General Knee Pain

Clinical Guidelines for Medical Necessity Review

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Important Notices

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Other Notices:

Guideline Information:

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Care Path Clinical Discussion

Knee pain is a common complaint in the United States, affecting approximately 25% of adults.[1] Osteoarthritis is increasingly the most common cause of knee pain in those over 50 years of age,[1,2] although there is a wide breadth of differential diagnoses for knee pain. As such, the presentation, physical examination findings, and appropriate evaluation of all these diagnoses are beyond this overview's scope. Additionally, approaches to care for non-musculoskeletal causes of knee pain are out of scope.

The initial evaluation should be thorough, providing a differential diagnosis and dictating the most appropriate next step (i.e., imaging or conservative therapy.) Imaging should begin with plain radiographs. Magnetic resonance imaging (MRI) may be appropriate afterward to evaluate soft tissue injuries and stress fractures. Magnetic resonance (MR) arthrography and computed tomography (CT) are not as frequently used but have specific indications.[3] Physical therapy generally has favorable effects on pain, function, and quality of life for musculoskeletal conditions.[4] Indeed, several musculoskeletal diagnoses of the knee self-resolve within weeks or respond well to physical therapy without the need for advanced imaging or surgical intervention.[5] For example, common overuse syndromes, such as patellofemoral pain, are clinical diagnoses (i.e., do not require advanced imaging) and respond well to activity and biomechanical modifications.

The information contained herein gives a general overview of the pathway(s) of non-specific knee pain in adults. Recommendations as supported by the medical literature and clinical practice guidelines are diagnosis-specific, so it behooves the clinician to work towards a diagnosis before formulating a care plan. It should be noted that the care of patients with musculoskeletal complaints can be complex; referral to a musculoskeletal specialist is rarely inappropriate. The information below is meant to support clinical decision making in adult patients with knee pain. It is not necessarily applicable to every case, as the entire clinical picture (including comorbidities, history, etc.) should be considered.

Key Information

- ➢ Patients with knee pain may present to a musculoskeletal specialist, such as an orthopedic surgeon, sports medicine physician, or physiatrist. Commonly, however, patients present to their primary care provider.
- ➢ Knee pain affects approximately 25% of adults in the United States. Knee conditions such as arthritis are increasingly prevalent, partly driven by obesity and age.

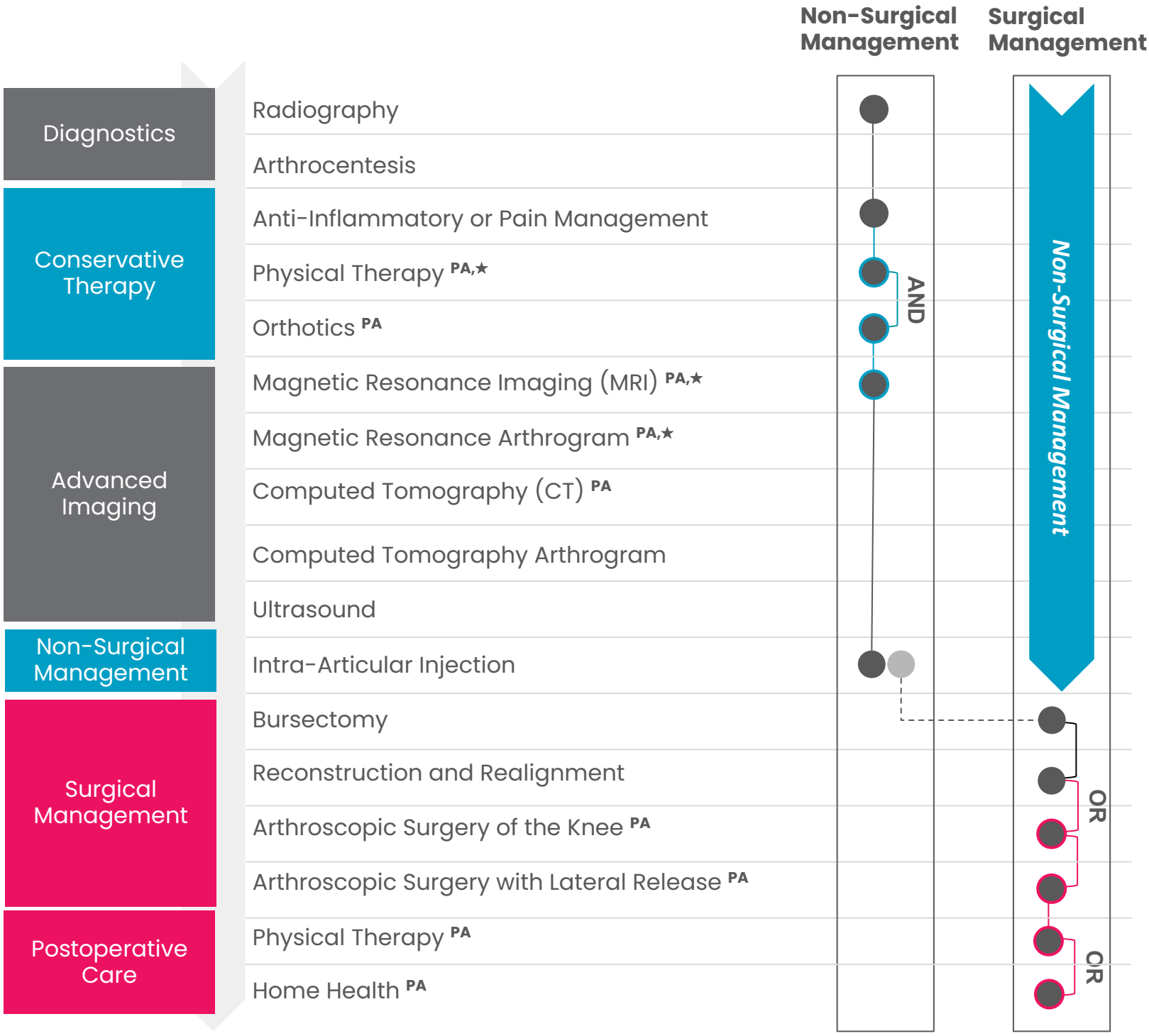
- ➢ A thorough history and physical examination are necessary before formulating a further evaluation or treatment plan. If the initial treating clinician cannot establish a diagnosis, refer to a musculoskeletal specialist before performing advanced imaging or procedures.
- ➢ Many musculoskeletal knee diagnoses resolve independently or with conservative (non-surgical) management (e.g., physical therapy and home exercise).
- ➢ Advanced imaging and intervention are not necessary unless there is a firmly established differential diagnosis. Only perform advanced imaging if there is a suspected structural injury and the patient is agreeable to and appropriate for treatment. Do not perform procedures without an established differential diagnosis.

