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2025 Computed Tomography (CT) Extremities

Diagnostic Imaging

CT-EXT-HH

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Computed Tomography (CT) Extremities

NCD 220.1
See also, **NCD 220.1**: Computed Tomography at https://www.cms.gov/medicare-coverage-database/search.aspx *if applicable to individual's healthplan membership*.

CT General Contraindications

Computed tomography (CT) is contraindicated (relative) for **ANY** of the following:

1. Allergy/idiosyncratic reaction to contrast material (if intravascular contrast material is used)
2. Pregnancy
3. Renal impairment (glomerular filtration rate [GFR] is less than 30 ml/min/1.73 m^2.)
   References: [1]

Preamble: Pediatric Diagnostic Imaging

HealthHelp's clinical guidelines for the Diagnostic Imaging program, are intended to apply to both adults and pediatrics (21 years of age or younger), unless otherwise specified within the criteria.

CT Extremities Guideline

Computed tomography (CT) of the extremities is considered medically appropriate when the documentation demonstrates **ANY** of the following:
(*__NOTE__: *Plain X-rays **MUST** precede CT evaluation, unless otherwise specified*.)

1. Shoulder pathology, magnetic resonance imaging (MRI) is **contraindicated or unavailable OR** CT arthrogram is ordered and **ANY** of the following:
   a. Dislocation of the shoulder for first time or risk of repeated dislocation is known due to **ANY** of the following:
      i. Dislocations are recurrent.
      ii. Glenoid or humeral bone loss is demonstrated on X-ray.
      iii. Rotator cuff tear is suspected.
   b. Labral tear (eg, superior labral anterior to posterior complex [SLAP] lesions) or instability, with provocative orthopedic tests[1] (**NOTE**: *With a positive orthopedic sign, an initial X-ray **NOT** required*.)

c. Rotator cuff is weak on exam, conservative management (physical therapy) is active and **EITHER** of the following:

i. Attempted within the last 6 months, for at least 4 weeks **AND** symptoms persist or worsen.

ii. Symptoms progress or worsen during current course of conservative management

d. Tendon tear (biceps, infraspinatus, subscapularis, supraspinatus, teres minor), with provocative orthopedic tests[2] **AND** ultrasound is completed. (**NOTE**: *With a positive orthopedic sign, an initial X-ray **NOT** required*.)

References: [22] [3] [12] [2] [23] [18]

2. Elbow specific pathology, MRI is **contraindicated or unavailable OR** CT arthrogram is ordered, ultrasound is completed and **ANY** of the following: (**NOTE**: *With a positive orthopedic sign, an initial X-ray **NOT** required*.)

a. Elbow instability, with provocative orthopedic tests[3]

b. Tendon tear (biceps) is suspected with provocative orthopedic tests[4] **AND** ultrasound is completed.

References: [7]

3. Wrist specific pathology, MRI is **contraindicated or unavailable OR** CT arthrogram is ordered, ultrasound is completed and **EITHER** of the following: (**NOTE**: *With a positive orthopedic sign, an initial X-ray **NOT** required*.)

a. Lunotriquetral (derby relocation test, Reagan test) or scaphoid ligament (sacpholunate ballottement test, Watson test) injury with provocative orthopedic tests

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[1]Orthopedic tests include anterior load and shift, apprehension test, clunk test, crank test, grind test, jerk test, O'Brien's test, posterior load and shift test, sulcus sign.

[2]Orthopedic tests include the following:

- Biceps, infraspinatus, subscapularis, supraspinatus, Teres minor includes the external rotation lag sign at 0 and 90 degrees, hornblower's test, pain or weakness with resisted external rotation testing, Popeye sign (acute or for evaluation of surgical correction)
- Subscapularis includes the bear hug test, belly press off test, internal rotation lag, lift-off test, Napoleon test
- Supraspinatus includes the drop arm test, empty can test, full can test, Hawkins or Neer test (*__NOTE__: *Hawkins or Neer tests must be ordered by orthopedic doctor, when rotator cuff tear is suspected. **NOT** for impingement*)

[3]Orthopedic tests include milking maneuver, posterolateral rotary drawer test, push-up test, tabletop relocation test, valgus stress, varus stress

[4]Orthopedic tests include biceps squeeze test, bicipital aponeurosis (BA) flex test, hook test, passive forearm pronation test, reverse Popeye sign (*__NOTE__: *For reverse Popeye sign, if finding is acute, evaluation for surgical correction.*)

b. Triangular fibrocartilage complex (TFCC) tear with provocative orthopedic tests (press test, ulnar foveal sign/test, ulnocarpal stress test)

References: [31] [26]

4. Hip specific pathology, MRI is **contraindicated or unavailable OR** CT arthrogram is ordered and **ANY** of the following:
   a. Femoroacetabular impingement (FAI) **OR** labral tear is suspected or known and **ANY** of the following:
      i. FAI is known, to evaluate candidacy for hip preservation surgery.
      ii. FAI is suspected from prior X-ray, labral tear is suspected **AND** mechanical symptoms (eg, catching, clicking, giving way, hip instability, locking) are persistent.
      iii. Labral tear, bilaterally is suspected and conservative management (physical therapy) is attempted and **EITHER** of the following:
         A. Attempted within the last 6 months, for at least 4 weeks **AND** symptoms persist or worsen.
         B. Symptoms progress or worsen during course of conservative management
      iv. Orthopedic sign (eg, anterior impingement, posterior impingement) is positive. (**NOTE**: *With a positive orthopedic sign, an initial X-ray **NOT** required*.)

