

Advanced Imaging Digest

Radiology trend: Magnetic resonance spectroscopy

Magnetic resonance spectroscopy (MRS) utilizes MRI special pulse sequences to identify atomic nuclei within molecules, enabling the detection of certain chemicals and metabolites and providing a non-invasive method to characterize biochemical processes in the body.

MRS of cord lesions

Magellan Healthcare has reviewed the use of MRS for intralesional spinal cord evaluation for cord pathology, such as tumors, multiple sclerosis and amyotrophic lateral sclerosis (ALS), as well as cervical myelopathy. While our current findings show that some technical issues need to be addressed, including respiratory and cardiac motion, and we expect that the number of studies requested for this indication will be limited, we will continue to monitor the MRS literature for evaluation of lesions inside the spinal cord for possible inclusion in our clinical guidelines.

MRS for discogenic pain

MRS is currently being studied for discogenic pain. Although it is not ready for regular use and appears less promising than MRS for intralesional cord evaluation, it may be beneficial when performed in conjunction with conventional imaging. Our preliminary findings suggest that the MRS characteristics may explain a painful disc prior to surgery; however, this technique requires validation by larger studies.

Most studies performed to date have focused on the lumbar spine. Future studies of the cervical and thoracic regions are required to determine whether MRS for discogenic pain is technically feasible, since the size of the vertebral disc is much smaller.

MRS is typically requested by academic institutions in limited quantities. Magellan does not anticipate that MRS for discogenic pain will gain a foothold in busy private practices or smaller community hospitals anytime soon, if at all. We will continue to monitor the literature for future trends. At this stage, we do not recommend including this specific CPT code in clinical guidelines.

About the authors



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Dr. Khalid joined Magellan in 2014. As a board-certified diagnostic radiologist with a career spanning more than twenty years, he has a thorough understanding of the complexities of the U.S. healthcare system and current standards of care. In his current role, Dr. Khalid is involved in training new physicians, auditing, continuing education and policy development. His experience managing over 185 physicians performing utilization management reviews has afforded him the business acumen to be successful in many arenas of healthcare beyond just coverage of services.

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Dr. Mazzie, a board-certified radiologist with over 19 years of experience, joined Magellan in 2014. He is a graduate of the New York Institute of Technology College of Osteopathic Medicine, where he is currently an associate professor of radiology.



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