Definitions

- **Knee Pain:** Pain in or around the knee joint. It may indicate a condition affecting bones of the knee joint itself, including the lower end of the femur, the upper end of the tibia and the patella, or the soft tissues around the knee. These may include bone, tendon, ligament, cartilage, and muscle.

General Knee Pain

What is a "Cohere Care Path"?
These Care Paths organize the services typically considered most clinically optimal and likely to be automatically approved. These service recommendations also include the suggested sequencing and quantity or frequency determined clinically appropriate and medically necessary for the management of most patient care scenarios in this Care Path's diagnostic cohort.



Key

PA = Service may require prior authorization
★ = Denotes preferred service
AND = Services completed concurrently
OR = Services generally mutually exclusive

= Non-surgical management prior authorization group of services
= Surgical management prior authorization group of services
= Subsequent service
= Management path moves to a different management path

Care Path Diagnostic Criteria

Disease Classification

General Knee Pain

ICD-10 Codes Associated with Classification

ICD-10 Code	Code Description/Definition
M06.261	Rheumatoid bursitis, right knee
M06.262	Rheumatoid bursitis, left knee
M06.269	Rheumatoid bursitis, unspecified knee
M10.061	Idiopathic gout, right knee
M10.062	Idiopathic gout, left knee
M10.069	Idiopathic gout, unspecified knee
M11.161	Familial chondrocalcinosis, right knee
M11.162	Familial chondrocalcinosis, left knee
M11.169	Familial chondrocalcinosis, unspecified knee
M11.261	Other chondrocalcinosis, right knee
M11.262	Other chondrocalcinosis, left knee
M11.269	Other chondrocalcinosis, unspecified knee
M12.261	Villonodular synovitis (pigmented), right knee
M12.262	Villonodular synovitis (pigmented), left knee
M12.269	Villonodular synovitis (pigmented), unspecified knee
M22.00	Recurrent dislocation of patella, unspecified knee
M22.01	Recurrent dislocation of patella, right knee
M22.02	Recurrent dislocation of patella, left knee
M22.10	Recurrent subluxation of patella, unspecified knee
M22.11	Recurrent subluxation of patella, right knee
M22.12	Recurrent subluxation of patella, left knee
M22.2X1	Patellofemoral disorders, right knee

M22.2X2	Patellofemoral disorders, left knee
M22.2X9	Patellofemoral disorders, unspecified knee
M22.3X1	Other derangements of patella, right knee
M22.3X2	Other derangements of patella, left knee
M22.3X9	Other derangements of patella, unspecified knee
M22.40	Chondromalacia patellae, unspecified knee
M22.41	Chondromalacia patellae, right knee
M22.42	Chondromalacia patellae, left knee
M22.8X1	Other disorders of patella, right knee
M22.8X2	Other disorders of patella, left knee
M22.8X9	Other disorders of patella, unspecified knee
M22.90	Unspecified disorder of patella, unspecified knee
M22.91	Unspecified disorder of patella, right knee
M22.92	Unspecified disorder of patella, left knee
M23.40	Loose body in knee, unspecified knee
M23.41	Loose body in knee, right knee
M23.42	Loose body in knee, left knee
M25.061	Hemarthrosis, right knee
M25.062	Hemarthrosis, left knee
M25.069	Hemarthrosis, unspecified knee
M25.461	Effusion, right knee
M25.462	Effusion, left knee
M25.469	Effusion, unspecified knee
M25.56	Pain in knee
M25.561	Pain in right knee
M25.562	Pain in left knee
M25.569	Pain in unspecified knee
M25.661	Stiffness of right knee, not elsewhere classified
M25.662	Stiffness of left knee, not elsewhere classified

M25.669	Stiffness of unspecified knee, not elsewhere classified
M67.461	Ganglion, right knee
M67.462	Ganglion, left knee
M67.469	Ganglion, unspecified knee
M67.50	Plica syndrome, unspecified knee
M67.51	Plica syndrome, right knee
M67.52	Plica syndrome, left knee
M70.40	Prepatellar bursitis, unspecified knee
M70.41	Prepatellar bursitis, right knee
M70.42	Prepatellar bursitis, left knee
M70.50	Other bursitis of knee, unspecified knee
M70.51	Other bursitis of knee, right knee
M70.52	Other bursitis of knee, left knee
M71.061	Abscess of bursa, right knee
M71.062	Abscess of bursa, left knee
M71.069	Abscess of bursa, unspecified knee
M71.161	Other infective bursitis, right knee
M71.162	Other infective bursitis, left knee
M71.169	Other infective bursitis, unspecified knee
M71.20	Synovial cyst of popliteal space [Baker], unspecified knee
M71.21	Synovial cyst of popliteal space [Baker], right knee
M71.22	Synovial cyst of popliteal space [Baker], left knee
M71.561	Other bursitis, not elsewhere classified, right knee
M71.562	Other bursitis, not elsewhere classified, left knee
M71.569	Other bursitis, not elsewhere classified, unspecified knee
M71.861	Other specified bursopathies, right knee
M71.862	Other specified bursopathies, left knee
M71.869	Other specified bursopathies, unspecified knee
M76.30	Iliotibial band syndrome, unspecified leg

