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1. The terms of the applicable benefit plan document in effect on the date of service
2. Any applicable laws and regulations
3. Any relevant collateral source materials including coverage policies
4. The specific facts of the particular situation

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# CMM 312: Knee Surgery - Arthroscopic and Open Procedures

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CMM-312.1 Definition

The Modified Outerbridge Classification is 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 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 cm²)
- **Grade III** – Fragmentation and fissuring greater than one square centimeter (1 cm²)
- **Grade IV** – Subchondral bone exposed.

The Kellgren-Lawrence Grading System is a radiographic grading system that has been developed for describing osteoarthritic changes to the knee. When used, the radiographic findings are typically reported within one of the following categories:

- **Grade 0** – No radiographic features of osteoarthritis are present
- **Grade I** – Doubtful narrowing of joint pace 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

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

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.

**Mosaicplasty** (or osteochondral cylinder transplantation) is 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.

**The Osteochondral Allograft Transplantation (OATS Procedure)** 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.

**Subchondral Drilling or Microfracturing** is 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.

**Arthrofibrosis** is 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.

**Non-surgical management**, with regard to the treatment of knee pain, is defined as 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 (i.e., steroid, viscosupplementation).

**KT 1000 Arthrometer** (used as an option to the Lachman test) was developed to provide objective measurement of the sagittal plane motions of the tibia relative to the
femur. This motion, sometimes referred to as drawer motion, occurs when an examiner applies force to the lower limb or when the muscles of the quadriceps are contracted. The accuracy of the Lachman test is as good as the instrument evaluation if the end point is taken into consideration. Both measurements can help to improve the quality of the clinical examination if the examiners are inexperienced. Nevertheless, instrument measurements of anterior knee laxity are not necessary if a thorough clinical examination is performed, taking the end point of the Lachman test into considerations.

**CMM-312.2 General Guidelines**

The determination of medical necessity for the performance of knee surgery is always made on a case-by-case basis.

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.

Manipulation of a knee joint under general anesthesia is included in all arthroscopic knee procedures and is therefore considered incidental to the base procedure requiring medical necessity review.

Refer to **MS-25: Knee** for advanced imaging indications for conditions about the knee. Please reference the **Cigna Medical Coverage Policy**: 0118 Bone, Cartilage and Ligament Graft Substitutes for coverage indications for articular cartilage allograft materials.

**CMM-312.3: Indications and Non-Indications**

**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 osteoarthritic changes on weight-bearing anterior-posterior (AP) and weight-bearing posterior-anterior (PA) with 45 degrees of knee flexion (Rosenberg) radiographic views

- MRI or CT arthrogram is inconclusive for internal derangement/pathology
Diagnostic Arthroscopy is considered **not medically necessary** for any other indication or condition.

**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, or 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
  - **Please note:** In the presence of an acutely locked knee joint secondary to an intra-articular loose body or foreign body, three (3) months of provider-directed non-surgical management is not required.
- MRI or CT arthrogram demonstrates articular cartilage degeneration and any **ONE** of the following:
  - Loose body or foreign body within the joint
  - Unstable flaps of articular cartilage
  - Meniscal tear that extends to the articular surface and correlates with the individual’s reported symptoms and physical examination findings
  - Impinging osteophytes, which would be reasonably expected to result in mechanical symptoms and loss of knee joint function

Arthroscopic debridement (chondroplasty) is considered **not medically necessary** in the presence of Kellgren-Lawrence Grade 2 or greater osteoarthritic changes on weight-bearing AP and weight-bearing PA with 45 degrees of knee flexion (Rosenberg) radiographic views.

Arthroscopic debridement (chondroplasty), loose body removal, and foreign body removal are considered **not medically necessary** for any other indication or condition.

