CLINICAL GUIDELINES

CMM-312: Knee Surgery-Arthroscopic and Open Procedures

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

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Clinical guidelines for medical necessity review of Comprehensive Musculoskeletal Management Services.

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Definitions

- **Arthrofibrosis:** a condition of the appendicular skeletal system that has resulted from disease, injury, or surgery, and results in pain and restricted range of motion due to internal scarring of the joint with consequent stiffness.
- **Autologous Chondrocyte Implantation (ACI) or Autologous Chondrocyte Transplantation (ACT):** a cell-based cartilage repair surgical technique which utilizes an individual's own cells in an effort to repair damage to articular cartilage with the goal of improving joint function and reducing pain. The procedure involves the collection and culture of articular cartilage cells (i.e., chondrocytes) that are then implanted into the cartilage defect with the intent that the cultured cells will contribute to the regeneration and repair of the articular surface.
- **Kellgren-Lawrence Grading System:**a radiographic grading system that has been developed for describing osteoarthritic changes to the tibial-femoral joint of the knee. When used, the radiographic findings on plain x-rays are typically reported within one of the following categories:
  - Grade 0 – No radiographic features of osteoarthritis are present
  - Grade I – Doubtful narrowing of joint space and possible osteophytic lipping
  - Grade II – Definite osteophytes and possible narrowing of joint space
  - Grade III – Moderate multiple osteophytes, definite narrowing of joint space, some sclerosis, and possible deformity of bone contour
  - Grade IV – Large osteophytes, marked narrowing of joint space, severe sclerosis, and definite deformity of bone contour
- **Kissing Lesion:** an articular cartilage defect on opposing joint surfaces of the knee and that are in contact either between the patella and distal femur or the distal femur and tibia (e.g., bipolar lesion).
- **MACI® Implant** (Vericel Corporation, Cambridge, MA [formerly Genzyme Biosurgery])**:** Until recently**,** Carticel® (Vericel Corporation, Cambridge, MA [formerly Genzyme Biosurgery]) was the only technology that received FDA approval for the culturing of chondrocytes. MACI® Implant received approval from the U.S. Food and Drug Administration December 2016 as an autologous cellularized scaffold indicated for repair of single or multiple symptomatic, full-thickness cartilage defects of the knee with or without bone involvement in adults. MACI® Implant is utilized as part of an ACI procedure in which cartilage cells are removed during arthroscopy, and shipped to a laboratory, where the cells are cultured over a period of several weeks. The cells are seeded on a porcine collagen membrane, and once the culturing process is complete, the cells seeded on the membrane are returned to the surgeon for implantation during the procedure. The membrane is placed into the defect, and over several months the cells create a matrix that is intended to cover the articular surface of the knee. The safety and effectiveness of MACI® Implant in joints other than the knee has not been established.
- **Modified Outerbridge Classification:** a system that has been developed for judging articular cartilage injury to the knee. This system allows delineation of varying areas of chondral pathology, based on the qualitative appearance of the

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cartilage surface as viewed on MRI, and can assist in identifying those injuries that are suitable for repair techniques. The characterization of cartilage in this system is as follows:
- Grade I – Softening with swelling
- Grade II – Fragmentation and fissuring less than one square centimeter (1 cm^2)
- Grade III – Fragmentation and fissuring greater than one square centimeter (1 cm^2)
- Grade IV – Subchondral bone exposed

- **Mosaicplasty** (or osteochondral cylinder transplantation)**:** a surgical technique which consists of harvesting cylindrical bone-cartilage grafts and transplanting them into focal chondral or osteochondral defects in the knee. After excision of the chondral lesion, an abrasion arthroplasty is performed to refresh the base of the defect. The grafting procedure involves collecting grafts from the posterior aspect of the distal femoral articular surfaces (medial condyle, lateral condyle or trochlea) and implanting the grafts in a mosaic-like pattern that will contribute to regeneration and repair the articular surface. A recipient tunnel is created and sized with a drill bit slightly larger than the length of the graft. The harvested graft is placed in the tunnel by a press-fit method. All subsequent grafts are inserted in a similar pattern.
- **Non-surgical management**, **(**with regard to the treatment of knee pain)**:** any provider-directed non-surgical treatment which has been demonstrated in the scientific literature as efficacious and/or is considered reasonable care in the treatment of knee pain. The types of treatment involved can include, but are not limited to: ice, relative rest/activity modification, acupuncture, weight loss, supervised physiotherapy modalities and therapeutic exercises, oral prescription and non-prescription medications, assistive devices (e.g., brace, cane, crutches, walker, wheelchair), and/or intra-articular injections (e.g., steroid, ketorolac, and/or viscosupplementation).
- T**Osteochondral Allograft Transplantation (OATS) Procedure:** a procedure that is similar to mosaicplasty, involving the use of a larger, single plug that usually fills an entire defect. It is often performed to graft chondral defects that are also associated with anterior cruciate ligament (ACL) tears. This method allows arthroscopic access to both the ACL and the chondral defect for the performance of a repair and the grafting procedure.
- **Outerbridge Classification:** a system that has been developed for judging articular cartilage injury to the knee. This system allows delineation of varying areas of chondral pathology, based on the qualitative appearance of the cartilage surface as viewed by direct visualization intraoperatively, and can assist in identifying those injuries that are suitable for repair techniques. The characterization of cartilage in this system is as follows:
  - Grade I - Softening with swelling
  - Grade II - Fragmentation and fissuring less than one square centimeter (1 cm^2)
  - Grade III - Fragmentation and fissuring greater than one square centimeter (1 cm^2)
  - Grade IV - Subchondral bone exposed

