The Role of Magnetic Resonance Imaging in a Division I University Sports Medicine Program

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Objectives: Magnetic Resonance Imaging (MRI) is commonly used for examination of soft tissue and some bony injuries. MRIs are seemingly ordered more commonly and sooner after injury diagnosis in athletes than in the general population. There is no published data or guidelines regarding the use of MRI in this patient population. The purpose of this study was to prospectively document musculoskeletal MRI use and its effect on diagnosis, playing status and treatment of athletes at a division I university sports program. We hypothesized that MRI is commonly used early in the injury course and often has little or no effect on the diagnosis or treatment plan for most injuries.

Methods: Data was collected of musculoskeletal MRI use in varsity student athletes for 2 full academic years from 2010-12 at a NCAA Division I institution. Data collected included timing of the injury and physician visit as well as pre and post-MRI diagnosis, playing status and treatment.

Results: 86 MRI’s were obtained during the 2 years studied. Average age was 19.9 (18-23). 45 percent of injuries occurred during competition season, 34% pre-season and 21% post-season. No statistically significant difference was seen with respect to pre-MRI vs post-MRI diagnosis, treatment or participation status (p>.05) With removal of the 15 MRI’s obtained for preoperative planning no significance was again seen with regards to pre-MRI post-MRI diagnosis, participation status or treatment (p>.05). There was a change in diagnosis in 13 athletes (only 1 led to surgery performed after completion of the season) and there was a change in participation status in 8 athletes (5 increased, 3 decreased). No athlete required surgery immediately following an MRI that wasn’t already being planned.

Conclusion: The use of MRI in a division I sports medicine athletic program rarely changed diagnosis, treatment or playing status of an athlete. MRI did not demonstrate significant benefit over history and physical examination. The role of MRI in athletes is mainly for pre-surgical planning and reassurance of the athlete, athletic training.

| Changed diagnosis as a result of the MRI |
|-----------------------------------------|
| Pre-MRI Diagnosis                      |
| MCL tear                               |
| Spondyloysis                           |
| Lumbar strain                          |
| TFCC tear                              |
| Hand stress fracture                   |
| Meniscal tear                          |
| Meniscal tear                          |
| Meniscal tear                          |
| Biceps Femoris Strain                  |
| Meniscal Tear                          |
| Glenoid Labral Tear                    |
| Meniscal Tear                          |
| Me

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