National Imaging Associates, Inc.*	
Clinical guidelines **LOW FIELD MRI**	**Original Date: July 2009**
CPT Codes: S8042	**Last Revised Date: June 2021**
Guideline Number: NIA_CG_064	**Implementation Date: January 2022**

IMPORTANT NOTE

Low Field MRI services are not considered to be medically necessary, are not approvable for payment, and cannot be approved.

BACKGROUND

MRI scanners with a field strength of greater than 1.0 Tesla (T) are considered high field. The typical high field MRI units in clinical practice range between 1.0 – 3.0 Tesla. In October 2017 the FDA cleared the first 7 T MRI units. The definition of mid and low field MRI is more variable with mid field units having a lower field strength range of 0.3 to 0.5 and an upper limit under 1.0 T. Low field units have field strengths below 0.3 to 0.2 T. The major disadvantage of low field strength MRI relative to higher field scanners is lower signal to noise ratios, less homogeneity in the magnetic field, lower detection of calcification, hemorrhage, or gadolinium enhancement. Lee et al showed that low field (<0.5 T) units were effective in evaluating medial meniscal, anterior cruciate ligament, and rotator cuff tears but not effective for evaluating lateral meniscal tears, osteochondral defects, or shoulder superior labrum-anterior posterior (SLAP) ligament complex pathology (Lee 2013, 2014).

POLICY HISTORY

Date	Summary
June 2021	• No changes
May 2020	• No changes
April 2019	• No changes

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REFERENCES

Lee CS, Davis SM, McGroder C, et al. Analysis of low-field magnetic resonance imaging scanners for evaluation of knee pathology based on arthroscopy. *Orthop J Sports Med*. December 2013; 1(7):2325967113513423. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4555514/. Retrieved January 10, 2018.

Lee CS, Davis SM McGroder C, et al. Analysis of low-field MRI scanners for evaluation of shoulder pathology based on arthroscopy. *Orthop J Sports Med*. July 2014; 2(7):2325967114540407. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4588525/. Retrieved January 10, 2018.

Low-field Disadvantages from MRIquestions.com website. http://mriquestions.com/disadvantages.html. Retrieved December 28, 2017.

US Food and Drug Administration (FDA). News Release: FDA clears first 7T magnetic resonance imaging device. https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm580154.htm. Released October 12, 2017. Retrieved 12/28/17.

Reviewed / Approved by NIA Clinical Guideline Committee

GENERAL INFORMATION

It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.

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