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- **Subchondral Drilling or Microfracturing:** a surgical procedure which is performed after the calcified cartilage is debrided and the surgeon creates tiny fractures in the adjacent bones (through the use of an awl). Blood and bone marrow (which contains stem cells) seep out of the fractures, creating a blood clot that releases cartilage-building cells. The microfractures are treated as an injury by the body, which is why the surgery results in new, replacement cartilage. Studies have shown that microfracturing techniques do not fill the chondral defect fully and the repair material that forms is fibrocartilage. Fibrocartilage is not as mechanically sound as the original hyaline cartilage; it is much denser and isn't able to withstand the demands of everyday activities as well as hyaline cartilage and is; therefore, at a higher risk of breaking down. The procedure is less effective in treating older individuals, overweight individuals, or in larger cartilage lesions. Furthermore, chances are high that after only one or two years, symptoms start to return as the fibrocartilage wears away, forcing the individual to reengage in articular cartilage repair.

General Guidelines

- The determination of medical necessity for the performance of knee surgery is always made on a case-by-case basis.
- Refer to **MS-25: Knee** for advanced imaging indications for conditions about the knee.

Indications and Non-Indications

Knee arthroscopic or open surgical procedures may be considered **medically necessary** for individuals when surgery is being performed for fracture, tumor, infection or foreign body that has led to, or will likely lead to, progressive destruction.

Diagnostic Arthroscopy

- Diagnostic arthroscopy is considered **medically necessary** as a stand-alone procedure when **ALL** of the following criteria have been met:
  - Function-limiting pain (e.g., loss of knee function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment) for at least six (6) months in duration
  - Any **ONE** of the following physical examination findings:
    - Limited range of motion
    - Evidence of joint swelling/effusion
    - Joint line tenderness
  - Failure of provider-directed non-surgical management for at least three (3) months in duration
  - Absence of Kellgren-Lawrence Grade 2 or greater findings on plain radiographs
  - MRI or CT arthrogram is inconclusive for internal derangement/pathology
- Diagnostic Arthroscopy is considered **not medically necessary** for any other indication or condition.

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Arthroscopic Debridement (Chondroplasty)/Loose Body/Foreign Body Removal

- Arthroscopic debridement (chondroplasty), loose body removal, and foreign body removal are considered **medically necessary** when **ALL** of the following criteria have been met:
  - Function-limiting pain (e.g., loss of knee function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment)
  - Individual reports pain and any **ONE** of the following mechanical symptoms:
    - Knee range of motion is "blocked" due to pain
    - Giving way, subjective weakness, buckling of the knee
    - Painful locking, clicking, catching, or popping during weight-bearing activities
  - Failure of provider-directed non-surgical management for at least three (3) months in duration
    - **Note**: In the presence of painful locking, clicking, catching, or popping during weight-bearing activitiesrelated to an intra-articular loose body or foreign body, three (3) months of provider-directed non-surgical management is not required.
  - Concurrent findings on **EITHER** of the following:
    - MRI or CT arthrogram demonstrates articular cartilage degeneration and any **ONE** of the following conditions:
      - Loose body or foreign body within the joint
      - Unstable flaps of articular cartilage
      - Meniscal tear that extends to the articular surface (not simply degenerative changes, i.e., fraying) in conjunction with articular cartilage degeneration within the same compartment
      - Impinging osteophytes, which would be reasonably expected to result in mechanical symptoms and loss of knee joint function
    - Orthogonal radiographs demonstrate a loose body within the tibiofemoral or patellofemoral joint space
- Arthroscopic debridement (chondroplasty) and loose body removal is considered **not medically necessary** in the presence of Kellgren-Lawrence Grade 2 or greater findings on plain radiographs except for loose body removal in the presence of an acutely locked knee on physical examination.
- Arthroscopic debridement (chondroplasty), loose body removal, and foreign body removal are considered **not medically necessary** for any other indication or condition.

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Synovectomy

- Synovectomy (limited [e.g., plica or shelf resection], as a stand-alone procedure, or a major procedure with 2 or more compartments [e.g., medial or lateral]) is considered **medically necessary** when **ALL** of the following criteria have been met:
  - Function-limiting pain (e.g., loss of knee function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment)
  - Any **ONE** of the following physical examination findings:
    - Limited range of motion
    - Evidence of joint swelling/effusion
    - Joint line or plica tenderness
  - Failure of provider-directed non-surgical management for at least three (3) months in duration
  - MRI or CT arthrogram demonstrates evidence of synovitis or plica
    - **Note**: Advanced imaging is not required for the clinical diagnosis of patellar clunk syndrome following knee replacement surgery
  - Absence of Kellgren-Lawrence Grade 4 findings on plain radiographs
  - Presence of any **ONE** of the following:
    - Plica syndrome
    - Inflammatory arthritis (i.e., rheumatoid arthritis, gout, pseudogout, psoriatic arthritis)
    - Pigmented villonodular synovitis (PVNS)
    - Synovial chondromatosis
    - Lyme synovitis
    - Hemophilia
    - Hemochromatosis
    - Non-specific synovitis (including proliferative synovitis, post-operative synovitis as a sequela from a knee replacement, patellar clunk syndrome, cyclops lesion, etc.)
    - Recurrent hemarthrosis (i.e., secondary to sickle cell anemia, bleeding diathesis, etc.)
- Synovectomy is considered **not medically necessary** for any other indication or condition.

