Evolent Clinical Guideline 2032 for Lower Extremity Computed Tomography (CT)

Ankle, Foot, Hip, Knee, Leg, Lower Extremity

Guideline Number: Evolent_CG_2032	**Applicable Codes**	
"Evolent" refers to Evolent Health LLC and Evolent Specialty Services, Inc. 		
Original Date: September 1997	**Last Revised Date:** June 2025	**Implementation Date:** January 2026

TABLE OF CONTENTS

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

Plain X-rays are typically used as the first-line modality for assessment of lower extremity conditions. Computed tomography (CT) is used for evaluation of tumors, metastatic lesions, infection, fractures, and other problems. Magnetic resonance imaging (MRI) is the first-line choice for imaging of many conditions, but CT may be used in these cases if MRI is contraindicated or unable to be performed.

Special Notes

- Plain X-ray must precede CT evaluation unless otherwise indicated
- Some indications are for MRI, CT, or MR or CT Arthrogram (more than one should **NOT** be approved at the same time)
- If a CT Arthrogram fits approvable criteria below, approve as CT
- When specifically indicated below, MRI is the preferred study for the evaluation of the extremities and CT is indicated only when MRI is contraindicated or cannot be performed

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

Lower Extremity Pain

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

Non-specific Lower Extremity Pain [1,2]

Lower extremity pain with no specific joint identified with **MRI contraindicated or cannot be performed** **AND** with prior X-ray showing no clear etiology of extremity pain with any **ONE** of the following:

- Persistent musculotendinous lower extremity pain unresponsive to **ACTIVE Conservative Therapy (ACT)** which includes physical therapy, chiropractic treatments, and/or physician supervised **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

Joint Specific Pain or Suspected Joint Specific Injury

In the absence of a positive joint specific orthopedic sign on exam (see list below), advanced imaging is indicated with **MRI contraindicated or cannot be performed** **AND** prior X-ray showing no clear etiology for the joint pain with any **ONE** of the following:

- Persistent joint pain unresponsive to **ACTIVE Conservative Therapy (ACT)** which includes physical therapy, chiropractic treatments, and/or physician supervised **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 CT requests: When the patient meets hip joint CT criteria for both right and left hip pain (X-ray completed **AND** persistent pain unresponsive to active conservative therapy **AND** MRI contraindicated or cannot be performed) without a positive orthopedic sign, then Pelvis CT (Evolent_CG_2042) is the preferred study.

Joint Specific Orthopedic Signs

NOTE: CT is indicated if MRI contraindicated or cannot be performed **OR** if the study requested as a CT arthrogram

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]

If MRI contraindicated or cannot be performed;

- 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 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)

Knee [8–10]

If MRI contraindicated or cannot be performed;

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

Suspected Injury	Test Name	Description
Anterior cruciate ligament (ACL) [11]	Anterior drawer test	Increased anterior translation of the tibia with the foot stabilized and the knee flexed to 90 degrees
	Lachman's Test	Increased anterior translation of

Suspected Injury	Test Name	Description
		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
Medial 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 (varus) 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 (such 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]
- 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]

Hip [16]

If MRI contraindicated or cannot be performed;

- 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]:
  - 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
- For Bilateral Hip CT requests when MRI is contraindicated or cannot be performed:

- When the patient meets the criteria above for a suspected labral tear (with a positive orthopedic sign) then bilateral hip CTs are the preferred studies (**NOT** Pelvis CT)
- When Bilateral hip CT arthrograms are requested and otherwise meet guidelines, bilateral hip CTs are the preferred studies (**NOT** Pelvis CT)

NOTE: When the patient meets hip CT guidelines for both the right and left hip pain (X-ray completed **AND** persistent pain unresponsive to active conservative treatment **AND** MRI contraindicated or not available) without a positive orthopedic sign, then Pelvis CT (Evolent CG 2042) is the preferred study.

