



CLINICAL GUIDELINES

Musculoskeletal Imaging Policy

Version 1.0.2019

Effective February 15, 2019



eviCore healthcare Clinical Decision Support Tool Diagnostic Strategies: This tool addresses common symptoms and symptom complexes. Imaging requests for individuals with atypical symptoms or clinical presentations that are not specifically addressed will require physician review. Consultation with the referring physician, specialist and/or individual's Primary Care Physician (PCP) may provide additional insight.

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Procedure Codes associated with Musculoskeletal Imaging

| MRI/MRA | CPT® |
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| MRI Upper Extremity, other than joint, without contrast | 73218 |
| MRI Upper Extremity, other than joint, with contrast | 73219 |
| MRI Upper Extremity, other than joint, without and with contrast | 73220 |
| MRI Upper Extremity, any joint, without contrast | 73221 |
| MRI Upper Extremity, any joint, with contrast | 73222 |
| MRI Upper Extremity, any joint, without and with contrast | 73223 |
| MR Angiography Upper Extremity without or with contrast | 73225 |
| MRI Lower Extremity, other than joint, without contrast | 73718 |
| MRI Lower Extremity, other than joint, with contrast | 73719 |
| MRI Lower Extremity, other than joint, without and with contrast | 73720 |
| MRI Lower Extremity, any joint, without contrast | 73721 |
| MRI Lower Extremity, any joint, with contrast | 73722 |
| MRI Lower Extremity, any joint, without and with contrast | 73723 |
| MR Angiography Lower Extremity without or with contrast | 73725 |
| MRI Pelvis without contrast | 72195 |
| MRI Pelvis with contrast | 72196 |
| MRI Pelvis without and with contrast | 72197 |
| CT/CTA | CPT® |
| CT Upper Extremity without contrast | 73200 |
| CT Upper Extremity with contrast | 73201 |
| CT Upper Extremity without and with contrast | 73202 |
| CT Angiography Upper Extremity without and with contrast | 73206 |
| CT Lower Extremity without contrast | 73700 |
| CT Lower Extremity with contrast | 73701 |
| CT Lower Extremity without and with contrast | 73702 |
| CT Angiography Lower Extremity without and with contrast | 73706 |
| CT Pelvis without contrast | 72192 |
| CT Pelvis with contrast | 72193 |
| CT Pelvis without and with contrast | 72194 |
| Nuclear Medicine | CPT® |
| Bone Marrow Imaging, Limited | 78102 |
| Bone Marrow Imaging, Multiple | 78103 |
| Bone Marrow Imaging, Whole Body | 78104 |
| Bone or Joint Imaging Limited | 78300 |
| Bone or Joint Imaging Multiple | 78305 |
| Bone Scan Whole Body | 78306 |
| Bone Scan 3 Phase Study | 78315 |
| Bone Joint Imaging Tomo Test SPECT | 78320 |
| Radiopharmaceutical localization of abscess; limited area | 78805 |
| Radiopharmaceutical localization of abscess; whole body | 78806 |
| Radiopharmaceutical localization of abscess; tomographic (SPECT) | 78807 |

MS-1: General Guidelines

- Before advanced diagnostic imaging can be considered, there must be an initial face-to-face clinical evaluation as well as a clinical re-evaluation after a trial of failed conservative treatment; the clinical re-evaluation may consist of a face-to-face evaluation or other meaningful contact with the provider's office such as email, web or telephone communications.
- A face-to-face clinical evaluation is required to have been performed within the last 60 days before advanced imaging can be considered. This may have been either the initial clinical evaluation or the clinical re-evaluation.
- The initial face-to-face clinical evaluation should include a relevant history and physical examination, appropriate laboratory studies, and non-advanced imaging modalities. Other forms of meaningful contact (e.g., telephone call, electronic mail or messaging) are not acceptable as an initial evaluation.
- Prior to advanced imaging consideration, the results of plain X-rays performed after the current episode of symptoms started or changed is required for all musculoskeletal conditions, unless otherwise noted in the guidelines.
- Clinical re-evaluation is required prior to consideration of advanced diagnostic imaging to document failure of significant clinical improvement following a recent (within 3 months) six week trial of provider-directed conservative treatment. Clinical re-evaluation can include documentation of a face-to-face encounter or documentation of other meaningful contact with the requesting provider's office by the patient (e.g. telephone call, electronic mail or messaging).
- Provider-directed conservative treatment may include rest, ice, compression, and elevation (R.I.C.E.), non-steroidal anti-inflammatories (NSAIDs), narcotic and non-narcotic analgesic medications, oral or injectable corticosteroids, viscosupplementation injections, a provider-directed home exercise program, cross-training, and/or physical/occupational therapy or immobilization by splinting/casting/bracing.
- Orthopedic specialist evaluation can be helpful in determining the need for advanced imaging.
 - ◆ The need for repeat advanced imaging should be carefully considered and may not be indicated if prior imaging has been performed.
 - ◆ Serial advanced imaging, whether CT or MRI, for surveillance of healing or recovery from musculoskeletal disease is not supported by the medical evidence in the majority of musculoskeletal conditions.

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MS-2: Imaging Techniques

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MS-2.1: Plain X-Ray

- The results of an initial plain X-ray are required prior to advanced imaging in all musculoskeletal conditions/disorders, unless otherwise noted in the guidelines, to rule out those situations that do not often require advanced imaging, such as osteoarthritis, acute/healing fracture, dislocation, osteomyelitis, acquired/congenital deformities, and tumors of bone amenable to biopsy or radiation therapy (in known metastatic disease), etc.

MS-2.2: MRI or CT

- Magnetic Resonance Imaging (MRI) is often the preferred advanced imaging modality in musculoskeletal conditions because it is superior in imaging the soft tissues and can also define physiological processes in some instances [e.g. edema, loss of circulation (AVN), and increased vascularity (tumors)].
- Computed Tomography (CT) is preferred for imaging cortical bone anatomy; thus, it is useful for studying complex fractures (particularly of the joints), dislocations, and assessing delayed union or non-union of fractures, if plain X-rays are equivocal. CT may be the procedure of choice in patients who cannot undergo an MRI, such as those with pacemakers.

Positional MRI:

Positional MRI is also referred to as dynamic, weight-bearing or kinetic MRI. Currently, there is inadequate scientific evidence to support the medical necessity of this study. As such, it should be considered experimental or investigational.

dGEMRIC Evaluation of Cartilage

Delayed gadolinium enhanced Magnetic Resonance Imaging of Cartilage (dGEMRIC) is a technique where an MRI estimates joint cartilage glycosaminoglycan content after penetration of the contrast agent in order to detect cartilage breakdown. Currently, there is inadequate scientific evidence to support the medical necessity of this study. As such, it should be considered experimental or investigational for the diagnosis and surveillance of, or preoperative planning related to chondral pathology.

MS-2.3: Ultrasound

- Ultrasound (US) uses sound waves to produce images that can be used to evaluate a variety of musculoskeletal disorders. As with US in general, musculoskeletal US is highly operator-dependent, and proper training and experience are required to perform consistent, high quality evaluations.

MS-2.4: Contrast Issues

- Most musculoskeletal imaging (MRI or CT) is without contrast; however, the following examples may be considered with contrast:
 - ◆ Tumors, osteomyelitis, and soft tissue infection (without and with contrast)
 - ◆ MRI arthrography (with contrast only)
 - ◆ MRI for rheumatoid arthritis and inflammatory arthritis (contrast as requested)

- ◆ For patients with a contrast contraindication, if the advanced imaging recommendation specifically includes contrast, the corresponding advanced imaging study without contrast may be approved as an alternative, although the non-contrast study may not provide an adequate evaluation of the condition of concern.

MS-2.5: Positron Emission Tomography (PET)

- At the present time, there is inadequate evidence to support the medical necessity of PET for the routine assessment of musculoskeletal disorders. It should be considered experimental or investigational and will be forwarded to Medical Director review.
 - ◆ See also: **MS-16: Post-Operative Joint Replacement Surgery**

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MS-3: 3D Rendering

- Indications for musculoskeletal 3-D image post-processing for preoperative planning when conventional imaging is insufficient for:
 - ◆ Complex fractures/dislocations (comminuted or displaced) of any joint.
 - ◆ Spine fractures, pelvic/acetabulum fractures, intra-articular fractures.
 - ◆ Preoperative planning for other complex surgical cases.
- The code assignment for 3-D rendering depends upon whether the 3-D post-processing is performed on the scanner workstation (CPT® 76376) or on an independent workstation (CPT® 76377).
 - ◆ 2-D reconstruction (i.e. reformatting axial images into the coronal plane) is considered part of the tomography procedure, is not separately reportable, and does not meet the definition of 3-D rendering.
 - ◆ It is not appropriate to report 3-D rendering in conjunction with CTA and MRA because those procedure codes already include the post-processing.
 - ◆ In addition to the term “3-D,” the following terms may also be used to describe 3-D post-processing:
 - Maximum intensity projection (MIP)
 - Shaded surface rendering
 - Volume rendering
- The 3-D rendering codes require concurrent supervision of image post-processing 3-D manipulation of volumetric data set and image rendering. Certain health plan payors do not reimburse separately for 3-D rendering while others may have differing indication/limitation criteria. In these cases, individual plan coverage policies may take precedence over eviCore guidelines.