Meniscectomy or Meniscal Repair

- Meniscectomy (partial or total) or meniscal repair is considered **medically necessary** when **ALL** of the following criteria have been met:
  - Function-limiting pain (e.g., loss of knee function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment)
  - **TWO OR MORE** of the following physical examination findings:
    - Limited range of motion
    - Evidence of joint swelling/effusion
    - Joint line tenderness
    - Positive McMurray's Test, Thessaly Test, or Apley's Compression Test

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- Failure of provider-directed non-surgical management for at least three (3) months in duration
  - **Note**: Meniscal tear with a locked knee on physical examination does not require three (3) months of provider-directed non-surgical management.
- MRI or CT arthrogram demonstrates a meniscal tear that extends to the articular surface (not simply degenerative changes, i.e., fraying) that correlates with the individual's reported symptoms and physical exam findings
- Absence of Kellgren-Lawrence Grade 2 or greater findings on plain radiographs
  - **Note**: Meniscal tear with a locked knee on physical examination does not require absence of Kellgren-Lawrence Grade 2 or greater findings on plain radiographs

- Meniscectomy/saucerization for discoid lateral meniscus is considered **medically necessary** when MRI confirms the presence of a discoid meniscus and **ALL** of the above criteria are met (other than demonstration of a meniscal tear)
- Meniscectomy (partial or total) or meniscal repair is considered **not medically necessary** for any other indication or condition.

Meniscal Allograft Transplantation

- Meniscal allograft transplantation is considered **medically necessary** when **ALL** of the following criteria have been met:
  - Function-limiting pain (e.g., loss of knee function which interferes with the ability to carry out age appropriate activities of daily living and/or demands or employment)
  - Prior significant trauma resulting in an irreparable meniscal tear or has undergone a meniscectomy where at least 50% of the meniscus has been removed
  - Any **ONE** of the following physical examination findings:
    - Limited range of motion
    - Evidence of joint swelling/effusion
    - Joint line tenderness
  - Failure of provider-directed non-surgical management for at least three (3) months in duration
  - Body Mass Index (BMI) 35 or less
  - Age 49 years or younger
- Meniscal allograft transplantation is considered **not medically necessary** for any other indication or condition, including when **EITHER** of the following criteria is present:
  - Upon standing radiographs, individual demonstrates osteoarthritic change in the knee including joint space narrowing and osteophytes which is classified by the Kellgren-Lawrence Scale as Grade III or IV
  - Upon MRI, individual demonstrates articular degeneration in affected compartment which is classified by the Modified Outerbridge Classification as Grade III or IV

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Anterior Cruciate Ligament (ACL) Reconstruction

- Anterior cruciate ligament (ACL) reconstruction with allograft or autograft is considered **medically necessary** when **ALL** of the following criteria have been met:
  - Function-limiting pain and/or a documented loss of knee function during the course of preoperative treatment which interferes with **ANY** of the following:
    - Ability to carry out age appropriate activities of daily living
    - Demands of employment
    - Need to return to activities that require cutting, pivoting, and/or agility in which ACL insufficiency may predispose to further instability episodes that may result in new articular or meniscal cartilage injuries
  - Individual reports knee instability which is noted as giving way, subjective weakness, or "buckling" during the course of preoperative treatment
  - Any **ONE** of the following physical examination findings:
    - Positive Lachman's Test
    - Positive Anterior Drawer Test
    - Positive Pivot Shift Test
  - Failure of provider-directed non-surgical management for at least three (3) months in duration, (except in an acute injury setting where joint instability has been documented), and **ANY** of the following are present:
    - Need to return to high-demand sports that require cutting, pivoting, and/or agility activities in which ACL insufficiency may predispose to further instability episodes that may result in new articular or meniscal cartilage injuries
    - A confirmed ACL tear and a repairable meniscus tear
    - Concomitant ligament injuries (i.e., multi-ligamentous knee injury) that require reconstruction to provide stability
  - MRI, CT arthrogram, or arthroscopy demonstrates a tear/disruption or significant laxity of the anterior cruciate ligament (ACL)
- Anterolateral ligament reconstruction is considered **medically necessary** when the above criteria are met for anterior cruciate ligament (ACL) reconstruction and when anterolateral ligament (ALL) reconstruction is required to augment the anterior cruciate ligament (ACL) reconstruction.
- Anterior cruciate ligament (ACL) reconstruction is considered **not medically necessary** for any other indication or condition.
- Anterior cruciate ligament (ACL) repair is considered **experimental, investigational, and/or unproven (EIU)**.

