

Accuracy of Clinical Suspicion for Rotator Cuff Tear by Orthopaedic Surgeons when MRI Ordered on Initial Visit: Should Physical Therapy be Mandated by Insurance?

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INTRODUCTION: Insurance companies often mandate 6-weeks of conservative physical therapy (PT) prior to approving MRI orders for patients with presumed atraumatic rotator cuff tears (RCT). While this protocol is designed to limit excessive imaging orders, it ultimately can lead to wasted healthcare dollars and delayed treatment when orthopaedic surgeons have a high initial index of suspicion for RCT. Delay in surgery has been shown to contribute to worse functional outcomes. The purpose of this study was to determine the incidence of full and partial-thickness tears diagnosed by MRI when ordered by an orthopaedic specialist at the time of initial consultation for shoulder pain.

METHODS:

Retrospective review of patients 18 years or older who had an MRI ordered upon first visit with an orthopaedic specialist for shoulder pain was conducted. Exclusion criteria included: under 18 years of age; current shoulder fracture, infection, or tumor; previous ipsilateral upper extremity MRI; and incomplete MRI. Primary outcome was the presence or absence of RCT. Secondary outcome was subsequent surgery. Subgroup analysis of tears based on insurance status, previous PT/steroid injection of ipsilateral shoulder, and ordering physician was performed to control for potential confounding variables. The average cost of 6-weeks of PT versus the cost of immediate MRI in these patients was also collected. ANOVA, Independent T-test, and Chi-Squared Test were used to analyze differences between groups. P-value < 0.05 was utilized as a threshold for statistical significance.

RESULTS: A total of 403 patients met the inclusion criteria. MRI review revealed that 166 patients (41.2%) had a full-thickness tear, 98 (24.3%) had a partial-thickness tear, and 139 (34.5%) had no tear. Of the 210 patients who had no history of physical therapy or steroid injection in the ipsilateral shoulder, 136 (64.8%) had a positive MRI finding of a RCT. A total of 96/166 (57.8%) of the full-thickness tears proceeded to surgery at our institution. Patients with full-thickness tears (n=166) were further stratified by those who proceeded to surgery (n=96) and patients who did not undergo surgical repair (n=70). Analysis yielded no statistically significant differences in age, race, BMI, sex, ordering physician, insurance coverage, or history of physical therapy/steroid injection between the two groups. At our institution, the cost of an upper extremity MRI without contrast averages \$2,268. A single PT session costs an average of \$194, with an estimated two sessions per week for six weeks totaling \$2,328.

DISCUSSION AND CONCLUSION: Over 65% of MRI orders upon initial consultation yielded a positive finding of either a partial or full thickness rotator cuff tear. Positive yield of MRI imaging remained at 64.8% in the absence of a history of conservative treatment, validating a specialist's clinical suspicion of tear and indication for MRI. Delay to surgical intervention for rotator cuff tears has important clinical implications associated with worse postoperative functional outcomes and revision rates. Foregoing unnecessary pre-MRI PT offers an effective way to reduce healthcare costs, streamline productivity, and improve functional outcomes in the treatment of chronic rotator cuff tears.