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MS-4: Avascular Necrosis (AVN)/Osteonecrosis

MS-4.1: AVN

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MS-4.1: AVN

- Classification systems use a combination of plain radiographs, MRI, and clinical features to stage avascular necrosis. MRI of the area of concern without contrast can be performed when plain X-ray findings are negative or equivocal and clinical symptoms warrant further investigation for suspected avascular necrosis.
- Advanced imaging for AVN confirmed by plain X-ray is appropriate in the following situations:
 - ◆ Femoral head collapse:
 - MRI Hip without contrast (CPT® 73721) or CT Hip without contrast (CPT® 73700) for preoperative planning. See: **MS-24: Hip**.
 - ◆ Distal Femur:
 - MRI Knee without contrast (CPT® 73721) if needed for treatment planning. See: **MS-25: Knee**.
 - ◆ Talus:
 - MRI Ankle without contrast (CPT® 73721) if needed for treatment planning. See: **MS-26: Ankle**.
 - ◆ Tarsal navicular (Kohler Disease):
 - MRI Foot without contrast (CPT® 73718) if needed for treatment planning. See: **MS-27: Foot**.
 - ◆ Humeral head:
 - For preoperative planning prior to shoulder replacement: CT Shoulder without contrast (CPT® 73200) and/or MRI Shoulder without contrast (CPT® 73221). See: **MS-19: Shoulder**.
 - ◆ Lunate (Kienbock's Disease)/Scaphoid (Preiser's Disease):
 - CT Wrist without contrast (CPT® 73200) or MRI Wrist without contrast (CPT® 73221). See **MS-21: Wrist**.
- Patients with acute lymphoblastic leukemia and known or suspected osteonecrosis should be imaged according to guidelines in: **PEDONC-3.2: Acute Lymphoblastic Leukemia**
- Known or suspected osteonecrosis in long-term cancer survivors should be imaged according to guidelines in: **PEDONC-19.4: Osteonecrosis in Long Term Cancer Survivors**

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MS-5: Fractures

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| MS-5.2: Suspected Occult/ Stress/ Insufficiency Fracture/ Stress Reaction and Shin Splints | 15 |
| MS-5.3: Other Indications | 16 |

MS-5.1: Acute

- CT or MRI without contrast if **ANY** of the following:
 - ◆ Complex (comminuted or displaced) fracture with or without dislocation on plain X-ray.
 - CT is preferred unless it is associated with neoplastic disease when MRI without/with contrast is preferred unless MRI contraindicated.
 - ◆ Patient presents initially to the requesting provider with a documented history of an acute traumatic event at least two weeks prior with a negative plain X-ray at the time of this face-to-face encounter and a clinical suspicion for an occult/stress/insufficiency fracture see: **MS-5.2: Suspected Occult/ Stress/ Insufficiency Fracture/ Stress Reaction and Shin Splints.**
- MRI without contrast, MRI with contrast (arthrogram), or CT with contrast (arthrogram) of the area of interest if:
 - ◆ Plain X-rays are negative and an osteochondral fracture is still suspected, OR
 - ◆ Plain X-ray and clinical exam suggest an unstable osteochondral injury. See also **MS-13.1: Chondral/ Osteochondral Lesions, Including Osteochondritis Dissecans and Fractures**

MS-5.2: Suspected Occult/Stress/Insufficiency Fracture/Stress Reaction and Shin Splints

- MRI without contrast can be performed for suspected hip/femoral neck, tibia, pelvis/sacrum, tarsal navicular, proximal fifth metatarsal, or scaphoid occult/stress/insufficiency fractures, and suspected atypical femoral shaft fractures related to bisphosphonate use if the initial evaluation of history, physical exam and plain X-ray fails to establish a definitive diagnosis.
 - ◆ CT without contrast can be performed as an alternative to MRI for suspected insufficiency fractures of the pelvis/hip and suspected atypical femoral shaft fractures related to bisphosphonate see: **MS-23: Pelvis** and **MS-24: Hip**, and suspected occult fractures of the scaphoid see: **MS-21: Wrist.**
 - ◆ Tc-99m Bone scan whole body (CPT® 78306) with SPECT of the area of interest (CPT® 78320) is indicated for suspected fractures if MRI cannot be performed see: **MS-28: Nuclear Medicine.**
 - ◆ Tc-99m Bone scan Foot (CPT® 78315) is indicated for suspected occult or stress fractures of the tarsal navicular if MRI cannot be performed see: **MS-27: Foot.**
- MRI or CT without contrast can be performed for all other suspected occult/stress/insufficiency fractures with either of the following:
 - ◆ Repeat plain X-rays remain non-diagnostic for fracture after a minimum of 10 days of provider-directed conservative treatment, or
 - ◆ Initial plain X-rays obtained a minimum of 14 days after the onset of symptoms are non-diagnostic for fracture
- MRI of the lower leg without contrast (CPT® 73718) for suspected shin splints when **BOTH** of the following are met:
 - ◆ Initial plain X-ray

- ◆ Failure of a 6-week trial of provider-directed conservative treatment.
- For stress reaction, advanced imaging is not medically necessary for surveillance or “return to play” decisions regarding a stress reaction identified on an initial imaging study.
- MRI without contrast of the area of interest for stress fracture follow-up imaging for “return to play” evaluation at least 3 months after the initial imaging study for stress fracture. Any additional requests for stress fracture advanced imaging will be forwarded for Medical Director review.
- For periprosthetic fractures related to joint replacement see: **MS-16.1: Post-Operative Joint Replacement Surgery**, **MS-19: Shoulder**, **MS-20: Elbow**, **MS-24: Hip**, **MS-25: Knee**, and **MS-26: Ankle**.

MS-5.3: Other Indications

- CT or MRI without contrast is appropriate after recent (within 30 days) plain X-ray if **ONE** of the following is present:
 - ◆ Concern for delayed union or non-union of fracture or joint fusions.
 - ◆ As part of preoperative evaluation for a planned surgery of a complex fracture with or without dislocation.

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MS-6: Foreign Body

MS-6.1: Foreign Body - General

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MS-6.1: Foreign Body - General

- Ultrasound (CPT® 76881 or 76882) or CT without contrast or MRI without and with contrast or MRI without contrast of the area of interest can be approved after plain X-rays rule out the presence of radiopaque foreign bodies.
 - ◆ Ultrasound (CPT® 76881 or 76882) is the preferred imaging modality for radiolucent (non-radiopaque) foreign bodies (e.g. wood, plastic).
 - ◆ CT without contrast is recommended when plain X-rays are negative and a radiopaque foreign body is still suspected, as CT is favored over MRI for the identification of foreign bodies
 - ◆ MRI without and with contrast is an alternative to US and CT for assessing the extent of infection associated with a suspected foreign body

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MS-7: Ganglion Cysts

MS-7.1: Ganglion Cysts – General

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MS-7.1: Ganglion Cysts – General

- Plain X-ray is the initial imaging study for ganglion cysts.
- MRI without contrast or MRI without and with contrast or US (CPT® 76881 or 76882) is appropriate for occult ganglions (smaller cysts that remain hidden under the skin; suspected, but not palpable on physical examination) or cysts/masses in atypical anatomic locations.
- Advanced imaging is not indicated for ganglions that can be diagnosed by history and physical examination.

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MS-8: Gout/Calcium Pyrophosphate Deposition Disease (CPPD)/ Pseudogout/ Chondrocalcinosis

| | |
|---|-----------|
| MS-8.1: Gout-General | 23 |
| MS-8.2: CPPD (pseudogout /chondrocalcinosis)-General | 23 |

MS-8.1: Gout-General

- CT without contrast, MRI without contrast, or MRI without and with contrast of the area of interest is indicated when **BOTH** of the following are met:
 - ◆ Initial plain X-ray has been performed to rule out other potential disease processes
 - ◆ Infection or neoplasm is in the differential diagnosis for soft-tissue tophi.

Practice Notes

- Early stages of gout can be diagnosed clinically since radiographic findings are not present early in the disease course.

MS-8.2: CPPD (Pseudogout /Chondrocalcinosis)-General

- CPPD can often be diagnosed from plain X-rays; advanced diagnostic imaging is generally not medically necessary.

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MS-9: Infection/Osteomyelitis

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| MS-9.1: Infection – General | 25 |
| MS-9.2: Septic Joint | 25 |

MS-9.1: Infection – General

- MRI without and with contrast after plain X-ray(s) and:
 - ◆ Plain X-ray(s) are negative or do not suggest alternative diagnoses such as neuropathic arthropathy or fracture, and soft tissue or bone infection (osteomyelitis) is suspected; *or*
 - ◆ Plain X-ray(s) are positive for osteomyelitis, and the extent of infection into the soft tissues and any skip lesions require evaluation.
- CT without and with contrast can replace an MRI:
 - ◆ To assess the extent of bony destruction from osteomyelitis; CT can guide treatment decisions.
 - ◆ For preoperative planning
 - ◆ If MRI is contraindicated
- Patients with suspected spinal infections and diabetic foot infections are an exception to the above criteria
 - ◆ See: **SP-1.2: Red Flag Indications** for advanced imaging guidelines
 - ◆ See: **MS-27: Foot** for advanced imaging guidelines

MS-9.2: Septic Joint

- MRI of the joint, without and with contrast is appropriate when standard or image-guided arthrocentesis is contraindicated, unsuccessful, or non-diagnostic, and the clinical documentation satisfies ALL of the following criteria:
 - ◆ History and physical examination findings [One of the following]:
 - Development of an acutely hot and swollen joint (< 2 weeks)
 - Decreased range of motion due to pain
 - Documented fever
 - ◆ Laboratory tests [One of the following]:
 - Leukocytosis
 - Elevated ESR or C-reactive protein
 - Analysis of the joint fluid is non-diagnostic
 - ◆ Plain X-ray of the joint
- MRI without and with contrast is appropriate after plain X-rays if the arthrocentesis is diagnostic and if there is a confirmed septic joint, to evaluate the extent of infection into the soft tissues and any skip lesions that would require evaluation.
- CT with contrast can replace MRI without and with contrast if MRI is contraindicated.

Practice Notes

- Analysis of joint fluid is most often sufficient to diagnose a septic joint.

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MS-10: Soft Tissue Mass or Lesion of Bone

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| MS-10.1: Soft Tissue Mass | 28 |
| MS-10.2: Lesion of Bone | 28 |

MS-10.1: Soft Tissue Mass

- History and physical exam should include documentation of: location, size, duration, growing or stable, solid/cystic, fixed/not fixed to the bone, discrete or ill-defined, and an association with pain.
- US of the area of interest (CPT® 76881 or 76882) is appropriate for superficial or palpable soft tissue mass(es) after plain X-ray.
- MRI without and with contrast or without contrast is appropriate when EITHER of the following are met:
 - ◆ Soft tissue mass(es) after plain X-ray
 - ◆ Known or suspected soft tissue mass in a patient with a cancer predisposition syndrome if a recent ultrasound is inconclusive. **Plain X-ray is not required for these patients. See: PEDONC-2: Screening Imaging in Cancer Predisposition Syndromes**
- CT with contrast or CT without and with contrast is appropriate when MRI is contraindicated or after a metal limiting MRI evaluation.
- Advanced imaging is not indicated for:
 - ◆ Subcutaneous lipoma with no surgery planned
 - ◆ Ganglia see: **MS-7: Ganglion Cysts**
 - ◆ Sebaceous cyst

Practice Notes

- Plain X-rays can determine if an advanced imaging procedure is indicated, and if so, which modality is most appropriate. If non-diagnostic, these initial plain X-rays can provide complementary information if advanced imaging is indicated.