**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 and 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) for at least three (3) months in duration

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

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)

- Individual reports pain and any ONE of the following mechanical symptoms:
  - Knee range of motion is “blocked” due to pain
  - Giving way, subjective weakness, or buckling of the knee
  - Painful locking, clicking, catching, or popping during weight bearing activities

- 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

Failure of provider-directed non-surgical management for at least three (3) months in duration

Please note: Acute meniscal tear with associated function-limiting pain or locked knee 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 and correlates with the individual’s reported symptoms and physical examination findings

Meniscectomy for degenerative meniscal tears is considered medically necessary when ALL of the above criteria have been met AND when BOTH of the following criteria have been met:

Acute or acute-on-chronic degenerative meniscal tear that produced a recent change in symptoms which includes new mechanical symptoms

Absence of Kellgren-Lawrence Grade 2 or greater findings on weight-bearing AP and weight-bearing PA with 45 degrees of knee flexion (Rosenberg) radiographic views

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).

Meniscal debridement is considered medically necessary when performed in conjunction with other medically necessary arthroscopic procedures on the knee (e.g., anterior cruciate reconstruction).

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

Individual is not considered an appropriate candidate for total knee arthroplasty

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 Scale as Grade III or IV

**Anterior Cruciate Ligament (ACL) Reconstruction**

Anterior cruciate ligament (ACL) reconstruction with allograft or autograft is considered medically necessary when ALL the following criteria have been met:

- Function-limiting pain and/or a 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 hemarthrosis, effusion, and joint instability have been documented and ANY of the following are present:
  - Need to return to activities 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)

Anterior cruciate ligament (ACL) reconstruction is considered **not medically necessary** for any other indication or condition.

**Posterior Cruciate Ligament (PCL) Reconstruction**

Posterior cruciate ligament (PCL) reconstruction with allograft or autograft is considered **medically necessary** when **ALL** 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:
  - 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 activities 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) 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 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) where total disruption of the ligament 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.

**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) 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 physical examination findings:
  - A stable knee with intact or reconstructed ligaments (ACL or PCL)
  - 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) chondral defect of ≥ 3 cm² in size has been identified during an MRI or CT arthrogram, or during an arthroscopy and classified by the Modified Outerbridge Scale as Grade III or Grade IV
- Absence of osteochondritis dissecans (OCD) lesion that requires bone grafting
- Absence of inflammatory arthritis or other systemic disease affecting the joints
- Absence of osteoarthritis or generalized tibial chondromalacia
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)  
Absence of a corresponding tibial or patellar lesion (“kissing lesion”) with a Modified Outerbridge Scale of Grade III or Grade IV  
Body Mass Index (BMI) 35 or less  
Age 15 - 55 years  
Individual must be capable and willing to participate in a supervised post-operative physical rehabilitation program.  

Autologous chondrocyte implantation using the MACI® implant for treatment of cartilaginous defects other than the distal femur (i.e., patella, proximal tibia) and of cartilaginous defects involving joints other than the knee (e.g., ankle, elbow, shoulder) is considered experimental, investigational or unproven. Please reference the Cigna Medical Coverage Policy: 0515 Miscellaneous Musculoskeletal Procedures for ACI performed for locations other than the knee.  

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 Grade III or IV defect(s) on the patella or 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  
Malalignment requiring osteotomy to correct tibial-femoral or patella-femoral alignment  
Septic arthritis within one (1) year before screening (i.e., harvesting of chondrocytes)  
Known history of hypersensitivity to gentamicin, other aminoglycosides, or products of porcine or bovine origin  
Uncorrected congenital blood coagulation disorders  
Cruciate ligament instability  

**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 on physical examination:
- A stable knee with intact or reconstructed ligaments (ACL or PCL)
- 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) chondral defect that has been identified during an MRI or CT arthrogram, or during an arthroscopy and classified by Modified Outerbridge Scale as Grade III or Grade IV

EITHER of the following:
- Osteochondral autograft transplants and mosaicplasty:
  - Small (i.e., ≤ 2.5 cm² total) chondral defects with sharp, definite borders surrounded by normal-appearing hyaline cartilage
- Osteochondral allograft transplants:
  - Larger (i.e., ≤ 10.0 cm² total) chondral defects with sharp definite borders surrounded by normal appearing hyaline cartilage

Previous arthroscopic or other traditional surgical procedure (i.e., microfracture, drilling, abrasion, osteochondral graft) has resulted in an unsatisfactory outcome

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)

Absence of osteoarthritis or generalized tibial chondromalacia, steroid-induced cartilage or bone disease, with normal articular cartilage at the lesion border

Absence of a corresponding tibial or patella lesion (“kissing lesion”) with a Modified Outerbridge Scale of Grade III or Grade IV

Individual is not a candidate for total knee arthroplasty

Body Mass Index (BMI) of less than 35

Age 49 years or younger

Individual must be capable and willing to participate in an extensive period of non-weight bearing and supervised post-operative physical rehabilitation program.

