Evolent Clinical Guideline ~~057-4~~ 2035 for Lower Extremity Magnetic Resonance Imaging (MRI)

Ankle, Foot, Hip, Knee, Lower Extremity

Guideline ~~or Policy~~ Number: Evolent_CG_~~057-4~~2035	**Applicable Codes**	
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STATEMENT

General Information

- *It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.*
- *Where a specific clinical indication is not directly addressed in this guideline, medical necessity determination will be made based on widely accepted standard of care criteria. These criteria are supported by evidence-based or peer-reviewed sources such as medical literature, societal guidelines and state/national recommendations.*
- *The guideline criteria in the following sections were developed utilizing evidence-based and peer-reviewed resources from medical publications and societal organization guidelines as well as from widely accepted standard of care, best practice recommendations.*

Purpose

Magnetic resonance imaging (MRI) shows the soft tissues and bones. With its multiplanar capabilities, high contrast, and high spatial resolution, it is an accurate diagnostic tool for conditions affecting the joint and adjacent structures.

MRI can positively influence clinicians' diagnoses and management plans for patients with conditions such as primary bone cancer, fractures, abnormalities in ligaments/tendons/cartilage, septic arthritis, and infection/inflammation.

Special Notes

- Plain ~~radiographs~~ X-rays must precede MRI evaluation unless otherwise indicated
- Some indications are for MRI, Computed Tomography (CT), or MR or CT Arthrogram (more than one should ~~not~~ **NOT** be approved at the same time)
- If an MR Arthrogram fits approvable criteria below, approve as MRI

INDICATIONS FOR LOWER EXTREMITY MRI (ANKLE, FOOT, HIP, KNEE, OR LEG)

~~Pre-condition~~

~~Plain radiographs must precede MRI evaluation unless otherwise indicated.~~

Lower Extremity Pain

NOTE: Prior completed X-ray showing no clear etiology of joint/extremity pain must precede lower extremity MRI evaluation unless otherwise indicated

Non-specific Lower Extremity Joint or Muscle Pain [1,2] [1,2,3]

Lower extremity pain with no specific joint identified with prior X-ray showing no clear etiology of joint/extremity pain with any **ONE** of the following:

Negative Findings on Orthopedic Exam and after X-Ray Completed

NOTE: Does not apply to young children (up to age 12)

- Persistent joint or musculotendinous lower extremity pain unresponsive to **ACTIVE Cconservative treatmentTtherapy* (ACT)** within the last 6 months which includes active medical therapy (physical therapy, chiropractic treatments, and/or physician supervised **Home Exercise Program (HEP)Home Exercise Program (HEP)**home exercise program (HEPd **exercise****) of at least four (4) weeks duration within the last 6 months
-
- With progression or worsening of symptoms during the course of active conservative treatment
-
- Pediatric patient tthat is either under the age of 12 years years **OR** cannot comply with the prescribed therapy

Joint Specific Pain or Suspected Joint Specific Injury Provocative Exam Tests and Suspected Injuries [4]

Approvable Orthopedic TestIn the absence of a positive joint specific orthopedic sign on exam (see list below), advanced imaging is indicated with prior X-ray showing no clear etiology for the joint pain with any **ONE** of the following:

- Persistent joint pain unresponsive to **ACTIVE Cconservative Therapy* (ACT)** which includes physical therapy, chiropractic treatments, and/or physician supervised **Home Exercise Program (HEP)Home Exercise Program (HEP)** of at least four (4) weeks duration within the last 6 months
-
- With progression or worsening of symptoms during the course of active conservative treatment
-
- Pediatric patient that is either under the age of 12 years **OR** cannot comply with the

prescribed therapy

NOTE: For Bilateral Hip MRI requests: When the patient meets hip joint MRI criteria for both right and left hip pain (X-ray completed **AND** persistent pain unresponsive to active conservative therapy) without a positive orthopedic sign, then Pelvis MRI (Evolent_-CG_-2045) is the preferred study.

~~Any test that suggests~~ **joint instability** ~~requires further imaging (the below list is not all inclusive)~~

Joint Specific Orthopedic Signs

NOTE: With a positive orthopedic sign from the list below, an initial X-ray is always preferred; however, it is **NOT** required **UNLESS** otherwise specified in **bold** below.