Posterior Cruciate Ligament (PCL) Reconstruction

- Posterior cruciate ligament (PCL) reconstruction with allograft or autograft is considered **medically necessary** when **ALL** of the following criteria have been met:
  - Function-limiting pain and a documented loss of knee function which interferes with the ability to carry out the age appropriate activities of daily living and/or demands of employment
  - Any **ONE** of the following physical examination/radiographic imaging findings:

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        - Positive Posterior Drawer Sign
        - Positive Posterior Sag Sign or Tibial Drop Back Test
        - Positive Quadriceps Active Test
        - Eight (8) millimeters or more of increased posterior translation on stress radiographs
    - Failure of provider-directed non-surgical management for at least three (3) months in duration, except in an acute injury setting where hemarthrosis, effusion and joint instability have been documented and **EITHER** of the following are present:
        - Need to return to high-demand sports that require cutting, pivoting, and/or agility activities in which PCL insufficiency may predispose to further instability episodes that may result in new articular or meniscal cartilage injuries
        - Concomitant ligament injuries (i.e., multi-ligamentous knee injury) that require reconstruction to provide stability
    - MRI, CT arthrogram, or arthroscopy demonstrates a tear/disruption or significant laxity of the posterior cruciate ligament (PCL)
- Posterior cruciate ligament (PCL) reconstruction is considered **not medically necessary** for any other indication or condition.

Medial/Lateral Collateral Ligament (MCL/LCL) Repair/Reconstruction

- Medial/lateral collateral ligament (MCL/LCL) repair/reconstruction with allograft or autograft is considered **medically necessary** when **ALL** of the following criteria have been met:
    - Function-limiting pain and/or a loss of knee function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment
    - Individual reports knee instability which is noted as giving way, subjective weakness, or buckling
    - **EITHER** of the following physical examination findings:
        - Positive Valgus Stress Test (Medial)
        - Positive Varus Stress Test (Lateral)
    - Failure of provider-directed non-surgical management for at least three (3) months in duration, except in an acute injury setting of the lateral collateral ligament (LCL) (including the posterolateral corner) when total disruption of the ligament is documented on MRI or CT arthrogram and effusion and joint instability have been documented on physical examination
    - MRI or CT arthrogram demonstrates a tear/disruption of the medial or lateral collateral ligament (MCL/LCL)
- Medial collateral ligament (MCL) repair/reconstruction is considered **not medically necessary** in an acute injury setting, including an isolated MCL repair.
- Medial/lateral collateral ligament (MCL/LCL) repair/reconstruction is considered **not medically necessary** for any other indication or condition.

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Autologous Chondrocyte Implantation (ACI) or Autologous Chondrocyte Transplantation (ACT)

- Autologous chondrocyte implantation (ACI) or autologous chondrocyte transplantation (ACT) (using the MACI™ implant) is considered **medically necessary** for the treatment of symptomatic single or multiple full-thickness cartilage defects of the distal femoral articular surface (i.e., medial condyle, lateral condyle, or trochlea) and/or patella caused by acute or repetitive trauma when **ALL** of the following criteria have been met:
  - Function-limiting pain (e.g., loss of knee function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment)
  - Presence of **BOTH** of the following findings:
    - A stable knee with intact or reconstructed ligaments (ACL or PCL) and menisci. A concurrent ligament stabilization or meniscal procedure at the time of ACI would be acceptable.
    - Normal tibial-femoral and/or patella-femoral alignment
  - Failure of provider-directed non-surgical management for at least three (3) months in duration
  - A full-thickness distal femoral articular surface (i.e., medial condyle, lateral condyle or trochlea) and/or patellar chondral defect of 1-10cm^2 in size that has been identified during an MRI or CT arthrogram, or during an arthroscopy and the Modified Outerbridge Classification or Outerbridge Classification is Grade III or Grade IV
  - Absence of an osteochondritis dissecans (OCD) lesion that requires bone grafting
  - Absence of inflammatory arthritis or other systemic disease affecting the joints
  - Minimal to absent osteoarthritic changes in the surrounding articular cartilage (e.g., Kellgren-Lawrence Grade 2 or less)
  - Normal articular cartilage at the lesion border (contained lesion)
  - For femoral and patellar chondral lesions, absence of a corresponding 'kissing lesion' with a Modified Outerbridge Classification of Grade III or IV of the distal femur (trochlea, condyles), patella or tibia
  - Body Mass Index (BMI) 35 or less
  - Age 15-55 years
- Autologous chondrocyte implantation is considered **not medically necessary** for any other indication or condition, including when **ANY** of the following criteria is present:
  - Any knee joint surgery within six (6) months before screening excluding surgery to procure a biopsy or a concomitant procedure to prepare the knee for a MACI implant
  - Modified Outerbridge Classification Grade III or IV defect(s) on the tibia
  - Presence of Kellgren-Lawrence Grade 3 or 4 osteoarthritic changes in the surrounding articular cartilage
  - Total meniscectomy, meniscal allograft, or bucket-handle tear or displaced tear requiring > 50% removal of the meniscus in the target knee
  - Septic arthritis within one (1) year before screening

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- Known history of hypersensitivity to gentamicin, other aminoglycosides, or products of porcine or bovine origin
- Uncorrected congenital blood coagulation disorders
- Cruciate ligament instability
- For femoral and patellar chondral lesions, presence of a corresponding 'kissing lesion'

Experimental, Investgational, and/or Unproven (EIU)

- Hybrid autologous chondrocyte implantation performed with osteochondral autograft transfer system (Hybrid ACI/OATS) technique for the treatment of osteochondral defects is considered **experimental, investigational, or unproven (EIU)**.

