

MRI Lower Extremity, Non Joint

CPT: 73718, 73719, 73720

IMPORTANT NOTES

The requirement for Medical or Conservative Management prior to imaging is satisfied if the following are met:

- Nonsteroidal anti-inflammatory drugs for at least four weeks (Requirement is waived if NSAIDS are not tolerated or contraindicated, or if condition worsens while under treatment.)
- Activity modification or physical therapy if appropriate

1 Major Symptom or Complaint presented as primary indication

1.1 Mass, soft tissue or bone

1.1.1 X-ray, CT or Ultrasound nondiagnostic

1.2 Pain [BOTH]

1.2.1 X-ray and/or Ultrasound nondiagnostic

1.2.2 Failed conservative management

1.3 Pain post trauma

1.3.1 See Suspect Compartment Syndrome

2 Working Diagnosis or Rule Out presented as primary indication

2.1 Compartment Syndrome

NOTE:

Compartment syndrome occurs when tissue pressures in a confined space rise to the point of compromising blood flow.

2.1.2 Pain after injury ONE

2.1.2.1 Severe

2.1.2.2 With stretching

2.1.3 Paresthesias

2.1.4 Pulseless

References:

1. G. Andreisek, L. M. White, M. S. Sussman, D. L. Langer, C. Patel, J. W.-S. Su, M. A. Haider, and J. A. Stainsby T2*-Weighted and Arterial Spin Labeling MRI of Calf Muscles in Healthy Volunteers and Patients With Chronic Exertional Compartment Syndrome: Preliminary Experience Am. J. Roentgenol. October 1, 2009 193:W327-W333
2. A. Amendola, C.H. Rorabeck, D. Vellett, W. Vezina, B. Rutt, and Linda Nott The use of magnetic resonance imaging in exertional compartment syndromes Am J Sports Med January 1990 18:29-34;
3. R. F. Pell, H. S. Khanuja, and G. R. Cooley Leg Pain in the Running Athlete J Am Acad Orthop Surg November 1, 2004 12:396-404
4. Tintinalli's Emergency Medicine > Section 23: Injuries to the Bones, Joints, and Soft Tissue > Chapter 278. Compartment Syndromes

2.2 Fracture, suspected

2.2.1 X-rays non diagnostic on two occasions

2.3 Osteomyelitis suspected

2.3.1 Pain or Fever AND One

2.3.1.1 C reactive Protein elevated

2.3.1.2 Elevated ESR

2.3.1.3 Fever

2.3.1.4 Leukocytosis

2.3.1.5 Positive Blood Cultures

References:

1. Parsonnet Jeffrey, "Chapter 120. Osteomyelitis" (Chapter). Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J: Harrison's Principles of Internal Medicine, 17th Edition: <http://www.accessmedicine.com/content.aspx?aID=2893649>.
2. Alok Kapoor, Stephanie Page, Michael LaValley, Daniel R. Gale, and David T. Felson Magnetic Resonance Imaging for Diagnosing Foot Osteomyelitis: A Meta-analysis Arch Intern Med, Jan 2007; 167: 125 – 132.
3. J. Herman Kan, Melissa A. Hilmes, Jeffrey E. Martus, Chang Yu, and Marta Hernanz-Schulman Value of MRI After Recent Diagnostic or Surgical Intervention in Children with Suspected Osteomyelitis Am. J. Roentgenol., Nov 2008; 191: 1595 – 1600.
4. Kuo-Chen Lee, Yi-Ting Tsai, Chih-Yuan Lin, and Chien-Sung Tsai Vertebral osteomyelitis combined streptococcal viridans endocarditis Eur. J. Cardiothorac. Surg., Jan 2003; 23: 125.
5. D Allen, S Ng, K Beaton, and D Taussig Sternal osteomyelitis caused by Aspergillus fumigatus in a patient with previously treated Hodgkin's disease J. Clin. Pathol., Aug 2002; 55: 616 – 618.
6. M Ida, H Watanabe, A Tetsumura, and T Kurabayashi CT findings as a significant predictive factor for the curability of mandibular osteomyelitis: multivariate analysis Dentomaxillofac. Radiol., Mar 2005; 34: 86 – 90.
7. Jyri K. Koort, Tatu J. Mäkinen, Juhani Knuuti, Jari Jalava, and Hannu T. Aro Comparative 18F-FDG PET of Experimental Staphylococcus aureus Osteomyelitis and Normal Bone Healing J. Nucl. Med., Aug 2004; 45: 1406 – 1411.
8. Susan A. Connolly, Leonard P. Connolly, Laura A. Drubach, David Zurakowski, and Diego Jaramillo MRI for Detection of Abscess in Acute Osteomyelitis of the Pelvis in Children Am. J. Roentgenol., Oct 2007; 189: 867 – 872.