MS-10.2: Lesion of Bone

- History and physical exam should include documentation of: location, size, duration, growing or stable, discrete or poorly defined, and an association with pain.
- Complete radiograph of the entire bone containing the lesion of bone is required prior to consideration of advanced imaging. Many benign bone tumors have a characteristic appearance on plain X-ray and advanced imaging is not necessary.
- MRI without and with contrast, MRI without contrast, or CT without contrast may be indicated if ONE of the following applies:
 - ◆ Diagnosis uncertain based on plain X-ray appearance.
 - ◆ Imaging requested for preoperative planning.
- MRI without and with contrast or without contrast is appropriate when plain X-ray reveals an osteochondroma with clinical concern of malignant transformation.
- For Paget's Disease:
 - ◆ Bone scan see: **MS-28: Nuclear Medicine** or MRI (contrast as requested) can be considered if the diagnosis (based on plain X-rays and laboratory studies) is in doubt

- ◆ MRI (contrast as requested) can be considered if malignant degeneration, which occurs in up to 10% of cases, is suspected.

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MS-11: Muscle/Tendon Unit Injuries/Diseases

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| MS-11.1: Muscle/Tendon Unit Injuries/Diseases | 31 |
| MS-11.2: Acute Compartment Syndrome | 31 |
| MS-11.3: Chronic Exertional Compartment Syndrome | 31 |

MS-11.1: Muscle/Tendon Unit Injuries/Diseases

- Plain X-ray is the initial imaging study for Muscle/Tendon Unit Injuries.
- MRI without contrast or US (CPT® 76881 or 76882) is supported for **EITHER** of the following:
 - ◆ Suspected partial tendon rupture of a specific (named) tendon
 - ◆ Complete tendon ruptures for preoperative planning (for example, Achilles tendon rupture, posterior tibial tendon rupture, humeral insertion of the pectoralis major rupture, proximal and distal biceps tendon rupture, patellar ligament/tendon rupture, proximal/distal hamstring tendon rupture).
- MRI is not medically necessary for muscle belly strains/muscle tears.
- See: **MS-19: Shoulder** for clinical suspicion of a partial or complete rotator cuff tear.
- See **PN-6.2: Inflammatory Muscle Diseases** and **PEDMS-10.3: Inflammatory Muscle Diseases**.

MS-11.2: Acute Compartment Syndrome

- Advanced imaging is not indicated. Diagnosis is made clinically and by direct measurement of compartment pressure and is a surgical emergency.

Practice Notes

- Noninvasive methods of measuring compartment pressures and diagnosing acute compartment syndrome are under study, but are currently experimental, investigational, and unproven.

MS-11.3: Chronic Exertional Compartment Syndrome

- Advanced imaging should only be considered when ruling out other potential causes of extremity pain following a plain X-ray and conservative treatment as indicated.

Practice Notes

- Direct measurement of compartment pressure remains the diagnostic standard. Noninvasive methods of measuring compartment pressures and diagnosing chronic exertional compartment syndrome are under study, but are currently experimental, investigational, and unproven.

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MS-12: Osteoarthritis

MS-12.1: Osteoarthritis

34

MS-12.1: Osteoarthritis

- Plain X-rays should be performed initially and will reveal characteristic joint space narrowing, osteophyte formation, cyst formation, and subchondral sclerosis.
- CT without contrast is appropriate for treatment planning when congenital or significant atypical post-traumatic arthritic deformities are present in the shoulder, elbow, wrist, hip, knee, or ankle that would require further evaluation of the clinical significance of the deformity already identified on plain X-rays.
- Preoperative non-contrast CT/MRI requests (for either a diagnostic or unlisted CPT code) of the shoulder, elbow, wrist, hip, knee, or ankle to be utilized as part of treatment planning for customized-to-patient joint replacement surgery or as an integral part of surgical planning using intraoperative navigation for joint replacement surgery (e.g. MAKOplasty) are considered medically necessary once the joint replacement surgery has been approved or if the joint replacement surgery does not require prior authorization. See **Preface-4.3: Unlisted Procedures/Therapy Treatment Planning**
- MRI arthrogram or CT arthrogram is appropriate when joint sparing/salvage reconstructive surgery is planned for the following:
 - ◆ Suspected concomitant rotator cuff tear of the shoulder - See: **MS-19: Shoulder**
 - ◆ Suspected concomitant labral tear of the shoulder - See: **MS-19: Shoulder**
 - ◆ Suspected concomitant labral tear of the hip - See: **MS-24: Hip**
 - ◆ Suspected concomitant internal derangement of the knee - See: **MS-25: Knee**

Note:

- Refer to the Anatomic Area Tables **MS-19: Shoulder**, **MS-20: Elbow**, **MS-21: Wrist**, **MS-24: Hip**, **MS-25: Knee**, and **MS-26: Ankle** for the clinical imaging criteria regarding preoperative joint replacement surgery for each anatomic area.
- MRI knee without contrast (CPT® 73721) is appropriate in a patient with osteoarthritis for clinical suspicion of a symptomatic degenerative meniscus tear following plain X-rays and conservative treatment. See **MS-25: Knee**

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MS-13: Chondral/Osteochondral Lesions

MS-13.1: Chondral/Osteochondral Lesions, Including Osteochondritis Dissecans and Fractures

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MS-13.1: Chondral/Osteochondral Lesions, Including Osteochondritis Dissecans and Fractures

- MRI without contrast, MRI with contrast (arthrogram), or CT with contrast (arthrogram) of the area of interest is indicated when **EITHER** of the following are met:
 - ◆ Plain X-rays are negative and an osteochondral fracture is still suspected
 - ◆ Plain X-ray and clinical exam suggest an unstable osteochondral injury
- If plain X-rays show a non-displaced osteochondral fragment, follow-up imaging should be with plain X-rays. Advanced imaging is not necessary.
- MRI without contrast or CT without contrast is indicated when healing cannot be adequately assessed on follow-up plain X-rays.

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MS-14: Osteoporosis

- Plain X-ray is not required for **MS-14: Osteoporosis**.
- Quantitative CT (CPT® 77078) can be approved for screening when DXA scanner is unavailable or known to be inaccurate for ANY of the following populations:
 - ◆ Women age ≥65 years
 - ◆ Men age >70 years
 - ◆ Women age <65 years who have additional risk factors for osteoporosis based on medical history and other findings:
 - Estrogen deficiency
 - A history of maternal hip fracture that occurred after age 50 years
 - Low body mass (<127 lb or 57.6 kg)
 - History of amenorrhea (>1 year before age 42 years)
 - ◆ Women age <65 years or men age <70 years who have additional risk factors:
 - Current use of cigarettes
 - Loss of height, thoracic kyphosis
 - ◆ Individuals of any age with bone mass osteopenia or fragility fractures on imaging studies such as radiographs, CT, or MRI
 - ◆ Individuals age 50 years and older who develop a wrist, hip, spine, or proximal humerus fracture with minimal or no trauma, excluding pathologic fractures
 - ◆ Individuals of any age who develop 1 or more insufficiency fractures
 - ◆ Premenopausal females or males age 20 to 50 years with risk factors:
 - Individuals with medical conditions that could alter bone mineral density
 - Chronic renal failure
 - Rheumatoid arthritis and other inflammatory arthritides
 - Eating disorders, including anorexia nervosa and bulimia
 - Organ transplantation
 - Prolonged immobilization
 - Conditions associated with secondary osteoporosis, such as gastrointestinal malabsorption or malnutrition, sprue, osteomalacia, vitamin D deficiency, endometriosis, acromegaly, chronic alcoholism or established cirrhosis, and multiple myeloma
 - Individuals who have had gastric bypass for obesity
 - Individuals with an endocrine disorder known to adversely affect bone mineral density (e.g., hyperparathyroidism, hyperthyroidism, or Cushing syndrome)
 - Individuals receiving (or expected to receive) glucocorticoid therapy for >3 months
 - Hypogonadal men older than 18 years and men with surgically or chemotherapeutically induced castration
 - Individuals beginning or receiving long-term therapy with medications known to adversely affect BMD (e.g. anticonvulsant drugs, androgen deprivation therapy, aromatase inhibitor therapy, or chronic heparin)

Note: Repeat screening quantitative computed tomography (QCT) can be approved no sooner than every two years.

- Quantitative CT scan (CPT® 77078) can be approved for non-screening/monitoring when DXA scanner is unavailable or known to be inaccurate for ANY of the following circumstances:
 - ◆ Follow-up in cases where QCT was the original study
 - ◆ Multiple healed vertebral compression fractures
 - ◆ Significant scoliosis
 - ◆ Advanced arthritis of the spine due to increased cortical sclerosis often with large marginal osteophytes. Obese patient over the weight limit of the dual-energy X-ray absorptiometry (DXA) exam table
 - ◆ Severely obese patients (BMI >35kg/m²)
 - ◆ Extremes in body height (i.e. very large and very small patients)
 - ◆ Patients with extensive degenerative disease of the spine
 - ◆ A clinical scenario that requires sensitivity to small changes in trabecular bone density (parathyroid hormone and glucocorticoid treatment monitoring).

Note: Repeat non-screening/monitoring QCT can be approved no earlier than one year following a change in treatment regimen, and only when the results will directly impact a treatment decision.

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MS-15: Rheumatoid Arthritis (RA) and Inflammatory Arthritis

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| MS 15.1: Rheumatoid Arthritis (RA) and Inflammatory Arthritis | 41 |
| MS-15.2: Pigmented Villonodular Synovitis (PVNS) | 41 |

MS 15.1: Rheumatoid Arthritis (RA) and Inflammatory Arthritis

- Plain X-ray, physical exam and appropriate laboratory studies* are required prior to advanced imaging.
- MRI without contrast or MRI without and with contrast or US (CPT® 76881 or 76882) is appropriate for the most symptomatic joint, or of the dominant hand or wrist, in ALL of the following situations:
 - ◆ When diagnosis is uncertain prior to initiation of drug therapy.
 - ◆ To study the effects of treatment with disease modifying anti-rheumatic drug (DMARD) therapy.
 - ◆ To identify seronegative RA patients that might benefit from early DMARD therapy.
 - ◆ To determine change in treatment, such as:
 - Switching from standard DMARD therapy to tumor necrosis factor (TNF) therapy.
 - Changing to a different TNF drug therapy, then one MRI (contrast as requested) of a single joint can be performed.
 - Addition of other treatments, including joint injections
- MRI or US should NOT be considered for routine follow-up of treatment.