Osteochondral Allograft/Autograft Transplantation Systems (OATS)/ Mosaicplasty

- Osteochondral allograft/autograft transplantation (OATS)/mosaicplasty is considered **medically necessary** when **ALL** of the following criteria have been met:
  - Function-limiting pain (e.g., loss of knee function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment)
  - Presence of **BOTH** of the following findings:
    - A stable knee with intact or reconstructed ligaments (ACL or PCL) and menisci. A concurrent ligament stabilization or meniscal procedure at the time of OATS would be acceptable.
    - Normal tibial-femoral and/or patella-femoral alignment
  - Failure of provider-directed non-surgical management for at least three (3) months in duration
  - A full-thickness distal femoral articular surface (i.e., medial condyle, lateral condyle or trochlea) and/or patellar chondral defect that has been identified during an MRI or CT arthrogram, or during an arthroscopy and the Modified Outerbridge Classification or Outerbridge Classification is Grade III or Grade IV
  - **EITHER** of following:
    - Osteochondral autograft transplants and mosaicplasty:
      - Small (i.e., ≤ 2.5 cm^2 total) chondral defects with sharp, definite borders surrounded by normal-appearing hyaline cartilage
    - Osteochondral allograft transplants:
      - Larger (i.e., ≤ 10.0 cm^2 total) chondral defects with sharp definite borders surrounded by normal appearing hyaline cartilage
  - Absence of inflammatory arthritis or other systemic disease affecting the joints
  - Minimal to absent osteoarthritic changes in the surrounding articular cartilage (e.g., Kellgren-Lawrence Grade 2 or less)
  - Normal articular cartilage at the lesion border (contained lesion)
  - For femoral and patellar chondral lesions, absence of a corresponding 'kissing lesion' with a Modified Outerbridge Classification of Grade III or IV of the distal femur (trochlea, condyles), patella, or tibia
  - Individual is not a candidate for total knee arthroplasty
  - Body Mass Index (BMI) of less than 35
  - Age 49 years or younger

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- Osteochondral allograft/autograft transplantation (OATS)/mosaicplasty of the distal femoral articular or patellar surface is considered **experimental, investigational, or unproven (EIU)** for any other indication or condition.
- Hybrid autologous chondrocyte implantation performed with osteochondral autograft transfer system (Hybrid ACI/OATS) technique for the treatment of osteochondral defects is considered **experimental, investigational, or unproven (EIU)**.

Abrasion Arthroplasty/Subchondral Drilling/Microfracturing

- Abrasion arthroplasty, subchondral drilling, or microfracturing is considered **medically necessary** when **ALL** of the following criteria have been met:
  - Function-limiting pain (e.g., loss of knee function interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment)
  - Presence of **BOTH** of the following findings:
    - A stable knee with intact or reconstructed ligaments (ACL or PCL) and menisci. A concurrent ligament stabilization or meniscal procedure at the time of abrasion arthroplasty would be acceptable.
    - Normal tibial-femoral and/or patella-femoral alignment
  - Failure of provider-directed non-surgical management for at least three (3) months in duration
  - A full-thickness distal femoral articular surface (i.e., medial condyle, lateral condyle or trochlea) and/or patellar chondral defect of ≤ 2.5 cm^2 in size on the weight-bearing surface that has been identified during an MRI or CT arthrogram, or during an arthroscopy and the Modified Outerbridge Classification or Outerbridge Classification is Grade III or IV
- Abrasion arthroplasty, subchondral drilling, or microfracturing is considered **not medically necessary** for any other indication or condition.

Procedures for Patellofemoral Conditions

Procedures for anterior knee pain with or without recurrent patellar instability include both bony and/or soft tissue surgical procedures. Bony surgical procedures can include, but are not limited to, tibial tubercle osteotomy/tubercleplasty (e.g., Fulkerson, Maquet) and trochleoplasty. Soft tissue surgical procedures can include, but are not limited to, medial patellofemoral ligament (MPFL) reconstruction/repair, extensor realignment and/or muscle advancement or release (Campbell, Goldthwaite type procedure), and lateral retinacular release.