NOTE: The joint specific exam testing list below is intended to be thorough but cannot possibly be all inclusive. Advanced imaging is indicated for any orthopedic exam test that clearly suggests joint instability

Joint specific advanced imaging is indicated for any positive orthopedic sign listed below:

Ankle [3–7] ~~[5,6]~~

- Physical exam demonstrating a positive result for any **ONE** of the following tests:

Suspected Injury	**Test Name**	**Description**
High Ankle	Anterior drawer test	Anterior translation of 1 cm or more of the foot while stabilizing the tibia compared to the healthy contralateral ankle
	Cotton Test	Translation of 3-5 mm and/or a palpable click with lateral translation of the tibia while stabilizing the foot
	Dorsiflexion external rotation stress test	Pain with external rotation stress with the foot in maximal dorsiflexion
	Posterior drawer test	Excessive posterior translation of

Suspected Injury	Test Name	Description
		the foot while stabilizing the tibia compared to the healthy contralateral ankle
	Squeeze Test	Pain with compression of the proximal fibula against the tibia
Achilles Tendon	Palpable partial/complete tendon defect	Direct palpation of an Achilles tendon injury
	Thompson Test	Absence of plantar flexion of the foot with squeezing of the calf

- Positive ankle stress X-rays (a specialized X-ray study that assesses the integrity of the ankle's ligaments and joints)

- Syndesmotic injury (high ankle injury) with tenderness to palpation over the syndesmosis (AITFL – anterior inferior tibiofibular ligament) and any of the following [7,8]:
  - Positive stress X-rays
  - Squeeze test
  - Cotton test
  - Dorsiflexion external rotation test
- Unstable lateral injury to ATFL (anterior talofibular ligament) with suspicion of a possible associated fracture around the ankle or a possible osteochondral injury of the talus and any **ONE** of the following [9]:
  - Positive stress x-rays
  - Positive anterior drawer test with non-diagnostic or inconclusive X-rays
  - Positive posterior drawer test with non-diagnostic or inconclusive X-rays
- Achilles tendon tear [10]
  - Thompson test or palpable partial or complete Achilles defect on physical examination

Knee [8–10][11,12]

Physical exam demonstrating a positive result for any **ONE** of the following tests:

Suspected Injury	Test Name	Description
	Anterior drawer test	Increased anterior translation of the tibia with the foot stabilized and the knee flexed to 90

Suspected Injury	Test Name	Description
Anterior cruciate ligament (ACL) [11]		degrees
	Lachman's Test	Increased anterior translation of the tibia with the thigh stabilized and the knee flexed to 20-30 degrees
	Pivot shift test	Anterior tibial subluxation with internal rotation and valgus stress to the knee
Meniscus [12]	Apley's test	Pain/grinding during axial compression and rotation of the knee
	McMurray's Compression Test	Pain/clicking in the knee with internal and external rotation with extension
	Thessaly Test	Pain/clicking in the knee with internal and/or external rotation while standing only on that leg
Posterior cruciate ligament (PCL)	Posterior Drawer Test	Increased posterior translation of the tibia with the foot stabilized and the knee flexed to 90 degrees
	Posterior tibial sag sign (Godfrey test or step-off test)	The tibia sags posteriorly relative to the femur when the knee is flexed compared to the other/contralateral knee
Medical collateral ligament (MCL)	Positive valgus stress testing/laxity	Pain or laxity in the knee with medially directed (valgus) pressure
Lateral collateral ligament (LCL)	Positive varus stress testing/laxity	Pain or laxity in the knee with laterally directed (varlgus) pressure
Patella dislocation	Patellofemoral apprehension test	Pain with lateral pressure on the patella with contraction of the quadriceps and the knee flexed to 30 degrees

- Suspected ACL Rupture - acute knee injury with physical exam limited by pain and

swelling **AFTER** initial X-ray completed that does not show a clear etiology with any **ONE** of the following [13]:

- Extreme mechanism of injury (sSuch as twisting, blunt force)
- Extreme pain with inability to perform physical examination
- Instability to stand (bear full weight)
- Audible pop at time of injury
- Very swollen joint with inability to perform the physical exam
- Large knee effusion on recent prior X-ray

- Acute mechanical locking of the knee with inability to move the knee (not due to pain or guarding) [14][15]
- Suspected patellar dislocation (acute or recurrent) with X-ray findings compatible with a patellar dislocation (such as lipohemarthrosis (a condition where fat/blood build up in joint often after trauma) or osteochondral fracture) [15]