Practice Notes

- *Examples of appropriate laboratory studies may include: Lyme titers, rheumatoid factor (RF), anti-cyclic citrullinated peptide (anti-CCP), sedimentation rate (ESR), C-reactive protein (CRP), and antinuclear antibody (ANA)], joint fluid analysis

MS-15.2: Pigmented Villonodular Synovitis (PVNS)

- MRI of the affected joint without contrast, or CT of the affected joint with contrast (arthrogram) if MRI contraindicated is supported following plain X-rays.

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MS-16: Post-Operative Joint Replacement Surgery

MS-16.1: Post-Operative Joint Replacement Surgery - General 44

MS-16.1: Post-Operative Joint Replacement Surgery - General

- CT without contrast or bone scan (CPT® 78315 or CPT® 78320)* may be indicated for the evaluation of suspected aseptic loosening of orthopaedic joint replacements when recent plain X-ray is nondiagnostic.
- CT shoulder without contrast (CPT® 73200) can be performed as additional imaging following plain X-rays regardless of plain X-ray findings. See **MS-19: Shoulder** CT without contrast is appropriate with a high suspicion for a periprosthetic fracture and a negative plain X-ray.
 - ◆ CT shoulder without contrast (CPT® 73200) can be performed as additional imaging following plain X-rays regardless of plain X-ray findings. See **MS-19: Shoulder**
- Joint aspiration is the initial evaluation after plain X-ray for a painful joint replacement when periprosthetic infection is suspected.
 - ◆ For suspected infection with negative or inconclusive joint aspiration culture see: **MS-28: Nuclear Medicine**
- MRI hip without contrast (CPT® 73721) or ultrasound (CPT® 76881 or 76882) are both appropriate for **EITHER** of the following:
 - ◆ Diagnosis of ALVAL (aseptic lymphocytic-dominated vasculitis-associated lesion) pseudotumors surrounding metal-on-metal (MoM) hip prostheses. One of these two imaging modalities can be approved but not both. See: **MS-10.1: Soft Tissue Mass or Lesion of Bone**
 - ◆ Metal-On-Metal (MoM) Hip Prostheses that are considered high risk for implant performance issues from THA cup-neck impingement and subsequent ALTR with Co and Cr ion levels greater than 10 ppb.
- CT hip without contrast (CPT® 73700) or MRI hip without contrast (CPT® 73721) is appropriate to evaluate suspected particle disease (aggressive granulomatous disease) of the hip when infection has been excluded.
- For specific joints post-operative from replacement surgery:
 - ◆ See **MS-19: Shoulder**
 - ◆ See **MS-20: Elbow**
 - ◆ See **MS-24: Hip**
 - ◆ See **MS-25: Knee**
 - ◆ See **MS-26: Ankle**

Practice Notes

- Complications following joint replacement surgery include (not limited to) periprosthetic fracture, infection, aseptic loosening, failure of fixation/component malposition, and wear.
- *The usefulness of bone scan for the evaluation of suspected aseptic loosening of a shoulder replacement may be limited as bone remodeling–related increased uptake can be seen at the site of joint replacement for up to 1 year following surgery.

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MS-17: Limb Length Discrepancy

MS-17.1: Limb Length Discrepancy

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MS-17.1: Limb Length Discrepancy

- Requests will be sent to Medical Director Review. Either plain radiographic or “CT scanogram,” both reported with CPT® 77073, is appropriate to radiographically evaluate limb length discrepancy due to congenital anomalies, acquired deformities, growth plate (physeal injuries or surgery), or inborn errors of metabolism.

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MS-18: Anatomical Area Tables – General Information

The imaging guidelines for each anatomical area are presented in table format. The table below includes a description of how each column header should be utilized for each guideline **MS-19: Shoulder** through **MS-27: Foot**.

| Condition | Plain X-Ray? | Conservative Treatment | Advanced Imaging | Comments |
|---------------------|--|---|---|---|
| Patient's condition | Are the results of an initial plain X-ray required before advanced imaging can be approved? (Yes or No) | Is failure of 6 weeks of provider-directed conservative treatment within the past 12 weeks with clinical re-evaluation required? (Yes or No) | The appropriate advanced imaging indicated for this condition. In some scenarios, advanced imaging may not be indicated. | Additional comments related to the condition. |

| MS-19: Shoulder | | | | |
|--|---------------------|-------------------------------|--|--|
| Condition | Plain X-Ray? | Conservative Treatment | Advanced Imaging | Comments |
| General Shoulder Pain | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI shoulder without contrast (CPT® 73221) ➤ CT shoulder with contrast (arthrogram) (CPT® 73201) if MRI contraindicated | |
| Symptomatic Loose Bodies | Yes | No | <ul style="list-style-type: none"> ➤ MRI shoulder without contrast (CPT® 73221) | |
| Impingement | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI shoulder without contrast (CPT® 73221) or MRI shoulder with contrast (arthrogram) (CPT® 73222) or US shoulder (CPT® 76881 or 76882) ➤ CT shoulder with contrast (CPT® 73201) if MRI is contraindicated | |
| Tendonitis/ Bursitis | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI shoulder without contrast (CPT® 73221) or US shoulder (CPT® 76881 or 76882) | |
| Tendon Rupture (Biceps Long Head) | Yes | No | <ul style="list-style-type: none"> ➤ MRI shoulder without contrast (CPT® 73221) or US shoulder (CPT® 76881 or 76882) when clinical exam is inconclusive due to inability to visualize a “Popeye” sign clinically or for preoperative planning | |
| Tendon Rupture (Pectoralis Major/Minor) | Yes | No | <ul style="list-style-type: none"> ➤ MRI Shoulder without contrast (CPT® 73221) or MRI Chest without contrast (CPT® 71550) when clinical exam is inconclusive or for preoperative planning | |
| Shoulder Rotator Cuff Tear (Complete and Partial) | Yes | Yes* | <ul style="list-style-type: none"> ➤ MRI shoulder without contrast (CPT® 73221) or MRI shoulder with contrast (arthrogram) (CPT® 73222) or US shoulder (CPT® 76881 or 76882) ➤ CT shoulder with contrast (arthrogram) (CPT® 73201) if MRI is contraindicated | <p>*Conservative treatment is not required with an acute shoulder injury prior to the onset of symptoms and consideration of surgery. For surgery criteria, see CMM-315: <u>Shoulder Surgery- Arthroscopic and Open Procedures.</u></p> |

| | | | | |
|---|------------|-------------|---|--|
| <p>Partial Tendon Rupture (Excluding Partial Rotator Cuff Tears)</p> | <p>Yes</p> | <p>No</p> | <ul style="list-style-type: none"> ➤ MRI shoulder without contrast (CPT® 73221) or US shoulder (CPT® 76881 or 76882) for a suspected partial tendon rupture of a specific named tendon not otherwise specified | <p>MRI is <i>NOT</i> needed for muscle belly strains/muscle tears.</p> |
| <p>Shoulder Labral Tear (e.g., SLAP, ALPSA, HAGL)</p> | <p>Yes</p> | <p>Yes</p> | <ul style="list-style-type: none"> ➤ MRI shoulder with contrast (arthrogram) (CPT® 73222) or MRI shoulder without contrast (CPT® 73221) or CT shoulder with contrast (arthrogram) (CPT® 73201) | <p>For surgery criteria, see CMM-315: Shoulder Surgery-Arthroscopic and Open Procedures.</p> |
| <p>Shoulder Dislocation/ Subluxation/ Instability, or Bankart/Hill-Sachs Lesions</p> | <p>Yes</p> | <p>Yes*</p> | <ul style="list-style-type: none"> ➤ MRI shoulder with contrast (arthrogram) (CPT® 73222) or MRI shoulder without contrast (CPT® 73221) is medically necessary without conservative treatment in patients 40 years of age or younger with a first time dislocation and in patients with recurrent dislocations ➤ CT shoulder with contrast (arthrogram) (CPT® 73201) or CT shoulder without contrast (CPT® 73200) if MRI is contraindicated | <p>Conservative treatment is required in patients over age 40 with a first time dislocation. For surgery criteria, see CMM-315: <u>Shoulder Surgery-Arthroscopic and Open Procedures.</u></p> |

| | | | | |
|---|-----|-----|---|---|
| Frozen Shoulder/ Adhesive Capsulitis | Yes | Yes | <ul style="list-style-type: none"> ➤ Advanced imaging is rarely indicated – in those rare situations, MRI shoulder without contrast (CPT® 73221) | Requests will be forwarded to Medical Director review. For surgery criteria, see <u>CMM-310: Manipulation Under Anesthesia</u> and <u>CMM-315: Shoulder Surgery- Arthroscopic</u> |
| Avascular Necrosis (AVN) of the Humeral Head | Yes | No | <ul style="list-style-type: none"> ➤ MRI shoulder without contrast (CPT® 73221) when suspected and plain X-ray is negative or equivocal ➤ CT shoulder without contrast (CPT® 73200) and/or MRI shoulder without contrast (CPT® 73221) for preoperative planning prior to shoulder replacement | See also <u>MS-4.1: AVN</u> |
| Acromioclavicular (AC) Separation | Yes | No | <ul style="list-style-type: none"> ➤ MRI shoulder without contrast (CPT® 73221) to rule out possible rotator cuff tear following AC separation | |
| Sternoclavicular (SC) Dislocation | Yes | No | <ul style="list-style-type: none"> ➤ CT Chest without contrast (CPT® 71250) if posterior SC dislocation is evident or suspected | |
| Post-Operative Shoulder Surgery for Impingement, Rotator Cuff Tear, and/or Labral Tear | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI shoulder without contrast (CPT® 73221) or MRI shoulder with contrast (arthrogram) (CPT® 73222) in symptomatic individuals ➤ US shoulder (CPT® 76881 or 76882) is also appropriate in symptomatic individuals following rotator cuff repair ➤ CT shoulder with contrast (arthrogram) (CPT® 73201) if MRI contraindicated | Other requests for advanced imaging will be forwarded to Medical Director review. |

