HEALTHHELP®

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Knee Procedures

Musculoskeletal Procedures

MSK-KNEE-HH

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Joint Surgery Overview

Total joint replacement (TJR) surgery is a common procedure to relieve pain and improve function in patients with severe joint damage. However, certain risk factors can increase the likelihood of complications and affect the overall outcome of the surgery. These risk factors include smoking, diabetes, high blood sugar and obesity.

Smoking is a significant risk factor for TJR. Nicotine and other chemicals in cigarettes can impair blood flow, reduce bone density and slow down the healing process. Smokers are more likely to experience complications such as infections, implant loosening and prolonged recovery times. Quitting smoking before surgery can improve outcomes and reduce the risk of complications.

The **American Academy of Orthopaedic Surgeons (AAOS)** recommends testing patients for evidence of smoking on the day of surgery using a **nicotine blood test** (i.e., cotinine test). Cotinine, a metabolite of nicotine, can remain present in the blood for up to 10 days after nicotine usage. The AAOS also suggests utilizing a **Smoking Cessation Checklist** to document whether the patient is a current smoker or former smoker. They recommend patients quit smoking at least 6 weeks prior to elective surgical procedures and at least 6 weeks following the surgery. Providing patients with resources such as the **Quit Smoking Before Your Operation** guide can help them develop an action plan to quit.

Diabetes and **high blood sugar** levels also pose risks for TJR. Poorly controlled diabetes can lead to higher rates of postoperative infections, wound healing problems and joint loosening. Maintaining good glycemic control before and after surgery is crucial to minimize these risks. Studies have shown that patients with well-controlled diabetes have better surgical outcomes compared to those with uncontrolled diabetes.

Obesity is another important risk factor. Excess body weight puts additional stress on the joints, which can lead to complications during and after surgery. Obesity is associated with a higher risk of infection, implant failure, and longer hospital stays. Weight loss especially with those individuals with a Body Mass Index (BMI) of greater than 40 before surgery can help reduce these risks and improve the overall success of the procedure.

In summary, smoking, diabetes, high blood sugar and obesity are key risk factors that can impact the outcomes of total joint replacement surgery. Addressing these factors through lifestyle changes, medical management, and preoperative optimization can help improve surgical outcomes and reduce the risk of complications.

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BlueCross and BlueShield of South Carolina

IMPORTANT
To locate the appropriate updated Clinical Policies for BlueCross and BlueShield of South Carolina, please go to: https://www.southcarolinablues.com/web/public/brands/sc/providers/policies-and-authorizations/medical-policies/

TIP
A National Coverage Determination (NCD) or Local Coverage Determination (LCD) may be necessary to review for Medicare participants. Please go to: https://www.cms.gov/medicare-coverage-database/search.aspx for the latest coverage determination information.

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2025 Knee Arthroplasty

Musculoskeletal Procedures

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Previous Review Date: 08/11/2025
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Total Knee Arthroplasty (TKA) Related National Coverage Determination (NCD)/Local Coverage Determination (LCD)

Please refer to https://www.cms.gov/medicare-coverage-database/search.aspx if applicable to the individual's healthplan membership.

Type/ID Number	Title
LCD 33456	Total Joint Arthroplasty
LCD 33618	Major Joint Replacement (Hip and Knee)

Type/ID Number	Title
LCD 36007	Lower Extremity Major Joint Replacement (Hip and Knee)
LCD 36039	Total Joint Arthroplasty
LCD 36575	Total Knee Arthroplasty

Clinical Judgment

These medical policies are designed to provide clinical guidance and do not supplant a provider's independent professional judgment. Physicians retain full and independent authority to determine appropriate care based on each patient's individual clinical circumstances. Although services may be subject to documentation requirements, medical necessity review, or coverage limitations, nothing in this policy is intended to restrict or interfere with a physician's independent medical judgment.

Total Knee Arthroplasty (TKA) Contraindications

Contraindications to total knee arthroplasty includes **ANY** of the following:

- Allergy to medical treatment material
- BMI is over 50.
- Comorbidities are **NOT** managed (eg, hypertension uncontrolled) **AND** *if diabetic* HbA1c of over 8%.
- Corticosteroid injection in the operative joint within the 12 weeks before surgery.
- Infection, systematic or local, is active, in treatment or is ongoing.
- Nicotine/tobacco use within 6 weeks of surgery (nicotine/tobacco products include cigar, cigarette, e-cigarettes, nicotine patch, smokeless tobacco or vape pen).

References: [57] [6] [53]

Total Knee Arthroplasty (TKA) Guideline

A total knee arthroplasty is considered medically appropriate when the documentation demonstrates **ALL** of the following:

1. Body mass index (BMI) is less than 40 **OR** if above 40 weight reduction of at least 10% is demonstrated before surgery.
2. Clinically stable and comorbidities are managed (eg, absent infection, hypertension controlled) **AND** *if diabetic* a $HgBA_1c$ of 8% or less.
3. Condition includes **ANY** of the following:

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a. Arthritic condition with **ALL** of the following:

i. Condition includes **ANY** of the following:

A. Inflammatory arthropathy

B. Osteoarthritis (Kellgren-Lawrence grade III)

C. Post-traumatic arthritis

D. Rheumatoid arthritis

ii. Conservative therapy attempted including **ALL** of the following:

A. Physical therapy (PT) program is supervised by a licensed physical therapist or chiropractor for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability[1]. (*__NOTE__: *If PT notes demonstrate improvement in pain or functional ability, additional conservative therapy (non-surgical) is required, with a reevaluation of pain and functional status prior to considering surgical intervention.*)

B. Treatment includes **ANY** of the following:

I. Activity modification with protective weight-bearing **OR** use of a brace/orthotic.

II. Corticosteroid injection, intraarticular

III. Medication pain management (eg, NSAIDs, analgesics)

iii. Knee pain *with* 12 weeks or more of function loss (eg, unable to perform usual activities of daily living [ADLs], painful weight-bearing, mechanical dysfunction). (ADLs include bathing, dressing, eating, toileting, etc.)

iv. Physical exam demonstrates swelling/effusion, instability, deformity, limited range of motion (ROM), contracture and/or crepitus.

v. X-rays (weight-bearing) within the last 3 to 6 months demonstrate **ANY** of the following:

A. Bicompartmental or tricompartmental bone-on-bone articulation

B. Joint space narrowing is severe.

C. X-rays (weight-bearing) demonstrate moderate osteoarthritic changes (Kellgren-Lawrence grade III).

[1]A home exercise program that is self-managed or is **NOT** supervised by PT or a chiropractor is insufficient to meet this indication.

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b. Avascular necrosis

c. Cancer, primary or metastatic, involving the distal femur, proximal tibia, knee joint or adjacent soft tissues

d. Fracture (malunion/non-union) fracture of the distal femur or proximal tibia demonstrated on X-rays within the last 3 to 6 months.

e. Osteoarthritis (Kellgren-Lawrence grade IV demonstrated on weight bearing X-ray) within the last 3 to 6 months.