~~**Positive testing:**~~

~~**Based on mechanism of injury, i.e., twisting, blunt force**~~

~~**Normal x-ray:**~~

~~**OR**~~

~~**OR**~~

~~**Abnormal x-ray:**~~

~~**Radiographic**~~

Hip [16]

- Physical exam demonstrating a positive result for any **ONE** of the following tests:

Suspected Injury	**Test Name**	**Description**
Femoroacetabular impingement (FAI) and/or labral tear	Anterior impingement sign / Flexion, Adduction, and Internal Rotation (FADIR) test	Hip or groin pain with hip flexion, adduction, and internal rotation
	Posterior impingement sign	Pain with hip extension and external rotation
Suspected Slipped Capital Femoral Epiphysis (SCFE)	Drehmann sign	The hip remains externally rotated when flexed to 90 degrees and there is pain or inability to internally rotate the

		hip

- Suspected Femoroacetabular impingement (FAI) (abnormal bone structure in hip joint causing chronic pain) **OR** suspected labral tear (specific injury to the cartilage rim (labrum) of the hip socket, labral tear can result from chronic FAI) with any **ONE** of the following [17,18]: [18,19,20]
  - Symptoms of hip clicking, locking, catching, giving way or instability with a clinical suspicion of FAI / labral tear
  - X-ray findings suggestive of FAI / labral tear (such as cross over sign, pistol grip deformity, alpha angle over 50 degrees)
  - Determine candidacy for hip preservation surgery for known FAI
- on exam)
  - Persistent hip mechanical symptoms (after initial radiographs completed) including clicking, locking, catching, giving way or hip instability with a clinical suspicion of labral tear and/or radiographic (i.e.,) and suspected labral tear
- For Bilateral Hip MRI requests:
- **NOTE:** For evaluation of **both hips** when the patient meets hip MRI guidelines (x-ray + persistent pain unresponsive to conservative treatment) for both the right and left hip, Evolent Clinical Guideline 0372045 for Pelvis MRI **(Evolent CG 2045)** is the preferred study.
  - When the patient meets the criteria above for a suspected lLabral tear (with a tearpositive orthopedic sign) is suspected and fulfills above criteria , then bilateral hip MRIs are the preferred studies (not NOT Pelvis MRI)
  - When Bilateral hip arthrograms are requested and otherwise meet guidelines, bilateral hip MRIs are the preferred studies (not NOT Pelvis MRI)

NOTE: When the patient meets hip MRI guidelines for both the right and left hip pain (X-ray completed **AND** persistent pain unresponsive to active conservative treatment) without a positive orthopedic sign, then Pelvis MRI (Evolent -CG -2045) is the preferred study.

Suspected Lower Extremity Tendon Rupture [5,19] **[21,22]**

High clinical suspicion of a specific tendon rupture with **ALL** of the following: **and** not Listed Above

based on mechanism of injury and physical findings (i.e.,)

- After X-ray completed
- Mechanism of injury (sSuch as excess muscle/tendon load, direct blow, high speed impact event) and/or physical findings (sSuch as palpable defect in quadriceps, patellar

tendon rupture on exam) consistent with possible tendon rupture

Lower Extremity Trauma

Suspected Bone Fracture

- Hip and Femur [20]~~[23]~~
  - Suspected occult, stress or insufficiency fracture with a negative or ~~non-diagnostic~~indeterminate initial X~~x~~-ray
    - A~~pprove a~~n immediate MRI is indicated (no follow up ~~radiographs~~ X-rays required)~~- MRI preferred test~~
  - Suspicion of a hip fracture in a pregnant patient does ~~not~~ **NOT** require an initial X~~x~~-ray
- Non-hip lower extremit~~ies~~y:
  - Suspected occult, stress, or insufficiency fracture [21]~~[24]~~ with any **ONE** of the following:
    - ~~If~~ X~~x~~-rays, taken 10-14 days or more after the injury or initial clinical assessment, are negative or ~~non-diagnostic~~indeterminate
    - If the anatomic location of the suspected fracture (such as the navicular bone) puts the patient at high risk for ~~a~~ developing a complete fracture with active conservative therapy ~~(e.g.,), then immediate MRI is warranted~~
  - Suspected Lisfranc injury (complex fracture dislocation of the meta-tarsal joint(s) of the foot) **AND** prior indeterminate or normal X-ray [22]
    - **NOTE**: Advanced imaging of the foot (not ankle) is the appropriate study to evaluate a possible Lisfranc injury
- Suspected p~~P~~athologic fracture ~~or concern for impending fracture~~ on prior X~~x~~-ray or CT ~~[24]~~[21] ~~– approve immediate MRI~~
- Concern for impending fracture on prior X-ray or CT [21]~~[24]~~
- Suspected nonunion or delayed union as demonstrated by ~~a lack of bone~~no healing ~~on~~between two ~~or more~~ sets of X-rays 4 to 8 months or more apart [23]
  - **NOTE**: CT is the preferred study. MRI approvable if there is contraindication to CT
- ~~Suspected ligamentous/tendon injury with known fractures on x-ray/CT that may require surgery~~
  - ~~If a fracture has not healed by 4-6 months, there is delayed union. Incomplete healing by 6-8 months is nonunion, CT is the preferred study [25]~~

