

## Brain Camp Online – Advanced Diagnostic Imaging

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**Content Launch Date:** Monday, August 3, 2020  
**Live Q&A with the Presenters:** Monday, August 24, 2020  
 (session was recorded and is available for viewing in the learning platform)

This 6-hour course is an intense review of advanced neuroimaging, primarily focusing on magnetic resonance imaging. Computed tomography, spinal radiography, myelography and clinical cases are incorporated into the course. Important points of physics and disease syndromes will be emphasized.

By the end of this course you will:

- Understand basic and advanced MRI sequences, artifacts, and how to correct them
- Have a basic understanding of MRI of common intracranial pathologies
- Have a basic understanding of MRI of common spinal pathologies
- Have a basic understanding of the role of survey radiography, myelography and CT in veterinary neuroimaging

All topics will be presented in 50 – 60 minute pre-recorded sessions.

Advanced Diagnostic Imaging August 3, 2020	
Topic / Description and Learning Objectives	Presenter
<p><b>Module 1: Spinal Radiography and Myelography</b>            This session will provide an overview over basic principles of spinal radiography and myelography followed by a presentation of case examples of common spinal disorders in dogs and cats.</p> <p>Upon completion of the course, participants will be able to:</p> <ul style="list-style-type: none"> <li>• Recognize artifacts and normal anatomic variants on spinal radiographs and distinguish them from significant lesions</li> <li>• Understand how a myelogram is performed</li> <li>• Distinguish extradural, intradural-extramedullary and intramedullary lesions on myelography and list appropriate differential diagnoses</li> <li>• Recognize common spinal diseases on survey radiographs and myelography</li> </ul>	<p>Silke Hecht, Dr. med. vet.,            DACVR, DECVDI</p>

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<p><b>Module 2: CT of the Brain and Spine</b> This session will provide an overview over CT technology, basic principles of interpretation and CT features of common intracranial and spinal disorders in dogs and cats.</p> <p>Upon completion of the course, participants will be able to:</p> <ul style="list-style-type: none"> <li>• Understand basic concepts of CT image interpretation including density measurements (Hounsfield units)</li> <li>• Be familiar with normal anatomic variants and incidental findings seen on canine and feline brain and spine CT studies</li> <li>• Identify common intracranial abnormalities seen on CT and derive appropriate differential diagnoses</li> <li>• Identify common spinal abnormalities seen on CT and derive appropriate differential diagnoses</li> </ul>	<p>Silke Hecht, Dr. med. vet., DACVR, DECVDI</p>
<p><b>Module 3: Brain MRI Interpretation: A Practical Framework</b> This session will discuss principles of brain MRI and provide a framework for brain MRI interpretation.</p> <p>Upon completion of the course, participants will be able to:</p> <ul style="list-style-type: none"> <li>• Understand important pulse sequences in brain MRI</li> <li>• Recognize artifacts and implement corrective actions</li> <li>• Recognize features of increased intracranial pressure and brain herniation</li> <li>• Apply a systematic approach to brain MRI interpretation</li> </ul>	<p>Jay Griffin, DVM, DACVR</p>
<p><b>Module 4: Brain MRI Interpretation: Problem Solving and Differential Diagnoses</b> This session will emphasize problem-solving in brain MRI interpretation and principles used to derive appropriate differential diagnoses.</p> <p>Upon completion of the course, participants will be able to:</p> <ul style="list-style-type: none"> <li>• Distinguish extra-axial and intra-axial lesions and list appropriate differential diagnoses</li> <li>• Understand the imaging features of common brain diseases of various etiologies</li> <li>• Recognize and formulate differential diagnoses for cranial nerve, calvarial, and extra-calvarial lesions</li> </ul>	<p>Jay Griffin, DVM, DACVR</p>

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<p><b>Module 5: Interpretation of Spinal MRI: Sequences and Principles</b> During this session we will focus on sequence selection; image acquisition and quality assessment; and tools for interpretation.</p> <p>Upon completion of the course, participants will be able to:</p> <ul style="list-style-type: none"> <li>• List commonly used sequences in MRI of the spine</li> <li>• List common MRI artifacts in the spine</li> <li>• Evaluate image quality</li> <li>• Interpret MRI studies of the spine</li> </ul>	<p>Matt Winter, DVM, DACVR</p>
<p><b>Module 6: Interpretation of Spinal MRI: Application of Principles and Clinical Problem Solving</b> During this session we will apply the principles reviewed in the first session through case review.</p> <p>Upon completion of the course, participants will be able to:</p> <ul style="list-style-type: none"> <li>• Describe lesions using modified Roentgen signs</li> <li>• Distinguish the location of lesions: intramedullary, intradural/extramedullary, extramedullary</li> <li>• Recognize MRI features of common spinal diseases</li> <li>• Generate appropriate differential lists for patterns of MRI features</li> </ul>	<p>Matt Winter, DVM, DACVR</p>