Radiation Safety Case Study

PENNARD VETS

Images courtesy of Pennard Vets

Radiation safety made simple: Essential tips for your Small Animal Practice

How do real-life practices keep their teams and patients safe during diagnostic imaging? VET.CT sat down with leading clinics to uncover practical, everyday tips that make radiation safety simple and effective.

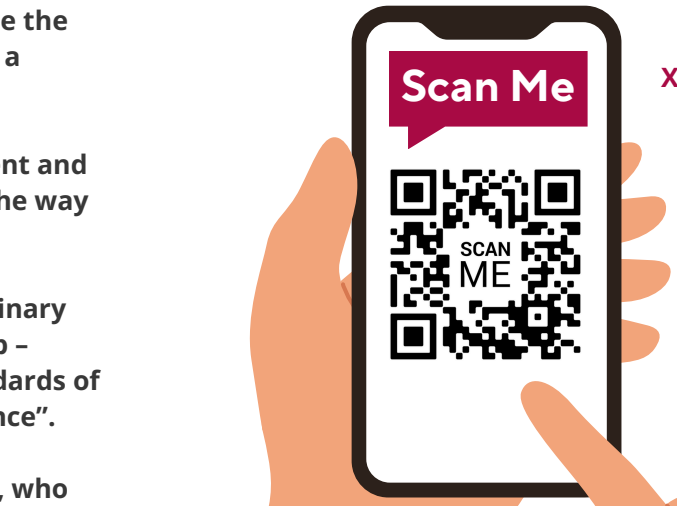
Pennard Vets is the world's largest employee-owned vet group, going above and beyond to provide the highest possible levels of care, while making a positive difference to communities.

They invest in their team, facilities, equipment and training, embracing the future and leading the way with the adoption of new technologies.

In 2022, Pennard Vets became the first veterinary practice in Europe to be classified as a B Corp – meaning they "voluntarily meet higher standards of transparency, accountability, and performance".

VET.CT met with radiologist, Deborah Mount, who recently joined Pennard Vets to run their newly installed CT unit, to discuss how the practice's high standards extend to best practice in diagnostic imaging and radiation safety for their team and patients.

Deborah talked through all the elements that result in a successful day in the imaging suite; from patient selection and setup of the X-ray room, to imaging workflows and the importance of teamwork.



X-PERT Radiation Safety Centre

Access VET.CT's best practice guides and downloadable toolkit to keep your practice, people and patients safe.

Pennard Vets
beyond the ordinary

VET·CT Clinical Support Services

Patient selection

“Our team of vets decide which patients require imaging and the type of restraint needed. Patients are only X-rayed conscious if they're really sick and need a quick image of the chest, for example. Everything else is planned to have sedation or a general anaesthetic. Even if conscious, patients are typically restrained with positioning aids such as sandbags and foam wedges. In the five months since I joined Pennard Vets, I haven’t seen a single animal manually restrained for images.

“One of the most important steps happens before the patient is even admitted, which is the completion of an imaging request form by the vet responsible for the case.”

“It’s important to have the background clinical history and what the vet is expecting imaging to rule in or rule out. That way, we can ensure we get all the correct images and avoid unnecessary exposures. A typical example would be a lameness in the limb, which may have been localised on examination to the stifle - we can then focus on that joint rather than taking survey X-rays of the whole limb.”

Diagnostic Imaging Workflows

“All the patients requiring X-rays and CT scans are booked into the operations list in advance, wherever possible. The vet in charge of the operations each day will decide whether a sedation or GA is required for each patient, depending on the health and history of the animal. The nurse running the ops list will then allocate people to different jobs across the list.

“We typically only have two or three sets of X-rays each day at most. This allows enough time to make sure patients can be sedated and recovered calmly within the room, and everything is cleaned down properly between patients without rushing. All the patients have an IV catheter placed when having X-rays taken so the sedation or anaesthetic can be quickly administered to effect.

“Once the exposures are taken, we ask the vet to check them before the patient is woken up to make sure we have all the views we need. We also have a guide that if one person doesn’t get a required view after two or three attempts, they ask someone else to try. For example, sometimes it feels like a dog just has wonky hips and it seems impossible to get a good ventro-dorsal image to check for hip dysplasia. Then someone else comes in and gets the perfect image first time! We really champion that type of teamwork and mutual support.”

The X-ray room

“The CT and the X-ray rooms are located in a quiet corner of the hospital, so there’s less disturbance from the busy area around the prep room. We can dim the light so it's nice and dark and quiet in the room. The animals are sedated or anaesthetised in the X-ray room, so we typically only have two people - one to restrain and one to sedate - with the patient in the room. Everyone entering the room wears an X-ray badge, and the readings from these are regularly reviewed to ensure we’re within the legal safe levels. There’s a risk assessment and a copy of the radiation safety rules in the X-ray room as well, close to hand for anybody needing them.

“We make sure we have positioning aids ready, including a variety of foam wedges, troughs, sandbags and ties. If anybody does need to be present in the room during exposure, we've got lead gloves, thyroid shields and aprons. The exposure button is actually outside the X-ray room, so people have to step outside to take the exposure, reducing the risk of irradiation.

“We have a log book for recording all the exposures for each patient. If there's any errors with the imaging, we make a record in the log book. We also make a note if a patient has been manually restrained.”

Training

“The equipment company provided initial team training on installation of the new machines. As a dedicated radiographer for the practice, I’m now also exploring how I can help with future training, for example with our student nurses, to optimise positioning and exposures etc.

“With digital radiography, there’s quite a big leeway for exposures and there can be a temptation to get a bit lax when post-exposure processing can edit most images to look diagnostic. It’s important to teach everybody in the team to be mindful about exposures and use the lowest exposure possible to get good images. We have exposure guides in the room, and the protocols for recognised schemes such as the Kennel Club hip and elbow scoring are readily available. I’m also currently working on guides for using the CT scanner.

“We have one vet and one nurse who are named radiation supervisors for the practice and they are responsible for ensuring we abide by local rules and legislation. They are the go-to people for any comments or questions about imaging and radiation safety.”

> **“At Pennard Vets, the importance of teamwork and accountability is recognised across all areas of the practice, especially where patient and personnel safety is concerned.”**

Key take-homes

Our three key recommendations for ensuring radiation safety for any practice would be:

01

Allow sufficient time for calm restraint and accurate imaging

It may take time to place an IV catheter, administer chemical restraint, calmly position a patient etc., but you end up saving time and getting better quality images as a result.

02

Good patient preparation

From the imaging request forms to sedation and post-imaging management, every step in the patient journey is important to ensure you get the right images in the most efficient way to support good care and outcomes.

03

Teamwork is key

Clear roles are important for smooth workflows. However, in vet practice it’s also important to be ready and willing to be flexible and support other team members where needed. It’s not about the individual - we take collective pride in a good day’s imaging.