| | | | | |
|--|------------|------------|---|---|
| <p>Preoperative Shoulder (Glenohumeral) Replacement Surgery</p> | <p>Yes</p> | <p>Yes</p> | <ul style="list-style-type: none"> ➤ CT shoulder without contrast (CPT® 73200) and/or MRI shoulder without contrast (CPT® 73221) for preoperative planning prior to shoulder replacement | <p>See also <u>MS-12: Osteoarthritis</u> For joint surgery criteria, see <u>CMM-318: Shoulder Arthroplasty/Arthrodesis</u></p> |
| <p>Post-Operative Shoulder (Glenohumeral) Replacement Surgery</p> | <p>Yes</p> | <p>No</p> | <ul style="list-style-type: none"> ➤ CT shoulder without contrast (CPT® 73200) for suspected aseptic loosening or fracture as additional imaging following plain X-rays ➤ In-111 WBC (CPT® 78805) and Tc-99m sulfur colloid scan shoulder (CPT® 78102 or 78103) for suspected infection with negative or inconclusive joint aspiration culture (see also <u>MS-28: Nuclear Medicine</u>) ➤ CT shoulder with contrast (arthrogram) (CPT® 73201) or US shoulder (CPT® 76881 or 76882) for possible rotator cuff tear ➤ MRI shoulder without contrast (CPT® 73221) or US shoulder (CPT® 76881 or 76882) for possible nerve injury | <p>Other requests for advanced imaging will be forwarded to Medical Director review. See also <u>MS-16: Post-Operative Joint Replacement</u></p> |

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| MS-20: Elbow | | | | |
|--|---------------------|-------------------------------|--|--|
| Condition | Plain X-Ray? | Conservative Treatment | Advanced Imaging | Comments |
| General Elbow Pain | Yes | Yes | ➤ MRI elbow without contrast (CPT® 73221) | |
| Symptomatic Loose Bodies | Yes | No | ➤ MRI elbow without contrast (CPT® 73221) if effusion is present; <i>or</i> ➤ MRI elbow with contrast (arthrogram) (CPT® 73222) if no effusion is present | |
| Tendonitis | Yes | Yes | ➤ MRI elbow without contrast (CPT® 73221) or US elbow (CPT® 76881 or 76882) | |
| Bursitis | Yes | Yes | ➤ MRI elbow without and with contrast (CPT® 73223) or MRI elbow without contrast (CPT® 73221) or US elbow (CPT® 76881 or 76882) | |
| Lateral (tennis elbow) or Medial (golfer's elbow) Epicondylitis | Yes | Yes | ➤ MRI elbow without contrast (CPT® 73221) or US elbow (CPT® 76881 or 76882) can confirm the clinical diagnosis of epicondylitis if symptoms persist for longer than 6 months in cases refractory to conservative treatment. | Epicondylitis, caused by tendon degeneration and tear of the common extensor tendon laterally or of the common flexor tendon medially, is a common clinical diagnosis for which imaging is not medically necessary except as noted. Requests will be forwarded to Medical Director review. |
| Suspected Osteochondral Injury | Yes | No | ➤ MRI elbow without contrast (CPT® 73221) or MRI elbow with contrast (arthrogram) (CPT® 73222) or CT elbow with contrast (arthrogram) (CPT® 73201) if plain X-rays are negative and an osteochondral fracture is still suspected | See MS-13: Chondral/Osteochondral Lesions |
| Ruptured Biceps Insertion at Elbow | Yes | No | ➤ MRI elbow without contrast (CPT® 73221) or US elbow (CPT® 76881 or 76882) when clinical exam is inconclusive or for preoperative planning | |
| Ruptured Triceps | Yes | No | ➤ MRI elbow without contrast (CPT® 73221) or US elbow (CPT® 76881 or 76882) when | |

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| Insertion at Elbow | | | clinical exam is inconclusive or for preoperative planning | |
| Partial Tendon Rupture | Yes | No | <ul style="list-style-type: none"> ➤ MRI elbow without contrast (CPT® 73221) or US elbow (CPT® 76881 or 76882) for a suspected partial tendon rupture of a specific named tendon not otherwise specified | MRI is <i>NOT</i> needed for muscle belly strains/muscle tears. |
| Trauma | Yes | No | <ul style="list-style-type: none"> ➤ MRI elbow without contrast (CPT® 73221) or CT elbow without contrast (CPT® 73200) when surgery is being considered | |
| Ulnar Collateral Ligament (UCL) Tear | Yes | No | <ul style="list-style-type: none"> ➤ MRI elbow with contrast (arthrogram) (CPT® 73222) or MRI elbow without contrast (CPT® 73221) or US elbow (CPT® 76881 or 76882) following acute or repetitive elbow trauma | |
| Suspected Nerve Abnormality | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI elbow without contrast (CPT® 73221) or US elbow (CPT® 76881 or 76882) | |
| Post-Operative | Yes | Yes | <ul style="list-style-type: none"> ➤ CT elbow without contrast (CPT® 73200) in symptomatic post-operative patients following surgical treatment of complex fractures; or ➤ MRI elbow without contrast (CPT® 73221) in symptomatic post-operative patients following soft-tissue surgery | Other requests for advanced imaging will be forwarded to Medical Director review. |
| Preoperative Elbow Replacement Surgery | Yes | Yes | <ul style="list-style-type: none"> ➤ CT elbow without contrast (CPT® 73200) for preoperative planning prior to elbow replacement when congenital or post-traumatic deformities exist | See: MS-12: Osteoarthritis |

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| <p>Post-Operative Elbow Replacement Surgery</p> | <p>Yes</p> | <p>No</p> | <ul style="list-style-type: none"> ➤ CT elbow without contrast (CPT® 73200) for suspected aseptic loosening or fracture replacement when recent plain X-ray is nondiagnostic ➤ In-111 WBC (CPT® 78805) and Tc-99m sulfur colloid scan elbow (CPT® 78102 or 78103) for suspected infection with negative or inconclusive joint aspiration culture see: <u>MS-28: Nuclear Medicine</u> | <p>Other requests for advanced imaging will be forwarded to Medical Director review.</p> |
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MS-21: Wrist

| Condition | Plain X-Ray? | Conservative Treatment | Advanced Imaging | Comments |
|--|--------------|------------------------|---|---|
| General Wrist Pain | Yes | Yes | ➤ MRI wrist without contrast (CPT® 73221) | |
| Tendonitis | Yes | Yes | ➤ MRI wrist without contrast (CPT® 73221) or US wrist (CPT® 76881 or 76882) | |
| Kienbock's Disease (Avascular Necrosis (AVN) of the Lunate)/ Preiser's Disease (Avascular Necrosis (AVN) of the Scaphoid) | Yes | No | <ul style="list-style-type: none"> ➤ MRI wrist without contrast (CPT® 73221) when suspected and plain X-ray is negative or equivocal ➤ If diagnosed on plain X-ray, CT wrist without contrast (CPT® 73200) or MRI wrist without contrast (CPT® 73221) | See also <u>MS-4.1: AVN</u> |
| Suspected Navicular/Scaphoid Fracture | Yes | No | ➤ MRI wrist without contrast (CPT® 73221) or CT wrist without contrast (CPT® 73200) when suspected based on history and physical exam | See also <u>MS-5.2: Suspected Occult/ Stress/ Insufficiency Fracture/ Stress Reaction and Shin Splints</u> |
| Distal Radioulnar Joint (DRUJ) Instability | Yes | No | ➤ CT of both wrists without contrast (CPT® 73200) (should include wrists in supination and pronation) | |
| Complex Distal Radius/Ulna Fracture | Yes | No | ➤ CT wrist without contrast (CPT® 73200) | |
| Carpal Tunnel Syndrome/Ulnar Tunnel Syndrome | Yes | No | ➤ MRI wrist without contrast (CPT® 73221) or US wrist (CPT® 76881 or 76882) for surgical planning when a soft tissue mass is identified on physical examination | Clinical diagnosis is often confirmed with electrodiagnostic studies. Refer to <u>PN-2: Focal Neuropathy</u> |

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| Intrinsic Ligament (e.g. scapholunate)/Triangular Fibrocartilage Complex (TFCC) Injuries | Yes | Yes | ➤ MRI wrist with contrast (arthrogram) (CPT® 73222) | | |
| Complete Rupture of a Specific Named Tendon Not Otherwise Specified | Yes | No | ➤ MRI wrist without contrast (CPT® 73221) or US wrist (CPT® 76881 or 76882) for preoperative planning | | |
| Partial Tendon Rupture | Yes | No | <table border="1" style="width: 100%;"> <tr> <td data-bbox="797 611 1078 1024">➤ MRI wrist without contrast (CPT® 73221) or US wrist (CPT® 76881 or 76882) for a suspected partial tendon rupture of a specific named tendon not otherwise specified</td> <td data-bbox="1078 611 1424 1024">MRI is NOT needed for muscle belly strains/muscle tears.</td> </tr> </table> | ➤ MRI wrist without contrast (CPT® 73221) or US wrist (CPT® 76881 or 76882) for a suspected partial tendon rupture of a specific named tendon not otherwise specified | MRI is NOT needed for muscle belly strains/muscle tears. |
| ➤ MRI wrist without contrast (CPT® 73221) or US wrist (CPT® 76881 or 76882) for a suspected partial tendon rupture of a specific named tendon not otherwise specified | MRI is NOT needed for muscle belly strains/muscle tears. | | | | |
| Post-Operative | Yes | Yes | <table border="1" style="width: 100%;"> <tr> <td data-bbox="797 1024 1078 1732"> ➤ CT wrist without contrast (CPT® 73200) in symptomatic patients following surgery for navicular/scaphoid fractures and complex distal radius/ulna fractures; or ➤ MRI wrist with contrast (arthrogram) (CPT® 73222) in symptomatic patients following DRUJ or TFCC surgery </td> <td data-bbox="1078 1024 1424 1732">Other requests for advanced imaging will be forwarded to Medical Director review.</td> </tr> </table> | ➤ CT wrist without contrast (CPT® 73200) in symptomatic patients following surgery for navicular/scaphoid fractures and complex distal radius/ulna fractures; or ➤ MRI wrist with contrast (arthrogram) (CPT® 73222) in symptomatic patients following DRUJ or TFCC surgery | Other requests for advanced imaging will be forwarded to Medical Director review. |
| ➤ CT wrist without contrast (CPT® 73200) in symptomatic patients following surgery for navicular/scaphoid fractures and complex distal radius/ulna fractures; or ➤ MRI wrist with contrast (arthrogram) (CPT® 73222) in symptomatic patients following DRUJ or TFCC surgery | Other requests for advanced imaging will be forwarded to Medical Director review. | | | | |

