



Comparative study suggests ultrasound is a faster and less-costly alternative to MRI in assessing meniscal tears

By Michael H. Weier ■ July 23, 2015

A comparative study of diagnostic efficacy suggests ultrasound has advantages over standard magnetic resonance imaging (MRI) for meniscus evaluations.¹

MRI² is currently the standard objective diagnostic test for assessing and confirming meniscal³ tears. It reveals whether and to what extent the lateral or medial meniscus is intact, torn or shredded. MRI is a useful clinical aid for the physician to recommend conservative versus surgical treatment. MRI is objective. It is accurate. And at a current range of approximately \$430 to \$850,⁴ it is costly.⁵

Ultrasound⁶ is another, less used, diagnostic test for assessing meniscal tears. Whereas MRI typically requires an attending or treating physician referral to a radiological clinic, many primary care physicians have the necessary equipment and ability to quickly and accurately perform ultrasound tests in their offices. Diagnostic ultrasound is quick, objective and less costly than MRI.⁷

The diagnostic test study compared MRI versus high resolution ultrasound results with surgical reports to confirm the existence, size and type (partial, full, or shredding) of meniscal tears. The study revealed that ultrasound was a very effective diagnostic tool for assessing and confirming meniscal tears. A ten percent inability to accurately assess lateral meniscal tears due to poor images is a weakness in ultrasound acknowledged by the study. Nonetheless, the researchers declared high resolution ultrasound is a quick, accurate and less costly alternative to MRI for assessing meniscal tears.

At less than half the cost of MRI, claims examiners should consider asking attending and treating physicians whether ultrasound versus MRI can provide necessary objective diagnostic evidence for meniscus tear evaluations and treatment recommendations. ■

Researchers declared high resolution ultrasound is a quick, accurate and less costly alternative to MRI for assessing meniscal tears

¹ Yorikazu Akatsu, MD, PhD, et al., Accuracy of high-resolution ultrasound in the detection of meniscal tears and determination of the visible area of menisci, *J Bone Joint Surg Am*, 2015;97:799 (May 20, 2015). (See: <http://jbjs.org/content/97/10/799>.)

² MRI is a noninvasive medical test that uses powerful magnetic fields and radio waves to produce detailed pictures of organs, soft tissues and bone. The magnetic fields temporarily realign electrons of the hydro-

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Ultrasound is a faster and less costly alternative to MRI (continued)

gen atoms in the body. Radio waves cause the aligned atoms to produce faint signals, which are used to create cross-sectional images, similar to slices of an apple. Unlike x-rays, MRI does not use ionizing radiation to produce pictures. See, Magnetic Resonance Imaging (MRI) – Body, RadiologyInfo.org <http://www.radiologyinfo.org/en/info.cfm?pg=bodymr>; Tests & Procedures: MRI, The Mayo Clinic (See: www.mayoclinic.org/tests-procedures/mri/basics/definition/prc-20012903)

- ³ The medial and lateral menisci are two C-shaped cartilages located on the top of the tibia bone and serve to cushion and protect the bones from wear and tear, and stabilize the knee joint. Knee Injury and Meniscus Tear, Ross Brakeville, WebMD, <http://www.webmd.com/fitness-exercise/meniscustear>, January 23, 2015; Torn Meniscus, MedicineNet.com, January 30, 2015. (See: http://www.medicinenet.com/torn_meniscus/article.htm.)
- ⁴ The 2014-2015 Washington State Department of Labor and Industries' fee schedule reveals the cost of knee MRI is \$438.15 without contrast, \$681.87 with contrast and \$836.52 comparative with and without contrast.
- ⁵ Washington State Department of Labor and Industries, Professional Services Fee Schedule, Radiology Fees, Effective for Dates of Service on or After July 1, 2014. (See: www.lni.wa.gov/ClaimsIns/Files/Provider-Pay/FeeSchedules/2014FS/fsRadio.pdf)
- ⁶ Ultrasound uses high-frequency sound waves to produce images of internal organs and structures. MedlinePlus, U.S. Library of Medicine, National Institute of Health. (See: www.nlm.nih.gov/medlineplus/ency/article/003336.htm.)
- ⁷ Cost of complete ultrasound for the knee is \$204.44 and limited ultrasound is \$59.75, according to the 2014-2015 Washington State Department of Labor and Industries' fee schedule.

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