> **NOTE**
> Conservative treatment, including physical therapy, is **NOT** required for Kellgren-Lawrence Grade IV osteoarthritis.

f. Osteoarthritis progression in previously unaffected compartment

g. Partial knee replacement **FAILURE**

4. Pain in affected knee with limited range of motion and associated functional disability that interferes with activities of daily living (ADLs)

References: [4] [13] [55] [39] [22] [31]

Total Knee Arthroplasty (TKA) Revision Guideline

A revision of a total knee arthroplasty (TKA) is considered medically appropriate when the documentation demonstrates **ALL** of the following:

1. **ABSENT** evidence of active, ongoing or undertreated joint infection.
2. Body mass index (BMI) is less than 40.
3. Pain in affected knee with limited range of motion and pain and associated functional disability that interferes with activities of daily living (ADLs). (ADLs include bathing, dressing, eating, toileting, etc.)
4. Prosthesis removal due to **FAILURE** or infection.
5. X-rays, (weight-bearing) within the last 3 to 6 months and/or examination demonstrate **ANY** of the following:
   a. Aseptic loosening
   b. Component instability, failure or recall
   c. Mechanical failure of the prosthetic device
   d. Osteolysis

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e. Peri-prosthetic infection or fracture

f. Recurrent instability, dislocation and/or subluxation

References: [33] [15]

Partial Knee Arthroplasty (PKA) or Unicompartmental Knee Arthroplasty (UKA) Contraindications

A partial knee arthroplasty (PKA) and/or unicompartmental knee arthroplasty (UKA) is contraindicated when the documentation demonstrates **ANY** of the following.

- Allergy to medical treatment material
- Angular deformity or contracture **OR** contracture is larger than indicated range with **ANY** of the following:
  - Fixed valgus deformity is more than 20 degrees
  - Fixed varus deformity is more than 15 degrees
  - Flexion contracture of 15 degrees or more
  - Flexion is less than 110 degrees
- Body mass index (BMI) is over 40.
- Comorbidities are **NOT** managed (eg, hypertension uncontrolled) **AND** *if diabetic* HgBA1c of over 8%.
- Infection, systematic or local, is active, in treatment or is ongoing.
- Meniscectomy, total, in remaining compartment
- No Nicotine/tobacco use within 6 weeks of surgery (Nicotine/tobacco products include cigar, cigarette, e-cigarette, nicotine pouch, smokeless tobacco or vape pen).
- Osteoporosis or osteopenia

Reference: [57]

Partial Knee Arthroplasty (PKA) and/or Unicompartmental Knee Arthroplasty (UKA) Guideline

A partial knee arthroplasty (PKA) and/or a unicompartmental knee arthroplasty (UKA) is medically appropriate when the documentation demonstrates **ALL** of the following:

1. **ABSENT** degenerative changes in remaining compartment.
2. Anterior cruciate ligament is intact or was repaired.

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3. Arthritic condition includes **ANY** of the following:
    a. Compartmental: isolated, lateral or medical advanced Osteoarthritis (Kellgren-Lawrence grade 3 or 4)
    b. Post-traumatic arthritis
    c. Unicompartmental
4. Body Mass Index (BMI) is below 40 **OR** if above 40 weight-reduction of at least 10% is demonstrated before surgery.
5. Clinically stable and comorbidities are managed (eg, absent infection, hypertension controlled) **AND** *if diabetic* a $HgBA_1c$ of 8% or less.
6. Conservative therapy attempted including **ALL** of the following:
    a. Physical therapy (PT) program is supervised by a licensed physical therapist or chiropractor for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability[2]. (*__NOTE__: *If PT notes demonstrate improvement in pain or functional ability, additional conservative therapy (non-surgical) is required, with a reevaluation of pain and functional status prior to considering surgical intervention.*)
    b. Treatment includes **ANY** of the following:
        i. Activity modification with protective weight-bearing **OR** use of a brace/ orthotic.
        ii. Corticosteroid injection, intraarticular
        iii. Medication pain management (eg, NSAIDs, analgesics)
7. Knee pain *with* 12 weeks or more of function loss (eg, unable to perform usual activities of daily living [ADLs], painful weight-bearing, mechanical dysfunction). (ADLs include bathing, dressing, eating, toileting, etc.)
8. Physical exam demonstrates swelling/effusion, instability, deformity (fixed valgus 20 degrees or less, fixed varus 15 degrees or less), limited range of motion (ROM), contracture and/or crepitus.
9. X-rays demonstrate **ANY** of the following:
    a. Joint space narrowing is severe.
    b. Unicompartmental bone-on-bone articulation

[2]A home exercise program that is self-managed or is **NOT** supervised by PT or a chiropractor is insufficient to meet this indication.

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c. X-rays (weight-bearing) demonstrate moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 3 or 4) within the last 3 to 6 months.

References: [57] [27] [18]

Patellofemoral Knee Arthroplasty (PFKA) Contraindications

A partial knee arthroplasty (PKA) and/or unicompartmental knee arthroplasty (UKA) is contraindicated when the documentation demonstrates **ANY** of the following.

- Allergy to medical treatment material
- Body mass index (BMI) is over 40.
- Comorbidities are **NOT** managed (eg, hypertension uncontrolled) **AND** *if diabetic* HgBA1c of over 8%.
- Fixed flexion contracture of 10 degrees or more
- Infection, systematic or local, is active, in treatment or is ongoing.
- Inflammatory arthritis
- Ligament instability or insufficient
- Meniscal injury that is unresolved.
- **NO** nicotine/tobacco use (eg, cigar, cigarette, e-cigarette, nicotine pouch, smokeless tobacco, vape pen) within 6 weeks of surgery.
- Patellofemoral malalignment

Reference: [57]

Patellofemoral Knee Arthroplasty (PFKA) Guideline

A patellofemoral knee arthroplasty (PFKA) is considered medically appropriate when the documentation demonstrates **ALL** of the following:

1. Body mass index (BMI) is less than 40.
2. Clinically stable and comorbidities are managed (eg, absent infection, hypertension controlled) **AND** *if diabetic* a $HgBA_1c$ of 8% or less.
3. Condition includes **ANY** of the following:
    a. **FAILURE** of patellofemoral extensor mechanism unloading procedure
    b. Osteoarthritis, patellofemoral that is advanced (Kellgren-Lawrence grade 3 or 4) **AND** unicompartmental.

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c. Pain, isolated patellar/anterior knee *for 3 months or more* is exacerbated by stairs, inclines, transfers or prolonged sitting.

4. Conservative therapy attempted including **ALL** of the following:

   a. Physical therapy (PT) program is supervised by a licensed physical therapist or chiropractor for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability[3]. (***NOTE**: *If PT notes demonstrate improvement in pain or functional ability, additional conservative therapy (non-surgical) is required, with a reevaluation of pain and functional status prior to considering surgical intervention.*)

   b. Treatment includes **ANY** of the following:

      i. Activity modification with protective weight-bearing **OR** use of a brace/ orthotic.

      ii. Corticosteroid injection, intraarticular

      iii. Medication pain management (eg, NSAIDs, analgesics)

5. Knee pain *with* 12 weeks or more of function loss (eg, unable to perform usual activities of daily living [ADLs], painful weight-bearing, mechanical dysfunction). (ADLs include bathing, dressing, eating, toileting, etc.)

6. Physical exam demonstrates swelling/effusion, instability, deformity, limited range of motion (ROM), contracture and/or crepitus.

7. X-rays, weight-bearing, demonstrate **ANY** of the following:

   a. Joint space narrowing is severe to the patellofemoral joint

   b. Unicompartmental **ONLY** patellofemoral bone-on-bone articulation

   c. **ABSENT** degenerative changes in the lateral or medial compartments.

Reference: [65]

[3]A home exercise program that is self-managed or is **NOT** supervised by PT or a chiropractor is insufficient to meet this indication.