Osteochondral allograft/autograft transplantation (OATS)/mosaicplasty is considered experimental, investigational or unproven for treatment of articular cartilage defects in locations other than the distal femur (i.e., patella, proximal tibia). Please reference the Cigna Medical Coverage Policy: 0515 Miscellaneous Musculoskeletal Procedures for
osteochondral grafting performed for locations other than the knee (e.g., ankle, shoulder, elbow).

Osteochondral allograft/autograft transplantation (OATS)/mosaicplasty of the distal femoral articular surface is considered **not medically necessary** for any other indication or condition.

**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 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 physical examination findings:
  - A stable knee with intact or reconstructed ligaments (ACL or PCL) and menisci
  - 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) chondral defect of ≤ 2.5 cm² in size on the weight-bearing surface that has been identified during an MRI or CT arthrogram, or during an arthroscopy and classified by the Modified Outerbridge Scale as 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 (i.e., Fulkerson or Maquet type procedures) are considered **medically necessary** when **ALL** of the following criteria have been met:

- 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)

- Any **ONE** of the following physical examination findings:
  - Joint effusion
  - Tenderness of the medial or lateral facets
  - Positive Patellar Grind Test

- Failure of provider-directed non-surgical management for at least three (3) months in duration

- Confirmed osteochondral defect of the patellofemoral joint (e.g., MRI, CT scan, or previous arthroscopic procedure)
Procedures for recurrent patellar instability (i.e., Campbell, Goldwaite, or Hauser type procedures, trochleoplasty) are considered **medically necessary** when **ALL** of the following criteria have been met:

- Recurrent patellar instability interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment
- Positive Patellar Apprehension Test on physical examination
- Failure of provider-directed non-surgical management for at least three (3) months in duration
- Increased TT-TG (tibial tubercle trochlear groove) distance of > 20 mm

Medial patellofemoral ligament (MPFL) reconstruction is considered **medically necessary** when the above criteria are met for recurrent patellar instability and there is a confirmed tear of the medial patellofemoral ligament (MPFL) (e.g., MRI, CT scan, or previous arthroscopic procedure).

Lateral retinacular release is considered **medically necessary** when **EITHER** of the following criteria have been met:

- Documented radiographic evidence of an acute patellar dislocation with associated intra-articular fracture
- Documented radiographic evidence of patellar “tilt” and failure of provider-directed non-surgical management for at least three (3) months in duration

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 which 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:
  - 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
- Individual must be capable and willing to participate in a period of non-weight bearing and a post-operative physical rehabilitation program
Age 60 years or less
Individual is not a candidate for a knee arthroplasty

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**

Lysis of adhesions 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)
- Individual demonstrates less than 90 degrees of knee flexion by two (2) months after surgery, including knee replacement or trauma
- Failure of provider-directed non-surgical management for at least two (2) months in duration, including a combination of anti-inflammatory medication, and/or cortisone injection, and at least two (2) months of physical therapy (i.e., active exercise and manual therapy designed to increase joint mobility and range of motion)

Lysis of adhesions is considered not medically necessary for any other indication or condition.