M76.31	Iliotibial band syndrome, right leg
M76.32	Iliotibial band syndrome, left leg
M76.40	Tibial collateral bursitis [Pellegrini-Stieda], unspecified leg
M76.41	Tibial collateral bursitis [Pellegrini-Stieda], right leg
M76.42	Tibial collateral bursitis [Pellegrini-Stieda], left leg
M76.50	Patellar tendinitis, unspecified knee
M76.51	Patellar tendinitis, right knee
M76.52	Patellar tendinitis, left knee
M76.891	Other specified enthesopathies of right lower limb, excluding foot
M76.892	Other specified enthesopathies of left lower limb, excluding foot
M76.899	Other specified enthesopathies of unspecified lower limb, excluding foot
M76.9	Unspecified enthesopathy, lower limb, excluding foot
M79.661	Pain in right lower leg
M79.662	Pain in left lower leg
M79.669	Pain in unspecified lower leg
M93.261	Osteochondritis dissecans, right knee
M93.262	Osteochondritis dissecans, left knee
M93.269	Osteochondritis dissecans, unspecified knee

Presentation and Etiology

Causes and Risk Factors

In the presentation of knee pain, the history and physical examination findings should suggest a differential diagnosis and dictate whether diagnostic tests, imaging, or a referral is appropriate. Rarely is knee pain of an unknown origin.

Clinical Presentation

Obtained history of knee pain should include:

- Any inciting trauma or injury
- Exacerbating and relieving factors, especially activity
- Exercise and activity history, including anything requiring repetitive motions
- Concomitant knee symptoms - swelling, stiffness, redness, locking, catching, or weakness
- Location of knee pain - medial, lateral, anterior, posterior, or generalized
- Constitutional symptoms - fever, chills, fatigue, or rash
- A history of:
    - ➔ Crystal arthropathy
    - ➔ Rheumatologic or inflammatory disease
    - ➔ Prior knee surgery or injury
    - ➔ Malignancy
- If it is a traumatic presentation, consider structural damage. The pain may localize (e.g., medial knee pain) or be generalized, with or without swelling.
- If it is a nontraumatic presentation, with or without being activity-related, consider referred pain.
- If it is a nontraumatic presentation and is related to activity, consider osteoarthritis, patellofemoral syndrome, stress fracture, osteochondral injury, or other degenerative conditions (e.g., chondromalacia).
- If it is a nontraumatic presentation and is not activity-related; other joints affected; history of crystal arthropathy, rheumatologic disease, or malignancy; or constitutional symptoms, consider inflammatory/systemic processes.

History or symptoms that indicate further musculoskeletal evaluation include:

- Onset with injury
- History of prior knee injury or surgery

- Pain at night
- Pain for more than 6 weeks
- Mechanical symptoms, such as catching or locking
- Weakness
- Instability
- Recurrent effusion

Typical Physical Exam Findings

The following history, symptoms, and findings suggest a non-musculoskeletal cause. These warrant further workup or referral and will not be addressed in this overview:

- Fevers, chills, night sweats, fatigue, pain worsening at night, or unintentional weight loss
- Polyarticular or migrating pain
- Family or personal history of rheumatologic disease
- History of crystal arthropathy or malignancy
- Local erythema, warmth, effusion

Musculoskeletal knee pain:

Traumatic presentation or suspected structural damage:

- Patellar tendon [6,7]
    - Infrapatellar swelling +/- ecchymosis
    - Focal tenderness at the distal patellar pole or through the substance of the tendon
    - Palpable tendon defect
    - Painful, weak extension
    - Absent extension (rupture)
    - Difficulty or inability to maintain straight leg raise against gravity
- Quadriceps tendon [6,7]
    - Suprapatellar swelling +/- ecchymosis
    - Focal tenderness at the proximal patellar pole or through the substance of the tendon
    - Palpable tendon defect
    - Painful, weak extension
    - Absent extension (rupture)
    - Difficulty or inability to maintain straight leg raise against gravity
- ACL injury [8]
    - Effusion[9]

- Incomplete extension or guarding
- Antalgic gait
- Joint line tenderness
- Decreased range of motion (ROM) compared to the contralateral knee.
- Increased laxity compared to the contralateral knee.
- Positive Lachman's test[10,11,12]
    - Increased anterior translation of the proximal tibia with the distal femur stabilized and the knee flexed to 30°
- Positive anterior drawer test[10,11,12]
    - Anterior translation of the tibia in relation to the femur with the knee flexed to 90°
- Positive pivot-shift test[10,11,12]
    - The examiner feels a 'clunk' while passively flexing the knee with valgus force and an internal rotation of the tibia.

- MCL
    - Localized soft tissue swelling
    - Tenderness over MCL
        - May present as medial joint line tenderness
    - Painful active ROM
    - Valgus laxity at 0° or 30° knee flexion compared to the contralateral knee.
- LCL
    - Varus thrust or another antalgic gait
    - Tenderness over LCL or generally over lateral knee
    - Localized soft tissue swelling
    - Painful active ROM
    - Valgus laxity at 0° or 30° knee flexion compared to the contralateral knee
- PCL
    - Effusion[13,14,15]
    - Antalgic gait[16]
    - Tenderness in the posterior fossa
    - Decreased ROM when compared to the contralateral knee.
    - Positive posterior sag sign
        - Absent or posteriorly-directed tibial step-off in relation to the distal femur with the patient supine and the hip and knee flexed to 90° (as compared to the contralateral knee).
    - Positive posterior drawer[13,15]

        - Posterior translation of tibia in relation to the femur with the knee flexed to 90°
    - Quadriceps active sign
        - Starting with the knee flexed to 90°, anterior translation of tibia noted with active knee extension.