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Knee Arthroplasty Procedure Codes

Table 1. Knee Arthroplasty Associated Procedure Codes

CODE	DESCRIPTION
27437	Arthroplasty, patella; without prosthesis
27438	Arthroplasty, patella; with prosthesis
27440	Arthroplasty, knee, tibial plateau;
27441	Arthroplasty, knee, tibial plateau; with debridement and partial synovectomy
27442	Arthroplasty, femoral condyles or tibial plateau(s), knee;
27443	Arthroplasty, femoral condyles or tibial plateau(s), knee; with debridement and partial synovectomy
27445	Arthroplasty, knee, hinge prosthesis (eg, Walldius type)
27446	Arthroplasty, knee, condyle and plateau; medial **OR** lateral compartment
27447	Arthroplasty, knee, condyle and plateau; medial **AND** lateral compartments with or without patella resurfacing (total knee arthroplasty)
27486	Revision of total knee arthroplasty, with or without allograft; 1 component
27487	Revision of total knee arthroplasty, with or without allograft; femoral and entire tibial component
27488	Removal of prosthesis, including total knee prosthesis, methylmethacrylate with or without insertion of spacer, knee

Knee Arthroplasty Summary of Changes

The Knee Arthroplasty guideline from 2024 to 2025 had the following changes:

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Table 1. 2025 Knee Arthroplasty Summary of Changes

Date	Type of Change	Summary
10/17/2025	Mid-Cycle Review	• Added timeframe needed before surgery for imaging X-ray (weight-bearing) Osteoarthritis Kellgren-Lawrence grade III-IV • Partial Knee Arthroplasty (PKA) and/or Unicompartmental Knee Arthroplasty (UKA) Changes: ▪ Removed the following statement from imaging: "MRI should be primary imaging for determining the arthritic changes", as weight bearing x-ray is the gold standard to assess this condition. • Total Knee Arthroplasty (TKA) Changes: ▪ Added timeframe needed for imaging Xrays on Fracture (malunion/non-union) fracture of the distal femur or proximal tibia.
8/11/2025	Mid-Cycle Review	• Total Knee Arthroplasty Changes: ▪ Removed requirement of physical therapy/conservative care for Grade IV osteoarthritis for Total Knee Arthroplasty per the American College of Rheumatology and the American Association of Hip and Knee Surgeons. ▪ Removed the following statement from imaging: "MRI should be primary imaging for determining the arthritic changes", as weight bearing x-ray is the gold standard to assess this condition.
6/30/2025	Mid-Cycle Review	• Added to Total Knee Arthroplasty (TKA) Contraindication "Corticosteroid injection in the operative joint within the 12 weeks before surgery," as per evidence from AAOS.
3/11/2025	Annual Review	• Added in the Total Knee Arthroplasty (TKA) Contraindication examples of nicotine/tobacco products for clarity. • Added Joint Surgery Overview to guideline. • Added to Total Knee Arthroplasty(TKA) Guideline and Partial Knee Arthroplasty (PKA) and/or Unicompartmental Knee Arthroplasty (UKA) Guideline: weight-reduction of at least 10% is demonstrated before surgery, as per evidence from AAOS. • Made the following changes to the Partial Knee Arthroplasty (PKA) and/or Unicompartmental Knee Arthroplasty (UKA) Guideline: ▪ Removed the criteria of Range of Motion (ROM) for knee is full as evidence does not support this criteria. ▪ Added: clarification of Range of Motion (ROM)criteria under Physical Exam, as evidence supports this criteria. • Citations updated per the evidence

2025 Knee Arthroscopy

Musculoskeletal Procedures

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Clinical Judgment

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Meniscal Transplant Contraindications

An arthroscopic meniscal transplant is contraindicated for **ANY** of the following:

1. Condition includes **ANY** of the following simultaneous or staged uncorrected situations:
    a. Articular cartilage, full thickness, with isolated defects (eg, International Cartilage Research Society Grade 3 or 4, Outerbridge Grade IV)
    b. Ligamentous insufficiency
    c. Malalignment is more than 5 degrees varus or 5 degrees valgus.
2. Intra-articular cortisone injection *within 4 weeks* of surgery.
3. Osteoarthritis is severe (Kellgren-Lawrence Grade 4)

Reference: [58]

Knee Manipulation Under Anesthesia (MUA) Guideline

Knee manipulation under anesthesia (MUA) is considered medically appropriate when the documentation demonstrated **ALL** of the following:

1. Conservative therapy attempted including **ALL** of the following:
    a. Physical therapy (PT) program is supervised by a licensed physical therapist,chiropractor or through tele-rehab physical therapy for at least 6 weeks in the past 6 months with **NO** improvement in symptoms or functional ability.
    b. Treatment includes **ANY** of the following:
        i. Corticosteroid injection, intraarticular
        ii. Medication pain management (eg, NSAIDs, analgesics)
2. Imaging for presurgical evaluation includes **ALL** of the following:

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a. Computed tomography (CT) within the last 3 to 6 months.

b. Xray of the knee within the last 3 to 6 months confirming intact hardware and absence of mechanical obstruction (eg., component malposition, fracture)

3. Signs and Symptoms includes **ALL** of the following:

a. Objective limitation on physical examination, defined as:

i. Flexion contracture greater than 10 degrees

ii. Knee flexion less than 90 degrees

b. Persistent knee pain and stiffness resulting in functional limitation or interference with activities of daily living

Reference: [69] [1]

Diagnostic Knee Arthroscopy Guideline

A diagnostic knee arthroscopy is considered medically appropriate when the documentation demonstrates **ALL** of the following:

1. **ABSENT** demonstration of moderate to severe osteoarthritis (Kellgren-Lawrence grade 3 to 4) on weight-bearing X-rays taken anterior-posterior and posterior-anterior with 45 degrees of knee flexion [Rosenberg] radiographic views).
2. Conservative therapy attempted including **ALL** of the following:

a. Physical therapy (PT) program is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms of functional ability.

b. Treatment includes **ANY** of the following:

i. Activity modification with protective weight-bearing **OR** use of a brace/ orthotic.

ii. Corticosteroid injection, intraarticular

iii. Medication pain management (eg, NSAIDs, analgesics)

3. Knee pain *with* 12 weeks or more of function loss (eg, unable to perform usual activities of daily living [ADLs], painful weight-bearing, mechanical dysfunction). (ADLs include bathing, dressing, eating, toileting, etc.)
4. **BOTH** MRI **AND** X-ray are indeterminate or non-diagnostic for internal derangement or other pathology.
5. Physical exam demonstrates knee with limited range of motion (ROM), swelling, effusion and/or joint-line tenderness (positive McMurray Test).

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Reference: [73]

Contraindications to ALL Knee Arthroscopy Procedures

An arthroscopic knee procedure is contraindicated if an intra-articular cortisone injection was done *within 4 weeks prior* to knee arthroscopy.
Reference: [24]

Knee Ligament Reconstruction/Repair Guideline

A knee ligament reconstruction and/or repair is considered medically appropriate when the documentation demonstrates the need for **ANY** of the following procedures:

Anterior Cruciate Ligament (ACL) Reconstruction-Skeletally Mature

Anterior cruciate ligament (ACL) reconstruction is indicated when is considered medically appropriate when the documentation demonstrates **ALL** of the following exist:

1. Weight-bearing X-rays do **NOT** demonstrate moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 3 or 4).
2. Clinical situation is true for **ANY** of the following:
    a. Young adults (18 to 25 years) with symptomatic functional instability symptoms (eg, giving-way episodes) **AND** ACL rupture confirmed by **ALL** of the following:
        i. MRI within the last 6 to 12 months
        ii. Clinical exam demonstrating objective anterior instability, with **ANY** of the following:
            A. Positive anterior drawer test with increased anterior translation compared with the contralateral knee.
            B. Positive lachman test with increased anterior tibial translation compared with the contralateral knee and/or a soft/diminished/ absent firm endpoint.
            C. Positive pivot shift test (eg, glide/clunk/gross or graded positive).
        iii. **ANY** of the following:
            A. Physical therapy (PT) is **NOT** required, full range of motion is present and **ANY** of the following:
                I. Extension to 0 degrees

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II. Flexion is 130 degrees or more.

