

Information for Veterinary Surgeons

When should I use MRI instead of x-rays, ultrasound, or CT?

Body Part	MRI Preferred	CT Preferred
Brain	<ul style="list-style-type: none"> • Arteriovenous malformation and aneurysm • Congenital anomalies • Extra axial trauma with negative CT • Infarction • Inflammatory disease • Primary and metastatic neoplasia • Sella and pituitary disease • Vasculitis • Virtually all applications, in view of its superior soft tissue visualization and absence of beam hardening artifacts like those seen on CT 	<ul style="list-style-type: none"> • Acute intracranial trauma • Craniocervical junction bony anomalies • Skull Fracture • Skull base tumours
Orbits	<ul style="list-style-type: none"> • Cortical blindness or optic pathway disease • Optic neuritis • Retro bulbar neoplasms or masses • Retinal haemorrhage or sub retinal effusion • Sudden blindness • Vascular abnormalities 	<ul style="list-style-type: none"> • Orbital trauma with fracture
Head & Neck	<ul style="list-style-type: none"> • Nasal Neoplasia • Neck masses or adenopathy • Otitis - middle and inner ear • Oropharynx and Nasopharynx • Salivary gland masses • Thyroid masses (in 	<ul style="list-style-type: none"> • Bony head and neck trauma • Dental associated masses • Skull base neoplasia

conjunction with
thyroid scintigraphy)

Spine

- Congenital anomalies
- Discospondylitis
- Intervertebral disc disease
- Myelitis
- Primary or secondary or metastatic neoplasia of the spinal cord
- Paraspinal/vertebral neoplasia
- Post operative recurrence of intervertebral disc disease
- Spinal Stenosis
- Syringomyelia
- Bony spinal trauma (vertebral fracture)

Orthopaedics

- Avascular necrosis (i.e. Legg-Calve-Perthes disease)
- Joint effusion
- Lymphoma and Multiple Myeloma
- Meniscal, tendon or ligamentous injury
- Osteomyelitis and septic arthritis
- Primary bone tumours (in conjunction with bone scintigraphy)
- Soft Tissue Sarcomas
- Complex Fracture
- Prosthesis planning

Abdomen

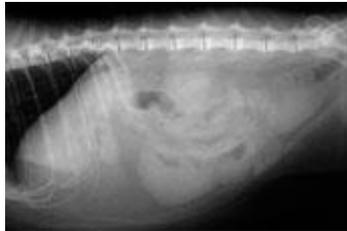
- Adrenal masses
- Hepatic masses
- Pancreatic masses
- Renal masses (in conjunction with renal scintigraphy)
- Splenic masses
- Portosystemic shunt
- Ectopic ureter evaluation
- Renal/ureteral calculus evaluation

Thorax

- Primary or metastatic lung carcinoma
- Pleural disease
- Pneumothorax
- Pneumonia, abscess and

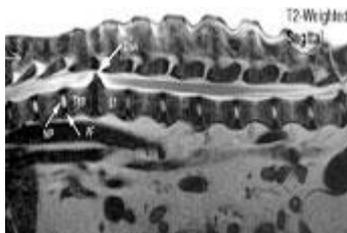
- empyema
 - Metastasis screening
- Pelvis**
- Anal gland adenocarcinoma
 - Bladder carcinoma
 - Soft tissue sarcoma
 - Primary bone tumour
 - Prostate carcinoma
 - Uterine neoplasia
 - Trauma (complex fractures)
- Cardiovascular**
- Cardiac and pericardial masses
- Vascular**
- Intracranial aneurysm, arteriovenous malformation
 - Evaluation of thrombosis including aortic, caval, and portal vein.
 - Pulmonary embolism

When you have to make a serious clinical decision,...



X-ray of a canine spine

...which image would you prefer?



MRI of a canine spine

It is this ability to show detail that has made MRI the gold standard for imaging soft tissues and in particular the brain and spine."* *DVM Sept 1, 2000

MRI is a powerful imaging modality that allows us to safely and quickly gain both anatomical and functional information about our patients without the need for invasive procedures. The detail provided by MRI is so much better than other imaging modalities that

it is considered the gold standard for imaging soft tissues, especially the brain and spine.

For example:

1. In a study of elbow joint fractures, radiographs only detected fractures 33% of the time. MRI detected fractures 95% of the time.(Dec 1997, Journal of Veterinary Research)
2. Tumour margins and behaviour can't be predicted with ultrasound and use is limited to areas not obscured by bone.
3. For our cancer patients, MRI is even more sensitive than CT and can help us more accurately determine tumour behaviour and margins.

When should I refer for an MRI?

MRI provides exceptional soft tissue detail, making it extremely useful in imaging the nervous system, joints, cardiovascular structures, and the abdominal organs.

It is particularly useful in (1) situations where other diagnostic tests have failed to give a diagnosis, (2) a client is hesitant to pursue invasive procedures, or (3) an owner needs an accurate diagnosis when making difficult decisions regarding the care of their pet.

Specific uses are as follows:

- Seizure Patients
- Patients with Vestibular Symptoms
- Neck or Back Pain
- Paresis
- Ataxia
- Lameness
- Abnormal Nasal Drainage or Swelling

How does the referral process work?

A referral can be made by speaking directly with the staff at Cedar Grove Veterinary Clinic

- Once the referral has been arranged, your clients can schedule an appointment with us directly.
- All pertinent information, including medical record and results of recent blood work should be emailed or faxed to our office in advance of your client's appointment.
- X-rays can be brought in by the client on the appointment day or can be emailed as JPEGs
- Billing can be done either directly at our facility (VISA, MasterCard, etc) or via direct insurance claim if the client has a confirmed insurance authorisation
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What happens when my patients come to the Cedar Grove facility?

All patients will have a full physical in anticipation of general anaesthesia. Once the physical is completed and all your client's questions have been answered, your patient will be given a pre - medication if indicated.

Every patient will then have an intravenous catheter placed. Once the IV is in place, we will induce anaesthesia, intubate your patient, and maintain anaesthesia with a gas anaesthetic. The MRI will then be performed.

Once the MRI is complete, images will be submitted as required to a board certified radiologist. Your patient will be discharged once fully recovered.