The following may be seen on physical examination of a patient with meniscus injury[17]:

- Antalgic gait
- Effusion[18,19]
- Limited active ROM compared to the contralateral knee (especially the inability to extend fully)
- Pain with passive end ROM
- Joint line tenderness[18,19]
- Special testing
    - McMurray test[18,19]
        - Start with passive flexion with the tibia in an internal or external rotation. A positive test reproduces symptoms or a palpable click during passive extension.
    - Thessaly test[18,19]
        - While standing on the affected leg with the knee flexed to 20°, the patient internally and externally rotates. A positive test reproduces symptoms.
    - Apley test
        - The patient is supine with their knee flexed to 90°. A positive test reproduces pain with applied downward force (compression) and internal/external tibial rotation.
        - Less commonly performed due to poor sensitivity.
- The following combination of 5 findings has a positive predictive value (PPV) of 92%[20]:
    - A history of patient-reported catching or locking
    - Pain with forced hyperextension
    - Pain with maximum flexion
    - Pain or an audible click with McMurray's maneuver
    - Joint line tenderness to palpation

<u>Nontraumatic presentation</u>

The following findings may present singly or in combination upon physical examination of the knee:

- Joint line tenderness

- Joint effusion
- Deformity
- Limited range of motion
- Crepitus
- Quadriceps weakness or atrophy
- Gait disturbance (antalgic, Trendelenberg, or other)

If a knee examination proved noncontributory, examine the hip or spine to evaluate for referred pain.

Findings that indicate further musculoskeletal evaluation include:

- Visible deformity
- Joint effusion
- Focal tenderness on palpation
- Decreased ROM compared to the contralateral knee
- Reproduction of pain with ROM or other testing
- Decreased motor strength compared to the contralateral leg
- Instability
- Inability to bear weight
- Patellar apprehension

Care Path Services & Medical Necessity Criteria

Conservative Therapy

Service: Physical Therapy

General Guidelines[5]

- **Units, Frequency, & Duration:** These are diagnosis-dependent. Evidence is often lacking for frequency and duration criteria.
- **Criteria for Subsequent Requests:** Some diagnoses, such as tendinopathy or patellofemoral pain syndrome, may require long-term maintenance or a home exercise program.
- **Recommended Clinical Approach:** Physical therapy (including stretching, strengthening, and stability) is recommended to improve pain and function in patients with uncomplicated knee pain that is not amenable to surgery. Include education and home exercise program development.
- **Exclusions:** If structural damage or non-musculoskeletal etiology is suspected, referral or imaging is appropriate before starting physical therapy.

Medical Necessity Criteria

Indications

➔ **Physical therapy** is considered appropriate if **ALL** of the following are **TRUE:**

- ◆ The patient has **ANY** positive findings from the presentation list:
  - Onset with injury
  - Pain with insidious onset
  - History of overuse or repetitive activity
  - History of prior knee injury or surgery
  - Pain for more than 6 weeks
  - Mechanical symptoms, such as catching or locking
  - Weakness
  - Instability
  - Recurrent effusion
- ◆ The patient has **ANY** positive findings from the exam findings list:

- Joint effusion
- Focal tenderness on palpation
- Decreased range of motion (ROM) compared to the contralateral knee
- Reproduction of pain with ROM or other testing
- Decreased motor strength compared to the contralateral leg
- Instability
- Inability to bear weight
- Patellar apprehension
- Weakness about the knee or hip

Non-Indications

See the exclusions section above.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
97010	Application of hot or cold packs
97012	Application of mechanical traction
97014	Application of electrical stimulation
97016	Application of vasopneumatic devices
97018	Application of paraffin bath
97022	Application of whirlpool
97024	Application of diathermy
97026	Application of infrared modality
97028	Application of ultraviolet modality
97032	Application of manual electrical stimulation
97033	Application of iontophoresis
97034	Application of contrast baths

97035	Application of ultrasound modality
97036	Application of Hubbard tank
97039	Modality service
97110*	Therapeutic exercises to develop strength and endurance, range of motion and flexibility
97112	Neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and proprioception for sitting and standing activities
97113	Aquatic therapy with therapeutic exercises
97116	Gait training including stair climbing
97124	Massage including effleurage and petrissage; Massage including effleurage and tapotement; Massage including effleurage, petrissage and tapotement; Massage including petrissage and tapotement
97139	Therapeutic procedure
97140	Manual therapy techniques
97150	Group therapeutic procedures
97164	Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient 20 minutes; Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient and family 20 minutes; Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient's family 20 minutes
97530	Direct therapeutic activities with use of dynamic activities to improve functional performance, each 15 minutes
97535	Home management training, direct one-on-one contact, each 15 minutes; Self-care management training, direct one-on-one contact, each 15 minutes
97537	Community reintegration training, direct one-on-one contact, each 15 minutes;

	Work reintegration training, direct one-on-one contact, each 15 minutes
97542	Wheelchair management, each 15 minutes
97545	Work conditioning, initial 2 hours; Work hardening, initial 2 hours
97546	Work conditioning, each additional hour; Work hardening, each additional hour
97750	Physical performance measurement with written report, each 15 minutes; Physical performance test with written report, each 15 minutes
97755	Assistive technology assessment with written report, direct one-on-one contact, each 15 minutes
97760	Initial orthotic management and training with assessment and fitting of lower extremities and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremities, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity, each 15 minutes; Initial orthotic management and training with assessment and fitting of trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of upper and lower extremities and trunk, each 15 minutes
97761	Initial prosthetic training of lower extremities, each 15 minutes; Initial prosthetic training of lower extremity, each 15 minutes Initial prosthetic training of upper and lower extremities, each 15 minutes; Initial prosthetic training of upper extremities, each 15 minutes; Initial prosthetic training of upper extremity, each 15 minutes
97763	Subsequent orthotic management and training of lower extremities and trunk, each 15 minutes

	Subsequent orthotic management and training of lower extremity and trunk, each 15 minutes Subsequent orthotic management and training of lower extremity, each 15 minutes Subsequent orthotic management and training of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic management and training of upper extremities and trunk, each 15 minutes Subsequent orthotic management and training of upper extremities, each 15 minutes Subsequent orthotic management and training of upper extremity and trunk, each 15 minutes Subsequent orthotic management and training of upper extremity, each 15 minutes Subsequent orthotic management of lower extremities and trunk, each 15 minutes Subsequent orthotic management of lower extremity and trunk, each 15 minutes Subsequent orthotic management of lower extremity, each 15 minutes Subsequent orthotic management of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic management of upper extremities and trunk, each 15 minutes Subsequent orthotic management of upper extremities, each 15 minutes Subsequent orthotic management of upper extremity and trunk, each 15 minutes Subsequent orthotic management of upper extremity, each 15 minutes Subsequent orthotic training of lower extremity, each 15 minutes Subsequent orthotic training of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic training of upper extremities and trunk, each 15 minutes Subsequent orthotic training of upper extremities, each 15 minutes

