



Spinal Cord Imaging

Why Use MRI?

Diseases that affect the spinal cord require advanced imaging for accurate diagnosis, treatment, prognosis, surgical planning and post-surgical review. While, there are several options for this advanced imaging, the superior choice is magnetic resonance imaging (MRI).¹

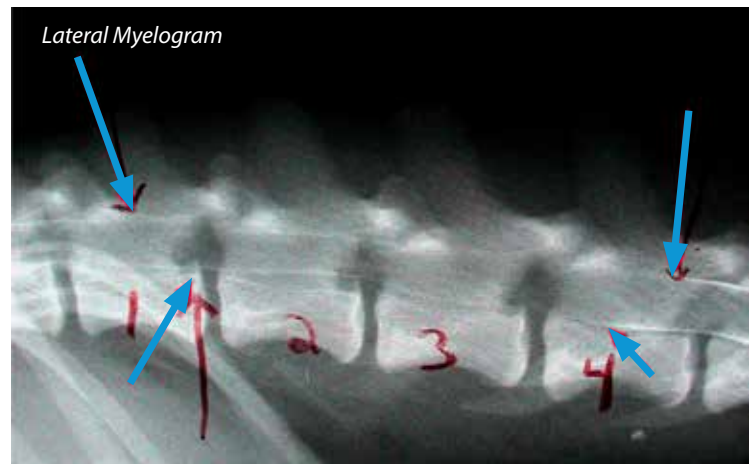
MRI In Comparison

Magnetic resonance imaging or MRI, assesses radio frequency pulses generated when protons are placed in a high field strength magnet. This allows MRI to assess water content in different tissues of the body and provides very specific information about the inside of the spinal cord. In contrast, computed tomography (CT) and myelography, are both based on older X-ray technology. Myelography is a time-consuming and technically-difficult procedure involving the placement of a needle next to or through the spinal cord and the injection of an agent, which can cause seizure, a worsening of neurologic grade, and death from arachnoid hemorrhage in the brain.^{1,2} The accuracy of a myelogram can be improved when combined with CT but this does not lower the associated risks.

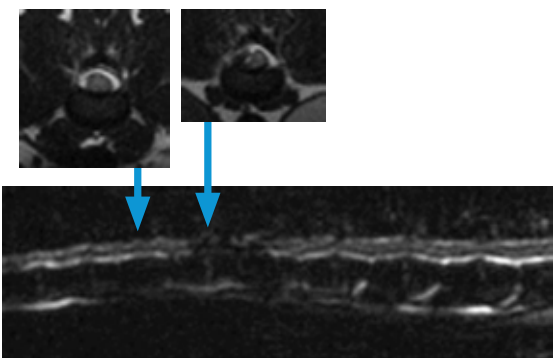
MRI – Safe, Accurate & Effective

MRI is the preferred choice for all spinal cord imaging because:

- MRI is 100% accurate in predicting level and side of a disk extrusion.^{3,4,5} MRI can also be used to distinguish between spinal cord swelling from compression which requires surgery and swelling or infarction which does not require surgery.¹ As a result, choosing MRI reduces the risk of an incorrect and/or unnecessary spinal surgery.
- In paraplegic dogs treated with surgery MRI is more important than deep pain status in predicting recovery. In one paper, 13/13 of deep pain negative dogs made a complete recovery following surgery when their MRI did not show disease inside the spinal cord. Importantly, MRI provides an accurate prediction of recovery from spinal surgery in paraplegic dogs.⁶
- MRI can provide a rapid, non-invasive evaluation of the subarachnoid space that appears similar to conventional myelogram but without the risks.¹ Using a heavily T2-weighted, single-shot, turbo, spin-echo MR sequence (also called a myelogram haste sequence) accentuates the high signal from the cerebrospinal fluid, providing an effective and safe alternative to myelography.
- MRI can accurately diagnosis most spinal cord conditions, not just disk disease.^{7,8,9} Choosing MRI allows us to provide specific & accurate answers and prognosis, whereas a myelogram or CT only indicate that there is spinal cord compression and surgery could be helpful.



Lateral Myelogram - Lumbar vertebrae are numbered and arrows indicated area of suspected disk extrusion.



Myelogram Haste with MRI - This sequence highlights an area of normal spinal cord (left arrow) and area of compression (right arrow). Cross sectional images are also shown highlighting a normal spinal cord (on the left) and the area of compression (on the right). The inside of the spinal cord maintains its normal grey indicating that surgery will allow the patient to improve.

Our Commitment

At Bush Veterinary Neurology Service, we are committed to providing our clients and patients with the most-effective and safest medicine and technology. This commitment has led us to provide onsite MRI at all of our full-service locations and to recommend MRI as a safe, highly-effective and invaluable tool to many of our patients and clients. MRI is a highly-effective diagnostic tool that provides us with the information we need to save lives, avoid costly and unnecessary surgery and improve the prognosis of many of our patients.

A Complete Neurology Center

Bush Veterinary Neurology Service is proud to offer onsite MRI alongside complete neurology care provided by leading and respected experts. From spinal surgery to brain surgery and the myriad of neurologic conditions in between, our skilled and experienced team has the expertise and training required to offer complete neurologic care to every patient and compassionate care to every client. This expertise is critical to ensure that all referred patients can be treated effectively, safely and humanely.

Please contact us to learn more about our onsite MRI service and how it can help your patients get back on their feet!



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To learn more about neurologic diseases, treatments, medications and our practice, please visit www.bvns.net.

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