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Reduce unnecessary imaging by refining clinical exam skills

“Good morning, Mr. Harris. What can I do for you today?”
“Dr. Hickner, I need an MRI of my right knee. I hurt it last week, and I need to find out if I tore something.”

We all know that too many patients request—and often get—costly (and unnecessary) magnetic resonance imaging (MRI) and computed tomography (CT) scans of their joints and backs. That’s why such imaging is targeted in the *Choosing Wisely* campaign, which aims to eliminate needless testing.¹

But how can we confidently tell Mr. Harris that he doesn’t need an MRI or CT scan? One approach is to explain that imaging is generally reserved for those considering surgery, as it serves to inform the surgeon of the exact procedure needed. An-

other approach is to be skilled in physical exam techniques that increase our confidence in the clinical diagnosis.

A thorough physical exam and selective plain x-rays are all that is needed for the initial evaluation of most knee injuries.

■ **Applying this to acute knee injuries.** In this issue of *JFP*, Koster and colleagues explain that the Lachman test (and possibly the newer lever sign test) are maneuvers that have a high probability of ruling out complete anterior cruciate ligament (ACL) tears when performed properly. The Lachman test, for example, has a 96% sensitivity for complete ACL ruptures.²

(The anterior drawer test has too low a sensitivity to rule out ACL injuries, and the pivot shift test is a bit too challenging to be performed reliably.)

This is important information because early surgery for ACL tears leads to better outcomes for athletes, and a reliable physical exam to rule out an ACL tear reduces the need for imaging. Moreover, other than fractures near the knee, no other knee injuries require early surgery. So a thorough physical exam and selective plain x-rays are all that is needed for the initial evaluation of most knee injuries.

The same is true for back and shoulder injuries, where acute imaging with MRI or CT is rarely called for. A thorough and accurate physical examination is usually sufficient, supplemented with plain X-rays on a selective basis.

■ **Going one step further,** consider taking a look at the *JAMA* series called, “*The Rational Clinical Examination*,” which has been compiled into a single publication by the same name.³ It is an excellent guide to the sensitivity, specificity, and positive and negative likelihood ratios of a host of clinical findings and tests. It can help to greatly improve clinical skills and reduce unnecessary testing.

1. Choosing Wisely. Available at: <http://www.choosingwisely.org>. Accessed February 14, 2018.

2. Leblanc MC, Kowalczyk M, Andruszkiewicz N, et al. Diagnostic accuracy of physical examination for anterior knee instability: a systematic review. *Knee Surg Sports Traumatol Arthrosc.* 2015;10:2805-2813.

3. The Rational Clinical Examination. Available at: <https://medicinainternaucv.files.wordpress.com/2013/02/jama-the-rational-clinical-examination.pdf>. Accessed February 14, 2018.

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