

## Advanced Diagnostic Imaging



*Providing excellence in patient care...*



# Advanced Diagnostic Imaging

*Veterinary Specialist Services (VSS) is home to some of the most sophisticated diagnostic imaging modalities in veterinary medicine. The diagnostic imaging suite includes diagnostic ultrasound, digital radiography, fluoroscopy, CT Scan (Jindalee and Carrara) and MRI (Brisbane).*

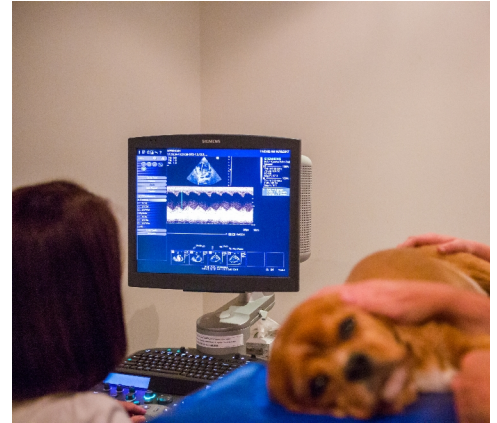
## Ultrasound

All of our hospitals have dedicated ultrasound machines which give high quality images for both dogs and cats. Ultrasound technology is a quick, safe, painless modality which does not involve ionising radiation. Ultrasound involves the use of high frequency sound waves reflecting off different tissues to make a computer generated image, which our vets interpret in real time.

Our dedicated medical specialists and registrars perform many types of ultrasound studies including:

- Abdominal disease (used to help locate gastrointestinal foreign bodies, diagnosis of pancreatitis, or looking for changes in architecture and presence of gross lesions in organs)
- Heart disease (an ultrasound of the heart is called an echocardiogram. This is used to diagnose cardiac disease and aids in procedures such as pericardiocentesis - draining fluid from the sac around the heart).

Most pets do not require sedation or anaesthesia for a standard ultrasound study and the procedure can generally be performed the same day as your consultation. Pets must be fasted the day of the procedure, as the ultrasound beam does not see well through gas or stomach contents. Your pet's coat will be clipped to ensure the best diagnostic images possible.



## Ultrasound Guided Biopsy Procedures

Ultrasound technology can be used to obtain minimally invasive biopsy samples in a variety of situations. An ultrasound procedure is performed initially to gauge the suitability for this procedure. A small gauge biopsy needle, or a fine needle, are used to obtain a sample. These procedures are usually performed under sedation or anaesthesia.



## Digital Radiography

X-ray technology is used extensively in small animal medicine for a variety of different studies. These studies include:

- Abdominal disorders (foreign body obstructions)
- Heart and Lung disorders (chest infections, fluid around the lungs)
- Bone disorders (broken bones, arthritis, bone infections, elbow and hip dysplasia)
- Contrast (dye) studies of the urinary tract and gastrointestinal tract.

Many of the more detailed studies are performed under sedation or anaesthesia to allow our team to obtain the best possible images with the least exposure to your pet possible.

## Myelogram

Myelogram is an imaging modality used to access the spinal cord. Contrast material (dye) is inserted into the sac around the spinal cord (the subarachnoid space) and radiographs are taken. If the lesion is not found using myelography, a CT scan or MRI is often advised. This procedure is used for intervertebral disc disease (slipped disc), spinal cord tumours and spinal injuries.



## Fluoroscopy

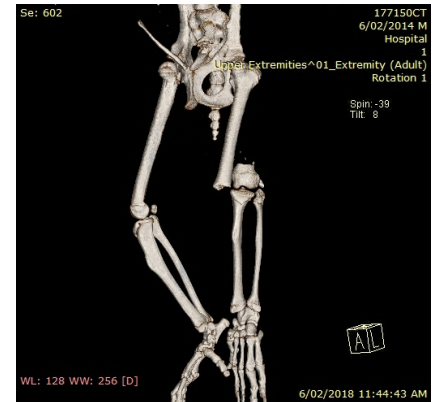
Essentially a moving x-ray, fluoroscopy allows us to evaluate the function of different body systems in real time. VSS uses fluoroscopy extensively in evaluation of the following:

- Swallowing study (used to diagnose swallowing dysfunction by using fluoroscopy to watch food which has been impregnated with a contrast agent travel from mouth to stomach)
- Used during surgical procedures such as pacemaker insertion, patent ductus arteriosus (heart surgery) and liver shunt surgery
- Respiratory disease (coughing study)
- Minimally invasive fracture repairs

## Computed Tomography (CT)

Our Carrara and Jindalee Hospitals are home to our CT Scanners. CT uses x-ray technology to create detailed images and 3D reconstruction of the body. At VSS we use CT for evaluation of the following:

- Brain, nose and ear evaluations
- Lung tissue (chest) for tumour metastasis
- Vascular supply of liver shunts
- Elbow dysplasia
- Complex spinal and bone fractures



We have a human radiographer who assists with the CT studies. Many patients will receive a contrast injection during this procedure. As CT requires the patient to be very still, patients must be anaesthetised for this procedure and they may be hospitalised overnight to ensure their safe recovery.



## Magnetic Resonance Imaging (MRI)

Our Brisbane hospital is home to our veterinary MRI machine. MRI does not use ionising radiation but instead uses radio waves to excite cells and generate a magnetic image which then is used to create a computer generated image. It is used extensively for soft tissue structures such as:

- Brain
- Spinal cord
- Muscles and tendons
- Nasal Cavity
- Ears

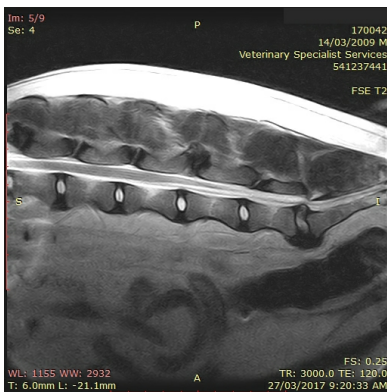
Many patients will receive a contrast injection during the procedure, and may be hospitalised overnight to ensure they recover well from the anaesthesia. We work in close conjunction with specialist veterinary radiologists to ensure the best interpretation of our MRI and CT studies so we achieve the best outcome for your pet.

Veterinary Specialist Services is extremely fortunate to have access to a high field MRI unit at the University of Queensland if required.

## Anaesthesia

Veterinary Specialist Services is proud to use the safest and most up-to-date anaesthetic agents and equipment. Every anaesthetic is tailored to your pet's individual requirements and a thorough pre-anaesthetic assessment is carried out before every anaesthetic,

including blood tests and assessment by other specialists as required. It is important to remember that any anaesthesia involves some very small risk to the patient. The staff at VSS take every precaution to ensure the safety and well being of your pet.



**If you have any questions, please feel free to contact us at  
Veterinary Specialist Services.**



**UNDERWOOD | CARRARA | JINDALEE**

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