Suspected Lower Extremity Tendon Rupture [7,19]

High clinical suspicion of a specific tendon rupture with **ALL** of the following:

- After X-ray completed
- Mechanism of injury (such as excess muscle/tendon load, direct blow, high speed impact event) and/or physical findings (such 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]
  - Suspected occult, stress or insufficiency fracture with a negative or indeterminate initial X-ray **AND** MRI is contraindicated or cannot be performed:
    - An immediate CT is indicated (no follow up X-ray required)
  - Suspicion of a hip fracture in a pregnant patient does **NOT** require an initial X-ray
- Non-hip lower extremity:
  - Suspected occult, stress, or insufficiency fracture [21] with MRI contraindicated or cannot be performed **AND** any **ONE** of the following:
    - X-rays, taken 10-14 days or more after the injury or initial clinical assessment, are negative or indeterminate
    - If the anatomic location of the suspected fracture (such as the navicular bone) puts the patient at high risk for developing a complete fracture with active conservative therapy
  - 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 pathologic fracture on prior X-ray [21]
- Concern for impending fracture on prior X-ray [21]

- Suspected nonunion or delayed union as demonstrated by no healing between two sets of X-rays 4 to 8 months or more apart [23]

Known Bone Fracture

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

Osteochondral Lesions [6,9,16,24]

Defects, Fractures, Osteochondritis Dissecans

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

Joint Prosthesis/Replacement [25,26]

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

Note: Dual-energy CT reduces metal artifact and may be useful in the evaluation of suspected complications after joint replacement

Lower Extremity Vascular Malformation (VM)

- Vascular malformations of the lower extremity with MRI contraindicated or not available **AND** any **ONE** of the following [29]:
  - After initial evaluation with ultrasound and advanced imaging results will change management
  - Indeterminate or abnormal prior ultrasound
  - Preoperative planning
  - Follow up after prior surgical treatment and/or embolization

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

Osteonecrosis [30]

When MRI is contraindicated or cannot be performed

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

Loose Bodies or Synovial Chondromatosis [31]

- 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-ray and /or ultrasound)

Infection / Inflammation

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

- Clinical suspicion of infection of the lower extremity with abnormal or indeterminate prior X-ray or ultrasound
- Negative prior X-ray or ultrasound but with a clinical suspicion of advanced infection based on 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 infection such as:
    - Elevated ESR or CRP
    - Elevated white blood cell count
    - Positive joint aspiration
- Lower extremity ulcer (such as diabetic, pressure, ischemic, or traumatic ulcer) with suspected advanced infection with **ALL** of the following [33,34]:
  - Signs of advanced infection on exam (such as redness, warmth, swelling, exposed bone, bone is encountered when probing the wound, worsening breakdown, worsening smell)
  - No improvement despite prior treatment and bone or deep soft tissue infection is now

suspected

- Neuropathic foot with signs of advanced infection (such as friable or discolored granulation tissue, foul odor, purulent or non-purulent discharge, and delayed wound healing) ((33)

Inflammatory (Autoimmune) Joint Disease *(35,36)*

When MRI is contraindicated or cannot be performed

- For suspected inflammatory joint disease (such as rheumatoid arthritis, psoriatic arthritis) with any **ONE** of the following:
  - Prior indeterminate or abnormal imaging
  - Prior normal imaging but with lab test results (such as RF, CRP, ANA, ESR) that suggest autoimmune disease
- For known inflammatory joint disease (such 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)

Inflammatory Myopathies *(37,38)*

If MRI is contraindicated or cannot be performed

- For suspected inflammatory myopathy (such as polymyositis, dermatomyositis, immune-mediated necrotizing myopathy, inclusion body myositis) with any **ONE** of the following:
  - Clinical suspicion based on presenting symptoms (such as symmetric extremity weakness)
  - Clinical suspicion based on lab testing (such as muscle enzyme testing)
  - Clinical suspicion based on prior electromyogram (EMG) results
  - For biopsy planning
- For known inflammatory myopathy (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

Known or Suspected Crystalline Arthropathy [39,40]

- Use of Dual-energy CT to characterize crystal deposition arthropathy (such as gout, calcium pyrophosphate deposition (CPPD)) after initial rheumatological work up (such as serum uric acid, calcium, phosphorus, magnesium levels, joint aspiration) and initial X-rays with any **ONE** of the following:
  - Inconclusive joint aspiration
  - When joint aspiration cannot be performed
  - In the setting of extra-articular crystal deposits (such as in tendons, joint bursa)

Peripheral Nerve Entrapment [41,42]

When MRI is contraindicated or cannot be performed

- For suspected peripheral nerve entrapment (such as Morton's neuroma, tarsal tunnel) with any **ONE** of the following:
  - Abnormal electromyogram or nerve conduction study
  - Abnormal X-ray or ultrasound
  - Failed prior 4-week **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)