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	Subsequent prosthetic training of upper and lower extremities and trunk, each 15 minutes Subsequent prosthetic training of upper extremities and trunk, each 15 minutes Subsequent prosthetic training of upper extremities, each 15 minutes Subsequent prosthetic training of upper extremity and trunk, each 15 minutes Subsequent prosthetic training of upper extremity, each 15 minutes Subsequent orthotic management and training of lower extremities, each 15 minutes Subsequent orthotic management of lower extremities, each 15 minutes Subsequent orthotic training of lower extremities and trunk, each 15 minutes Subsequent orthotic training of lower extremities, each 15 minutes Subsequent orthotic training of lower extremity and trunk, each 15 minutes Subsequent prosthetic management and training of lower extremities, each 15 minutes Subsequent prosthetic management of lower extremities, each 15 minutes Subsequent prosthetic training of lower extremities and trunk, each 15 minutes Subsequent prosthetic training of lower extremities, each 15 minutes Subsequent prosthetic training of lower extremity and trunk, each 15 minutes
97799	Unlisted physical medicine/rehabilitation service or procedure
420	Physical Therapy
421	Physical Therapy: Visit Charge
422	Physical Therapy: Hourly Charge
423	Physical Therapy: Group Rate
424	Physical Therapy: Evaluation/Re-evaluation

429	Physical Therapy: Other Physical Therapy
97163	Evaluation of physical therapy, typically 45 minutes
97161	Evaluation of physical therapy, typically 20 minutes
97162	Evaluation of physical therapy, typically 30 minutes
97168	Re-evaluation of occupational therapy established plan of care, typically 30 minutes
97165	Evaluation of occupational therapy, typically 30 minutes
97166	Evaluation of occupational therapy, typically 45 minutes
97167	Evaluation of occupational therapy established plan of care, typically 60 minutes
G0151	Hhcp-serv of pt,ea 15 min

*Default codes for suggested services

Service: Orthotics

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** Knee braces can support an anterior cruciate ligament tear or help to prevent one from happening [21-24]. Functional braces can be worn during the day without interfering with daily activities. They can decrease weight on the knee joints and keep the knee stable to protect ligaments from injury [21,23-26]. Braces may be useful in the physically active patient.
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Orthotics** are considered appropriate if **ALL** of the following are **TRUE:**

- ◆ The patient has **ANY** positive findings from the presentation list
  - Onset with injury
  - Pain with insidious onset
  - History of overuse or repetitive activity
  - History of prior knee injury or surgery
  - Pain for more than 6 weeks
  - Mechanical symptoms, such as catching or locking
  - Weakness
  - Instability
  - Recurrent effusion
- ◆ The patient has **ANY** positive findings from the exam findings list
  - Joint effusion
  - Focal tenderness on palpation
  - Decreased range of motion (ROM) compared to the contralateral knee
  - Reproduction of pain with ROM or other testing
  - Decreased motor strength compared to the contralateral leg
  - Instability
  - Inability to bear weight
  - Patellar apprehension
  - Weakness about the knee or hip

- The patient is symptomatic and has a high level of physical activity (lifestyle or due to occupation).

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
29530	Strapping of knee
L1834	Knee orthosis, without knee joint, rigid, custom fabricated
L1840	Knee orthosis, derotation, medial-lateral, anterior cruciate ligament, custom fabricated
L1844	Knee orthosis, single upright, thigh and calf, with adjustable flexion and extension joint (unicentric or polycentric), medial-lateral and rotation control, with or without varus/valgus adjustment, custom fabricated
L1846	Knee orthosis (KO), double upright, thigh and calf, with adjustable flexion and extension joint (unicentric or polycentric), medial-lateral and rotation control, with or without varus/valgus adjustment, custom fabricated
L2320	Addition to lower extremity, non-molded lacer, for custom fabricated orthosis only
L2330	Addition to lower extremity, lacer molded to patient model, for custom fabricated orthosis only
L2755	Addition to lower extremity orthosis, high strength, lightweight material, all hybrid lamination/prepreg composite, per segment, for custom fabricated orthosis only
L2800	Addition to lower extremity orthosis, knee control, knee cap, medial or lateral pull, for use with custom fabricated orthosis only
L2861	Addition to lower extremity joint, knee or ankle, concentric adjustable torsion style mechanism for custom fabricated orthotics only
L1852	Ko double upright prefab ots

Advanced Imaging

Service: Magnetic Resonance Imaging (MRI) without Contrast

General Guidelines

- **Units, Frequency, & Duration:** The recommended limit is once per 6 months per year.
- **Criteria for Subsequent Requests:** If the patient has a new injury, progression of symptoms, or a new radiographic finding, they may require a subsequent MRI.
- **Recommended Clinical Approach:** Knee radiography is the recommended first step in imaging. For a clinical concern about referred pain from hip or spine pathology, hip or spine radiography is appropriate.[3] MRI without contrast is indicated to evaluate soft tissues, bone lesions, and cartilage when:
    - Presentation is chronic (more than 6 weeks), and radiography was negative, inconclusive, or demonstrated effusion.[3]
    - Presentation is traumatic with weakness, mechanical symptoms, focal tenderness, effusion, instability, or inability to bear weight, and radiography was negative.[27]
    - Presentation is acute or subacute and nontraumatic, radiography was negative, physical examination was nondiagnostic, and conservative management with physical therapy and anti-inflammatory medication was unsuccessful.
- **Exclusions:** Do not perform an MRI before radiography, particularly standing AP view.[3] MRI is not indicated for nontraumatic knee pain when radiographs are diagnostic of osteoarthritis, unless[3]:
    - The radiographic findings do not explain the symptoms (e.g., suspicion of stress fracture).
    - Treatment requires additional imaging.