   References: [13] [15] [14]

5. Knee specific pathology, MRI is **contraindicated or unavailable OR** CT arthrogram is ordered and **ANY** of the following:
   a. Anterior cruciate ligament (ACL) injury is suspected and **EITHER** of the following: with
      i. Positive orthopedic physical sign (anterior drawer test, Lachman's test, pivot shift test). (**NOTE**: *With a positive orthopedic sign, an initial X-ray **NOT** required*.)
      ii. Rupture is suspected, when there is an acute knee injury, physical exam is limited by pain **AND** swelling and **ANY** of the following:
         A. ACL rupture is suspected based on mechanism of injury **AND** X-ray is normal.
         B. Pain is severe, with inability to stand, audible pop at time of injury and/or very swollen joint.

C. X-ray is complete.

b. Ligament tear (lateral collateral, medial collateral or posterior cruciate ligament) is suspected **AND** orthopedic sign (valgus stress test/laxity, varus stress test/laxity, posterior drawer test, posterior sag sign) is positive. (**NOTE**: *With a positive orthopedic sign, an initial X-ray **NOT** required*.)

c. Meniscal tear/injury is suspected and orthopedic signs (eg, Apley's test, McMurray's compression, Thessaly test) are positive.

d. Patellar dislocation (acute or recurrent) is suspected or known and orthopedic sign (patellofemoral apprehension test) is positive **OR** X-ray findings are compatible with a history of patellar dislocation.

References: [29] [8] [17]

6. Ankle specific pathology, MRI is **contraindicated or unavailable OR** CT arthrogram is ordered and **ANY** of the following:

a. Achilles tendon tear and Thompson test is positive **OR** partial or complete achilles defect is palpable.

b. Anterior talofibular ligament injury is lateral and unstable and **ALL** of the following:

i. Ankle fracture **OR** osteochondral injury of the talus is suspected.

ii. Ultrasound is completed.

iii. X-ray is non-diagnostic or indeterminate.

iv. **ANY** of the following:

A. Orthopedic sign (eg, anterior or posterior drawer test) is positive. (**NOTE**: *With a positive orthopedic sign, an initial X-ray **NOT** required*.)

B. Stress X-rays are positive.

c. High ankle injury (syndesmotic injury) is suspected, with tenderness over the syndesmosis (anterior inferior tibiofibular ligament [AITFL]), ultrasound is complete and **EITHER** of the following:

i. Orthopedic sign (eg, cotton test, dorsiflexion external rotation test, squeeze test) is positive. (**NOTE**: *With a positive orthopedic sign, an initial X-ray is **NOT** required*.)

ii. Stress X-rays are positive.

References: [6]

7. Pain in an extremity, joint or muscle (upper or lower), and **ANY** of the following:

a. **All** of the following:

i. Conservative management, active (physical therapy), and **ANY** of the following: (**NOTE**: *Indication does **NOT** apply to young children [age is less than 5]*.)

A. Attempted within the last 6 months, for at least 4 weeks **AND** symptoms persist or worsen.

B. Symptoms progress or worsen during current course of conservative management

ii. MRI is **contraindicated or unavailable**.

iii. X-rays are performed within the last 90 days.

b. Soft tissue injury (ligament or tendon) **AND** ultrasound is completed (*__NOTE__: *ultrasound is **NOT** necessary for hip or knee*)

References: [6] [8] [13] [30] [26]

8. Fracture healing assessment for **ANY** of the following:

a. Delayed or non-union fracture, when there is **NO** healing demonstrated between 2 sets of X-rays.

b. MRI is **contraindicated or unavailable** and **ANY** of the following:

i. Fracture is demonstrated on prior CT or X-ray, ligamentous, tendon or osteochondral injury is suspected, **AND** surgery may be required.

ii. Insufficiency, occult or stress fracture is suspected and bone scan or X-ray is non-diagnostic or indeterminate.

iii. Pathologic fracture is known and demonstrated on prior CT or X-ray.

References: [24] [10] [29] [31] [2] [21] [16]

9. Avascular necrosis is suspected or known, MRI is **contraindicated or unavailable** and **ANY** of the following:

a. Suspected **AND** X-ray is normal, non-diagnostic or indeterminate.

b. Known, X-ray demonstrates articular collapse **AND** surgery is planned

References: [11]

10. Cancer in an extremity is suspected or known for **ANY** of the following: (*__NOTE__: *Both CT and MRI are appropriate. CT will demonstrate bony involvement/destruction. MRI will show soft tissue/periosseous involvement*.)

a. Known and **ANY** of the following:

i. Primary cancer follow-up when active treatment was received in the last year.

ii. Staging, restaging, recurrence or metastasis evaluation

iii. Surveillance following the **National Comprehensive Cancer Network (NCCN) Guideline's** surveillance recommendations (*see **Surveillance** section*).

b. Osteoid osteoma is suspected, in a pediatric individual, **AND** X-ray is non-diagnostic or indeterminate.

References: [4] [25] [9]

11. Mass, lesion or cyst is suspected or known **AND** X-ray or ultrasound are non-diagnostic or indeterminate.
References: [4]

12. Infection (eg, abscess, bursitis, osteomyelitis, septic arthritis) evaluation for **ANY** of the following:

a. Acute limp **AND** age is less than 5 years old.

b. Chronic recurrent multifocal osteomyelitis is suspected or known and laboratory work-up (eg, c-reactive protein [CRP], erythrocyte sedimentation rate [ESR], X-ray) is completed.

c. Infection of joint or bone is clinically suspected (eg, elevated complete blood count [CBC], CRP, ESR or joint aspiration is positive), symptomatic (eg, fever, pain, swelling) **AND** prior X-ray or ultrasound is negative.

d. Ulcer is **NOT** improving with treatment **AND** bone or deep infection is suspected.

e. Ultrasound or X-ray is abnormal, non-diagnostic or indeterminate.