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| <p>Preoperative Wrist Replacement Surgery</p> | <p>Yes</p> | <p>Yes</p> | <ul style="list-style-type: none"> ➤ CT wrist without contrast (CPT® 73200) for preoperative planning prior to wrist replacement when congenital or post-traumatic deformities exist | <p>See: <u>MS-12: Osteoarthritis</u></p> |
| <p>Post-Operative Wrist Replacement Surgery</p> | <p>Yes</p> | <p>No</p> | <ul style="list-style-type: none"> ➤ CT elbow without contrast (CPT® 73200) for suspected aseptic loosening or fracture replacement when recent plain X-ray is nondiagnostic ➤ In-111 WBC (CPT® 78805) and Tc-99m sulfur colloid scan elbow (CPT® 78102 or 78103) for suspected infection with negative or inconclusive joint aspiration culture see: <u>MS-28: Nuclear Medicine</u> | <p>Other requests for advanced imaging will be forwarded to Medical Director review.</p> |

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| MS-22: Hand | | | | |
|--|---------------------|-------------------------------|---|---|
| Condition | Plain X-Ray? | Conservative Treatment | Advanced Imaging | Comments |
| General Hand Pain | Yes | Yes | ➤ MRI hand or finger without contrast (CPT® 73218) | |
| Tendonitis | Yes | Yes | ➤ MRI hand or finger without contrast (CPT® 73218) or US hand or finger (CPT® 76881 or 76882) | |
| Occult Fracture | Yes | No | ➤ Advanced imaging guided by <u>MS-5.2: Suspected Occult/ Stress/ Insufficiency Fracture/ Stress Reaction and Shin Splints</u> | |
| Complex Fracture | Yes | No | ➤ CT hand or finger without contrast (CPT® 73200) when plain X-ray shows a complex fracture | |
| Ulnar Collateral Ligament (UCL) Thumb Injury | Yes | No | ➤ MRI thumb without contrast (CPT® 73218) or US thumb (CPT® 76881 or 76882) if rule out for Stener lesion or complete tear of UCL of the thumb MCP joint | Also called "Gamekeeper's Thumb" or "Skier's Thumb" |
| Complete Rupture of a Specific Named Tendon not Otherwise Specified | Yes | No | ➤ MRI hand or finger without contrast (CPT® 73218) or US hand or finger (CPT® 76881 or 76882) for preoperative planning | |
| Partial Tendon Rupture | Yes | No | ➤ MRI hand or finger without contrast (CPT® 73218) or US hand or finger (CPT® 76881 or 76882) for a suspected partial tendon rupture of a specific named tendon not otherwise specified | MRI is <i>NOT</i> needed for muscle belly strains/muscle tears. |
| Post-Operative | Yes | Yes | ➤ CT hand or finger without contrast (CPT® 73200) or MRI hand or finger without contrast (CPT® 73218) in symptomatic post-operative patients following surgical treatment for complex hand or finger fractures or following soft-tissue surgery | Other requests for advanced imaging will be forwarded to Medical Director review. |

References

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| MS-23: Pelvis | | | | |
|---|---------------------|-------------------------------|--|--|
| | Plain X-Ray? | Conservative Treatment | Advanced Imaging | Comments |
| General Pain-Pelvis | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI pelvis without contrast (CPT® 72195); or ➤ MRI RT and/or LT hip without contrast (CPT® 73721) | |
| Tendonitis | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI pelvis without contrast (CPT® 72195); or ➤ MRI RT and/or LT hip without contrast (CPT® 73721) | |
| Insufficiency Fracture | Yes | No | <ul style="list-style-type: none"> ➤ MRI pelvis without contrast (CPT® 72195) or CT pelvis without contrast (CPT® 72192) | See also MS-5.2: Suspected Occult/ Stress/ Insufficiency Fracture/ Stress Reaction and Shin Splints for occult and stress fractures of the pelvis |
| Complex Fracture/Dislocation - Pelvis, Sacrum and Acetabulum | Yes | No | <ul style="list-style-type: none"> ➤ CT pelvis without contrast (CPT® 72192) | Additionally, 3D rendering may be appropriate for preoperative planning. See also MS-3: 3D Rendering |
| Sacro-iliac (SI) Joint Pain, Sacroiliitis, Coccydynia | Yes | Yes | <ul style="list-style-type: none"> ➤ Advanced imaging guided by: SP-10.1: Sacroiliac (SI) Joint Pain/Sacroiliitis and SP-5.2: Coccydynia without Neurological Features | |
| Complete Rupture of a Specific Named Tendon | Yes | No | <ul style="list-style-type: none"> ➤ MRI pelvis without contrast (CPT® 72195) for preoperative planning | |
| Partial Tendon Rupture | Yes | No | <ul style="list-style-type: none"> ➤ MRI Pelvis without contrast (CPT® 72195) for a suspected partial tendon rupture of a specific named tendon not otherwise specified | MRI is <i>NOT</i> needed for muscle belly strains/muscle tears. |
| Osteitis Pubis/Symphysis Pubis Diastasis | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI pelvis without contrast (CPT® 72195) | |

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| Athletic Pubalgia (Sports Hernia) | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI pelvis without contrast (athletic pubalgia protocol) (CPT® 72195) or dynamic pelvic ultrasound (CPT® 76857) are appropriate to evaluate for the cause of suspected athletic pubalgia. | |
| Post-Operative | Yes | Yes | <ul style="list-style-type: none"> ➤ CT pelvis without contrast (CPT® 72192) in symptomatic patients following surgery for complex pelvic ring/acetabular fractures | Other requests for advanced imaging will be forwarded to Medical Director review. |

References

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MS-24: Hip

| Condition | Plain X-Ray? | Conservative Treatment | Advanced Imaging | Comments |
|---|--------------|------------------------|---|--|
| General Hip Pain | Yes | Yes | ➤ MRI hip without contrast (CPT® 73721) | |
| Symptomatic Loose Bodies | Yes | No | ➤ MRI hip without contrast (CPT® 73721) | |
| Tendonitis/ Bursitis | Yes | Yes | ➤ MRI hip without contrast (CPT® 73721) or US hip (CPT® 76881 or 76882) | |
| Hip Abductor Tendon Tear/Avulsion | Yes | No | ➤ MRI hip without contrast (CPT® 73721) or US hip (CPT® 76881 or 76882) | |
| Complete Rupture of a Specific Named Tendon | Yes | No | ➤ MRI hip without contrast (CPT® 73721) or US hip (CPT® 76881 or 76882) for preoperative planning | |
| Partial Tendon Rupture | Yes | No | ➤ MRI hip without contrast (CPT® 73721) or US hip (CPT® 76881 or 76882) for a suspected partial tendon rupture of a specific named tendon not otherwise specified | MRI is <i>NOT</i> needed for muscle belly strains/muscle tears. |
| Insufficiency Fracture | Yes | No | ➤ MRI hip without contrast (CPT® 73721) or CT hip without contrast (CPT® 73700) | See also <u>MS-5.2: Suspected Occult/ Stress/ Insufficiency Fracture/ Stress Reaction and Shin Splints</u> for occult and stress fractures of the hip |
| Avascular Necrosis (AVN) of the Femoral Head | Yes | No | <ul style="list-style-type: none"> ➤ MRI hip without contrast (CPT® 73721) when suspected and plain X-ray is negative or equivocal ➤ MRI hip without contrast (CPT® 73721) or CT hip without contrast (CPT® 73700) with femoral head collapse for preoperative planning | See also <u>MS-4.1: AVN</u> |
| Labral Tear | Yes | Yes | ➤ MRI hip with contrast (arthrogram) (CPT® 73722) or CT hip with contrast (arthrogram) (CPT® 73701) or MRI hip without contrast (CPT® 73721) | ➤ For surgery criteria, see CMM-314: Hip Surgery- Arthroscopic and Open Procedures |

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| Femoroacetabular Impingement | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI hip without contrast (CPT® 73721) or MRI hip with contrast (arthrogram) (CPT® 73722) in addition to CT hip without contrast (CPT® 73700) or CT pelvis without contrast (CPT® 72192) for preoperative planning for femoroacetabular impingement | For surgery criteria, see <u>CMM-314: Hip Surgery-Arthroscopic and Open Procedures</u> |
| Piriformis Syndrome | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI pelvis without contrast (CPT® 72195) or CT pelvis without contrast (CPT® 72192) for preoperative planning | EMG/NCV may confirm the diagnosis. Refer to <u>PN-2: Focal Neuropathy</u> |
| Post-Operative | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI hip with contrast (arthrogram) (CPT® 73722) in symptomatic patients following surgery for labral tears and femoroacetabular impingement ➤ CT hip without contrast (CPT® 73700) or MRI hip without contrast (CPT® 73721) in symptomatic patients following surgery for hip fracture and/or hip avascular necrosis | Other requests for advanced imaging will be forwarded to Medical Director review. |
| Preoperative Hip Replacement Surgery | Yes | Yes | <ul style="list-style-type: none"> ➤ CT hip without contrast (CPT® 73700) for preoperative planning prior to hip replacement when congenital or post-traumatic deformities exist | See also <u>MS-12: Osteoarthritis</u> For surgery criteria, see <u>CMM-313: Hip Arthroplasty-Total and Partial</u> |

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| <p>Post-Operative Hip Replacement Surgery</p> | <p>Yes</p> | <p>No*</p> | <ul style="list-style-type: none"> ➤ CT hip without contrast (CPT® 73700) or bone scan (CPT®78315 or CPT® 78320) for suspected aseptic loosening of hip replacement when recent plain X-ray is nondiagnostic ➤ In-111 WBC (CPT® 78805) and Tc-99m sulfur colloid scan hip (CPT® 78102 or 78103) for suspected infection with negative or inconclusive joint aspiration culture (see <u>MS-28: Nuclear Medicine</u>) ➤ CT hip without contrast (CPT® 73700) for suspicion of a periprosthetic fracture when recent plain X-ray is nondiagnostic ➤ CT hip without contrast (CPT® 73700) to evaluate component malposition or heterotopic bone after plain X-ray ➤ MRI hip without contrast (CPT® 73721) for possible nerve injury ➤ MRI hip without contrast (CPT® 73721) or US hip (CPT® 76881 or 76882) for suspected for suspected tendinitis/bursitis (*requires conservative treatment) | <p>See also <u>MS-16: Post-Operative Joint Replacement</u></p> |
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Coding Notes

- ◆ Unilateral hip MRI is reported as CPT® 73721.
- ◆ Bilateral hip MRI can be identified in several different ways on the claim.
 - eviCore will approve two separate codes (CPT® 73721 x 2) with RT and LT modifiers.
 - However, providers are urged to check for individual payer preferences regarding bilateral modifier use.