Medical Necessity Criteria

Indications

➔ **MRI** is considered appropriate if **ALL** of the following are **TRUE**[27-29]**:**

◆ The patient has **ANY** of the following presentations:

- Chronic (more than 6 weeks)
- Traumatic with weakness, mechanical symptoms, focal tenderness, effusion, instability, or inability to bear weight
- Acute or subacute and nontraumatic, a physical exam was nondiagnostic, and non-surgical management was not successful

- The patient has a prior radiograph that shows **ANY** of the following:
  - Negative
  - Inconclusive
  - Demonstrates effusion
  - Suspected soft tissue injury
  - Suspected osteonecrosis
  - Suspected osteochondral injury

Non-Indications

➔ **MRI** may not be considered appropriate if **ANY** of the following is **TRUE:**

- Non-compatible implanted devices
- Metallic intraocular foreign bodies
- Claustrophobia

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
73721	MRI of lower extremity
73722	MRI of lower extremity with contrast
73723	MRI of lower extremity with and without contrast

Service: Computed Tomography (CT) without Contrast

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:**
    - Nontraumatic presentation:
        - For chronic pain, CT without contrast may be appropriate to evaluate patellofemoral anatomy if subluxation or maltracking is suspected and MRI is inappropriate.[3]
        - CT may be appropriate to evaluate for osteochondral damage or loose bodies if MRI is indeterminate or inappropriate.[3]
    - Traumatic presentation:
        - CT is appropriate if there is a clinical suspicion of a fracture that was not present on the radiograph.[27]
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **CT** is considered appropriate if **ANY** of the following is **TRUE**[27, 30-32]**:**

- ◆ The bone anatomy, a structural defect, or a fracture pattern needs further evaluation.
- ◆ Suspected ligament injury
- ◆ Localized knee pain is unexplained
- ◆ Suspected trauma or fracture
- ◆ Needed for future treatment

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
73700	CT lower extremity without contrast

Service: Magnetic Resonance Arthrogram

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** A magnetic resonance (MR) arthrogram is appropriate for evaluating intra-articular structures. Reserve this procedure for patients with a previous or suspected cartilage pathology (e.g., meniscus or cartilage surgery, chondral/osteochondral lesions, loose bodies).[3]
- **Exclusions:** No history of chondral/osteochondral lesions or cartilage repair surgery (including meniscus repair) and no suspicion of loose bodies or chondral injury.[3]

Medical Necessity Criteria

Indications

➔ **MR arthrograms** are considered appropriate if **ANY** of the following is **TRUE**[33-34]**:**

- ◆ MRI without contrast is inconclusive

Non-Indications

➔ **MR arthrograms** may not be considered appropriate if **ANY** of the following is **TRUE**

- ◆ Non-compatible implanted devices
- ◆ Metallic intraocular foreign bodies
- ◆ Claustrophobia

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
73722	Magnetic resonance imaging, any joint of lower extremity

Service: Computed Tomography Arthrogram

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** A computed tomography (CT) arthrogram may be appropriate for evaluating intra-articular structures (e.g., meniscus, articular cartilage, loose bodies) if magnetic resonance imagine (MRI) is not appropriate or is contraindicated.[3]
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Computed tomography arthrograms** are considered appropriate if **ANY** of the following is **TRUE**[35]**:**

- ◆ MRI is contraindicated or is not appropriate for the patient.

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
27369	Injection procedure for contrast knee arthrography or contrast-enhanced CT/MRI knee arthrography

Service: Ultrasound

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** Ultrasounds are appropriate for evaluating a suspected deep vein thrombosis (DVT). An ultrasound can also help to confirm or evaluate:
    - Effusions or cysts[3]
    - Superficial bursae
    - Soft tissue swelling
- **Exclusions:** Do not use ultrasound to diagnose intra-articular pathology, except for peripheral meniscal tears.[3]

Medical Necessity Criteria

Indications

➔ **Ultrasounds** are considered appropriate if **ANY** of the following is **TRUE:**

◆ The patient has **ANY** of the following[36-37]:

- Effusions or cysts
- Superficial bursae
- Soft tissue swelling

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
76881	Ultrasound, extremity, nonvascular, real-time with image documentation; complete
76882	Ultrasound, extremity, nonvascular, real-time with image documentation; limited, anatomic specific

Surgical Management

Service: Open or Arthroscopic Bursectomy

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** Endoscopic bursectomy can efficiently treat prepatellar bursitis, but open procedures are more common.[38]
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Bursectomy** is considered appropriate if **ANY** of the following is **TRUE**[38]**:**

- ◆ Suspected infection.
- ◆ Pain or symptoms have persisted for more than 2 weeks, despite conservative or non-surgical management (e.g., physical therapy, pain management, corticosteroid injections).

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
27340	Excision, prepatellar bursa

Service: Arthroscopic Surgery of the Knee

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** This procedure is recommended for patients with synovitis pain or symptoms who failed non-surgical management. Order an advanced imaging study before surgery; it should show proliferative synovium. Arthroscopic knee surgery can also remove knee joint adhesions.
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Arthroscopic surgery of the knee** is considered appropriate if **ALL** of the following are **TRUE**[39-43]**:**

- ◆ Pain or symptoms have persisted for more than 3 months, despite conservative or non-surgical management (e.g., physical therapy, pain management, corticosteroid injections).
- ◆ The patient has **ANY** of the following[44]:
  - Inflammatory (rheumatoid arthritis, psoriatic arthritis, Lyme arthritis)
  - Benign neoplastic disorders (osteochondromatosis, tenosynovial giant cell tumor, and recurrent hemarthrosis)
  - Recurrent effusion
  - Limited range of motion of the knee due to adhesions or scar tissue

Non-Indications

➔ **Arthroscopic surgery of the knee** is not considered appropriate if **ANY** of the following is **TRUE:**

- ◆ Advanced degenerative arthritis.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
29875	Surgical arthroscopy of knee with limited synovectomy
29875	Surgical arthroscopy of knee with plica resection
29875	Surgical arthroscopy of knee with shelf resection
29876	Surgical arthroscopy of knee with major synovectomy of medial, lateral, and patellofemoral compartments
29876	Surgical arthroscopy of knee with major synovectomy of lateral and patellofemoral compartments
29876	Surgical arthroscopy of knee with major synovectomy of medial and lateral compartments
29876	Surgical arthroscopy of knee with major synovectomy, multiple compartments
29999	Joint procedure using an endoscope
29874	Removal of loose or foreign body of knee joint using an endoscope
29884	Repair of knee joint and removal of scar tissue using an endoscope
29871	Irrigation and drainage of knee joint for infection using an endoscope
29886	Repair of knee joint with bone graft using an endoscope, without bone graft
29887	Repair of knee joint with bone graft and hardware using an endoscope