References: [19]

13. Inflammatory condition from rheumatological source (eg, crystalline arthropathy, gout, hemarthrosis following arthrocentesis) is suspected or known **AND** MRI is **contraindicated or unavailable**.
References: [27]

14. Joint prosthesis or replacement is known, **AFTER** X-ray is completed **AND** joint prosthesis loosening or dysfunction (eg, pseudotumor formation) is suspected.

15. Post-surgical assessments for evaluation of complications or disease recurrence.

Extremity Surveillance section

Bone Cancer Surveillance

Bone cancer surveillance includes **ANY** of the following:

1. Chondrosarcoma surveillance for **ANY** of the following:
    a. Atypical cartilaginous tumor surveillance with cross-sectional imaging (CT + contrast, MRI ± contrast) every 6 to 12 months for 2 years, then annually as clinically indicated
    b. Low-grade, extracompartmental appendicular tumor, grade I axial tumors or high-grade (grade II or III, clear cell or extracompartmental) tumors surveillance with **ALL** of the following:
        i. Chest CT at least every 6 months for 5 years, then annually for at least 10 years, then if symptoms are new or progressing.
        ii. MRI (± contrast) or CT (+ contrast) if symptoms are new or progressing.
2. Chordoma surveillance with **ALL** of the following:
    a. Chest CT imaging every 6 months, annually for 5 years, then annually thereafter, then if symptoms are new or worsening.
    b. Imaging of primary site, timing and modality (eg, MRI ± CT [both + contrast]) if symptoms are new or progressing, up to 10 years
3. Ewing Sarcoma after primary treatment completed surveillance with **ALL** of the following:
    a. Chest CT: every 3 months
    b. Primary site imaging with MRI ± CT (both + contrast), increase intervals after 24 months and after 5 years, annually, then if symptoms are new or progressing (indefinitely) (*__NOTE__: *PET/CT [head-to-toe] is appropriate*)
4. Giant cell tumor of the bone surveillance with **ALL** of the following:
    a. Chest CT or MRI imaging every 6 to 12 months for 4 years, then annually thereafter, then if symptoms are new or progressing
    b. Surgical site imaging if symptoms are new or progressing (eg, CT and/or MRI, both with contrast)
5. Osteosarcoma surveillance with primary site and chest imaging (using same imaging that was done for initial work-up) for **ANY** of the following: (*__NOTE__: *PET/CT [head-to-toe] is appropriate*.)
    a. Image every 3 months for years 1 and 2

b. Image every 4 months for year 3

c. Image every 6 months for years 4 and 5

d. Image annually for year 6 and thereafter, then if symptoms are new or progressing

References: [2025 Bone Cancer Version 2.2025]

Soft Tissue Sarcoma Surveillance

Soft tissue sarcoma surveillance includes **ANY** of the following: (*__NOTE__: *Use contrast imaging; for long term surveillance to minimize radiation exposure,MRI may be substituted.*)

1. Desmoid tumor (aggressive fibromatosis) imaging surveillance includes computed tomography (CT) or magnetic resonance imaging (MRI) every 3 to 6 months for 3 years, then every 6 to 12 months thereafter
2. Extremity, trunk or head and neck, for long-term follow-up with **ANY** of the following:
    a. Long-term follow-up with **ALL** of the following:
        i. Chest CT imaging (- contrast) to detect asymptomatic distant recurrence
        ii. MRI for imaging of primary site
    b. Stage I tumors and **ALL** of the following:
        i. Chest CT imaging (- contrast) every 6 to 12 months
        ii. Post-operative baseline and periodic imaging of primary site with MRI or CT if MRI is **contraindicated or unavailable**.
    c. Stage II and III tumors and **ANY** of the following:
        i. Baseline and periodic imaging of primary site
        ii. Chest and other known sites of metastatic disease imaging (CT [- contrast] or X-ray) every 2 to 6 months for 2 to 3 years, then every 6 months to complete a total of 5 years, then annually.
        iii. Post-operative reimaging to assess the primary tumor site and rule out metastatic disease (MRI or CT if MRI is **contraindicated or unavailable**.
3. Retroperitoneal/intra-abdominal, after management of primary disease imaging surveillance includes chest/abdomen/pelvis CT or MRI every 3 to 6 months for 3 years, then every 6 months for the next 2 years, then annually.

References: [2025 Soft Tissue Sarcoma Version 1.2025]

CT Extremities Summary of Changes

CT extremities had the following version changes from 2024 to 2025:

- Added "Glomerular filtration rate" to "Renal impairment" under Contraindications
- Citations updated per the evidence
- Removed the following:
  - "Autoimmune disease is suspected or known" as it is included under "Infection"
  - "Bankart lesion is demonstrated on X-ray." from under "Dislocation of the shoulder" as it is redundant with indication below
  - "Complete fracture risk is high with conservative therapy." as there is a lack of EBM to support
  - "Crystalline arthropathy is suspected or known" as it is included in "Inflammatory conditions"
  - "Foreign body" as it is included under "Pain in an extremity"
  - "Peripheral neurogenic condition" as it is included under "Pain in an extremity"
  - "Synovial chondromatosis or loose bodies" as it is included under "Pain in an extremity"
  - "Tendon rupture or ligament injury is suspected, based on mechanism of injury and physical findings **AND** ultrasound is non-diagnostic or indeterminate." as it is covered in the individual joint sections
  - "Vascular malformations are suspected or known" as this is imaged by CTA
- 6/25/2025 Mid-cycle update
  - Added time frames for the following:
    - "Acute" and "chronic" under "Infection"
    - "Chronic" under "Ankle pain"
  - Parameters around "treatment" under "Ulcer is NOT improving"