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| MS-25: Knee | | | | |
|---------------------------------|---------------------|-------------------------------|---|---|
| Condition | Plain X-Ray? | Conservative Treatment | Advanced Imaging | Comments |
| General Knee Pain | Yes | Yes | ➤ MRI knee without contrast (CPT® 73721) | |
| Symptomatic Loose Bodies | Yes | No | ➤ MRI knee without contrast (CPT® 73721) ➤ CT knee with contrast (arthrogram) (CPT® 73701) if MRI cannot be performed | |
| Tendonitis | Yes | Yes | ➤ MRI knee without contrast (CPT® 73721) or US knee (CPT® 76881 or 76882) | |
| Complex Knee Fracture | Yes | No | ➤ CT knee without contrast (CPT® 73700) | See: MS-5: Fractures |
| Meniscus Tear | Yes | Yes* | ➤ MRI knee without contrast (CPT® 73721) *Conservative treatment is not required if at least 2 of following 4 criteria are met: 1) Positive McMurray's or positive Thessaly test 2) twisting or acute injury of the knee 3) locked knee/inability to fully extend the knee 4) knee effusion ➤ MRI knee without contrast (CPT® 73721) for clinical suspicion of a symptomatic degenerative meniscus tear in a patient with osteoarthritis following conservative treatment | For surgery criteria, see: CMM-312: Knee Surgery- Arthroscopic and Open Procedures |
| Ligament Tear | Yes | Yes* | ➤ MRI knee without contrast (CPT® 73721) *Conservative treatment is not required if any of the following signs are positive in comparison to the normal knee: ◆ Anterior drawer ◆ Lachman ◆ Pivot shift ◆ Posterior drawer ◆ Posterior sag ◆ Valgus stress ◆ Varus stress | For surgery criteria, see: CMM-312: Knee Surgery- Arthroscopic and Open Procedures |
| Knee Joint Dislocation | Yes | No | ➤ MRI knee without contrast (CPT® 73721) and MRA knee without and with contrast (CPT® 73725) following significant trauma to evaluate for ligament and vascular injury | |

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| Patellar Dislocation/Subluxation | Yes | No | ➤ MRI knee without contrast (CPT® 73721) with acute knee injury, consideration of surgery and concern for osteochondral fracture or loose osteochondral fracture fragment | For surgery criteria, see: <u>CMM-312: Knee Surgery-Arthroscopic and Open Procedures</u> |
| Recurrent Patellar Instability | Yes | Yes | ➤ MRI knee without contrast (CPT® 73721) if consideration for surgery | For surgery criteria, see: <u>CMM-312: Knee Surgery-Arthroscopic and Open Procedures</u> |
| Patellofemoral Pain Syndrome/Anterior Knee Pain/Tracking Disorder | Yes | Yes | ➤ MRI knee without contrast (CPT® 73721) if consideration for surgery | |
| Suspected Osteochondral Injury | Yes | No | ➤ MRI knee without contrast (CPT® 73721) or MRI knee with contrast (arthrogram) (CPT® 73722) or CT knee with contrast (arthrogram) (CPT® 73701) if plain X-rays are negative and an osteochondral fracture is still suspected | See <u>MS-13: Chondral Osteochondral Lesions</u> for other osteochondral injury scenarios. For surgery criteria, see: <u>CMM-312: Knee Surgery-Arthroscopic and Open Procedures</u> |
| Avascular Necrosis (AVN) of the Distal Femur | Yes | No | ➤ MRI knee without contrast (CPT® 73721) when suspected and plain X-ray is negative or equivocal or with AVN confirmed by plain X-ray if needed for treatment planning | See: <u>MS-4.1: Avascular Necrosis</u> |
| Baker's Cyst (Popliteal Cyst) | Yes | Yes | ➤ US knee (CPT® 76881 or CPT® 76882) is the initial imaging study ➤ MRI knee without contrast (CPT® 73721) for preoperative planning | See also <u>PVD-7.5: Lower Extremity Deep Venous Thrombosis (DVT) and/or Lower Extremity Edema</u> |

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|--|-----|-----|--|---|
| Plica (Symptomatic Synovial Plica/ Medial Synovial Shelf) | Yes | Yes | ➤ MRI knee without contrast (CPT® 73721) | |
| Hemarthrosis | Yes | No | <ul style="list-style-type: none"> ➤ MRI knee without contrast (CPT® 73721) for clinical suspicion of cruciate ligament tear (requires a positive objective sign for ACL/PCL tear) or patellar dislocation (requires a positive apprehension sign) ➤ CT knee without contrast (CPT® 73700) for clinical suspicion of non-displaced intra-articular fracture | |
| Complete Rupture of the Distal Quadriceps Tendon or Patellar Ligament/ Tendon | Yes | No | ➤ MRI knee without contrast (CPT® 73721) or US knee (CPT® 76881 or 76882) for preoperative planning | |
| Partial Tendon Rupture | Yes | No | ➤ MRI knee without contrast (CPT® 73721) or US knee (CPT® 76881 or 76882) for a suspected partial tendon rupture of a specific named tendon not otherwise specified | MRI is NOT needed for muscle belly strains/muscle tears. |
| Post-Operative | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI knee with contrast (arthrogram) (CPT® 73722) or MRI knee without contrast (CPT® 73721) in symptomatic patients following surgery for meniscus tears and reconstruction of the anterior cruciate ligament ➤ CT knee without contrast (CPT® 73700) in symptomatic patients following surgery for fracture/dislocation | Other requests for advanced imaging will be forwarded to Medical Director review. |
| Preoperative Knee Replacement Surgery | Yes | Yes | ➤ CT knee without contrast (CPT® 73700) for preoperative planning prior to knee replacement when congenital or post-traumatic deformities exist of the patella, distal femur and/or proximal tibia | See also MS-12: Osteoarthritis For surgery criteria, see CMM-311: Knee Arthroplasty- Total and Partial |

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| <p>Post-Operative Knee Replacement Surgery</p> | <p>Yes</p> | <p>No*</p> | <ul style="list-style-type: none"> ➤ CT knee without contrast (CPT® 73700) or bone scan (CPT® 78315 or CPT® 78320) for suspected aseptic loosening when recent plain X-ray is nondiagnostic ➤ Tc-99m 3-phase bone scan (CPT® 78315) and In-111 WBC scan knee (CPT® 78805) or In-111 WBC (CPT® 78805) and Tc-99m sulfur colloid scan knee (CPT® 78102 or 78103) for suspected infection with negative or inconclusive joint aspiration culture (see MS-28: Nuclear Medicine) ➤ CT knee without contrast (CPT® 73700) following plain X-ray for suspected periprosthetic fracture ➤ CT knee without contrast (CPT® 73700) or MRI knee without contrast (CPT® 73721) for suspected osteolysis or component instability, rotation, or wear; ➤ MRI knee without contrast (CPT® 73721) or US knee (CPT® 76881 or 76882) for suspected periprosthetic soft tissue abnormality unrelated to infection (e.g., tendinopathy, arthrofibrosis, patellar clunk syndrome, impingement of nerves or other soft tissue) *requires conservative treatment. | <p>Other requests for advanced imaging will be forwarded to Medical Director review. See also MS-16: Post-Operative Joint Replacement Surgery</p> |
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| MS-26: Ankle | | | | |
|---|---------------------|-------------------------------|--|---|
| Condition | Plain X-Ray? | Conservative Treatment | Advanced Imaging | Comments |
| General Ankle Pain | Yes | Yes | ➤ MRI ankle without contrast (CPT® 73721) | |
| Symptomatic Loose Bodies | Yes | No | ➤ MRI ankle without contrast (CPT® 73721) | |
| Complex Fracture | Yes | No | ➤ CT ankle without contrast (CPT® 73700) | |
| Ankle Sprain, Including Avulsion Fracture | Yes | Yes | ➤ MRI ankle without contrast (CPT® 73721) or CT without contrast (CPT® 73700) | |
| High Ankle Sprain (Syndesmosis Injury) | Yes | No | ➤ MRI ankle without contrast (CPT® 73721) | |
| Suspected Osteochondral Injury | Yes | No | ➤ MRI ankle without contrast (CPT® 73721) or MRI ankle with contrast (arthrogram) (CPT® 73722) or CT ankle with contrast (arthrogram) (CPT® 73701) if plain X-rays are negative and an osteochondral fracture is still suspected | See MS-13: Chondral/Osteochondral Lesions for other osteochondral injury scenarios |
| Avascular Necrosis (AVN) of the Talus | Yes | No | ➤ MRI ankle without contrast (CPT® 73721) when suspected and plain X-ray is negative or equivocal or with plain X-ray-confirmed AVN if needed for treatment planning | See: MS-4.1: AVN |
| Anterior Impingement Anterior-Lateral Impingement Posterior Impingement (e.g., Os Trigonum Syndrome) | Yes | Yes | ➤ MRI ankle with contrast (arthrogram) (CPT® 73722) or CT ankle with contrast (arthrogram) (CPT® 73701) or MRI ankle without contrast (CPT® 73721) | |
| Tendonitis | Yes | Yes | ➤ MRI ankle without contrast (CPT® 73721) or US ankle (CPT® 76881 or 76882) for suspected posterior tibial dysfunction, peroneal tendon or subluxation, Achilles tendonitis | |
| Ruptured Achilles Tendon | Yes | No | ➤ MRI ankle without contrast (CPT® 73721) or US ankle (CPT® 76881 or 76882) for preoperative evaluation | |