III. Symmetry to the contralateral limb

B. PT is required when restricted range of motion is present, including **ANY** of the following:

I. Loss of full extension

II. Measurable side-to-side ROM asymmetry

III. Pain-limited ROM affecting functional activities

IV. Reduced flexion

See conservative management section below.

b. Adults (26 to 40 years) with persistent symptomatic functional instability (episodes of giving-way, pivot limitations) that affects ADLs, work, or sport **AND** ACL rupture confirmed by **EITHER** of the following:

i. MRI within the last 6 to 12 months

ii. Clinical exam demonstrating objective anterior instability, with **ANY** of the following:

A. Positive anterior drawer test with increased anterior translation compared with the contralateral knee.

B. Positive lachman test with increased anterior tibial translation compared with the contralateral knee and/or a soft, diminished, or absent firm endpoint.

C. Positive pivot shift test (eg, glide/clunk/gross or graded positive).

c. Older adults (more than 40 years) with clinically significant functional instability (eg, recurrent giving-way) affecting safety/ADLs/work or desired sport **AND** ACL rupture confirmed by MRI within the last 6 to 12 months.

3. Conservative therapy status for **ANY** of the following:

a. Conservative therapy attempted and **ALL** of the following:

i. Brace or orthotic use

ii. PT program is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for at least 6 weeks in the past 6 months with **NO** improvement in symptoms or functional ability

iii. PT program includes attempts a full-joint extension

iv. Treatment includes **ANY** of the following:

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A. Medication for pain management

B. Protective or modified weight-bearing

References: [2023 Knee and Lower Leg Injuries] [2021 Knee Ligament Imaging] [2024 Complications in Anterior Cruciate Ligament Surgery and How to Avoid Them] [58] [86]

Pediatric Anterior Cruciate Ligament (ACL)-Skeletally Immature

ACL reconstruction or management is medically appropriate when documentation demonstrates **ALL** of the following:

1. Signs and symptoms includes **ANY TWO** or more of the following:
    a. Audible "pop" heard or felt at the time of injury
    b. Difficulty straightening the knee
    c. Knee instability during pivoting or jumping
    d. Limited range of motion
    e. Muscle atrophy, especially of the quadriceps
    f. Pain especially with weight-bearin
    g. Swelling within 6 to 8 hours of the injury
    h. Tenderness around the joint
2. Imaging for presurgical evaluation includes **ALL** of the following:
    a. Knee X-ray within the last 3 to 6 months
    b. MRI within the last 3 to 6 months
3. Treatments includes ACL reconstruction for **ANY** of the following:
    a. Complete tear with significant instability(early surgery).
    b. Partial tear with persistent instability after structured rehab.

References: [94] [88]

Multiligamentous Knee Injuries (Two or More of ACL, PCL, MCL)

ACL reconstruction is medically appropriate in patients with concomitant (multiligamentous) knee injuries when documentation demonstrates **ALL** of the following:

1. Signs and symptoms includes **ANY TWO** or more of the following:

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a. Difficulty weight-bearing or need for protective bracing due to instability or pain.

b. Functional limitation affecting ADLs, work, or sport (eg, inability to pivot, difficulty with stairs).

c. Instability symptoms such as giving-way, buckling or rotational instability.

d. Joint line tenderness or localized pain consistent with meniscal or ligamentous injury.

e. Mechanical symptoms including catching, locking or painful clicking.

f. Swelling/effusion following the traumatic event.

2. Confirmed multiligament knee injury, defined as involvement of two or more major knee ligaments (eg, ACL with PCL and/or MCL), confirmed by MRI or compelling clinical examination.

3. Conservative management is **NOT** required, as multiligament knee injuries are inherently unstable, and nonoperative treatment (eg, physical therapy or bracing alone) is insufficient to restore knee stability or function.

References: [2023 Knee and Lower Leg Injuries] [2024 Precision Anterior Cruciate Ligament Reconstruction]

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

Lateral collateral ligament (LCL) or medial collateral ligament (MCL) reconstruction is considered medically appropriate when the documentation demonstrates **ALL** of the following:

1. Lateral collateral ligament (LCL) or medial collateral ligament (MCL) repair or reconstruction *should rarely occur* independent of additional ligament repair or reconstruction surgery.

2. **ALL** non-traumatic collateral ligament repair or reconstruction requests will be reviewed on a case-by-case basis.

Reference: [58]

Posterior Cruciate Ligament (PCL) Repair

Posterior cruciate ligament (PCL) reconstruction is considered medically appropriate when the documentation demonstrates **ALL** of the following:

1. Weight-bearing X-ray do **NOT** demonstrate moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 3 or 4).

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2. Conservative therapy attempted including **ALL** of the following:
    a. Physical therapy (PT) program is supervised by a licensed physical therapist,chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.
    b. Treatment includes **ANY** of the following:
        i. Activity modification with protective weight-bearing **OR** use of a brace/ orthotic.
        ii. Medication pain management (eg, NSAIDs, analgesics)
3. Knee instability (eg, buckling, giving out) and/or weakness is reported by individual.
4. MRI within the last 3 to 6 months demonstrates near complete or complete PCL tear.
5. Physical exam demonstrates knee instability (positive posterior drawer sign, reverse pivot shift test, quadriceps active, tibial drop back or posterior sag sign).

References: [58] [95]

Knee Debridement With or WITHOUT Chondroplasty Guideline

A knee debridement, with or **WITHOUT** chondroplasty, is considered medically appropriate when the documentation demonstrates **ANY** of the following conditions:

1. Arthrofibrosis, when **ALL** of the following are true:
    a. **ABSENT** X-rays (weight-bearing) demonstrating moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 3 or 4).
    b. Physical exam demonstrates decreased range-of-motion (ROM), pain and stiffness consistent with arthrofibrosis.
    c. Physical therapy (PT) program is supervised by a licensed physical therapist chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.
2. Femoral condyle and tibial plateau (non-patellofemoral) articular cartilage debridement when **ALL** of the following are true:
    a. **ABSENT** X-rays (weight-bearing) demonstrating moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 3 or 4).
    b. Conservative therapy attempted including **ALL** of the following:
        i. Brace or orthotic use
        ii. Physical therapy (PT) program is supervised by a licensed physical therapist chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.

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iii. Treatment includes **ANY** of the following:

A. Corticosteroid injection, intraarticular

B. Medication pain management (eg, NSAIDs, analgesics)

c. Effusions are recurrent (2 or more).

d. MRI within the last 3 to 6 months demonstrates an unstable chondral defect.

e. Physical exam demonstrates knee pain **AND** loss of function.

3. Patellofemoral chondrosis debridement with chondroplasty, may be indicated when **ALL** of the following are true:

a. **ABSENT** evidence of **ANY** of the following:

i. Bursitis

ii. Referred pain

iii. Radicular pain

iv. Tendinitis

b. **ABSENT** X-rays (weight-bearing) demonstrating moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 3 or 4).

c. Conservative therapy attempted including **ALL** of the following:

i. Brace or orthotic use

ii. Physical therapy (PT) program is supervised by a licensed physical therapist chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.

iii. Treatment includes **ANY** of the following:

A. Corticosteroid injection, intraarticular

B. Medication pain management (eg, NSAIDs, analgesics)

d. Physical exam demonstrates anterior knee pain (localized to the patellofemoral joint) **AND** loss of function.