CT Extremities Procedure Codes

Table 1. CT Extremities Associated Procedure Codes

Code	Description
73200	Computed tomography, upper extremity; without contrast material
73201	Computed tomography, upper extremity; with contrast material(s)
73202	Computed tomography, upper extremity; without contrast material, followed by contrast material(s) and further sections
73700	Computed tomography, lower extremity; without contrast material
73701	Computed tomography, lower extremity; with contrast material(s)

Code	Description
73702	Computed tomography, lower extremity; without contrast material, followed by contrast material(s) and further sections

CT Extremities Definitions

Abscess is a swollen area within body tissue, containing an accumulation of pus.
Achilles tendon is the tendon that connects the calf muscles to the heel bone. It's located at the back of the leg, above the ankle. The medical name for the Achilles tendon is the calcaneal tendon.
Acute refers to initial diagnosis, up to 4 weeks.
Anterior cruciate ligament (ACL) is a ligament in the center of the knee that prevents the shin bone (tibia) from moving forward on the thigh bone (femur).
Anterior drawer test is a common orthopedic test to assess for anteror cruciate ligament tears. Anterior drawer test is performed by having a person lay on their back with knees flexed between 80 degrees and 90 degrees. The examiner sits on the person's feet, grasps the tibia and pulls it forward. If the tibia pulls forward more than normal, the test is considered positive.
Anterior talofibular ligament (ATFL) is a ligament in the lateral collateral ligament complex of the ankle, primarily involved in stabilizing the ankle joint and restricting foot supination.
Anterior inferior tibiofibular ligament (AITFL) is one of the ligaments that stabilize the tibiofibular syndesmosis, contributing to ankle stability.
Apley test refers to a compression test used to evaluate meniscal problems or injuries in the knee.
Apprehension test is a physical examination maneuver used to assess patellar stability by attempting to subluxate the patella laterally, with a positive result indicated by the patient's pain and distress or sudden quadriceps contraction.
Arthrocentesis is a medical procedure involving the puncture and aspiration of a joint to sample synovial fluid for diagnostic or therapeutic purposes.
Avascular necrosis is localized death of bone tissue due to impaired or disrupted blood supply (as from traumatic injury or disease).
Baker cyst, also known as a popliteal cyst, is a synovial fluid accumulation that results in the distention of the popliteal bursa, typically occurring in association with intra-articular pathology in adults.
Bankart lesion is the name for a tear that happens in the lower rim of the labrum. Once the labrum is torn, it's much easier for the humerus to slip out of its socket.
Bear Hug test tests for tears in the subscapularis muscle by asking a patient to press the palm of the affected arm against the opposite shoulder, through shoulder external rotation. It is positive if the individual cannot hold their palm to their shoulder, or they have trouble holding on.

Belly Press test tests for subscapularis muscle dysfunction by asking a patient to press the palm of the hand against the abdomen, through shoulder internal rotation. It is positive if the patient compensates the movement through started wrist flexion, shoulder adduction and shoulder extension.

Biceps squeeze test is performed with the elbow supported in 60 to 80 degrees of flexion and the forearm is pronated. The examiner squeezes the distal biceps muscle. The test is positive when there is no supination of the forearm or wrist.

Bicipital aponeurosis flex test is performed by clenching the fist, supinating the forearm with the elbow at a 75 degree flexion, and palmar flexes the wrist.

Brachial plexopathy is a type of peripheral neuropathy that occurs when the brachial plexus is damaged. The brachial plexus is a group of nerves that run from the lower neck to the upper shoulder. These nerves send signals from the spine to the shoulder, arm and hand.

Bursitis is swelling of the fluid filled sac or sac-like cavity that reduces friction between moving parts in the joints.

Capitellar osteochondritis is a condition that affects the outside surface of the elbow that involves a separation of a segment of cartilage and the underlying bone. The bone underneath the joint's cartilage is damaged due to lack of blood flow, causing pain.

Carpal tunnel syndrome is a condition where the median nerve is compressed as it passes through the carpal tunnel (the opening in the wrist that is formed by the carpal bones on the bottom of the wrist and the transverse carpal ligament across the top of the wrist).

Charcot joint is a progressive, degenerative condition that affects one or more joints especially of the foot or ankle, is marked by bone fragmentation, swelling, redness, pain and joint deformity, and typically occurs following loss of nerve sensation associated with various diseases (such as diabetes, syphilis, and spina bifida).

Chronic refers to 3 months or more.

Clunk test evaluates the glenoid labrum in people with shoulder pain. It is used to identify superior anterior and posterior glenoid labral tears of the shoulder joint.

Computed tomography (CT) is an imaging test that uses X-rays to computer analysis to generate cross sectional images of the internal structures of the body that can be displayed in multiple planes.

Conservative management is an approach to treating pain utilizing non-surgical treatment options such as physical therapy, medication and injections, for a designated time, usually 4 to 6 weeks.

Cotton test is designed to test for syndesmosis instability caused by the separation of the tibia and fibula. Cotton test is a manual stress test used to identify the amount of lateral translation of the talus within the ankle mortise. The examiner stabilizes the proximal ankle while shifting the talus laterally.

Crank test, also known as the compression rotation test or labral crank test, is a physical examination maneuver used to identify glenoid labral tears in the shoulder joint and assess unstable superior labral anterior posterior (SLAP) lesions.

C-reactive protein (CRP) is a pentameric protein synthesized by the liver, whose level rises in response to inflammation.