Foreign Body [43]

- For known or suspected foreign body of the lower extremity with prior imaging that is indeterminate or abnormal

Painful Acquired or Congenital Flatfoot Deformity [44,45]

- Evaluation of painful acquired flatfoot deformity (pes planus) or suspicion of congenital flatfoot deformity (such 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

Pediatric Specific Indications (Up to Age 18)

- Osteoid Osteoma – after prior X-ray is indeterminate or abnormal [46]

When MRI is contraindicated or cannot be performed:

- 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 [47]:
  - 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) [48,49]
- Acute limp in a child 5 or less years old [50]

Suspected Malignancy

- Suspected malignancy with prior imaging that is abnormal or indeterminate

Known Malignancy [51,52]

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

PREOPERATIVE OR POSTOPERATIVE ASSESSMENT

When not otherwise specified in the guideline

Preoperative Evaluation:

- Imaging of the area requested to develop a surgical plan

Postoperative Evaluation:

- Trendelenburg sign [53] (contralateral pelvic drop during a single-leg stance) or other indication of muscle or nerve damage after recent hip surgery
- Known or suspected complication
- 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

Unless follow-up is otherwise specified within the guideline:

- 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).

CODING AND STANDARDS

Codes

73700, 73701, 73702, +0722T

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)**
- 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 meet the criteria for completion of a trial of active conservative therapy (ACT):

- Information is provided on specific exercise prescription/plan **AND**
- Follow-up with patient regarding completion of HEP over at least a 4-week period OR documented inability to complete HEP due to increased pain with inability to physically perform the prescribed exercises.

NOTE: Patient inconvenience or noncompliance without explanation does not 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.

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 [7]

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 [7,21,35]:

- 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 [7,21,35]

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
June 2025	• Guideline number changed from 057-2 to 2032 • Guideline name changed from Lower Extremity CT to Lower Extremity Computed Tomography (CT) ○ Added a subtitle: Ankle, Foot, Hip, Knee, Leg, 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

Date	Summary
	• 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 • Adjusted applicable lines of business – Medicare Advantage checked • Background edited • Added Summary and Analysis of Evidence • References updated and expanded
June 2024	• Contraindications and preferred studies section added to the background • Removed CT scanogram for leg length • Updated references and background

LEGAL AND COMPLIANCE

Guideline Approval

Committee

Reviewed / Approved by Evolent Specialty Services Clinical Guideline Review Committee

Disclaimer

Evolent Clinical Guidelines do not constitute medical advice. Treating health care professionals are solely responsible for diagnosis, treatment, and medical advice. Evolent uses Clinical Guidelines in accordance with its contractual obligations to provide utilization management. Coverage for services varies for individual members according to the terms of their health care coverage or government program. Individual members' health care coverage may not utilize some Evolent Clinical Guidelines. Evolent clinical guidelines contain guidance that requires prior authorization and service limitations. A list of procedure codes, services or drugs may not be all inclusive and does not imply that a service or drug is a covered or non-covered service or drug. Evolent reserves the right to review and update this Clinical Guideline in its sole discretion. Notice of any changes shall be provided as required by applicable provider agreements and laws or regulations. Members should contact their Plan customer service representative for specific coverage information.

Evolent Clinical Guidelines are comprehensive and inclusive of various procedural applications for each service type. Our guidelines may be used to supplement Medicare criteria when such criteria is not fully established. When Medicare criteria is determined to not be fully established, we only reference the relevant portion of the corresponding Evolent Clinical Guideline that is applicable to the specific service or item requested in order to determine medical necessity.