4. Osteochondritis dissecans (OCD) in children is considered medically appropriate when the documentation demonstrates **ALL** of the following:

a. Symptoms includes **ANY TWO** or more of the following:

i. Decreased range of motion

ii. Joint pain or soreness especially during or after activity

iii. Limping

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iv. Locking or catching sensation

v. Swelling

vi. Tenderness over the joint

b. Imaging for presurgical evaluation includes **ALL** of the following:

i. X-ray within the last 3 to 6 months

ii. MRI within 3 to 6 months

c. Treatment includes **ALL** of the following:

i. Conservative therapy attempted including **ALL** of the following:

A. Brace or orthotic use

B. Physical therapy (PT) program that is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for at least 6 weeks in the past 6 months with NO improvement in symptoms or functional ability.

ii. Surgical Management attempted including **ANY** of the following:

A. Lesions larger than 150mm^2 or those extending into shoulders of the talus

B. Older age/skeletal maturity: children with less growth remaining (eg, nearing skeletal maturity) have lower healing potential

C. Unstable or detached lesion

References: [78] [85] [74] [94]

Knee Lysis of Adhesions Guideline

Knee arthroscopy for lysis of adhesions is considered medically appropriate when the documentation demonstrates **ANY** of the following:

1. Post-operative ligamentous repair or joint reconstruction by *12 weeks or longer* with **ALL** of the following:

   a. Physical exam demonstrates limited range-of-motion (ROM) of less than 105 degrees of flexion **OR** flexion contracture more than 10 degrees.

   b. Physical therapy (PT) program is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.

2. Trauma or infection of the knee with **ALL** of the following:

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a. *At least 12 weeks* since trauma occurred or infection resolved.

b. Combined planned procedure with manipulation under anesthesia (MUA)

Reference: [32]

Meniscectomy or Meniscal Repair Contraindications

An arthroscopic meniscectomy or meniscal repair may be contraindicated for **ANY** of the following:

1. Intra-articular cortisone injection *within 4 weeks* of surgery.
2. Osteoarthritis for **ANY** of the following:
   a. Meniscectomy with Kellgren-Lawrence grade 4
   b. Meniscal repair with Kellgren-Lawrence grade 3 to 4
3. Relative contraindication: partial meniscectomy is **NOT** a recommended treatment approach for degenerative, non-traumatic meniscal tears.

References: [58] [68] [24]

Meniscectomy Guideline

A meniscectomy is considered medically appropriate when the documentation demonstrates **ALL** of the following:

1. **ABSENT** X-rays (weight-bearing) demonstrating moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 4).
2. Clinical situation is true for **ANY** of the following:
   a. Age under 18 years old and MRI demonstrates a meniscus tear **AND** exam is positive for meniscal findings.
   b. MRI demonstrates a root tear, a peripheral tear in the vascular zone or other repairable tear **AND** localized pain in the corresponding compartment on exam.
   c. MRI demonstrates bucket-handle meniscus tear (does **NOT** include an extruded meniscus or flap tears) and **ALL** of the following:
      i. Acute knee trauma, locked-knee
      ii. Physical exam demonstrates evidence for meniscal findings or locked-knee (terminal extension lost).
   d. Physical exam is consistent with meniscal tear (eg, McMurray's or Apley grind test) and **ALL** of the following:

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i. Condition includes **ANY** of the following:

A. Knee joint line pain with forced hyperextension on exam

B. Knee joint line pain with maximum flexion on exam

C. Symptoms reported include catching or locking

ii. Conservative therapy attempted including **ALL** of the following:

A. Physical therapy (PT) program is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.

B. Treatment includes **ANY** of the following:

I. Activity modification with protective weight-bearing **OR** use of a brace/orthotic.

II. Corticosteroid injection, intraarticular

III. Medication pain management (eg, NSAIDs, analgesics)

iii. Imaging results include **EITHER** of the following:

A. X-rays (weight-bearing) within the last 3 to 6 months demonstrates mild, minimal or **NO** arthritis.

B. MRI within the last 3 to 6 months demonstrates a frank meniscal tear and either mild or **NO** arthritis with **ANY** of the following:

I. **NO** articular cartilage, full-thickness, with cartilage loss or defects

II. **NO** articular cartilage thinning that is moderate or severe.

III. **NO** meniscus extrusion

IV. **NO** osteophytes that are more than mild.

V. **NO** subchondral cysts or edema

References: [58] [23]

Meniscal Repair Guideline

A meniscal repair is considered medically appropriate when the documentation demonstrates **ALL** of the following:

1. **ABSENT** X-rays (weight-bearing) demonstrating moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 3 or 4).

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2. Clinical situation is true for **ANY** of the following:
    a. MRI demonstrates a root tear, a peripheral tear in the vascular zone or other repairable tear **AND** localized pain in the corresponding compartment on exam.
    b. Age is under 18 years old and MRI demonstrates a meniscus tear **AND** exam is positive for meniscal findings.
    c. Ages is 40 years old or younger and meet **ALL** of the following:
        i. Condition includes **ANY** of the following:
            A. Knee joint line pain with forced hyperextension on exam
            B. Knee joint line pain with maximum flexion on exam
            C. Symptoms reported include catching or locking
        ii. Imaging results include **EITHER** of the following:
            A. X-rays (weight-bearing) within the last 3 to 6 months demonstrates mild, minimal or **NO** arthritis.
            B. MRI within the last 3 to 6 months demonstrates a frank meniscal tear and either mild or **NO** arthritis with **ANY** of the following:
                I. **NO** articular cartilage, full-thickness, with cartilage loss or defects
                II. **NO** articular cartilage thinning that is moderate or severe.
                III. **NO** meniscus extrusion
                IV. **NO** osteophytes that are more than mild.
                V. **NO** subchondral cysts or edema
    d. Age is 41 years old or older and meets **ALL** of the following:
        i. Condition includes **ANY** of the following:
            A. Knee joint line pain with forced hyperextension on exam
            B. Knee joint line pain with maximum flexion on exam
            C. Symptoms reported include catching or locking
        ii. Imaging results include **EITHER** of the following:
            A. X-rays (weight-bearing) within the last 3 to 6 months demonstrates mild, minimal or **NO** arthritis.
            B. MRI within the last 3 to 6 months demonstrates a frank meniscal tear and either mild or **NO** arthritis with **ANY** of the following:

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I. **NO** articular cartilage, full-thickness, with cartilage loss or defects

II. **NO** articular cartilage thinning that is moderate or severe.

III. **NO** meniscus extrusion

IV. **NO** osteophytes that are more than mild.

V. **NO** subchondral cysts or edema

iii. Conservative therapy attempted including **ALL** of the following:

A. Treatment includes **ANY** of the following:

I. Activity modification with protective weight-bearing **OR** use of a brace/orthotic.

II. Corticosteroid injection, intraarticular

III. Medication pain management (eg, NSAIDs, analgesics)

B. Physical therapy (PT) program that is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.

e. **NO** conservative treatment for **ANY** of the following:

i. Acute traumatic unstable tear with mechanical symptoms

ii. Displaced bucket-handle tear

iii. Extension block / inability to fully straighten knee

iv. Obstructive meniscal fragment causing ROM block

v. True mechanical locking of the knee

References: [68] [58] [23]

Meniscal Transplant Guideline

An arthroscopic meniscal transplant is considered medically appropriate when the documentation demonstrates **ALL** of the following:

1. **ABSENT** X-rays (weight-bearing) demonstrating moderate to severe articular damage/ degeneration classified by the modified outerbridge scale as grade III or IV.
2. **ABSENT** X-rays (weight-bearing) demonstrating moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 3 or 4).
3. Age is less than 40 years old and skeletally mature.