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|--|-----|-----|---|--|
| Complete Rupture -Tear of a Specific Named Tendon | Yes | No | <ul style="list-style-type: none"> ➤ MRI ankle without contrast (CPT® 73721) or US ankle (CPT® 76881 or 76882) for preoperative planning | |
| Partial Tendon Rupture | Yes | No | <ul style="list-style-type: none"> ➤ MRI ankle without contrast (CPT® 73721) or US ankle (CPT® 76881 or 76882) for a suspected partial tendon rupture of a specific named tendon not otherwise specified | MRI is <i>NOT</i> needed for muscle belly strains/muscle tears. |
| Instability | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI ankle without contrast (CPT® 73721) or MRI ankle with contrast (arthrogram) (CPT® 73722) for preoperative evaluation | |
| Charcot Ankle | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI ankle without contrast (CPT® 73721) | |
| Post-Operative | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI ankle without contrast (CPT® 73721) in symptomatic patients following surgery for ligament/tendon injuries ➤ CT ankle without contrast (CPT® 73700) for symptomatic patients following surgery for complex fractures | Other requests for advanced imaging will be forwarded to Medical Director review. |
| Preoperative Ankle Replacement Surgery | Yes | Yes | <ul style="list-style-type: none"> ➤ CT ankle without contrast (CPT® 73700) for preoperative planning prior to ankle replacement when congenital or post-traumatic deformities exist | See also <u>MS-12: Osteoarthritis</u> |
| Post-Operative Ankle Replacement Surgery | Yes | No | <ul style="list-style-type: none"> ➤ CT ankle without contrast (CPT® 73700) for suspected aseptic loosening or periprosthetic fracture when recent plain X-ray is nondiagnostic ➤ In-111 WBC (CPT® 78805) and Tc-99m sulfur colloid scan ankle (CPT® 78102 or 78103) for suspected infection with negative or inconclusive joint aspiration culture (see <u>MS-28: Nuclear Medicine</u>) | Other requests for advanced imaging will be forwarded to Medical Director review. See also <u>MS-16: Post-Operative Joint Replacement Surgery</u> |

One Study/Area Only

In foot and ankle advanced imaging, studies are frequently ordered of both areas. This is unnecessary since ankle MRI will image from above the ankle to the mid- metatarsal area. **Only one CPT® code should be reported.**

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MS-27: Foot

| Condition | Plain X-Ray? | Conservative Treatment | Advanced Imaging | Comments |
|--|--------------|------------------------|---|--|
| General Foot Pain | Yes | Yes | ➤ MRI foot without contrast (CPT® 73718) | |
| Complex Fractures | Yes | No | ➤ CT foot without contrast (CPT® 73700) | |
| Plantar Plate Disorders, Including Turf Toe Injuries | Yes | Yes | ➤ MRI foot without contrast (CPT® 73718) | |
| Sesamoid Disorders | Yes | Yes | ➤ MRI foot without contrast (CPT® 73718) or CT foot without contrast (CPT® 73700) | |
| Lisfranc Tarsometatarsal Fracture or Dislocation | Yes | No | ➤ MRI foot without contrast (CPT® 73718) or CT foot without contrast (CPT® 73700) | |
| Tarsal Navicular Stress/Occult Fracture | Yes | No | <ul style="list-style-type: none"> ➤ MRI foot without contrast (CPT® 73718) ➤ Tc-99m bone scan foot (CPT® 78315) if MRI cannot be performed ➤ CT foot without contrast (CPT® 73700) for follow-up of healing fractures | See also <u>MS-5.2: Suspected Occult/Stress/Insufficiency Fracture/Stress Reaction and Shin Splints</u> |
| Avascular Necrosis (AVN) of the Tarsal Navicular (Kohler Disease) | Yes | No | ➤ MRI foot without contrast (CPT® 73718) when suspected and plain X-ray is negative or equivocal or with AVN confirmed by plain X-ray if needed for treatment planning | See: <u>MS-4.1: AVN</u> |
| Tendonitis | Yes | Yes | ➤ MRI foot without contrast (CPT® 73718) or US foot (CPT® 76881 or 76882) | |
| Complete rupture/tear of a specific named tendon | Yes | No | ➤ MRI foot without contrast (CPT® 73718) or US foot (CPT® 76881 or 76882) for preoperative planning | |
| Partial Tendon Rupture | Yes | No | ➤ MRI foot without contrast (CPT® 73718) or US foot (CPT® 76881 or 76882) for a suspected partial tendon rupture of a specific named tendon not otherwise specified | MRI is <i>NOT</i> needed for muscle belly strains/muscle tears. |
| Morton's Neuroma | Yes | Yes | ➤ MRI foot without and with contrast (CPT® 73720) or US foot (CPT® 76881 or 76882) for preoperative planning | |

| | | | | |
|---|------|------|--|---|
| Plantar Fasciitis | Yes | Yes* | <ul style="list-style-type: none"> ➤ MRI foot without contrast (CPT® 73718) or US foot (CPT® 76881 or 76882) for preoperative planning | *Provider-directed conservative treatment must be for 6 months or more. |
| Suspected Plantar Fascia Rupture or Tear | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI foot without contrast (CPT® 73718) or US foot (CPT® 76881 or 76882) | |
| Diabetic Foot Infection | Yes* | No | <ul style="list-style-type: none"> ➤ MRI foot without and with contrast (CPT® 73720) or MRI foot without contrast (CPT® 73718) for suspected osteomyelitis or soft tissue infection as a complement to plain X-ray (both plain X-ray and MRI are indicated) | * Plain X-ray results do not preclude the necessity for advanced imaging studies. See also MS 9.1: Infection-General |
| Tarsal Tunnel Syndrome | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI foot without contrast (CPT® 73718) or MRI foot without and with contrast (CPT® 73720) or US foot (CPT® 76881 or 76882) for preoperative planning if mass/lesion is suspected as etiology of entrapment | |
| Tarsal Coalition | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI ankle without contrast (CPT® 73721) or CT without contrast (CPT® 73700) for preoperative planning | |
| Sinus Tarsi Syndrome | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI ankle without contrast (CPT® 73721) if diagnosis is unclear or for preoperative evaluation | |
| Charcot Foot | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI foot without contrast (CPT® 73718) | |
| Post-Operative | Yes | Yes | <ul style="list-style-type: none"> ➤ MRI foot without contrast (CPT® 73718) in symptomatic patients following surgery for conditions including the tendons, ligaments and plantar plate ➤ CT foot without contrast (CPT® 73700) in symptomatic patients following surgery for complex fractures, sesamoid fractures and subtalar arthrodesis | Other requests for advanced imaging will be forwarded to Medical Director review. |

One Study/Area Only

In foot and ankle advanced imaging, studies are frequently ordered of both areas. This is unnecessary since ankle MRI will image from above the ankle to the mid- metatarsal area. Only one CPT® code should be reported.

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MS-28: Nuclear Medicine

- SPECT scan may be approved for any of the indications for which a bone scan can be approved. If the request is for CPT® 78300 and CPT® 78320, then only CPT® 78320 is to be approved if medical necessity is established. If the request is for CPT® 78305 or CPT® 78306 and CPT® 78320, then two CPT codes may be approved if medical necessity is established.
- Nuclear Medicine
 - ◆ Nuclear medicine studies may be used in the evaluation of some musculoskeletal disorders, and other rare indications exist as well:
 - Bone scan (CPT® 78315 or CPT® 78320) may be indicated for the evaluation of suspected aseptic loosening of orthopedic prostheses when recent plain X-ray is nondiagnostic (see **MS-16: Post-Operative Joint Replacement Surgery**)
 - Nuclear medicine bone marrow imaging (CPT® 78102, CPT® 78103, or CPT® 78104) is indicated for detection of ischemic or infarcted regions in sickle cell disease
 - Triple phase bone scan (CPT® 78315) is indicated for evaluation of complex regional pain syndrome or reflex sympathetic dystrophy (For interventional pain criteria see: **CMM-209: Regional Sympathetic Blocks** and **CMM-211: Spinal Cord Stimulators**).
 - Bone scan (CPT® codes: 78300, 78305, 78306, 78315, or 78320) is indicated for evaluation of suspected frostbite
 - Bone scan (CPT® codes: 78300, 78305, 78306, or 78320) is indicated for evaluation of Paget's disease (see also **MS-10: Soft Tissue Mass or Lesion of Bone**).
 - Tc-99m bone scan whole body (CPT® 78306) with SPECT of the area of interest (CPT® 78320) is indicated for suspected fractures if MRI cannot be performed. See also **MS-5.2: Suspected Occult/Stress/Insufficiency Fracture/Stress Reaction and Shin Splints**.
 - Bone scan (CPT® 78315 or CPT® 78320) is indicated for the evaluation of suspected bone infection if MRI cannot be done and when infection is multifocal, or when the infection is associated with orthopedic hardware or chronic bone alterations from trauma or surgery. Combining bone scintigraphy with a labeled leukocyte scan enhances sensitivity. A labeled leukocyte scan (radiopharmaceutical inflammatory imaging - one of CPT® codes: 78805, 78806, or 78807) in concert with Tc-99m sulfur colloid marrow imaging (one of CPT® codes: 78102, 78103, or 78104) is particularly useful in cases with altered bone marrow distribution, such as joint prosthesis. See also **MS-16: Post-Operative Joint Replacement Surgery**.
 - For specific joints post-operative from replacement surgery:
 - ◆ See **MS-19: Shoulder**
 - ◆ See **MS-20: Elbow**
 - ◆ See **MS-24: Hip**
 - ◆ See **MS-25: Knee**
 - ◆ See **MS-26: Ankle**

- Radionuclide bone scan (CPT® codes: 78300, 78305, or 78306) may be indicated in setting of a non-focal exam, especially in younger and non-verbal children. Due to relatively high radiation exposure, bone scan is reserved for high suspicion cases with negative radiographs. It is a preferred examination in a child with implanted hardware or devices precluding MRI.
- Bone scan (CPT® codes: 78300, 78305, 78306, or 78320) is complimentary to plain radiographs, and may be used when the skeletal survey is negative but clinical suspicion remains high.

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