Crystalline arthropathy is a joint disorder caused by deposits of crystals in joints and the soft tissues around them.

Cyst is a closed sac having a distinct membrane and developing abnormally in a cavity or structure of the body.

Delayed union fracture a fracture that has not healed within the expected timeframe for a specific fracture location, typically taking longer than 3 to 4 months to show adequate radiographic signs of healing.

Derby relocation test is performed with the apprehension test. The shoulder is bent to 90 degrees of abduction with maximal external rotation until apprehension is felt. The examiner uses pressure from anterior to posterior directed at the humeral head. It is positive when relief from pain is felt.

Dermatomyositis is a rare disease that causes muscle inflammation and skin rash. Symptoms include a red or purple rash on sun exposed skin and eyelids, calcium deposits under the skin, muscle weakness and trouble talking or swallowing.

Dislocation is a separation of two bones where they meet at a joint. This injury can be very painful and can temporarily deform and immobilize the joint.

Dorsiflexion external rotation stress test (Kleiger's test) determines rotator damage to the deltoid ligament or the distal tibiofibular syndesmosis.

Drop Arm test is a physical exam that assesses a person's ability to maintain humeral joint motion. It can help determine if a person has a rotator cuff tear, specifically of the supraspinatus. The test can also help diagnose sub-acromial pain syndrome (shoulder impingement).

Electromyogram (EMG) is a diagnostic test that measures the electrical activity of muscles at rest and during contraction using a needle electrode inserted into the muscle.

Empty can test is an orthopedic test that assesses the integrity of the supraspinatus muscle and tendon in the shoulder. The test isolates the supraspinatus muscle from other rotator cuff muscles.

Erythrocyte sedimentation rate (ESR) is a blood test that measures the rate at which red blood cells settle at the bottom of a test tube over one hour, indicating the presence of inflammation in the body.

External rotation lag sign (ERLS) is a clinical test that assesses the integrity of the supraspinatus and infraspinatus tendons in the shoulder.

Femoroacetabular impingement is a condition characterized by abnormal contact between the femoral head and the acetabulum, leading to hip pain and potential damage to the labrum and cartilage.

Flatfoot deformity also known as pes planus, is characterized by the collapse of the medial longitudinal arch, leading to forefoot abduction, hindfoot valgus, and often a multiplanar deformity.

Flexion, adduction and internal rotation (FADIR) test involves placing the hip in passive flexion at 90°, then adducting and internally rotating it. Pain elicited during this maneuver is considered a positive finding for FAI.

Friable means tissue that is easily irritated and more likely to tear, bleed, or become inflamed.

Full Can Test is used to assess the function of supraspinatus muscle and tendon of the shoulder complex.

Glycogen storage disease is a rare metabolic disorder that prevents the body from storing or breaking down glycogen, a type of sugar. GSD affects the liver, muscles and other parts of the body, depending on the type.

Gout is a metabolic disease marked by a painful inflammation of the joints, deposits of urates in and around the joints, and usually an excessive amount of uric acid in the blood.

Grind test involves the examiner passively rotating the individual's shoulder while feeling for palpable crepitus. Crepitus is a grinding, clicking or cracking sensation that can be felt when the surface of the cartilage is irregular, such as with shoulder arthritis. A positive result from the subacromial grind test is the presence of palpable crepitus.

Hemarthrosis is a hemorrhage into a joint.

Hill-Sachs lesion is a compression fracture in the humeral head, or upper arm bone, that occurs when the glenoid rim dislocates, such as during an anterior shoulder dislocation. The dislocation causes the arm bone to slip out of its socket and compress against the socket's rim, creating a dent in the head of the humerus.

Hook test is is a clinical sign used to diagnose distal biceps tendon ruptures or tears. The test is performed during a physical exam by inserting a finger near the elbow and hooking it around the tendon. If the finger cannot be hooked, the tendon has detached from the bone.

Hornblower's Sign tests for teres minor tears. It is performed with the individual seated or standing and the examiner places the person's arm to 90° in the scapular plane and flexes the elbow to 90°. The individual is then asked to externally rotate against resistance. The test is positive if the person is unable to perform external rotation.

Hip impingement, or femoroacetabular impingement (FAI), occurs when the femoral head (ball of the hip) pinches up against the acetabulum (cup of the hip). When this happens, damage to the labrum (cartilage that surrounds the acetabulum) can occur, causing hip stiffness and pain, and can lead to arthritis.

Impingement syndrome (shoulder) is the compression of the rotator cuff tendons and subacromial bursa between the acromion, humeral head, and coracoacromial ligament, leading to pain, inflammation, and potential tendon tears.

Indeterminate findings are inconclusive or insufficient for treatment planning.

Insufficiency fracture is a type of fracture that occurs in weakened bone due to normal stress or low-energy trauma, often associated with conditions like osteoporosis.

Internal Rotation Lag Sign tests for rotator cuff tears of the subscaplularis tendon. It is performed with the individual is seated with examiner behind them and the affected arm is brought into maximal internal rotation behind the back (dorsum of the person's hand against the lumbar region). The examiner controls the individual's arm at the elbow and wrist/hand, which is passively brought into 20 degrees of extension taking the forearm and hand away from the back. The person is instructed to actively maintain this position as the examiner releases the wrist but maintains support at the elbow. A lag is indicative of a subscapularis tendon tear.

Ischemia is a deficient supply of blood to a body part (such as the heart or brain) due to obstruction of the inflow of arterial blood.

Jerk test is used to assess the stability of the glenohumeral joint in the shoulder. It can also be used to confirm or rule out posteroinferior labral lesions. A painful jerk test can predict the success of nonoperative treatment for posteroinferior instability.