Service: Arthroscopic Surgery with Lateral Release

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** There is no significant difference between using open or arthroscopic procedures for lateral retinacular release for anterior knee pain. This is used for lateral compression and in conjunction with procedures for patellar instability.[45]
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Arthroscopic surgery with lateral release** is considered appropriate if **ALL** of the following are **TRUE:**

- ◆ Pain or symptoms have persisted for more than 3 months, despite conservative or non-surgical management (e.g., physical therapy, braces, pain management, corticosteroid injections).
- ◆ The patient has **ANY** of the following:
  - Knee caps that drift laterally
  - Chondromalacia patella
  - Patellofemoral instability
  - Anterior knee pain[46]
  - Lateral patellar compression syndrome[46]
- ◆ An advanced imaging study (MRI) shows **ANY** of the following:
  - Patellar compression syndrome
  - Abnormal patellar tracking
  - Chondromalacia patella

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
29873	Surgical arthroscopy of knee with lateral release
29999	Joint procedure using an endoscope
29874	Removal of loose or foreign body of knee joint using an endoscope
29884	Repair of knee joint and removal of scar tissue using an endoscope
29871	Irrigation and drainage of knee joint for infection using an endoscope
29886	Repair of knee joint with bone graft using an endoscope, without bone graft
29887	Repair of knee joint with bone graft and hardware using an endoscope

Service: Patellofemoral Reconstruction/Realignment

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** Failure of previous patellofemoral reconstruction with recurrent instability or new injury.
- **Recommended Clinical Approach:** A patellofemoral reconstruction is typically recommended for dislocation and symptoms that recur despite non-surgical measures. Patellofemoral reconstruction can be done alone without distal realignment or a trochleoplasty if the bony constructs are normal. Grafting with muscle tendons (e.g., hamstring) is recommended due to their stiffness and similarity to the medial patellofemoral ligament. Recent studies recommend a 30° flexion of the knee during the procedure.[47]
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Patellofemoral reconstruction or realignment** is considered appropriate if **ALL**of the following is **TRUE:**

- ◆ The patient has **ANY** of the following:
  - Pain or symptoms have persisted despite conservative or non-surgical management (e.g., physical therapy, braces, pain management).[48-49]
  - Second dislocation or the dislocation is associated with an osteochondral or chondral injury.[47,50-51]
  - The patient has a loose body.
- ◆ Advanced imaging study (MRI) shows **ANY** of the following:
  - Disruption of medial patellofemoral ligament
  - Osteochondral or articular cartilage injury
  - Abnormal patellar tracking
  - Loose body

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
27420	Reconstruction of dislocating patella
27422	Repair, Revision, and/or Reconstruction Procedures on the Femur (Thigh Region) and Knee Joint
27424	Reconstruction for dislocating Patella with patellectomy
27524	Open treatment of knee cap fracture with insertion of hardware and/or removal of knee cap

Surgical Risk Factors

Patient Medical Risk Stratification

Patient Risk Score	Patient Characteristic	Min Range	Max Range	Guidance
1- Very Low Risk	No known medical problems			
2- Low Risk	Hypertension		180/110 mm Hg	
2- Low Risk	Asthma	peak flow >80% of predicted or personal best value		
2- Low Risk	Prior history of alcohol abuse			Screen for liver disease and malnutrition
2- Low Risk	Prior history of tobacco use			
3- Intermediate Risk	Asthma	peak flow <80% of predicted or personal best value		
3- Intermediate Risk	Active alcohol abuse			
3- Intermediate Risk	Age	65	75	
3- Intermediate Risk	History of treated, stable coronary artery disease (CAD)			
3- Intermediate Risk	Stable atrial fibrillation			
3- Intermediate Risk	Diabetes mellitus	HbA1C >7%		
3- Intermediate Risk	Morbid obesity	BMI 30	BMI 40	
3- Intermediate Risk	Anemia	hemoglobin <11 (females), <12 (males)		Workup to identify etiology
3- Intermediate Risk	HIV	CD4 <200 cells/mm3		Get clearance from HIV specialist

3- Intermediate Risk	Rheumatologic disease			Preoperative consultation with rheumatologist re: perioperative medication management
3- Intermediate Risk	Peripheral vascular disease or history of peripheral vascular bypass	ankle-brachial pressure index (ABPI) <0.9		Preoperative consultation with vascular surgeon
3- Intermediate Risk	History of venous thromboembolism (VTE)			
3- Intermediate Risk	Well-controlled obstructive sleep apnea			
3- Intermediate Risk	Malnutrition	transferrin <200 mg/dL albumin <3.5 g/dL prealbumin <22.5 mg/dL total lymphocyte count <1200-1500 cell/mm3 BMI <18		Preoperative consultation with nutritionist
3- Intermediate Risk	Active tobacco Use			Enroll patient in smoking cessation program
4- High Risk	Diabetes mellitus with complications	HbA1c >8%		
4- High Risk	Age	76	85	
4- High Risk	Oxygen dependent pulmonary disease			
4- High Risk	Sickle cell anemia			
4- High Risk	Obesity	BMI 40		
4- High Risk	Cirrhosis, history of hepatic decompensation or variceal bleeding			