- Soft tissue and bony surgical procedures for anterior knee pain with or without recurrent patellar instability are considered **medically necessary** when **ALL** of the following criteria have been met:
  - Any **ONE** of the following:
    - Function-limiting anterior knee pain (e.g., loss of knee function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment)
    - Recurrent patellar instability interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment

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- Failure of provider-directed non-surgical management for at least three (3) months in duration
- Any **ONE** of the following physical examination findings:
  - Positive J sign
  - Positive moving patellar apprehension test
  - Lateral patellar translation > ½ (one-half) of the patellar width
  - Tenderness of the medial or lateral facets
  - Patellar grind test (Clarke's sign)
- The following **procedure specific** radiographic or other findings:
  - Indications for medial patellofemoral ligament (MPFL) reconstruction/repair must include a tear of the MPFL identified by **ANY** of the following :
    - visualized on MRI,CT, or Ultrasound (US)
    - identified by arthroscopy
    - on physical examination with **EITHER** of the following findings:
      - MPFL palpation test findings with the knee in full extension and the patella medially subluxated noting tenderness to palpation of the origin of the MPFL
      - Patella glide test findings > 75% lateral subluxation of the patella width at 30 degrees of knee flexion
  - Indications for trochleoplasty must include **ANY** of the following radiographic findings:
    - Supratrochlear spur
    - Lateral trochlear inclination (LTI) > 11 degrees
    - Crossing sign
    - Double-contour sign
  - Indications for procedures other than medial patellofemoral ligament (MPFL) reconstruction or trochleoplasty must include **ANY** of the following radiographic findings:
    - Radiographic evidence of patellar tilt > 20 degrees
    - Patella alta (e.g., Insall-Salvati, Blackburne-Peel, Caton-Deschamps ratios)
    - Sulcus angle > 145 degrees
    - Increased tibial tubercle-posterior cruciate distance of > 24 mm
    - Increased TT-TG (tibial tubercle-trochlear groove) distance of > 20 mm
    - Concordant osteochondral defect of the patellofemoral joint (MRI, CT scan, or previous arthroscopic procedure)
    - Acute patellar dislocation with associated intra-articular fracture

➤ Procedures for patellofemoral conditions are considered **not medically necessary** for any other indication or condition.

High Tibial Osteotomy

➤ High tibial osteotomy is considered **medically necessary** when **ALL** of the following criteria have been met:
- Function-limiting pain (e.g., loss of knee function interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment)
- **ALL** of the following physical examination findings:

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    - Less than 15 degrees of fixed varus deformity
    - The individual must be capable of at least 90 degrees of flexion
    - Joint stability in full extension
    - Intact anterior cruciate ligament (ACL)
  - Failure of provider-directed non-surgical management for at least three (3) months in duration
  - Unicompartmental osteoarthritis of the knee
  - Age 60 years or less
- High tibial osteotomy is considered **not medically necessary** for any other indication or condition, including when **ANY** of the following criteria is present:
  - Inflammatory arthropathy (i.e., rheumatoid arthritis)
  - Chondrocalcinosis
  - Anterior cruciate ligament (ACL) tear
  - Degenerative change affecting more than 1/3 of the femoral condylar surface
  - Osteochondral defect more than five (5) mm in depth

Lysis of Adhesions/Manipulation Under Anesthesia (MUA)

- Lysis of Adhesions/Manipulation Under Anesthesia (MUA) is considered **medically necessary** for arthrofibrosis when **ALL** of the following criteria have been met:
  - Function-limiting pain (e.g., loss of knee function interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment)
  - Patient demonstrates less than 90° of knee flexion by two (2) months after knee surgery or trauma
  - Failure of provider-directed non-surgical management for at least two (2) months in duration, including **BOTH** of the following:
    - Anti-inflammatory medication and/or cortisone injection unless contraindicated
    - At least two (2) months of physical therapy (i.e., active exercise and manual therapy designed to increase joint mobility and range of motion)
- Manipulation Under Anesthesia (MUA) should be performed in conjunction with an active rehabilitation/therapeutic exercise program. Manipulation performed in isolation without the individual participating in an active rehabilitation/therapeutic exercise program is considered **not medically necessary**.
- Lysis of adhesions, with or without manipulation, is considered **not medically necessary** for any other indication or condition.

Experimental, Investigational, or Unproven (EIU)

- Based on lack of scientific evidence of efficacy and safety, the following are considered **experimental, investigational, or unproven (EIU)**:
  - Knee Subchondroplasty
  - Focal resurfacing of a single knee joint defect (e.g., Arthrosurface® femoral condyle implant, HemiCAP®, UniCAP®)
  - "In-office" diagnostic arthroscopy (e.g., Mi-Eye™, VisionScope®)

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Procedure (CPT®) Codes

This guideline relates to the CPT® code set below. Codes are displayed for informational purposes only. Any given code's inclusion on this list does not necessarily indicate prior authorization is required.