Known Bone Fracture

- Known traumatic fractures on prior imaging with suspected associated ligament or tendon injury

Osteochondral Lesions [7,9,16,24]~~[12,26,27]~~

Defects, Fractures, Osteochondritis Dissecans

- Clinical suspicion based with completed prior X-ray that is indeterminate or abnormal and ~~on~~ any **ONE** of the following:
  - Suspicious mechanism of injury (s~~S~~uch as prior twisting type joint injury, repeated joint microtrauma from running/jumping)
  - Suspicious ~~and~~ physical findings (s~~S~~uch as focal pain, decreased range of motion, or joint clicking/catching)~~.~~

~~NOTE: X-ray completed~~

Joint Prosthesis / Replacement [25,26]~~[28]~~

- Suspected joint prosthesis complication (s~~s~~uch as prosthesis loosening, ~~or~~ dysfunction, or ~~n, (i.e.,~~ pseudotumor formation) ~~after initial~~with prior X~~x~~-ray that is~~s~~ indeterminate or abnormal
- Suspected metallosis (increased serum levels of metal ions) with painful metal on metal hip replacement [27] ~~[28]~~ after initial X~~x~~-rays completed and any **ONE** of the following:
  - Significantly elevated Cobalt levels (normal level is less than 1.7 micrograms/liter (ppb)) [28]
  - Significantly elevated Chromium levels (normal level for patients with metallic implants is less than 2.0 micrograms/liter (ppb)) [28]~~[29]~~
  - Indeterminate or abnormal joint aspiration (s~~S~~uch as findings of metallic debris and absence of infection)

~~Extremity Mass [30]~~

- ~~Mass or lesion after non-diagnostic x-ray or ultrasound. CT is better than MRI to evaluate mass calcification or bone involvement and may complement or replace MRI~~
  - ~~Baker's cyst should be initially evaluated with ultrasound~~
  - ~~Superficial mass, then ultrasound is the initial study~~

Deep mass, then x-ray is the initial study

Lower Extremity Vascular Malformation (VM)

- Vascular malformations of the lower extremity with any **ONE** of the following [29]: [31]
  - After initial evaluation with ultrasound and advanced imaging results will change management
  - Indeterminate or abnormal prior conclusive ultrasound
  - Preoperative planning
    - MRA is also approvable
  - Follow up after prior surgical treatment and/or /embolization

NOTE: MRA of the lower extremity is also indicated with any of the above conditions

Known Primary Cancer Malignancy of the Extremity [32,33,34,35]

Initial staging of a primary extremity primary tumor

Follow-up of known primary cancer malignancy of the extremity for a of patient undergoing active treatment within the past year

or as per Ssurveillance imaging guidance specific extremity for that cancers:

Signs or symptoms or imaging findings suspicious for recurrence

- Suspected metastatic disease with signs/symptoms and after initial imaging with radiographs

Osteonecrosis [30](36,37)

- To further characterize a prior abnormal Xx-ray or CT suggesting osteonecrosis
- SNormal or indeterminate X-rays, but symptomatic and and high--risk patients (sSsuch as glucocorticosteroid use, renal transplant, glycogen storage disease, alcohol abuse, sickle cell anemia) with normal or indeterminate prior X-ray
- Known osteonecrosis (ssuch as avascular necrosis, Legg-Calve-Perthes Disease) to evaluate the contralateral joint after initial X-rays are abnormal or indeterminate

e.g., Avascular Necrosis (AVN), Legg-Calve-Perthes Disease

Loose Bodies or Synovial Chondromatosis [31] ~~[38]~~

- ~~(After X-Ray or Ultrasound Completed)~~
- To evaluate joint pain or mechanical symptoms suspected to be the results of loose bodies and/or chondromatosis (rare, benign condition where multiple cartilaginous nodules form within the synovial lining of a joint) after prior indeterminate or abnormal imaging (X-r~~R~~ay and /or ultrasound) ~~In the setting of joint pain or mechanical symptoms~~