2.4 Necrotizing Fasciitis [Two] [Automatic Expedited Review by Physician Reviewer if Criteria are not met]

2.4.1 Pain

2.4.2 Swelling

2.4.3 Fever

2.4.4 Warm, shiny or discolored skin over the affected area

2.4.5 Elevated WBC count (Leukocytosis)

2.4.6 Lymphangitis and/or Lymphadenitis.

References:

1. Tubbs Robert J, Savitt Daniel L, Suner Selim, "Chapter 12. Extremity Conditions" (Chapter). Knoop KJ, Stack LB, Storrow AB, Thurman RJ: The Atlas of Emergency Medicine, 3e: <http://www.accessmedicine.com/content.aspx?aID=6003337>.
2. Fugitt JB, Puckett ML, Quigley MM, Kerr SM. Necrotizing fasciitis. RadioGraphics 2004;24 : 1472-1476

2.5 Plantar Fasciitis ALL THREE

2.5.1 Failed conservative management plus orthotics

2.5.2 Pain

2.5.2.1 Severe pain bottom of foot, especially on arising

2.5.2.2 Tenderness of bottom of foot

2.5.3 Ultrasound nondiagnostic

References

1. Groshar, D, Alperson, M, Toubi, A, et al. Plantar fasciitis: detection with ultrasonography versus bone scintigraphy. The Foot 2000; 10:164.
2. Gibbon, WW, Long, G. Ultrasound of the plantar aponeurosis (fascia). Skeletal Radiol 1999; 28:21.
3. Helie, O, Dubayle, P, Boyer, B, Pharaboz, C. Magnetic resonance imaging of lesions of the superficial plantar fasciitis. J Radiol 1995; 76:37.
4. D. Kane , T. Greaney , M. Shanahan , G. Duffy , B. Bresnihan , R. Gibney , and O. FitzGerald The role of ultrasonography in the diagnosis and management of idiopathic plantar fasciitis Rheumatology 40: 1002-1008.
5. Daphne J. Theodorou, et al; Plantar Fasciitis and Fascial Rupture: MR Imaging Findings in 26 Patients Supplemented with Anatomic Data in Cadavers Radiographics October 2000 20:S181-S197

2.6 Tarsal Coalition congenital connection between two or more tarsal bones

2.6.1 foot pain, valgus heel, and decreased subtalar motion

References:

1. Current Diagnosis & Treatment in Orthopedics, 4th Edition George T. Rab, MD Chapter 11. Pediatric Orthopedic Surgery
2. Tendinitis Failed conservative management

2.8 Torn Tendon or Ligament

2.8.1 Impaired ability to flex or extend joint, or hypermotility of joint

2.8.1.1 Failed Conservative Management

2.8.2 Palpable gap in tendon

2.8.3 Evidence of tendon abnormality on US

2.9 Tumor Suspected

2.9.1 X-ray and/or ultrasound nondiagnostic

3 Abnormal Physical Exam Finding presented as primary indication

3.1 Mass, soft tissue or bone

3.1.1 Prior imaging nondiagnostic (US or X-ray)

3.2 Palpable gap in muscle or tendon

4 Abnormal Lab or Imaging presented as primary indication

4.1 Imaging suggestive of bone destruction (tumor or osteomyelitis)

4.2 Mass of bone or soft tissue

5 Significant Prior Medical History presented as primary indication

5.1 Congenital foot anomalies

5.2 Fracture, complex, for treatment planning

5.3 Osteomyelitis Known

5.3.1 Interval follow up during and after treatment

5.3.2 Preoperative

5.3.3 Worsening clinical situation

References:

1. Parsonnet Jeffrey, "Chapter 120. Osteomyelitis" (Chapter). Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J: Harrison's Principles of Internal Medicine, 17th Edition: <http://www.accessmedicine.com/content.aspx?aID=2893649>.
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1. Current Diagnosis & Treatment in Orthopedics, 4th Edition George T. Rab, MD Chapter 11. Pediatric Orthopedic Surgery

5.5 Tumor, Known

5.5.1 Staging, restaging or interval follow up