**CMM-312.4 Experimental, Investigational, or Unproven**

Based on lack of scientific evidence of efficacy and safety, the following are considered experimental, investigational, or unproven:

- Knee subchondroplasty
- Focal resurfacing of a single knee joint defect (e.g., Arthrosurface Knee HemiCAP®, UniCAP®)
- “In-office” diagnostic arthroscopy (e.g., Mi-Eye™, VisionScope®)

**CMM-312.5 Procedure (CPT®) Codes**

<table>
<thead>
<tr>
<th>CPT®</th>
<th>Code Description/Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
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<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>27301</td>
<td>Incision and drainage, deep abscess, bursa, or hematoma, thigh or knee region</td>
</tr>
<tr>
<td>27303</td>
<td>Incision, deep, with opening of bone cortex, femur or knee (e.g., osteomyelitis or bone abscess)</td>
</tr>
<tr>
<td>27310</td>
<td>Arthrotomy, knee, with exploration, drainage, or removal of foreign body (e.g., infection)</td>
</tr>
<tr>
<td>27323</td>
<td>Biopsy, soft tissue of thigh or knee area; superficial</td>
</tr>
<tr>
<td>27324</td>
<td>Biopsy, soft tissue of thigh or knee area; deep (subfascial or intramuscular)</td>
</tr>
<tr>
<td>27327</td>
<td>Excision, tumor, soft tissue of thigh or knee area, subcutaneous; less than 3 cm</td>
</tr>
<tr>
<td>27328</td>
<td>Excision, tumor, soft tissue of thigh or knee area, subfascial (e.g., intramuscular); less than 5 cm</td>
</tr>
<tr>
<td>27329</td>
<td>Radical resection of tumor (e.g., sarcoma), soft tissue of thigh or knee area; less than 5 cm</td>
</tr>
<tr>
<td>27330</td>
<td>Arthrotomy, knee; with synovial biopsy only</td>
</tr>
<tr>
<td>27331</td>
<td>Arthrotomy, knee; including joint exploration, biopsy, or removal of loose or foreign bodies</td>
</tr>
<tr>
<td>27332</td>
<td>Arthrotomy, with excision of semilunar cartilage (meniscectomy) knee; medial OR lateral</td>
</tr>
<tr>
<td>27333</td>
<td>Arthrotomy, with excision of semilunar cartilage (meniscectomy) knee; medial AND lateral</td>
</tr>
<tr>
<td>27334</td>
<td>Arthrotomy, with synovectomy, knee; anterior OR posterior</td>
</tr>
<tr>
<td>27335</td>
<td>Arthrotomy, with synovectomy, knee; anterior AND posterior including popliteal area</td>
</tr>
<tr>
<td>27337</td>
<td>Excision, tumor, soft tissue of thigh or knee area, subcutaneous; 3 cm or greater</td>
</tr>
<tr>
<td>27339</td>
<td>Excision, tumor, soft tissue of thigh or knee area, subfascial (e.g., intramuscular); 5 cm or greater</td>
</tr>
<tr>
<td>27340</td>
<td>Excision, prepatellar bursa</td>
</tr>
<tr>
<td>27347</td>
<td>Excision of lesion of meniscus or capsule (e.g., cyst, ganglion), knee</td>
</tr>
<tr>
<td>27355</td>
<td>Excision or curettage of bone cyst or benign tumor of femur;</td>
</tr>
<tr>
<td>27356</td>
<td>Excision or curettage of bone cyst or benign tumor of femur; with allograft</td>
</tr>
<tr>
<td>27357</td>
<td>Excision or curettage of bone cyst or benign tumor of femur; with autograft (includes obtaining graft)</td>
</tr>
<tr>
<td>27358</td>
<td>Excision or curettage of bone cyst or benign tumor of femur; with internal fixation (List in addition to code for primary procedure)</td>
</tr>
<tr>
<td>27360</td>
<td>Partial excision (craterization, saucerization, or diaphysectomy) bone, femur, proximal tibia and/or fibula (e.g., osteomyelitis or bone abscess)</td>
</tr>
<tr>
<td>27364</td>
<td>Radical resection of tumor (e.g., sarcoma), soft tissue of thigh or knee area; 5 cm or greater</td>
</tr>
<tr>
<td>27365</td>
<td>Radical resection of tumor, femur or knee</td>
</tr>
<tr>
<td>27372</td>
<td>Removal of foreign body, deep, thigh region or knee area</td>