Infection / Inflammation

Infection of Bone, Joint, or Soft Tissue Abscess [32] ~~[39]~~

- Clinical suspicion of infection of the lower extremity with a~~A~~bnormal or indeterminate prior X~~x~~-ray or ultrasound
- Negative prior X~~x~~-ray or ultrasound but with a clinical suspicion of advanced infection based on ~~either~~ any **ONE** of the following:
  - Signs and symptoms of joint or bone infection such as:
    - Pain and swelling
    - Decreased range of motion
    - Fevers
  - Laboratory findings consistent with possible bone or joint ~~of~~ infection ~~include any of the following~~such as:
    - Elevated ESR or CRP
    - Elevated white blood cell count
    - Positive joint aspiration
- Lower extremity u~~U~~lcer (s~~s~~uch as diabetic, pressure, ischemic, or traumatic ulcer) with suspected advanced infection with **ALL** of the following [33,34]:
  - S~~ with s~~igns of advanced infection on exam (s~~s~~uch as ~~(~~redness, ~~,~~ warmth, ~~,~~ swelling, ~~, pain, discharge which may range from white to serosanguineous)~~ exposed bone, bone is encountered when probing the wound, worsening breakdown, worsening smell)
  - No ~~that is not~~ improvementin~~g~~ despite prior treatment and bone ~~,~~ or deep soft tissue infection is now suspected ~~[40]~~
  - ~~Increased suspicion if size or temperature increases, bone is exposed/positive probe-to-bone test, new areas of breakdown, new smell~~
- Neuropathic foot with signs of advanced infection (s~~s~~uch as friable or discolored granulation tissue, foul odor, purulent or non-purulent discharge, and delayed wound healing) [34] ~~[40]~~
-

Evaluation of Tumor

When needed for clarification of vascular invasion from tumor after prior imaging.

Evaluation of Known or Suspected Inflammatory (Autoimmune) Joint Disease (35,36)(41,42,43)

- For suspected inflammatory joint disease (sSuch as rheumatoid arthritis, psoriatic arthritis) with any **ONE** of the following:
  - Prior indeterminate or abnormal imaging
  - Prior normal imaging but with lab test results (sSuch as RF, CRP, ANA, ESR) that suggest autoimmune disease
- For known inflammatory joint disease (sSuch as rheumatoid arthritis, psoriatic arthritis) with any **ONE** of the following:
  - Recent indeterminate imaging
  - To assess the response to ongoing active medical therapy where prior imaging and/or labs are currently insufficient or have been insufficient in the past
  - To help determine the need to change ongoing active medical therapy based on new/worsening signs or symptoms (such as joint swelling, tenderness, effusion, erythema, warmth, restricted motion, prolonged morning stiffness)

Further evaluation of an abnormality or non-diagnostic findings on prior imaging

Initial imaging of a single joint for diagnosis or response to therapy after plain films and appropriate lab tests (e.g., RF, ANA, CRP, ESR)

To determine change in treatment or when diagnosis is uncertain prior to start of treatment

Follow-up to determine treatment efficacy of the following:

Early rheumatoid arthritis

Advanced rheumatoid arthritis if x-ray and ultrasound are equivocal or noncontributory

e.g., Rheumatoid Arthritis

~~Known or Suspected~~ *Inflammatory Myopathies* [37,38] ~~[43]~~

- For suspected inflammatory myopathy (~~s~~Such as polymyositis, dermatomyositis, immune-mediated necrotizing myopathy, inclusion body myositis) with any **ONE** of the following:~~diagnosis~~
  - Clinical suspicion based on presenting symptoms (~~s~~such as symmetric extremity weakness)
  - Clinical suspicion based on lab testing (~~s~~such as muscle enzyme testing)
  - Clinical suspicion based on prior electromyogram (EMG) results
  - For biopsy planning
- For known inflammatory myopathy (~~s~~Such as polymyositis, dermatomyositis, immune-mediated necrotizing myopathy, inclusion body myositis) with any **ONE** of the following:
  - Prior indeterminate imaging
  - To assess the response to ongoing active medical therapy where prior imaging and/or labs are or have been insufficient
  - To help determine the need to continue or change ongoing active medical therapy where prior imaging and/or labs are or have been insufficient

