Utilization of Ankle MRI’s and Correlation with Patient Treatment in an Active Duty Military Population

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Background

- Anecdotally there was concern that MRI was being overused at our facility
- MRI as a screening tool
  - 30% of asymptomatic patients with ATFL or peroneal abnormality
  - 11% of asymptomatic patients with CFL abnormality
Hypothesis

- Ankle MRI’s are over utilized in the military population and have a low yield of patients requiring orthopaedic surgery
Materials and Methods

- 230 consecutive ankle MRI’s of active duty soldiers reviewed over 6 months from October 2009-March 2010

- Retrospectively reviewed the medical records over the following 2 years

- Primary Outcome
  - Surgery or no surgery?
Materials and Methods

- Secondary measures
  - Provider
    - Orthopaedics
      - Podiatry
      - Foot & Ankle surgeons
    - Non F&A surgeons
  - Non-Orthopaedics
  - Referral to ortho?
  - Plain radiographs prior?
Study Population

- **Demographics**
  - Active duty
  - 64% male, 36% female
  - Average age 31 years

- **Laterality**
  - 48% right, 52% left

- **Primary indications for MRI**
  - Pain
  - Instability

- Common MRI findings: lateral ligament injuries, talus osteochondral lesions, achilles tendinosis
Results

- 25% (59/230) of patients with an ankle MRI had surgery
  - Lateral ankle ligament reconstruction
  - Ankle arthroscopy +/- osteochondral defects

- 36% of MRIs ordered by Orthopaedics
  - 30% (26/87) underwent surgery

- 64% ordered by Non-Orthopaedic provider
  - 23% (33/143) underwent surgery
  - 31% (45/143) were not referred to orthopaedics

- 7% of all patients did not have an abnormality on MRI
MRI Breakdown by Ordering Provider

- Podiatry 17%
- Foot & Ankle 9%
- Non Foot & Ankle Surgeons 11%
- Non-Orthopaedics 63%

N = 230
Discussion

- Overutilization of ankle MRIs by primary care and orthopaedic surgeons
  - 25% of active duty patients with ankle MRI undergo surgery
  - MRI should not be a screening tool
    - 93% of patients had a radiographic abnormality

- When to obtain MRI as an orthopaedic surgeon?
  - Preoperative planning
    - Assisting in diagnosis when a narrow differential is identified

- How to improve utilization?
  - History and Physical Exam
  - Primary care education
  - Restrict ordering


3. Saxena, A; Luhadiya, A; Ewen, B; Goumas, C. Magnetic Resonance Imaging and Incidental Findings of Lateral Ankle Pathologic Features with Asymptomatic Ankles. The J of Foot and Ankle Surgery. 50 (2011) 413-415