</tr>
<tr>
<td>27403</td>
<td>Arthrotomy with meniscus repair, knee</td>
</tr>
<tr>
<td>27405</td>
<td>Repair, primary, torn ligament and/or capsule, knee; collateral</td>
</tr>
<tr>
<td>27407</td>
<td>Repair, primary, torn ligament and/or capsule, knee; cruciate</td>
</tr>
<tr>
<td>27409</td>
<td>Repair, primary, torn ligament and/or capsule, knee; collateral and cruciate ligaments</td>
</tr>
<tr>
<td>27412</td>
<td>Autologous chondrocyte implantation, knee</td>
</tr>
<tr>
<td>27415</td>
<td>Osteochondral allograft, knee, open</td>
</tr>
<tr>
<td>27416</td>
<td>Osteochondral autograft(s), knee, open (e.g., mosaicplasty) (includes harvesting of autograft[s])</td>
</tr>
<tr>
<td>27418</td>
<td>Anterior tibial tubercleplasty (e.g., Maquet type procedure)</td>
</tr>
<tr>
<td>27420</td>
<td>Reconstruction of dislocating patella; (e.g., Hauser type procedure)</td>
</tr>
<tr>
<td>27422</td>
<td>Reconstruction of dislocating patella; with extensor realignment and/or muscle advancement or release (e.g., Campbell, Goldwaite type procedure)</td>
</tr>
<tr>
<td>27424</td>
<td>Reconstruction of dislocating patella; with patellectomy</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
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<tr>
<td>--------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>27425</td>
<td>Lateral retinacular release, open</td>
</tr>
<tr>
<td>27427</td>
<td>Ligamentous reconstruction (augmentation), knee; extra-articular</td>
</tr>
<tr>
<td>27428</td>
<td>Ligamentous reconstruction (augmentation), knee; intra-articular (open)</td>
</tr>
<tr>
<td>27429</td>
<td>Ligamentous reconstruction (augmentation), knee; intra-articular (open) and extra-articular</td>
</tr>
<tr>
<td>27438</td>
<td>Arthroplasty, patella; with prosthesis</td>
</tr>
<tr>
<td>27440</td>
<td>Arthroplasty, knee, tibial plateau;</td>
</tr>
<tr>
<td>27442</td>
<td>Arthroplasty, femoral condyles or tibial plateau(s), knee;</td>
</tr>
<tr>
<td>27454</td>
<td>Osteotomy, multiple, with realignment on intramedullary rod, femoral shaft (eg, Sofield type procedure)</td>
</tr>
<tr>
<td>27455</td>
<td>Osteotomy, proximal tibia, including fibular excision or osteotomy includes correction of genu varus [bowleg] or genu valgus [knock-knee]); before epiphyseal closure</td>
</tr>
<tr>
<td>27457</td>
<td>Osteotomy, proximal tibia, including fibular excision or osteotomy (includes correction of genu varus [bowleg] or genu valgus [knock-knee]) after epiphyseal closure</td>
</tr>
<tr>
<td>27465</td>
<td>Osteoplasty, femur; shortening (excluding 64876)</td>
</tr>
<tr>
<td>27466</td>
<td>Osteoplasty, femur; lengthening</td>
</tr>
<tr>
<td>27468</td>
<td>Osteoplasty, femur; combined, lengthening and shortening with femoral segment transfer</td>
</tr>
<tr>
<td>27470</td>
<td>Repair, nonunion or malunion, femur, distal to head and neck; without graft (eg, compression technique)</td>
</tr>
<tr>
<td>27472</td>
<td>Repair, nonunion or malunion, femur, distal to head and neck; with iliac or other autogenous bone graft (includes obtaining graft)</td>
</tr>
<tr>
<td>27495</td>
<td>Prophylactic treatment (nailing, pinning, plating, or wiring) with or without methylmethacrylate, femur</td>
</tr>
<tr>
<td>29850</td>
<td>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)</td>
</tr>
<tr>
<td>29851</td>
<td>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)</td>
</tr>
<tr>
<td>29855</td>
<td>Arthroscopically aided treatment of tibial fracture, proximal (plateau); unicondylar, includes internal fixation, when performed (includes arthroscopy)</td>
</tr>
<tr>
<td>29856</td>
