

# Editorial Commentary: False-Positive Meniscus Pseudotear on Magnetic Resonance Imaging: A False Sign That Rings True



Peter R. Kurzweil, M.D.

**Abstract:** The false-positive finding of anterior horn meniscus (pseudo)tear on magnetic resonance imaging (MRI) is an important finding of which to be aware. We have recently seen awareness similarly raised regarding root tears of the meniscus, which, if overlooked, could have detrimental consequences. Manifestations of the MRI finding of meniscus pseudotear arise from the variability of the insertion of the transverse geniculate ligament into the anterior horn of the lateral meniscus. Bearing in mind that anterior knee pain is a common reason that patients present for an orthopaedic and sports medicine evaluation, the understanding that this MRI finding does not represent a true meniscus tear may save patients from unnecessary arthroscopic surgery.

See related article on page 588

When the article “Pseudotear Sign of the Anterior Horn of the Meniscus” by Kang, Wu, Pu, Tan, Dong, Yan, and Liu<sup>1</sup> appeared in my inbox requesting a review, I presumed the topic would be of low general interest. Nevertheless, I accepted the task. To my surprise, I loved the article and found it to be original and practice-changing.

Recent publications on magnetic resonance imaging (MRI) of the knee have raised awareness about root tears of the meniscus.<sup>2</sup> The appearance on MRI of a root tear may have been overlooked until recently by orthopaedic surgeons and our radiology colleagues. As we now understand, missing a root tear may have significant detrimental ramifications.<sup>3-5</sup> Root tears are something that we now specifically look for when evaluating MRI of the knee.

This article introduces a “new” sign that is something else to routinely look for when evaluating MRIs of the knee. Wondering if there is truly anything new, I found that a literature search shows a handful of publications

on the pseudo-tear sign of the lateral meniscus.<sup>6-9</sup> These articles are mostly single case reports in radiology journals from 20 years ago. What makes the present article practice-changing is its comprehensive overview of this pseudo-tear sign, elucidating the various presentations and correlating the MRI findings with anatomical drawings. The pseudotear sign comes down to the transverse genicular ligament and its variable insertion into the anterior horn of the lateral meniscus. The examples given are clearly presented and succinctly explain how the lucent signal that appears to be a tear in the anterior horn of the lateral meniscus is actually not a tear.

Anterior or anterolateral knee pain is a common patient presentation. Patients will be referred to orthopaedic surgeons with an MRI having been read as showing an anterior horn lateral meniscus tear. Being aware of the pseudotear sign will save your patient from a potentially unnecessary surgery and direct the workup for other causes of their symptoms. Read this article and share it with your referring radiology colleagues. At least look at the pictures! This article can help us become better clinicians.

## References

1. Kang C-W, Wu L-X, Pu X-B, Tan G, Dong C-C, Yan Z-K, Liu L. Pseudotear sign of the anterior horn of the meniscus. *Arthroscopy* 2021;37:588-597.

Long Beach, California

The author reports the following potential conflicts of interest or sources of funding: other from Smith & Nephew, outside the submitted work. Full ICMJE author disclosure forms are available for this article online, as supplementary material.

© 2020 by the Arthroscopy Association of North America  
0749-8063/201677/\$36.00

<https://doi.org/10.1016/j.arthro.2020.10.011>

2. Krych AJ. Editorial Commentary: Knee medial meniscus root tears: "You may not have seen it, but it's seen you." *Arthroscopy* 2018;34:P536-537.
3. LaPrade RF, Matheny LM, Moulton SG, et al. Posterior meniscal root repairs: Outcomes of an anatomic transtibial pull-out technique. *Am J Sports Med* 2017;45:884-891.
4. Chung KS, Noh JM, Ha JK, et al. Survivorship analysis and clinical outcomes of transtibial pullout repair for medial meniscus posterior root tears: A 5- to 10-year follow-up study. *Arthroscopy* 2018;34:530-535.
5. Cinque ME, Chahla J, Moatshe G, Faucett SC, Krych AJ, LaPrade RF. Meniscal root tears: A silent epidemic. *Br J Sports Med* 2018;52:872-876.
6. Erbagci H, Yildirim H, Kizilkan N, Gümüşburun. An MRI study of the meniscofemoral and transverse ligaments of the knee. *Surg Radiol Anat* 2002;24:120-124.
7. Vande Berg B, Malghem. Arthrographic pseudotear of the anterior horn of the lateral meniscus caused by a displaced meniscal fragment. *J Skeletal Radiol* 1993;22:600-601.
8. Traughber PD, Murray WT. Lateral meniscus pseudotear or "line of Murray." *AJR Am J Roentgenol* 1991;157:649-650.
9. Carpenter WA. Meniscofemoral ligament simulating tear of the lateral meniscus: MR features. *J Comput Assist Tomogr* 1990;14:1033-1034.