Labrum is a rim of soft tissue or fibrous cartilage that surrounds the socket of a ball and socket joint to make it more stable. A labrum gives more support to hold the bones in their proper places. The ligaments that help hold the joint together attach to the labrum.

Lachman's sign is a physical examination maneuver used to assess the integrity of the anterior cruciate ligament in a suspected anterior cruciate ligament (ACL) injury.

Lift-off test is performed by placing the dorsum of the hand against the lumbar spine and attempt to pull their own hand away. The positive test is defined by the inability to move the hand away from the spine.

Load and shift test is one of the hallmark physical examination maneuvers for assessing laxity and instability of the shoulder. It is typically performed with the arm slightly abducted while the examiner supports the patient's arm with one hand to aid in relaxation.

Lunotriquetral Ballottement Test (Reagan Test) is used to evaluate the integrity of the lunotriquetral ligament of the wrist joint. The goal of the test is to control the lunate and triquetrum separately so that they can be moved in relation to each other.

Magnetic resonance imaging (MRI) is a non-invasive diagnostic technique that produces computerized images of internal body tissues and is based on nuclear magnetic resonance of atoms within the body induced by the application of radio waves.

McMurray's test is a series of knee and leg movements healthcare providers use to diagnose a torn meniscus. McMurray's sign is a test where a patient lies on his or her back with the knee completely flexed. The examiner rotates the foot fully outward while slowly extending the knee: a painful click in outward rotation indicates a torn medial meniscus; a painful click in inward rotation indicates a torn lateral meniscus.

Meniscus is a thin fibrous cartilage between the surfaces of some joints, such as the knee, wrist, acromioclavicular, stemoclavicular and temperomandibular.

Metallosis is a rare condition characterized by the deposition and build-up of metal debris in the soft tissues of the body associated with metal-on-metal (MOM) prosthetic devices. It can present with local/systemic symptoms and signs due to a chronic inflammatory host response.
Metastases is the spread of a disease-producing agency (such as cancer cells) from the initial or primary site of disease to another part of the body.
Milking maneuver places valgus stress on the medial (or ulnar) collateral ligament of the elbow in a throwing position. The test evaluates the elbow's anterior and posterior bundle of the ulnar collateral ligament. It also assesses the posterior band of the medial ulnar collateral ligament.
Morton's neuroma is a compressive neuropathy of the interdigital nerve, typically causing forefoot pain and burning sensations, often localized between the metatarsal heads.
Myositis is a rare condition that causes muscle inflammation. It can cause muscle weakness, pain and fatigue.
Napoleon test is used to diagnose subscapularis tendon tears. It is performed by lying supine with the hand on the belly. The examiner holds the hand and shoulder to prevent compensatory movement. The person is asked to move the elbow upward, while the examiner tries to externally rotate the arm while the person tries to keep their hand on the sholder.
Neer test is a medical exam that assesses whether shoulder pain and limited range of motion may be caused by rotator cuff impingement, or pinching of tissue. The test is designed to reproduce symptoms of rotator cuff impingement by flexing the shoulder and applying pressure.
Nerve conduction study (NCS) is a test that measures how fast an electrical impulse moves through the nerve and can identify nerve damage.
Neuropathy is damage, disease or dysfunction of one or more nerves, especially of the peripheral nervous system, that is typically marked by burning or shooting pain, numbness, tingling, muscle weakness or atrophy It is often degenerative and is usually caused by injury, infection, disease, drugs, toxins or vitamin deficiency.
Non-diagnostic is a result that does not lead to a confirmed diagnosis.
Non-union fracture is demonstrated by no healing between two sets of x-rays. Incomplete healing by 6 to 8 months is non-union.
Occult means the problem was hidden, not immediately apparent or cannot be detected with clinical methods alone.
Occult fracture is a suspected broken bone that doesn't show up on X-rays.
Osteochondral is relating to or composed of bone and cartilage.
Osteochondritis dissecans is a joint disorder in which a segment of bone and cartilage starts to separate from the rest of the bone after repeated stress or trauma. The fragment may stay in place or fall into the joint space.
Osteomyelitis is an infectious, inflammatory disease of bone. It is often painful, bacterial in origin and may result in the death of bone tissue.
Osteonecrosis is localized death of bone tissue due to impaired or disrupted blood supply.

Pathological fracture is a broken bone caused by disease, often by the spread of cancer to the bone.

Pediatric approximate ages are defined by the US Department of Health (USDH), the Food and Drug Administration (FDA), and the American Academy of Pediatrics (AAP) as the following:

- Infancy, between birth and 2 years of age
- Childhood, from 2 to 12 years of age
- Adolescence, from 12 to 21 years of age, further defined by the AAP into:
    1. Early (ages 11–14 years)
    2. Middle (ages 15–17 years),
    3. Late (ages 18–21 years)
    4. Older ages may be appropriate for children with special healthcare needs.

Pivot shift test is a dynamic but passive test of knee stability, carried out by the examiner without any activity of the person. It shows a dysregulation between rolling and gliding in the knee joint. The person lies in a supine position. The movement is a combination of axial load and valgus force, applied by the examiner, during a knee flexion from an extended position. When the test is positive, it indicates an injury of the anterior cruciate ligament.

Polymyositis is a rare, inflammatory disease that causes muscles to become inflamed and weak, and can affect muscles all over the body. It's one of a group of diseases called inflammatory myopathies, which involve chronic muscle inflammation and weakness. The cause of polymyositis is unknown, but it's thought to be an autoimmune disorder, possibly triggered by a viral infection of muscle tissue.

