrid Putcuyps: "When typing the patient name or reference number in the image archive application, it immediately finds the views you need. In addition, those images can be linked to the electronic patient record. Also, the exchange of images with colleagues is easier, as the images can be sent by e-mail." The system also allows CDs to be produced containing the images. This is often necessary, such as when a dog's official hip images are needed for pedigree purposes. Sometimes, clients ask for a CD with the images of their pet as well.

### CR SYSTEM FITS SPECIAL VETERINARY NEEDS

When deciding to invest in a digital imaging system, both CR and direct radiography (DR) were considered. Dr. Putcuyps, who also works with a DR system at university, admits that DR is even more convenient and quicker compared to CR because cassette handling is eliminated and images are immediately ready.

She comments: "There were various reasons why we opted for CR. First, at the time we made our decision, Agfa HealthCare's image processing software was not yet available with the DR system. Since I specialize in pulmonary problems, apart from thorax images, I also need to make intra-oral images before doing rhinoscopies. In conventional imaging, I could use cassettes that were small enough to fit in the mouth of a small animal. While the CR system did not offer small cassettes, we discovered a convenient solution: upon removing the phosphor plate from its cassette, it can be inserted in a flexible envelope. Once the animal is anesthetized, we insert the plate into its mouth and the image can be made. This is far more difficult to perform with DR." Finally, price was a decisive factor, as the practice had to go through several investments simultaneously. CR is about half the price of DR and both systems offer the same level of image quality.

"I'm really pleased with my CR system and hope I'll be able to keep it for a long time. I'd certainly encourage my colleagues to start using a similar CR system. But they shouldn't discredit the value of MUSICA$^2$ image processing, as this software really makes the difference when it comes to delivering high-quality images without manual adjustments," Dr. Putcuyps concludes. •

## DID YOU KNOW...

» Clos Fleuris is currently building a professional ICU unit for pets. Since critical care is one of Ingrid Putcuyps' focus points, she has joined the Veterinary Emergency and Critical Care Society.

» The United States was among the first countries to formally recognize veterinary radiology as a distinct profession with the 1961 founding of the American College of Veterinary Radiology.

» Veterinarians have been around as long as people and animals have worked and lived together. Ancient Chinese writings about diseases in horses, oxen and buffalo trace back to about 2,500 B.C.

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