Peripheral Nerve Entrapment [39,40] ~~[44,45,46]~~

- For suspected peripheral nerve entrapment (~~s~~Such as Morton's neuroma, tarsal tunnel) with any **ONE** of the following:
  - Abnormal electromyogram or nerve conduction study
  - Abnormal X~~x~~-ray or ultrasound
  -
  - F~~Clinical suspicion and f~~ailed prior 4~~-~~-week~~s~~ **inactive** conservative ~~treatment~~ therapy including at least two of the following (active ~~treatment~~ conservative therapy ~~with physical therapy~~ is **NOT** ~~not~~ required):
  -
    - Activity modification
    - Rest, ice, and/or heat
    - Splinting or orthotics
    - Pharmacotherapy (such as NSAIDs, steroids)~~Medication~~

      ~~**e.g.,**~~

Foreign Body [41](4746)

- ~~Indeterminate x-ray and ultrasound~~
- For known or suspected foreign body of the lower extremity with prior imaging that is indeterminate or abnormal

Painful Acquired or Congenital Flatfoot Deformity [42,43](47,48,49)

- ~~Adult~~
- Evaluation of painful acquired flatfoot deformity (pes planus) or suspicion of congenital flatfoot deformity (sSuch as tarsal coalition (abnormal fusion of two or more bones in the midfoot or hindfoot)) with **ALL** of the following:
  - After prior X-ray completed with no clear etiology for pain
  - Failed prior 4-week trial of **inactive** conservative therapy including at least two of the following (active conservative therapy is **NOT** required):
    - Activity modification
    - Rest, ice, and/or heat
    - Splinting or orthotics
    - Pharmacotherapy (such as NSAIDs, steroids)
  - **NOTE**: Prior X-ray is **NOT** required for pediatric patients

~~After failure of active conservative therapy~~

~~Medication~~

Pediatric Specific Indications (Up to Age 18)

- Osteoid Osteoma – after prior X-ray is indeterminate or abnormal **AND** when lower extremity CT (the preferred study) is insufficient or not available [44]
- Suspected Slipped Capital Femoral Epiphysis (SCFE) with indeterminate or negative frog leg lateral and AP X-rays of the hips with any **ONE** of the following [45]: ~~(51,52)~~
  - Drehmann sign (The hip remains externally rotated when flexed to 90 degrees and there is pain or inability to internally rotate the hip)
  - Limited internal rotation of the hip
- Suspected Chronic Recurrent Multifocal Osteomyelitis after completion of initial X-ray imaging and laboratory evaluation (such as CRP, ESR) [46,47] ~~(53,54)~~

- NOTE: Whole body bone marrow MRI (See Evolent_CG_2007 for Bone Marrow MRI) is preferred when imaging of multiple joints is requested

- Acute limp in a child 5 or less years old [48]

Suspected Malignancy

- Suspected malignancy with prior imaging that is abnormal or indeterminate

Known Malignancy [49,50]

Initial Staging

- For initial staging of a primary extremity tumor

Restaging

- Monitoring of a primary extremity tumor on treatment
- End of treatment evaluation of a primary extremity tumor
- Prior to surgery of a primary extremity tumor

Surveillance

- Follow-up of known primary cancer of extremity
  - Every 3-6 months for 2-3 years, then every 6-12 months until 5 years then annually
- Signs or symptoms or imaging findings suspicious for recurrence
- Suspected metastatic disease with signs/symptoms and after initial imaging with X-ray or ultrasound

PRE-O~~O~~PERATIVE OR POSTOPERATIVE ASSESSMENT ~~/PROCEDURAL EVALUATION~~

When not otherwise specified in the guideline~~:~~

Preoperative Evaluation:

~~Pre-operative evaluation for a planned surgery or procedure~~

- Imaging of the area requested is needed to develop a surgical plan

Post-o~~O~~perative~~/Procedural~~ Evaluation:

- ~~When imaging, physical examination, or laboratory findings indicate joint infection, delayed or non-healing or other surgical/procedural complications~~