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4. Alignment is normal (**NO** varus or valgus deformities).
5. Body mass index (BMI) is under 35.
6. Conservative therapy attempted including **ALL** of the following:
    a. Medication pain management (eg, NSAIDs, analgesics)
    b. Physical therapy (PT) program is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.
    c. Treatment includes **ANY** of the following:
        i. Activity modification with protective weight-bearing **OR** use of a brace/ orthotic.
        ii. Corticosteroid injection, intraarticular
7. Ligamentous stability obtained prior to surgery or is planned concurrently with transplant.
8. MRI confirms meniscal deficient compartment suspected from symptoms **OR** previous imaging/testing demonstrated subtotal or total meniscectomy.

References: [58] [84]

Patellar Realignment Guideline

Patellar realignment for treatment of patellar malalignment and/or patellar instability is be considered medically appropriate when the documentation demonstrates **ANY** of the following:

1. Articulation is abnormal or there is malalignment demonstrated on imaging and **ALL** of the following:
    a. **ABSENT** fracture or loose body on imaging.
    b. Physical exam demonstrates patellofemoral pain and patellar apprehension with positive J sign/abnormal patellar articulation.
    c. Conservative therapy attempted including **ALL** of the following:
        i. Physical therapy (PT) program is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for *at least 3 months in the past 6 months* with **NO** improvement in symptoms or functional ability.
        ii. Treatment includes **ANY** of the following:
            A. Activity modification with protective weight-bearing **OR** use of a brace/orthotic.

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B. Corticosteroid injection, intraarticular

C. Medication pain management (eg, NSAIDs, analgesics)

2. Patellar dislocations or subluxations **2 or more times** with X-ray demonstrating medial patellofemoral ligament (PFL) deficiency (eg, evidence of acute or remote injury, scarring, incomplete healing) **OR** physical examination demonstrates evidence of patellar instability (positive apprehension test).

3. Traumatic patellar dislocation, acute, **AND** imaging demonstrates intraarticular or osteochondral fracture or loose body.

References: [68] [25] [26]

Lateral Retinacular Release Guideline

Lateral retinacular release to treat lateral patellar compression syndrome is considered medically appropriate when the documentation demonstrates **ANY** of the following:

1. Lateral femoral trochlear or lateral patella facet cartilage lesion with **ALL** of the following:
    a. **ABSENT** X-rays (weight-bearing) demonstrating moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 3 or 4).
    b. Conservative therapy attempted including **ALL** of the following:
        i. Physical therapy (PT) program is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.
        ii. Treatment includes **ANY** of the following:
            A. Activity modification with protective weight-bearing **OR** use of a brace/orthotic.
            B. Corticosteroid injection, intraarticular
            C. Medication pain management (eg, NSAIDs, analgesics)
2. Imaging confirms lateral patellar tilt **AND** exam demonstrates isolated patellofemoral pain tilt test.

Reference: [68]

Knee Removal of a Loose or Foreign Body Guideline

Removal of a loose or foreign body in the knee is considered medically appropriate when the documentation demonstrates **ALL** of the following:

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1. Physical exam demonstrates pain and **ANY** of the following:
    a. Buckling under weight
    b. Instability and weakness
    c. Mechanical symptoms (eg, clicking, popping, locking)
2. X-rays within the last 3 to 6 months or MRI within the last 3 to 6 months demonstrates an intraarticular loose body, foreign body or impinging osteophytes.

Reference: [68]

Knee Restorative Cartilage Techniques Guideline

Restorative cartilage techniques on the knee (including osteochondral allograft transplant (OATS), microfracture, autologous mosaicplasty, autologous chondrocyte implantation (ACI), osteochondral allograft implantation, abrasion arthroplasty, subchondral drilling or alternative restorative techniques) is considered medically appropriate when the documentation demonstrates **EITHER** of the following:

1. Condition includes **ALL** of the following:
    a. **ABSENT** X-rays (weight-bearing) demonstrating moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 3 or 4).
    b. Age is less than 50 (activity of the individual can be considered in older individuals) and skeletally mature:
    c. Conservative therapy attempted including **ALL** of the following:
        i. Physical therapy (PT) program is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.
        ii. Treatment includes **ANY** of the following:
            A. Activity modification with protective weight-bearing **OR** use of a brace/orthotic.
            B. Corticosteroid injection, intraarticular
            C. Medication pain management (eg, NSAIDs, analgesics)
    d. Imaging results demonstrate **ANY** of the following:
        i. MRI confirms a full-thickness, weight-bearing lesion that is less than 2.5 cm^2.

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ii. MRI demonstrates full-thickness, weight-bearing lesion that is between 1.0 cm^2 and 2.0 cm^2; consistent with outerbridge classification of grade III or grade IV **AND** lesion must be single and only involve one side of the joint.

iii. MRI results confirm a full thickness chondral or osteochondral lesion of the femoral condyles or trochlea; less than 2.5 cm^2.

e. Pain, disabling localized knee pain for *at least 6 months*

f. Physical exam demonstrates limited range-of -motion and/or mechanical symptoms (eg, clicking, popping, locking)

g. Physical exam or imaging confirms ligamentous stability and intact meniscus.

2. Condition includes **ALL** of the following:

a. **ABSENT** X-rays (weight-bearing) demonstrating moderate to severe osteoarthritic changes (Kellgren-Lawrence grade 3 or 4).

b. Conservative therapy attempted including **ALL** of the following:

i. Physical therapy (PT) is clinically managed (ie, qualified licensed clinician performs assessments, creates care plan and monitors outcomes) *for at least 6 weeks in the past 6 months* with **NO** significant improvement in symptoms or functional ability.

ii. Treatment includes **ANY** of the following:

A. Activity modification with protective weight-bearing **OR** use of a brace/orthotic.

B. Corticosteroid injection, intraarticular

C. Medication pain management (eg, NSAIDs, analgesics)

c. Imaging supports patellofemoral chondrosis (outerbridge grade III or IV) and ALL of the following:

i. Physical exam demonstrates pain localized to the patellofemoral joint

ii. Physical exam demonstrates anterior knee pain and associated functional disability which interferes with activities of daily living

d. Pain in the knee is anterior and associated with functional disability that interferes with activities of daily living (ADLs). (ADLs include bathing, dressing, eating, toilieting, etc.)

e. Pain in the knee is localized to the patellofemoral chondrosis (outerbridge grade III or IV).