Popeye sign is a pronounced bulging muscle in the distal aspect of the biceps region of the arm. It is clinically apparent with a complete long head of biceps tendon tear which causes distal migration of the long head of biceps muscle.

Posterior cruciate ligament (PCL) is a ligament in the back of the knee that connects the thighbone to the shinbone. It's one of several ligaments in the knee. PCL injuries can occur when the knee is bent beyond its normal range of motion.

Posterior drawer test is used to assess for posterior cruciate ligament tears. Posterior drawer test is performed when the person is supine and the knee to be tested is flexed to approximately 90 degrees. The examiner then sits on the toes of the tested extremity to help stabilize it. The examiner grasps the proximal lower leg, approximately at the tibial plateau or joint line with the thumbs placed on the tibial tuberosity. Then the examiner attempts to translate the lower leg posteriorly. The test is considered positive if there is a lack of end feel or excessive posterior translation.

Posterior sag sign (gravity Drawer test) tests for rotary instability posteriorly and/or torn posterior cruciate ligament (PCL). In a supine position, the subject's hip and knee are flexed to

90° while the examiner supports the leg under the lower calf or heel in the air. A positive sign is a posterior sag of the tibia caused by gravitational pull.

Posterolateral Rotatory Drawer Test of the elbow assesses for posterolateral rotatory instability of the elbow in the posterior cruciate ligament. It determines the amount of rotation of the tibial tubercle compared to the distal femur.

Press test is for triangular fibrocartilage complex (TFCC) diagnosis. It is performed with the person seated, lifting their body weight out of the chair, using their extended wrists. Pain during the test indicates a positive result.

Pseudotumor is a medical term that means "false tumor". It's an abnormality that looks like a tumor, such as a temporary swelling.

Pushup test tests the muscle strength and endurance of the chest and arms.

Recurrent is when a disease is occurring often or repeatedly.

Reverse Popeye sign is a medical term that describes a bulge in the arm that occurs when the proximal muscle belly retracts due to a loss of counter traction. It's also known as a "reverse Popeye deformity" because the muscle-tendon unit "balls up" due to a lack of distal tension.

Rheumatoid arthritis (RA) is an autoimmune disease (usually chronic) that is characterized by pain, stiffness, inflammation, swelling and sometimes destruction of the joints.

Rotator Cuff Weakness test is for rotator cuff injury, The examiner begins by placing the injured arm behind the back, with the back of the hand resting on the lower back. The individual tries to raise their arm off of their back. If pain or weakness is felt when trying to lift the hand off of the back, that is a sign of a possible be rotator cuff injury.

Scaphoid (or carpal navicular) is one of the eight small bones of the wrist joint. This bone, shaped similar to that of a cashew nut or kidney bean, is located between the base of the thumb and the radius bone of the forearm. The scaphoid coordinates the motion and position of all of the other wrist bones.

Scaphoid Shift test (Watson Test) is a diagnostic test for instability in the wrist. It is a provocative maneuver used to examine the dynamic stability of the scaphoid and reproduce an individual's symptoms. It is used to diagnose scapholunate interosseous ligament instability (SLIL).

Scapholunate Ballotment test is used to evaluate the integrity of the scapholunate ligament of the wrist joint. The lunate is firmly stabilized with the thumb and index finger of one hand, while the scaphoid, held with the other hand is displaced dorsally and palmarly with the other hand. A positive result elicits pain, crepitus, and excessive mobility of the scaphoid.

Septic arthritis is an infection in the joint (synovial) fluid and joint tissues.

Sickle cell disease is a chronic anemia that occurs in individuals who are homozygous for the gene controlling hemoglobin S (eg, African or Mediterranean descent). It is characterized by destruction of red blood cells and by episodic blocking of blood vessels by the adherence of sickle

cells to the vascular endothelium. This causes the serious complications of the disease (such as organ failure).

Snuffbox test is a clinical examination technique used to assess for possible fractures of the scaphoid bone in the wrist, particularly a scaphoid fracture. It involves palpating and applying pressure to the anatomical snuffbox, a triangular depression on the dorsal (back) side of the wrist, where the scaphoid bone is located. Tenderness or pain in this area during the test strongly suggests a scaphoid fracture.

Spondylarthropathy is an inflammatory arthritis affecting the spine.

Squeeze test is a clinical test for detecting "stable" syndesmosis injuries. The test compresses the proximal fibula against the tibia to assess the integrity of the bones, interosseus membrane and syndesmotic ligaments. Pain occurs with fracture or diastasis and is considered positive.

Staging in cancer is the process of determining how much cancer is within the body (tumor size) and if it has metastasized (spread).

Stress fracture is a tiny crack in a bone caused by repetitive force, often from overuse — such as repeatedly jumping up and down or running long distances.

Sulcus sign is an orthopedic test that evaluates the shoulder for glenohumeral instability. The test is performed by applying downward force to the patient's arm while they are sitting or standing. If the test is positive, a dimple appears beneath the acromion, which is called a sulcus.

Stress X-rays are special X-ray views, in which a radiograph of the part examined is done after applying requisite stress. Stress views are important in the evaluation of ligamentous tears, joint stability and fracture unions. Stress views are done after applying force. The direction of the force depends on the part examined and the purpose of the X-ray.

Superior Labrum Anterior to Posterior (SLAP) lesion is an injury to the labrum of the shoulder, which is the ring of cartilage that surrounds the socket of the shoulder joint. These tears are common in overhead throwing athletes and laborers involved in overhead activities.

Supraspinatus test, tests the affected arm by moving it into 90 degrees of abduction in the plane of the scapula (approximately 30 degrees of forward flexion), full internal rotation with the thumb pointing down as if emptying a beverage can.