CPT®	Code Description/Definition
27301	Incision and drainage, deep abscess, bursa, or hematoma, thigh or knee region
27303	Incision, deep, with opening of bone cortex, femur or knee (e.g., osteomyelitis or bone abscess)
27305	Fasciotomy, iliotibial (tenotomy), open
27306	Tenotomy, percutaneous, adductor or hamstring; single tendon (separate procedure)
27307	Tenotomy, percutaneous, adductor or hamstring; multiple tendons
27310	Arthrotomy, knee, with exploration, drainage, or removal of foreign body (e.g., infection)
27323	Biopsy, soft tissue of thigh or knee area; superficial
27324	Biopsy, soft tissue of thigh or knee area; deep (subfascial or intramuscular)
27325	Neurectomy, hamstring muscle
27326	Neurectomy, popliteal (gastrocnemius)
27327	Excision, tumor, soft tissue of thigh or knee area, subcutaneous; less than 3 cm
27328	Excision, tumor, soft tissue of thigh or knee area, subfascial (e.g. intramuscular); less than 5 cm
27329	Radical resection of tumor (e.g., sarcoma), soft tissue of thigh or knee area; less than 5 cm
27330	Arthrotomy, knee; with synovial biopsy only
27331	Arthrotomy, knee; including joint exploration, biopsy, or removal of loose or foreign bodies
27332	Arthrotomy, with excision of semilunar cartilage (meniscectomy) knee; medial OR lateral
27333	Arthrotomy, with excision of semilunar cartilage (meniscectomy) knee; medial AND lateral
27334	Arthrotomy, with synovectomy, knee; anterior OR posterior
27335	Arthrotomy, with synovectomy, knee; anterior AND posterior including popliteal area
27337	Excision, tumor, soft tissue of thigh or knee area, subcutaneous; 3 cm or greater
27339	Excision, tumor, soft tissue of thigh or knee area, subfascial (e.g., intramuscular); 5 cm or greater
27340	Excision, prepatellar bursa
27345	Excision of synovial cyst of popliteal space (e.g. Baker's cyst)
27347	Excision of lesion of meniscus or capsule (e.g. cyst, ganglion), knee
27350	Patellectomy or hemipatellectomy
27355	Excision or curettage of bone cyst or benign tumor of femur
27356	Excision or curettage of bone cyst or benign tumor of femur; with allograft
27357	Excision or curettage of bone cyst or benign tumor of femur; with autograft (includes obtaining graft)
27358	Excision or curettage of bone cyst or benign tumor of femur; with internal fixation (List in addition to code for primary procedure)
27360	Partial excision (craterization, saucerization, or diaphysectomy) bone, femur, proximal tibia and/or fibula (e.g., osteomyelitis or bone abscess)
27364	Radical resection of tumor (e.g. sarcoma), soft tissue of thigh or knee area; 5 cm or greater

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27365	Radical resection of tumor, femur or knee
27372	Removal of foreign body, deep, thigh region or knee area
27380	Suture of infrapatellar tendon; primary
27381	Suture of infrapatellar tendon; secondary reconstruction, including fascial or tendon graft
27385	Suture of quadriceps or hamstring muscle rupture; primary
27386	Suture of quadriceps or hamstring muscle rupture; secondary reconstruction, including fascial or tendon graft
27390	Tenotomy, open, hamstring, knee to hip; single tendon
27391	Tenotomy, open, hamstring, knee to hip; multiple tendons, one leg
27392	Tenotomy, open, hamstring, knee to hip; multiple tendons, bilateral
27393	Lengthening of hamstring tendon; single tendon
27394	Lengthening of hamstring tendon; multiple tendons, one leg
27395	Lengthening of hamstring tendon; multiple tendons, bilateral
27396	Transplant, hamstring tendon to patella; single tendon
27397	Transplant, hamstring tendon to patella; multiple tendons
27400	Transfer, tendon or muscle, hamstrings to femur (e.g., Egger's type procedure)
27403	Arthrotomy with meniscus repair, knee
27405	Repair, primary, torn ligament and/or capsule, knee; collateral
27407	Repair, primary, torn ligament and/or capsule, knee; cruciate
27409	Repair, primary, torn ligament and/or capsule, knee; collateral and cruciate ligaments
27412	Autologous chondrocyte implantation, knee
27415	Osteochondral allograft, knee, open
27416	Osteochondral autograft(s), knee, open (e.g. mosaicplasty) (includes harvesting of autograft[s])
27418	Anterior tibial tubercleplasty (e.g. Maquet type procedure)
27420	Reconstruction of dislocating patella; (e.g. Hauser type procedure)
27422	Reconstruction of dislocating patella; with extensor realignment and/or muscle advancement or release (e.g. Campbell, Goldwaite type procedure)
27424	Reconstruction of dislocating patella; with patellectomy
27425	Lateral retinacular release, open
27427	Ligamentous reconstruction (augmentation), knee; extra-articular
27428	Ligamentous reconstruction (augmentation), knee; intra-articular (open)
27429	Ligamentous reconstruction (augmentation), knee; intra-articular (open) and extra-articular
27430	Quadricepsplasty (e.g., Bennett or Thompson type)
27435	Capsulotomy, posterior capsular release, knee
27442	Arthroplasty, femoral condyles or tibial plateau(s), knee
27448	Osteotomy, femur, shaft or supracondylar; without fixation
27450	Osteotomy, femur, shaft or supracondylar; with fixation
27454	Osteotomy, multiple, with realignment on intramedullary rod, femoral shaft (e.g., Sofield type procedure)
27455	Osteotomy, proximal tibia, including fibular excision or osteotomy (includes correction of genu varus [bowleg] or genu valgus [knock-knee]); before epiphyseal closure
27457	Osteotomy, proximal tibia, including fibular excision or osteotomy (includes correction of genu varus [bowleg] or genu valgus [knock-knee]); after epiphyseal closure
27465	Osteoplasty, femur; shortening (excluding 64876)