References: [68] [4]

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Synovectomy Guideline

A synovectomy and/or synovial biopsy is considered medically appropriate when the documentation demonstrates **ANY** of the following:

1. Hemarthrosis from injury, coagulopathy or bleeding disorder demonstrated on physical exam, joint aspiration and/or MRI.
2. Plica is painful and demonstrated on exam **AND** MRI with **ALL** of the following:
    a. Conservative therapy attempted including **ALL** of the following:
        i. Physical therapy (PT) program is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.
        ii. Treatment includes **ANY** of the following:
            A. Activity modification with protective weight-bearing **OR** use of a brace/orthotic.
            B. Corticosteroid injection, intraarticular
            C. Medication pain management (eg, NSAIDs, analgesics)
    b. Joint effusion aspiration **OR** corticosteroid injection (effusion may not be present with symptomatic plica).
3. Proliferative pigmented villonodular synovitis, synovial chondromatosis, sarcoid synovitis, or similar proliferative synovial disease, traumatic hypertrophic synovitis with **ALL** of the following:
    a. Conservative therapy attempted including **ALL** of the following:
        i. Physical therapy (PT) program is supervised by a licensed physical therapist chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.
        ii. Treatment includes **ANY** of the following:
            A. Activity modification with protective weight-bearing **OR** use of a brace/orthotic.
            B. Corticosteroid injection, intraarticular
            C. Medication pain management (eg, NSAIDs, analgesics)
    b. Diagnosis is confirmed by biopsy, history or MRI.
4. Rheumatoid arthritis **AND** rheumatoid synovium with **ALL** of the following:

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a. Conservative therapy attempted including **ALL** of the following:

i. Physical therapy (PT) program is supervised by a licensed physical therapist, chiropractor or through tele-rehab physical therapy for *at least 6 weeks in the past 6 months* with **NO** improvement in symptoms or functional ability.

ii. Treatment includes **ANY** of the following:

A. Activity modification with protective weight-bearing **OR** use of a brace/orthotic.

B. Corticosteroid injection, intraarticular

C. Medication pain management (eg, NSAIDs, analgesics)

b. **NOT** responsive to *at least 6 months* of disease modifying drug (DMARD) therapy

References: [68] [4]

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Arthroscopy, Knee/Tibia Procedure Codes

Table 1. Arthroscopy, Knee/Tibia Procedure Codes

CODE	DESCRIPTION
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
27340	Excision, prepatellar bursa
27372	Removal of foreign body, deep, thigh region or knee area
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 (eg, mosaicplasty) (includes harvesting of autograft[s])
27418	Anterior tibial tubercleplasty (eg, Maquet type procedure)
27420	Reconstruction of dislocating patella; (eg, Hauser type procedure)
27422	Reconstruction of dislocating patella; with extensor realignment and/or muscle advancement or release (eg, 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
27472	Repair, nonunion or malunion, femur, distal to head and neck; with iliac or other autogenous bone graft (includes obtaining graft)
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) (eg, mosaicplasty) (includes harvesting of the auto-graft[s])
29867	Arthroscopy, knee, surgical; osteochondral allograft (eg, mosaicplasty)

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CODE	DESCRIPTION
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 (eg, osteochondritis dissecans fragmentation, chondral fragmentation)
29875	Arthroscopy, knee, surgical; synovectomy, limited (eg, plica or shelf resection) (separate procedure)
29876	Arthroscopy, knee, surgical; synovectomy, major, 2 or more compartments (eg, medial or lateral)
29877	Arthroscopy, knee, surgical; debridement/shaving of articular cartilage (chondroplasty)
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

Knee Arthroscopy Summary of Changes

Knee Arthroscopy guidelines from 2024 to 2025 had the following changes:

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Table 1. 2025 Knee Arthroscopy Summary of Changes

Date	Type of Change	Summary
3/11/2025	Annual Review	Arthroscopy changes in general • Updated conservative care section for clarity • Added conservative-treatment: Tele-rehab physical therapy • Added: new medically-necessary criteria for Knee Arthroscopic Chondroplasty Guideline Anterior Cruciate Ligament (ACL) Guideline • Reworded ACL section for clarity • Added: clinical characterization of the mechanism of ACL injury. • Added: age-stratified clinical indications for ACL Reconstruction/Repair • Added: new medically-necessary criteria for (Multiligamentous) Knee Injuries (Two or More of ACL, PCL, MCL) • Removed: Conservative treatment in the Pediatric Age group ACL Knee Manipulation Under Anesthesia (MUA) Guideline • Reworded MUA section for clarity Meniscal Repair Guideline • Updated indications that do/do not require a trial of conservative therapy Patellar Realignment Guideline • Removed:"despite 6 months of non operative treatment"as per the evidence

Medically Appropriate Knee Procedure Codes

Requests for the following procedure codes are considered medically appropriate:

27301	Incision and drainage, deep abscess, bursa, or hematoma, thigh or knee region
27303	Incision, deep, with opening of bone cortex, femur or knee (eg, osteomyelitis or bone abscess)
27310	Arthrotomy, knee, with exploration, drainage, or removal of foreign body (eg, infection)
27331	Arthrotomy, knee; including joint exploration, biopsy, or removal of loose or foreign bodies
27334	Arthrotomy, with synovectomy, knee; anterior OR posterior
27335	Arthrotomy, with synovectomy, knee; anterior AND posterior including popliteal area
27340	Excision, prepatellar bursa
27347	Excision of lesion of meniscus or capsule (eg, cyst, ganglion), knee
27360	Partial excision (craterization, saucerization, or diaphysectomy) bone, femur, proximal tibia and/or fibula (eg, osteomyelitis or bone abscess)

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27372	Removal of foreign body, deep, thigh region or knee area
27347	Excision of lesion of meniscus or capsule (eg, cyst, ganglion), knee
27360	Partial excision (craterization, saucerization, or diaphysectomy) bone, femur, proximal tibia and/or fibula (eg, osteomyelitis or bone abscess)
27372	Removal of foreign body, deep, thigh region or knee area
27440	Arthroplasty, knee, tibial plateau;
27441	Arthroplasty, knee, tibial plateau; with debridement and partial synovectomy
27442	Arthroplasty, femoral condyles or tibial plateau(s), knee;
27443	Arthroplasty, femoral condyles or tibial plateau(s), knee; with debridement and partial synovectomy
27445	Arthroplasty, knee, hinge prosthesis (eg, Walldius type)
27454	Osteotomy, multiple, with realignment on intramedullary rod, femoral shaft (eg, 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)
27470	Repair, nonunion or malunion, femur, distal to head and neck; without graft (eg, compression technique)
27472	Repair, nonunion or malunion, femur, distal to head and neck; with iliac or other autogenous bone graft (includes obtaining graft)
27495	Prophylactic treatment (nailing, pinning, plating, or wiring) with or without methylmethacrylate, femur
27519	Open treatment of distal femoral epiphyseal separation, includes internal fixation, when performed
27580	Arthrodesis, knee, any technique
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)
29871	Arthroscopy, knee, surgical; for infection, lavage and drainage
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

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Knee Secondary Procedure Codes

Table 1. Knee Surgery Associated Bundled Procedure Codes

CODE	DESCRIPTION
27310	Arthrotomy, knee, with exploration, drainage, or removal of foreign body (eg, infection)
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)
27365	Radical resection of tumor, femur or knee
27455	Osteotomy, proximal tibia, including fibular excision or osteotomy (includes correction of genu varus [bowleg] or genu valgus [knock-knee]); before epiphyseal closure
27495	Prophylactic treatment (nailing, pinning, plating, or wiring) with or without methylmethacrylate, femur
27516	Closed treatment of distal femoral epiphyseal separation; without manipulation
27517	Closed treatment of distal femoral epiphyseal separation; with manipulation, with or without skin or skeletal traction
27519	Open treatment of distal femoral epiphyseal separation, includes internal fixation, when performed

Knee Procedure Measuring Systems section

American College of Rheumatology Classification Criteria for Rheumatoid Arthritis (RA)

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Table 1. American College of Rheumatology (ACR) Classification Criteria for Rheumatoid Arthritis (RA)

ACR Classification Criteria	
JOINT DISTRIBUTION (0 to 5)	
1 Large Joint	0
2 to 10 Large Joints	1
1 to 3 Small Joints (large joints not counted)	2
4 to 10 Small Joints (large joints not counted)	3
More than 10 Joints (at least one is small)	5
SEROLOGY (0 to 3)	
Negative RF **AND** negative ACPA	0
Low positive RF **OR** low positive ACPA	2
High positive RF **OR** high positive ACPA	3
SYMPTOM DURATION (0 or 1)	
Under 6 weeks	0
6 weeks or longer	1
ACUTE PHASE REACTANTS (0 or 1)	
Normal CRP AND normal ESR	0
Abnormal CRP OR abnormal ESR	1
Score of 6 or more is definite RA	

International Cartilage Research Society (ICRS) Scale provides a grade based on the level of cartilage abnormality.