Syndesmotic injury also known as a high ankle sprain, is a traumatic injury to the ligaments that bind the distal tibia and fibula. These injuries can occur with any ankle motion, but are most common with extreme external rotation or dorsiflexion of the talus.

Synovial chondromatosis is a type of non-cancerous tumor that arises in the lining of a joint.

Tarsal coalition is an abnormal connection between two or more bones in the back of the foot.

Thessaly test is a clinical examination used to detect meniscal tears in the knee.

Thompson test is used in lower limb examination to test for the rupture of the Achilles tendon. The person lies face down with feet hanging off the edge of the bed. If the test is positive, there is no movement of the foot (normally plantarflexion) on squeezing the corresponding calf, signifying likely rupture of the Achilles tendon.

Triangular Fibrocartilage Complex (TFCC) is a structure in the wrist that connects the bones in the forearm to the bones in the wrist. The TFCC is made up of ligaments, tendons and cartilage. It stabilizes the wrist and keeps the radius and ulna stable when the hand grasps an object or the forearm rotates. The TFCC also acts as a shock absorber.
Ulcerated is a break in the skin or mucous membrane with loss of surface tissue, disintegration and necrosis of epithelial tissue and often pus.
Ulnar fovea sign helps identify the source of ulnar-sided wrist pain. The test involves eliciting tenderness in the ulnar fovea region, which is bounded by the ulnar styloid process, the flexor carpi ulnaris tendon, the distal volar surface of the ulnar, and the pisiform bone. A positive ulnar fovea sign indicates tenderness in the ulnar fovea.
Ulnocarpal stress test, also known as the TFCC stress test or ulnar carpal stress test, is a medical test that evaluates the integrity of the triangular fibrocartilage complex (TFCC). The test is used to diagnose ulnar-sided wrist pain and is sensitive for ulnar impaction syndrome (UIS). A positive test result indicates the presence of ulnar-sided wrist pathology and pain with the maneuver.
Ultrasound is the diagnostic or therapeutic use of ultrasound and especially a noninvasive technique involving the formation of images used for the examination and measurement of internal body structures and the detection of bodily abnormalities.
Valgus stress sign is a test of medial collateral ligament integrity, where a passive force is exerted on a joint that, in the presence of ligamentous insufficiency, would cause the medial joint space to open.
Varus stress sign is a test of lateral collateral ligament integrity, where a passive force is exerted on a joint that, in the presence of ligamentous insufficiency, would cause the lateral joint space to open (eg, lateral collateral ligament of the knee and radial collateral ligament of the elbow).

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Disclaimer section

Purpose

The purpose of the HealthHelp's clinical guidelines is to assist healthcare professionals in selecting the medical service that may be appropriate and supported by evidence to safely improve outcomes. Medical information is constantly evolving, and HealthHelp reserves the right to review and update these clinical guidelines periodically. HealthHelp reserves the right to include in these guidelines the clinical indications as appropriate for the organization's program objectives. Therefore the guidelines are not a list of all the clinical indications for a stated procedure, and associated Procedure Code Tables may not represent all codes available for that state procedure or that are managed by a specific client-organization.

Clinician Review

These clinical guidelines neither preempt clinical judgment of trained professionals nor advise anyone on how to practice medicine. Healthcare professionals using these clinical guidelines are responsible for all clinical decisions based on their assessment. All Clinical Reviewers are instructed to apply clinical indications based on individual patient assessment and documentation, within the scope of their clinical license.

Payment

The use of these clinical guidelines does not provide authorization, certification, explanation of benefits, or guarantee of payment; nor do the guidelines substitute for, or constitute, medical advice. Federal and State law, as well as member benefit contract language (including definitions and specific contract provisions/exclusions) take precedence over clinical guidelines and must be considered first when determining eligibility for coverage. All final determinations on coverage and payment are the responsibility of the health plan. Nothing contained within this document can be interpreted to mean otherwise.

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National and Local Coverage Determination (NCD and LCD)

NOTICE
To ensure appropriate review occurs to the most current NCD and/or LCD, always defer to https://www.cms.gov/medicare-coverage-database/search.aspx.

Background

National Coverage Determinations (NCD) and Local Coverage Determinations (LCD) are payment policy documents outlined by the Centers for Medicare and Medicaid Services (CMS) and the government's delegated Medicare Audit Contractors (MACs) that operate regionally in jurisdictions.
CMS introduced variation between different jurisdictions/Medicare Audit Contractors (MACs) and their associated covered code lists with the transition to ICD 10. The variation resulted in jurisdictions independently defining how codes are applied for exclusions, limitations, groupings, ranges, etc. for the medical necessity indications outlined in the NCD and LCD. Due to this variation, there is an inconsistent use/application of codes and coverage determinations across the United States between the different MACs.
In addition, **WITHOUT** notice, CMS can change the codes that indicate medical necessity and the format of the coverage determinations/associated documents (eg, Articles). This is an additional challenge for organizations to keep up with ongoing, unplanned changes in covered codes and medical necessity indications.

Medical Necessity Codes

Due to the variation in code application between jurisdictions/MACs and that updates can happen without notification, HealthHelp is not able to guarantee full accuracy of the codes listed for any Coverage Determination, and advises that prior to use, the associated Coverage Determination Articles are reviewed to ensure applicability to HealthHelp's programs and any associated NCDs and LCDs.

For Internal Use Only:

11248 11249 11253 11282 11325 11328 11333 11349 11350 11351 11352 11354 11355 11356 11358 11359 11360 11361 11362 11365 11366 11367 11368 11369 11370 11374 11375 11394 11395 11396 11565