- Trendelenburg sign [51][49] (contralateral pelvic drop during a single-leg stance) or other indication of muscle or nerve damage after recent hip surgery
- Known or sSuspected surgical/procedural complication (such as infection, delayed union, non union) based on prior When imaging, physical examination, and/or laboratory findings indicate joint infection, delayed or non-healing or other surgical/procedural complications.
- A clinical reason is provided how imaging may change management

NOTE: This section applies only within the first few months following surgery

FURTHER EVALUATION OF INDETERMINATE FINDINGS ON PRIOR IMAGING

Unless follow-up is otherwise specified within the guideline, advanced imaging is indicated:

- For initial evaluation of an inconclusive finding on a prior imaging report that requires further clarification
- One follow-up exam of a prior indeterminate MR/CT finding to ensure no suspicious interval change has occurred. (No further surveillance unless specified as highly suspicious or change was found on last follow-up exam).

IMAGING IN KNOWN GENETIC CONDITIONS

- Gaucher Disease [52]:
  - Prior to treatment or dose change **OR**
  - For evaluation of bone pain
- Painful flatfoot (pes planus) deformity with suspected tarsal coalition, not responsive to non-active conservative care (such as orthotics, rest etc.) [50]
- but clinically suspected [51,52]
  - Consider imaging the asymptomatic contralateral hip with a normal x-ray to detect early SCFE if prophylactic surgery is planned
- after initial work-up (labs (i.e. CRP/ESR and x-ray) [53,54]
  - Whole body bone marrow MRI is more appropriate when multiple joints requested see **Evolent_CG_0592007 for Bone Marrow MRI**)
- Acute limp in a child 5 or less years old [55]
  - Concern for infection not localized to the hip (initial imaging not required)
  - Concern for infection localized to the hip after initial evaluation with ultrasound
- Osteoid Osteoma – MRI not usually done because x-ray and CT more accurate for

diagnosis [56]

CODING AND STANDARDS

Codesing

CPT Codes

72195, 72196, 72197, 73718, 73719, 73720, 73721, 73722, 73723, +0698T

Applicable Lines of Business

☒	CHIP (Children's Health Insurance Program)
☒	Commercial
☒	Exchange/Marketplace
☒	Medicaid
☒☐	Medicare Advantage

BACKGROUND

Conservative Therapy

Conservative therapy should include a multimodality approach consisting of a combination of active and inactive components. Completion of at least one active modality for 4 weeks in the past 6 months is required:

Active Modalities:

- Physical therapy
- Physician-supervised **Home Exercise Program (HEP)Home Exercise Program (HEP)** (See Below)
- Chiropractic care

Inactive Modalities:

- Medications (e.g., NSAIDs, steroids, analgesics)
- Injections
- Medical Devices (e.g., TENS unit, bracing)

Home Exercise Program (HEP)

The following two elements are required for HEP to ~~to~~ meet ~~guidelines for~~the criteria for completion of a trial of active conservative therapy (ACT):

- Information is provided on specific exercise prescription/plan **AND**
- Follow-up with ~~member with information provided~~patient regarding completion of HEP ~~(after suitable 4-week period)~~over at least a 4-~~-~~week period OR~~, or~~ documented inability to complete HEP due to ~~physical reason- i.e.,~~ increased pain with ~~n,~~ inability to physically perform the prescribed exercises.

NOTE: Patient inconvenience or noncompliance without explanation does not ~~constitute~~ meet the "inability to complete ~~"~~ HEP" criterium

Contraindication and Preferred Studies

- Contraindications and reasons why a CT/CTA cannot be performed may include: impaired renal function, significant allergy to IV contrast, pregnancy (depending on trimester)
- Contraindications and reasons why an MRI/MRA cannot be performed may include: impaired renal function, claustrophobia, non-MRI compatible devices (such as non-compatible defibrillator or pacemaker), metallic fragments in a high-risk location, patient exceeds wight limit/dimensions of MRI machine

SUMMARY OF EVIDENCE

EULAR recommendations for the use of imaging of the joints in the clinical management of rheumatoid arthritis [35]

Study Design: This study involved a systematic review and consensus process by an expert group of rheumatologists, radiologists, methodologists, and experienced rheumatology practitioners from 13 countries. They generated 13 key questions on the role of imaging in rheumatoid arthritis (RA) and systematically searched research evidence to develop 10 recommendations

Target Population: Adults (≥ 18 years of age) with a clinical diagnosis of RA

Key Factors:

- Imaging modalities included conventional radiography, ultrasound, MRI, CT, dual-emission x-ray absorptiometry, digital x-ray radiogrammetry, scintigraphy, and positron emission tomography.
- The study identified 6888 references, from which 199 studies were included in the systematic review.
- Recommendations covered the role of imaging in diagnosing RA, detecting inflammation and damage, predicting outcome and response to treatment, monitoring disease activity, progression, and remission.