4- High Risk	Impaired cognition; dementia			
4- High Risk	Compensated CHF			
4- High Risk	Cerebrovascular disease			
4- High Risk	Uncontrolled or suspected obstructive sleep apnea (OSA)			
4- High Risk	Renal insufficiency	serum creatinine >1.5 mg/dL or creatinine clearance <100 mL/min		
4- High Risk	Opioid dependence			
4- High Risk	End Stage Liver Disease			
4- High Risk	Uncontrolled Seizure Disorder			
4- High Risk	History of Malignant Hyperthermia			
5- Very High Risk	Cardiovascular: unstable angina, recent myocardial infarction (60 days), uncontrolled atrial fibrillation or other high-grade abnormal rhythm, severe valvular disease, decompensated heart failure			
5- Very High Risk	Primary pulmonary hypertension			Preoperative consultation with pulmonologist warranted
5- Very High Risk	Cirrhosis or severe liver disease, history of hepatic decompensation or variceal bleeding			
5- Very High Risk	Severe frailty, dependence for ADLs, or history of 3 or more falls in last 6 mos			
5- Very High Risk	Obesity		BMI >50	
5- Very High Risk	Age		>85	

5- Very High Risk	History of VTE with CI to anticoagulation, failure of anticoagulation, cessation of anticoagulation therapy secondary to bleeding			Preoperative consultation with hematologist or internist
5- Very High Risk	Renal failure requiring dialysis			
5- Very High Risk	Immunosuppression			
5- Very High Risk	Chronic Pain			

Postoperative Care

Service: Physical Therapy

General Guidelines

- **Units, Frequency, & Duration:** There are no guidelines available for the specific duration, timing, and frequency of postoperative physical therapy.
- **Criteria for Subsequent Requests:** The patient should be progressing towards goals in the physical therapy plan without having fully obtained all goals.
- **Recommended Clinical Approach:** None.
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Physical therapy** is considered appropriate if **ALL** of the following are **TRUE**[52-54]:

- ◆ Knee pain in the absence of trauma

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
97010	Application of hot or cold packs
97012	Application of mechanical traction
97014	Application of electrical stimulation
97016	Application of vasopneumatic devices
97018	Application of paraffin bath
97022	Application of whirlpool

97024	Application of diathermy
97026	Application of infrared modality
97028	Application of ultraviolet modality
97032	Application of manual electrical stimulation
97033	Application of iontophoresis
97034	Application of contrast baths
97035	Application of ultrasound modality
97036	Application of Hubbard tank
97039	Modality service
97110*	Therapeutic exercises to develop strength and endurance, range of motion and flexibility
97112	Neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and proprioception for sitting and standing activities
97113	Aquatic therapy with therapeutic exercises
97116	Gait training including stair climbing
97124	Massage including effleurage and petrissage; Massage including effleurage and tapotement; Massage including effleurage, petrissage and tapotement; Massage including petrissage and tapotement
97139	Therapeutic procedure
97140	Manual therapy techniques
97150	Group therapeutic procedures
97164	Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient 20 minutes; Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient and family 20 minutes; Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient's family 20 minutes

97530	Direct therapeutic activities with use of dynamic activities to improve functional performance, each 15 minutes
97535	Home management training, direct one-on-one contact, each 15 minutes; Self-care management training, direct one-on-one contact, each 15 minutes
97537	Community reintegration training, direct one-on-one contact, each 15 minutes; Work reintegration training, direct one-on-one contact, each 15 minutes
97542	Wheelchair management, each 15 minutes
97545	Work conditioning, initial 2 hours; Work hardening, initial 2 hours
97546	Work conditioning, each additional hour; Work hardening, each additional hour
97750	Physical performance measurement with written report, each 15 minutes; Physical performance test with written report, each 15 minutes
97755	Assistive technology assessment with written report, direct one-on-one contact, each 15 minutes
97760	Initial orthotic management and training with assessment and fitting of lower extremities and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremities, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity, each 15 minutes; Initial orthotic management and training with assessment and fitting of trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of upper and lower extremities and trunk, each 15 minutes

97761	Initial prosthetic training of lower extremities, each 15 minutes; Initial prosthetic training of lower extremity, each 15 minutes Initial prosthetic training of upper and lower extremities, each 15 minutes; Initial prosthetic training of upper extremities, each 15 minutes; Initial prosthetic training of upper extremity, each 15 minutes
97763	Subsequent orthotic management and training of lower extremities and trunk, each 15 minutes Subsequent orthotic management and training of lower extremity and trunk, each 15 minutes Subsequent orthotic management and training of lower extremity, each 15 minutes Subsequent orthotic management and training of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic management and training of upper extremities and trunk, each 15 minutes Subsequent orthotic management and training of upper extremities, each 15 minutes Subsequent orthotic management and training of upper extremity and trunk, each 15 minutes Subsequent orthotic management and training of upper extremity, each 15 minutes Subsequent orthotic management of lower extremities and trunk, each 15 minutes Subsequent orthotic management of lower extremity and trunk, each 15 minutes Subsequent orthotic management of lower extremity, each 15 minutes Subsequent orthotic management of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic management of upper extremities and trunk, each 15 minutes Subsequent orthotic management of upper extremities, each 15 minutes Subsequent orthotic management of upper extremity and

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	minutes Subsequent prosthetic training of lower extremity and trunk, each 15 minutes
97799	Unlisted physical medicine/rehabilitation service or procedure
420	Physical Therapy
421	Physical Therapy: Visit Charge
422	Physical Therapy: Hourly Charge
423	Physical Therapy: Group Rate
424	Physical Therapy: Evaluation/Re-evaluation
429	Physical Therapy: Other Physical Therapy
97163	Evaluation of physical therapy, typically 45 minutes
97161	Evaluation of physical therapy, typically 20 minutes
97162	Evaluation of physical therapy, typically 30 minutes
97168	Re-evaluation of occupational therapy established plan of care, typically 30 minutes
97165	Evaluation of occupational therapy, typically 30 minutes
97166	Evaluation of occupational therapy, typically 45 minutes
97167	Evaluation of occupational therapy established plan of care, typically 60 minutes
G0151	Hhcp-serv of pt,ea 15 min

*Default codes for suggested services

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Review History	
September 1, 2020 (V.2)	Approving Physician: Dr. Brian Covino
January 1, 2022 (V.3)	Reviewing Physician: Dr. Oladapo M. Babatunde Approving Physician: Dr. Brian Covino
December 29, 2022 (V.4)	Reviewing Physician: Dr. Andrea Young Approving Physician: Dr. Traci Granston