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27466	Osteoplasty, femur; lengthening
27468	Osteoplasty, femur; combined, lengthening and shortening with femoral segment transfer
27470	Repair, nonunion or malunion, femur, distal to head and neck; without graft (e.g., compression technique)
27472	Repair, nonunion or malunion, femur, distal to head and neck; with iliac or other autogenous bone graft (includes obtaining graft)
27475	Arrest, epiphyseal, any method (e.g., epiphysiodesis); distal femur
27477	Arrest, epiphyseal, any method (e.g., epiphysiodesis);tibia and fibula, proximal
27479	Arrest, epiphyseal, any method (e.g., epiphysiodesis);combined distal femur, proximal tibia and fibula
27485	Arrest, hemiepiphyseal, distal femur or proximal tibia or fibula (e.g., genu varus or valgus)
27495	Prophylactic treatment (nailing, pinning, plating, or wiring) with or without methylmethacrylate, femur
27496	Decompression fasciotomy, thigh and/or knee, one compartment (flexor or extensor or adductor)
27497	Decompression fasciotomy, thigh and/or knee, one compartment (flexor or extensor or adductor); with debridement of nonviable muscle and/or nerve
27498	Decompression fasciotomy, thigh and/or knee, multiple compartments
27499	Decompression fasciotomy, thigh and/or knee, multiple compartments; with debridement of nonviable muscle and/or nerve
27570	Manipulation of knee joint under general anesthesia (includes application of traction or other fixation devices)
29850	Arthroscopically aided treatment of intercondylar spine(s) and/or tuberosity fracture(s) of the knee, with or without manipulation; without internal or external fixation (includes arthroscopy)
29851	Arthroscopically aided treatment of intercondylar spine(s) and/or tuberosity fracture(s) of the knee, with or without manipulation; with internal or external fixation (includes arthroscopy)
29855	Arthroscopically aided treatment of tibial fracture, proximal (plateau); unicondylar, includes internal fixation, when performed (includes arthroscopy)
29856	Arthroscopically aided treatment of tibial fracture, proximal (plateau); bicondylar, includes internal fixation, when performed (includes arthroscopy)
29866	Arthroscopy, knee, surgical; osteochondral autograft(s) (e.g. mosaicplasty) (includes harvesting of the autograft[s])
29867	Arthroscopy, knee, surgical; osteochondral allograft (e.g. mosaicplasty)
29868	Arthroscopy, knee, surgical; meniscal transplantation (includes arthrotomy for meniscal insertion), medial or lateral
29870	Arthroscopy, knee, diagnostic; with or without synovial biopsy (separate procedure)
29871	Arthroscopy, knee, surgical; for infection, lavage and drainage
29873	Arthroscopy, knee, surgical; with lateral release
29874	Arthroscopy, knee, surgical; for removal of loose body or foreign body (e.g. osteochondritis dissecans fragmentation, chondral fragmentation)
29875	Arthroscopy, knee, surgical; synovectomy, limited (e.g., plica or shelf resection) (separate procedure)
29876	Arthroscopy, knee, surgical; synovectomy, major, two or more compartments (e.g., medial or lateral)
29877	Arthroscopy, knee, surgical; debridement/shaving of articular cartilage (chondroplasty)

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29879	Arthroscopy, knee, surgical; abrasion arthroplasty (includes chondroplasty where necessary) or multiple drilling or microfracture
29880	Arthroscopy, knee, surgical; with meniscectomy (medial AND lateral, including any meniscal shaving) including debridement/shaving of articular cartilage (chondroplasty), same or separate compartment(s), when performed
29881	Arthroscopy, knee, surgical; with meniscectomy (medial OR lateral, including any meniscal shaving) including debridement/shaving of articular cartilage (chondroplasty), same or separate compartment(s), when performed
29882	Arthroscopy, knee, surgical; with meniscus repair (medial OR lateral)
29883	Arthroscopy, knee, surgical; with meniscus repair (medial AND lateral)
29884	Arthroscopy, knee, surgical; with lysis of adhesions, with or without manipulation (separate procedure)
29885	Arthroscopy, knee, surgical; drilling for osteochondritis dissecans with bone grafting, with or without internal fixation (including debridement of base of lesion)
29886	Arthroscopy, knee, surgical; drilling for intact osteochondritis dissecans lesion
29887	Arthroscopy, knee, surgical; drilling for intact osteochondritis dissecans lesion with internal fixation
29888	Arthroscopically aided anterior cruciate ligament repair/augmentation or reconstruction
29889	Arthroscopically aided posterior cruciate ligament repair/augmentation or reconstruction

This list may not be all inclusive and is not intended to be used for coding/billing purposes. The final determination of reimbursement for services is the decision of the health plan and is based on the individual's policy or benefit entitlement structure as well as claims processing rules.

Procedure (HCPCS) Codes

This guideline relates to the HCPCS code set below. Codes are displayed for informational purposes only. Any given code's inclusion on this list does not necessarily indicate prior authorization is required.

J7330	Autologous cultured chondrocytes, implant

This list may not be all inclusive and is not intended to be used for coding/billing purposes. The final determination of reimbursement for services is the decision of the health plan and is based on the individual's policy or benefit entitlement structure as well as claims processing rules.

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