REFERENCES

1. Katz JN, Brophy RH, Chaisson CE, et al. Surgery versus Physical Therapy for a Meniscal Tear and Osteoarthritis. *New England Journal of Medicine*. 2013;368(18):1675-1684. doi:10.1056/NEJMoa1301408
2. Tafur M, Bencardino JT, Roberts CC, et al. ACR Appropriateness Criteria® Chronic Foot Pain. *Journal of the American College of Radiology*. 2020;17(11):S391-S402. doi:10.1016/j.jacr.2020.09.015
3. Beynon A, Le May S, Theroux J. Reliability and validity of physical examination tests for the assessment of ankle instability. *Chiropr Man Therap*. 2022;30(1):58. doi:10.1186/s12998-022-00470-0
4. Netterström-Wedin F, Matthews M, Bleakley C. Diagnostic Accuracy of Clinical Tests Assessing Ligamentous Injury of the Talocrural and Subtalar Joints: A Systematic Review With Meta-Analysis. *Sports Health*. 2022;14(3):336-347. doi:10.1177/19417381211029953
5. Chang EY, Tadros AS, Amini B, et al. ACR Appropriateness Criteria® Chronic Ankle Pain. *Journal of the American College of Radiology*. 2018;15(5):S26-S38. doi:10.1016/j.jacr.2018.03.016
6. Smith SE, Chang EY, Ha AS, et al. ACR Appropriateness Criteria® Acute Trauma to the Ankle. *Journal of the American College of Radiology*. 2020;17(11):S355-S366. doi:10.1016/j.jacr.2020.09.014
7. Park SH, Lee HS, Young KW, Seo SG. Treatment of Acute Achilles Tendon Rupture. *Clin Orthop Surg*. 2020;12(1):1. doi:10.4055/cios.2020.12.1.1
8. Fox MG, Chang EY, Amini B, et al. ACR Appropriateness Criteria® Chronic Knee Pain. *Journal of the American College of Radiology*. 2018;15(11):S302-S312. doi:10.1016/j.jacr.2018.09.016
9. Taljanovic MS, Chang EY, Ha AS, et al. ACR Appropriateness Criteria® Acute Trauma to the Knee. *Journal of the American College of Radiology*. 2020;17(5):S12-S25. doi:10.1016/j.jacr.2020.01.041
10. Chien A, Weaver JS, Kinne E, Omar I. Magnetic resonance imaging of the knee. *Pol J Radiol*. 2020;85:509-531. doi:10.5114/pjr.2020.99415
11. Kulwin RL, Schmidt GJ, Snyder DA, Klitzman RG. Clinical Examination in the Diagnosis of Anterior Cruciate Ligament Injury: A Blinded, Cross-sectional Evaluation. *JAAOS: Global Research and Reviews*. 2023;7(2). doi:10.5435/JAAOSGlobal-D-22-00123
12. Smoak JB, Matthews JR, Vinod A V., Kluczynski MA, Bisson LJ. An Up-to-Date Review of the Meniscus Literature: A Systematic Summary of Systematic Reviews and Meta-analyses. *Orthop J Sports Med*. 2020;8(9):2325967120950306. doi:10.1177/2325967120950306
13. Li X, Hou Q, Zhan X, Chang L, Ma X, Yuan H. The accuracy of MRI in diagnosing and classifying acute traumatic multiple ligament knee injuries. *BMC Musculoskelet Disord*. 2022;23(1):43. doi:10.1186/s12891-021-04976-1

14. Hussin P, Mawardi M, Nizlan NM. The “Chalky Culprit” of acute locked knee. *G Chir*. 2014;35(9-10):239-240. http://www.ncbi.nlm.nih.gov/pubmed/25419591

15. Vetrano M. I.S.Mu.L.T. first-time patellar dislocation guidelines. *Muscle, Ligaments and Tendons Journal*. 2017;7(1):1. doi:10.11138/mltj/2017.7.1.001

16. Jawetz ST, Fox MG, Blankenbaker DG, et al. ACR Appropriateness Criteria® Chronic Hip Pain: 2022 Update. *Journal of the American College of Radiology*. 2023;20(5):S33-S48. doi:10.1016/j.jacr.2023.02.019

17. Griffin DR, Dickenson EJ, O’Donnell J, et al. The Warwick Agreement on femoroacetabular impingement syndrome (FAI syndrome): an international consensus statement. *Br J Sports Med*. 2016;50(19):1169-1176. doi:10.1136/bjsports-2016-096743

18. Fortier LM, Popovsky D, Durci MM, Norwood H, Sherman WF, Kaye AD. An Updated Review of Femoroacetabular Impingement Syndrome. *Orthop Rev (Pavia)*. 2022;14(3):37513. doi:10.52965/001c.37513

19. Brinkman JC, Reeson E, Chhabra A. Acute Patellar Tendon Ruptures: An Update on Management. *JAAOS: Global Research and Reviews*. 2024;8(4). doi:10.5435/JAAOSGlobal-D-24-00060

20. Ross AB, Lee KS, Chang EY, et al. ACR Appropriateness Criteria® Acute Hip Pain-Suspected Fracture. *Journal of the American College of Radiology*. 2019;16(5):S18-S25. doi:10.1016/j.jacr.2019.02.028

