

# Over-Utilization of MRI in the Osteoarthritis Patient

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## Introduction

Medical imaging now consumes 10% to 15% of Medicare payments to physicians, compared with less than 5% only a decade ago. Imaging costs are expected to keep growing at an annual rate of 20% or higher, now outpacing the cost of prescription drugs. Over-utilization of MRI contributes to cost, especially in a radiographically proven osteoarthritic knee.

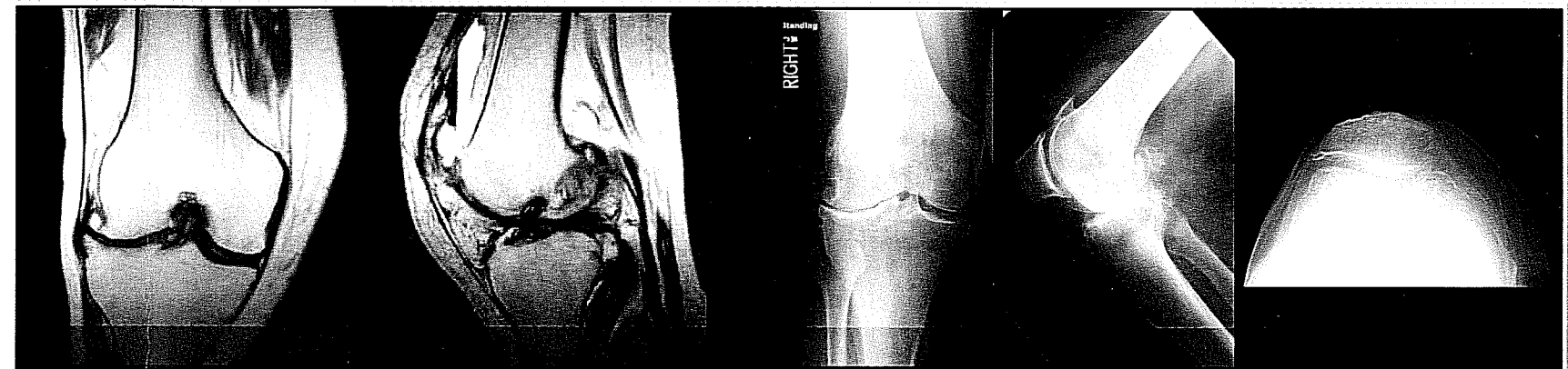
## Methods

A random sample of 50 patients with primary total knee arthroplasty for osteoarthritis were reviewed to see if within the last two years they had an MRI of their knee. Data was obtained by chart review and phone call to verify that the patient had MRI prior to seeing the senior author for total knee arthroplasty. The senior author routinely obtains routine knee radiographs including weight-bearing and Rosenberg notch views. These patients had TKA due to evidence of bone on bone articulation in any or all of the three compartments.

## Results

32 of 50 patients had MRI done prior to consultation, which was ordered by their primary care and sometimes even an orthopaedic physician. More than half did not have radiographs prior to the MRI.

Figure 1-Osteoarthritis  
Poor Indication



MRI

Radiographs

## 2007 Provider and Average Reimbursement

Provider	CPT 73721 Knee MRI Average Reimbursement <sup>1</sup>	CPT 73564 Knee Four View X-Ray Average Reimbursement <sup>2</sup>
PPO A	\$674.00	\$50.00
PPO B	\$677.02	\$128.32
PPO C	\$803.03	\$136.00
PPO D	\$562.61	\$136.00
PPO E	\$812.43	\$141.48
Specialty MD Provider Contracting Organization	\$1,262.82	\$192.93
PPO G	\$766.54	\$134.50
Worker's Compensation	\$664.00	\$136.00
Medicare Allowable Reimbursement	\$470.91	\$42.46

## 2007 Knee MRI

Facility	CPT 73721 Knee MRI Bill to Insurance <sup>1</sup>
Private Physician Practice	\$1,116
Hospital A	\$1,400
Hospital B	\$1,446
Hospital C	\$2,520
Private Imaging Center A	\$1,400
Private Imaging Center B	\$1,150

## Conclusion

There is no or minimal benefit to MRI in patients with osteoarthritis of the knee that is obviously apparent on weight-bearing and skyline patella-view x-rays. (Figure 1) This is unfortunately not apparent to a very small segment of orthopaedic surgeons. The patient is often referred by the Primary Care Physician with the finding of "torn meniscus", and many patients expect an arthroscopy and seem upset that the orthopedic surgeon does not use the MRIs to make the diagnosis and direct treatment. In rare cases, especially in elderly women, a history of sudden onset of knee pain, especially on weight-bearing, localized tenderness on physical examination, and a complete radiographic series may be normal. In this case, an MRI can be useful to diagnose spontaneous osteonecrosis of the knee or a stress fracture. (Figure 2)

In 2007, the MRI charge (CPT 73721) at a group practice in Illinois was \$1,116.00<sup>1</sup> (Table 1) and the Medicare allowable reimbursement for MRI of the knee was \$470.91.<sup>2</sup> (Table 2) Commercial insurance reimbursement can be significantly higher. In 2008, the Medicare allowable reimbursement decreased to \$457.33.<sup>2</sup>

In 2007, the charge for a four view arthritis series of the knee (CPT 73564) at a group practice in Illinois was \$136.00 and the Medicare allowable reimbursement was \$42.46.<sup>2</sup> (Table 2) In 2008, the Medicare allowable reimbursement increased to \$43.39.<sup>2</sup>

Possibly due to lack of musculoskeletal education, or possibly as a result of financial incentive due to ownership, MRI is sometimes ordered instead of x-rays. This study suggests the need for strict guidelines or credentialing of those who order musculoskeletal MRIs.

Figure 2-Spontaneous Osteonecrosis  
Reasonable Indication



MRI

Radiograph

## References

1. Personal communication from A. Sodavaram at Illinois Bone and Joint Institute, Illinois, April 24, 2007.
2. Personal communication from M. McManamon at Health Information Services, Park Ridge, Illinois, January 15, 2008.



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