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ACR Appropriateness Criteria Stress (Fatigue-Insufficiency) Fracture Including Sacrum Excluding Other Vertebrae: 2024 Update [21]

Study Design: This study is an update of the American College of Radiology Appropriateness Criteria for stress fractures, including both fatigue and insufficiency types. It involved a systematic analysis of the medical literature from peer-reviewed journals and expert panel reviews

Target Population: Patients with suspected stress fractures, including athletes, older patients, and patients with predisposing conditions

Key Factors:

- Radiography is the imaging modality of choice for baseline diagnosis.
- MRI is preferred for diagnosing radiographically occult stress fractures.
- Nuclear medicine scintigraphy and CT may also be useful diagnostic tools.
- The study emphasizes the importance of prompt therapeutic measures to prevent progression to complete fractures.

Treatment of Acute Achilles Tendon Rupture [5]

Study Design: This review article provides a comprehensive review of the literature on acute rupture of the Achilles tendon and discusses appropriate treatment options

Target Population: Patients with acute Achilles tendon rupture, including athletes and elderly individuals

Key Factors:

- The Achilles tendon is the strongest and largest tendon in the body but is also the most commonly ruptured.
- The study discusses the controversy surrounding the optimal treatment of acute Achilles tendon rupture, comparing conservative management with operative treatment.
- Recent studies have demonstrated favorable outcomes of conservative treatment using accelerated functional rehabilitation.
- The article emphasizes the importance of early rehabilitation for both conservative and operative treatments

ANALYSIS OF EVIDENCE

Shared Findings [5,21,35]**:**

- All three studies highlight the importance of imaging in diagnosing and managing musculoskeletal conditions. Colebatch et al 2013 and Morrison et al 2024 emphasize the role of imaging in diagnosing RA and stress fractures, respectively, while Park et al 2020 discusses the use of imaging in diagnosing Achilles tendon ruptures.

- Early intervention and rehabilitation are crucial for improving patient outcomes. Colebatch et al 2013 and Park et al 2020 both stress the importance of early rehabilitation in managing RA and Achilles tendon ruptures.

Conclusion (5,21,35)

In summary, while all three studies emphasize the importance of imaging and early intervention, they differ in their focus on specific conditions and treatment options. Colebatch et al 2013 provides recommendations for imaging in RA, Morrison et al 2024 updates criteria for diagnosing stress fractures, and Park et al 2020 reviews treatment options for Achilles tendon ruptures

POLICY HISTORY

Date	Summary
July 2025	• Added MRI Hip CPT codes: 72195, 72196, 72197
June 2025	• Guideline number changed from 057-4 to 2035 • Guideline name changed from Lower Extremity MRI to Lower Extremity Magnetic Resonance Imaging (MRI) ○ Added a subtitle: Ankle, Foot, Hip, Knee, Lower Extremity • Added in general information statement regarding guideline criteria development by reputable sources, standard of care, and best practices • Tables of orthopedic signs added • Metastatic disease and Lisfranc injury indications added • Metallosis, Inflammatory arthritis, pediatric, and flatfoot indications clarified and updated • Updated Malignancy section • Standardized pre/post-operative language • Added imaging in known genetic condition section • Edited text for clarity • Adjusted applicable lines of business – Medicare Advantage checked • Background edited • Added a Summary of Evidence and Analysis of Evidence • References updated and expanded

Date	Summary
May 2024	• Contraindications and preferred studies section added to the background • Updated background and references
April 2023	• Updated orthopedic signs • Clarified hip versus pelvis imaging • Added: • Evaluation of indeterminate findings on imaging reports • Metallosis • Statement regarding clinical indications not addressed in the guideline • Modified: • References • Background section • CRMO • Removed Additional Resources

LEGAL AND COMPLIANCE

Guideline Approval

Committee

Reviewed / Approved by Evolent Specialty Services Clinical Guideline Review Committee

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