21. Morrison WB, Deely D, Fox MG, et al. ACR Appropriateness Criteria® Stress (Fatigue-Insufficiency) Fracture Including Sacrum Excluding Other Vertebrae: 2024 Update. *Journal of the American College of Radiology*. 2024;21(11):S490-S503. doi:10.1016/j.jacr.2024.08.019

22. Grewal US, Onubogu K, Southgate C, Dhinsa BS. Lisfranc injury: A review and simplified treatment algorithm. *The Foot*. 2020;45:101719. doi:10.1016/j.foot.2020.101719

23. Thomas JD, Kehoe JL. Bone Nonunion. *StatPearls*. Published online March 6, 2023. https://www.ncbi.nlm.nih.gov/books/NBK554385/

24. Konarski W, Poboży T, Konarska K, Derczyński M, Kotela I. Understanding Osteochondritis Dissecans: A Narrative Review of the Disease Commonly Affecting Children and Adolescents. *Children*. 2024;11(4). doi:10.3390/children11040498

25. Ong N, Zailan I, Tandon A. Imaging update in arthroplasty. *J Clin Orthop Trauma*. 2021;23:101649. doi:10.1016/j.jcot.2021.101649

26. Weissman BN, Palestro CJ, Fox MG, et al. ACR Appropriateness Criteria® Imaging After Total Hip Arthroplasty. *Journal of the American College of Radiology*. 2023;20(11):S413-S432. doi:10.1016/j.jacr.2023.08.015

27. Lee A, Paiement GD, Penenberg BL, Rajaee SS. Metallosis in Total Hip Arthroplasty. *JBJS Rev*. 2023;11(10). doi:10.2106/JBJS.RVW.23.00105

28. Hart AJ, Sabah SA, Bandi AS, et al. Sensitivity and specificity of blood cobalt and chromium metal ions for predicting failure of metal-on-metal hip replacement. *The Journal of Bone and Joint Surgery-British Volume*. 2011;93-B(10):1308-1313. doi:10.1302/0301-620X.93B10.26249

29. Obara P, McCool J, Kalva SP, et al. ACR Appropriateness Criteria® Clinically Suspected Vascular Malformation of the Extremities. *Journal of the American College of Radiology*. 2019;16(11):S340-S347. doi:10.1016/j.jacr.2019.05.013

30. Ha AS, Chang EY, Bartolotta RJ, et al. ACR Appropriateness Criteria® Osteonecrosis: 2022 Update. *Journal of the American College of Radiology*. 2022;19(11):S409-S416. doi:10.1016/j.jacr.2022.09.009

31. Habusta SF, Mabrouk A, Tuck JA. Synovial Chondromatosis. *StatPearls*. Published online April 22, 2023. https://www.ncbi.nlm.nih.gov/books/NBK470463/

32. Pierce JL, Perry MT, Wessell DE, et al. ACR Appropriateness Criteria® Suspected Osteomyelitis, Septic Arthritis, or Soft Tissue Infection (Excluding Spine and Diabetic Foot): 2022 Update. *Journal of the American College of Radiology*. 2022;19(11):S473-S487. doi:10.1016/j.jacr.2022.09.013

33. Wu YW, Wang CY, Cheng NC, et al. 2024 TSOC/TSPS Joint Consensus: Strategies for Advanced Vascular Wound Management in Arterial and Venous Diseases. *Acta Cardiol Sin*. 2024;40(1):1-44. doi:10.6515/ACS.202401_40(1).20231220A

34. Walker EA, Beaman FD, Wessell DE, et al. ACR Appropriateness Criteria® Suspected Osteomyelitis of the Foot in Patients With Diabetes Mellitus. *Journal of the American College of Radiology*. 2019;16(11):S440-S450. doi:10.1016/j.jacr.2019.05.027

35. Colebatch AN, Edwards CJ, Østergaard M, et al. EULAR recommendations for the use of imaging of the joints in the clinical management of rheumatoid arthritis. *Ann Rheum Dis*. 2013;72(6):804-814. doi:10.1136/annrheumdis-2012-203158

36. Subhas N, Wu F, Fox MG, et al. ACR Appropriateness Criteria® Chronic Extremity Joint Pain-Suspected Inflammatory Arthritis, Crystalline Arthritis, or Erosive Osteoarthritis: 2022 Update. *Journal of the American College of Radiology*. 2023;20(5):S20-S32. doi:10.1016/j.jacr.2023.02.020