<td>Arthroscopically aided treatment of tibial fracture, proximal (plateau); bicondylar, includes internal fixation, when performed (includes arthroscopy)</td>
</tr>
<tr>
<td>29866</td>
<td>Arthroscopy, knee, surgical; osteochondral autograft(s) (eg, mosaicplasty) (includes harvesting of the autograft[s])</td>
</tr>
<tr>
<td>29867</td>
<td>Arthroscopy, knee, surgical; osteochondral allograft (eg, mosaicplasty)</td>
</tr>
<tr>
<td>29868</td>
<td>Arthroscopy, knee, surgical; meniscal transplantation (includes arthrotomy for meniscal insertion), medial or lateral</td>
</tr>
<tr>
<td>29870</td>
<td>Arthroscopy, knee, diagnostic; with or without synovial biopsy (separate procedure)</td>
</tr>
<tr>
<td>29871</td>
<td>Arthroscopy, knee, surgical; for infection, lavage and drainage</td>
</tr>
<tr>
<td>29873</td>
<td>Arthroscopy, knee, surgical; with lateral release</td>
</tr>
<tr>
<td>29874</td>
<td>Arthroscopy, knee, surgical; for removal of loose body or foreign body (eg, osteochondritis dissecans fragmentation, chondral fragmentation)</td>
</tr>
<tr>
<td>29875</td>
<td>Arthroscopy, knee, surgical; synovectomy, limited (eg, plica or shelf resection) (separate procedure)</td>
</tr>
<tr>
<td>29876</td>
<td>Arthroscopy, knee, surgical; synovectomy, major, two or more compartments (eg, medial or lateral)</td>
</tr>
<tr>
<td>29877</td>
<td>Arthroscopy, knee, surgical; debridement/shaving of articular cartilage (chondroplasty)</td>
</tr>
<tr>
<td>29879</td>
<td>Arthroscopy, knee, surgical; abrasion arthroplasty (includes chondroplasty where necessary) or multiple drilling or microfracture</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
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</tr>
<tr>
<td>29880</td>
<td>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</td>
</tr>
<tr>
<td>29881</td>
<td>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</td>
</tr>
<tr>
<td>29882</td>
<td>Arthroscopy, knee, surgical; with meniscus repair (medial OR lateral)</td>
</tr>
<tr>
<td>29883</td>
<td>Arthroscopy, knee, surgical; with meniscus repair (medial AND lateral)</td>
</tr>
<tr>
<td>29884</td>
<td>Arthroscopy, knee, surgical; with lysis of adhesions, with or without manipulation (separate procedure)</td>
</tr>
<tr>
<td>29885</td>
<td>Arthroscopy, knee, surgical; drilling for osteochondritis dissecans with bone grafting, with or without internal fixation (including debridement of base of lesion)</td>
</tr>
<tr>
<td>29886</td>
<td>Arthroscopy, knee, surgical; drilling for intact osteochondritis dissecans lesion</td>
</tr>
<tr>
<td>29887</td>
<td>Arthroscopy, knee, surgical; drilling for intact osteochondritis dissecans lesion with internal fixation</td>
</tr>
<tr>
<td>29888</td>
<td>Arthroscopically aided anterior cruciate ligament repair/augmentation or reconstruction</td>
</tr>
<tr>
<td>29889</td>
<td>Arthroscopically aided posterior cruciate ligament repair/augmentation or reconstruction</td>
</tr>
</tbody>
</table>

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.

**CMM-312.6 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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J7330</td>
<td>Autologous cultured chondrocytes, implant</td>
</tr>
</tbody>
</table>

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.

**CMM-312.7 References**

7. Bernstein J, Quach T. A perspective on the study of Moseley et al: Questioning the value of
55. MACI prescribing information (December 2016). U.S. Food and Drug Administration.
56. Macmull S, Jaiswal PK, Bentley G, et al. The role of autologous chondrocyte implantation in the


80. Trinh TQ, Harris JD, Siston RA, Flanigan DC. Improved outcomes with combined autologous