37. Malartre S, Bachasson D, Mercy G, et al. MRI and muscle imaging for idiopathic inflammatory myopathies. *Brain Pathology*. 2021;31(3):e12954. doi:10.1111/bpa.12954

38. Nagy H, Veerapaneni KD. Myopathy. *StatPearls*. Published online August 14, 2023. https://www.ncbi.nlm.nih.gov/books/NBK562290/

39. Carotti M, Salaffi F, Filippucci E, et al. Clinical utility of Dual Energy Computed Tomography in gout: current concepts and applications. *Acta Biomedica*. 2020;91(8-S):116-124. doi:10.23750/abm.v91i8-S.9942

40. Shang J, Zhou LP, Wang H, Liu B. Diagnostic Performance of Dual-energy CT Versus Ultrasonography in Gout: A Meta-analysis. *Acad Radiol*. 2022;29(1):56-68. doi:10.1016/j.acra.2020.08.030

41. Fortier LM, Markel M, Thomas BG, Sherman WF, Thomas BH, Kaye AD. An Update on Peroneal Nerve Entrapment and Neuropathy. *Orthop Rev (Pavia)*. 2021;13(2):24937. doi:10.52965/001c.24937

42. Griffith JF, Guggenberger R. Peripheral Nerve Imaging. In: *Musculoskeletal Diseases 2021-2024: Diagnostic Imaging [Internet]*. Springer; 2021:259-268. doi:10.1007/978-3-030-71281-5_18

43. Campbell EA, Wilbert CD. Foreign Body Imaging. *StatPearls*. Published online July 30, 2023. https://pubmed.ncbi.nlm.nih.gov/29262105/

44. Polichetti C, Borruto MI, Lauriero F, et al. Adult Acquired Flatfoot Deformity: A Narrative Review about Imaging Findings. *Diagnostics*. 2023;13(2):225. doi:10.3390/diagnostics13020225

45. Docquier PL, Maldaque P, Bouchard M. Tarsal coalition in paediatric patients. *Orthopaedics & Traumatology: Surgery & Research*. 2019;105(1):S123-S131. doi:10.1016/j.otsr.2018.01.019

46. TEPELENIS K, SKANDALAKIS GP, PAPATHANAKOS G, et al. Osteoid Osteoma: An Updated Review of Epidemiology, Pathogenesis, Clinical Presentation, Radiological Features, and Treatment Option. *In Vivo (Brooklyn)*. 2021;35(4):1929-1938. doi:10.21873/invivo.12459

47. Aprato A, Conti A, Bertolo F, Massè A. Slipped capital femoral epiphysis: current management strategies. *Orthop Res Rev*. 2019;11:47-54. doi:10.2147/ORR.S166735

48. Roderick MR, Shah R, Rogers V, Finn A, Ramanan A V. Chronic recurrent multifocal osteomyelitis (CRMO) – advancing the diagnosis. *Pediatric Rheumatology*. 2016;14(1):47. doi:10.1186/s12969-016-0109-1

49. Zhao DY, McCann L, Hahn G, Hedrich CM. Chronic nonbacterial osteomyelitis (CNO) and chronic recurrent multifocal osteomyelitis (CRMO). *J Transl Autoimmun*. 2021;4:100095. doi:10.1016/j.jtauto.2021.100095

50. Safdar NM, Rigsby CK, Iyer RS, et al. ACR Appropriateness Criteria® Acutely Limping Child Up To Age 5. *Journal of the American College of Radiology*. 2018;15(11):S252-S262. doi:10.1016/j.jacr.2018.09.030

51. Referenced with permission from the National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Bone Cancer Version 1.2025. © National Comprehensive Cancer Network, Inc. 2025. All rights reserved. To view the most recent and complete version of the guideline, go online to NCCN.org.

52. Referenced with permission from the National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Soft Tissue Sarcoma Version 4.2024. © National Comprehensive Cancer Network, Inc. 2025. All rights reserved. To view the most recent and complete version of the guideline, go online to NCCN.org.

53. Gogu S, Gandbhir VN. Trendelenburg Sign. *StatPearls*. Published online November 14, 2022. https://www.ncbi.nlm.nih.gov/books/NBK555987/