Table 2. International Cartilage Research Society (ICRS) Grade Scale

Description	Grade
Normal cartilage	0
Nearly normal cartilage *Superficial lesions; soft indentation and/or superficial fissures and cracks.*	1
Abnormal cartilage *Lesions extending down to less than50% of cartilage depth.*	2
Severely abnormal cartilage *Cartilage defects extending down more than 50% of cartilage depth, down to calcified layer, and down to (but not through) the subchondral bone. Blisters are included in this Grade.*	3
Severely abnormal cartilage (through the subchondral bone) *Penetration of subchondral bone that may or may not be across the full diameter of defect.*	4

Kellgren-Lawrence Grading System is a measurement of level of osteoarthritis using standing/ weight-bearing X-rays, as follows:

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Table 3. Kellgren-Lawrence Grading System

Description	Grade
No radiographic features of osteoarthritis	0
Possible joint space narrowing and osteophyte formation	1
Definite osteophyte formation with possible joint space narrowing	2
Moderate multiple osteophytes, definite narrowing of joint space, some sclerosis and possible deformity of bone contour	3
Large osteophytes, marked narrowing of joint space, severe sclerosis and definite deformity of bone contour	4

Marx Scale is a scale for measuring the activity level in ACL tears. The individual is asked to rate his/her activity when performed at healthiest state in the past 12 months.

Table 4. Marx Scale

Occurrence → Activity ↓	Less than once a month	Once a month	Once a week	2 or 3 times a week	4 or more times a week
Running (while jogging or playing a sport)	0	1	2	3	4
Cutting (changing directions quick-ly while running)	0	1	2	3	4
Deceleration (coming to a quick stop from running)	0	1	2	3	4
Pivoting (turning body with 1 foot planted and the other mobile)	0	1	2	3	4

Outerbridge Arthroscopic Grading System is a system to measure knee cartilage deterioration.

Table 5. Outerbridge Arthroscopic Grading System

Description	Grade
Normal cartilage	0
Softening and swelling/blistering	I
Partial thickness defect, fissures smaller than 1.5 cm diameter/wide	II
Fissures /defects down to subchondral bone with intact calcified cartilage layer, diameter larger than 1.5 cm	III
Exposed subchondral bone	IV

Tegner Scores is a subjective scale for determining the activity level in acute cruciate ligament (ACL) tears. The individual rates his/her perception of the highest activity level before injury and at current time measure is taken.

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Table 6. Tegner Scores

Description	Level
Sick leave or disability pension because of knee problems	0
Work- sedentary (secretarial, etc.)	1
Work- light laborWalking on uneven ground possible, but impossible to backpack or hike	2
Work- light labor (nursing, etc.)	3
Work- moderately heavy labor (eg, truck driving)	4
Work- heavy labor (construction, etc.) • Competitive sports- cycling, cross-country skiing • Recreational sports- jogging on uneven ground at least twice weekly	5
Recreational sports- tennis and badminton, handball, racquetball, down-hill skiing, jogging at least 5 times per week	6
Competitive sports- tennis, running, motorcars speedway, handball Recreational sports- soccer, football, rugby, bandy, ice hockey, basketball, squash, racquetball, running	7
Competitive sports- racquetball or bandy, squash or badminton, track and field athletics (jumping, etc.), down-hill skiing	8
Competitive sports- soccer, football, rugby (lower divisions), ice hockey, wrestling, gymnastics, basketball	9
Competitive sports- soccer, football, rugby (national elite)	10

Knee Surgery Definition Section

Adhesions are fibrous bands of scar tissue that form between organs or tissues that are not normally connected. They can develop after surgery, infection, inflammation, or trauma.

American College of Rheumatology Classification Criteria for Rheumatoid Arthritis (RA)

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Table 1. American College of Rheumatology (ACR) Classification Criteria for Rheumatoid Arthritis (RA)

ACR Classification Criteria	
JOINT DISTRIBUTION (0 to 5)	
1 Large Joint	0
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SEROLOGY (0 to 3)	
Negative RF **AND** negative ACPA	0
Low positive RF **OR** low positive ACPA	2
High positive RF **OR** high positive ACPA	3
SYMPTOM DURATION (0 or 1)	
Under 6 weeks	0
6 weeks or longer	1
ACUTE PHASE REACTANTS (0 or 1)	
Normal CRP AND normal ESR	0
Abnormal CRP OR abnormal ESR	1
Score of 6 or more is definite RA	

The "**anterior cruciate ligament" (ACL)** is a key ligament located in the knee joint that connects the thighbone (femur) to the shinbone (tibia), primarily responsible for stabilizing the knee during sudden direction changes and preventing the shinbone from sliding too far forward relative to the thighbone; it's commonly injured in sports involving pivoting movements like soccer and basketball.

Anterior cruciate ligament (ACL) injury refers to the stretching or tearing of the ACL, one of the major ligaments in the knee. This injury typically occurs during activities involving sudden stops, changes in direction, or direct impact to the knee, such as during sports. ACL injuries can range from mild stretching to complete tears of the ligament.

Arthrodesis is the surgical fusion of a joint.

Arthrofibrosis is a fibrotic joint disorder characterized by excessive collagen production and adhesions that result in restricted joint motion and pain.

Arthropathy is any disease affecting a joint.

Arthroplasty is the operative formation or restoration of a joint.

Arthroscopy is the examination of a joint, specifically, the inside structures. The procedure is performed by inserting a specifically designed illuminated device into the joint through a small incision. This instrument is called an arthroscope. The procedure of arthroscopy is primarily associated with the process of diagnosis.

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Arthrotomy is cutting into a joint to expose its interior.
Aseptic loosening is the failure of joint prostheses without the presence of mechanical cause or infection.
Avascular necrosis is localized death of bone tissue due to impaired or disrupted blood supply (as from traumatic injury or disease).
Bacteremia is viable bacteria in the blood.
Body mass index (BMI) is a person's weight in kilograms (or pounds) divided by the square of height in meters (or feet). A high BMI can indicate high body fatness. BMI screens for weight categories that may lead to health problems, but it does not diagnose the body fatness or health of an individual.
Normal weight- 18.5 - less than 25
Overweight - 25 to less than 30
Obese type 1- 30 to less than 35
Obese type 2 - 35 to less than 40
Obese type 3 - 40 or higher
Bone graft is a procedure where osseous matter is transplanted from a donor site to a recipient site, without anastomosis of nutrient vessels.
"Bone on bone" is a term used to describe the advanced stage of osteoarthritis, a condition where the cartilage in a joint wears away and the bones rub together.
A **bucket handle tear** is a tear in the knee's meniscus that occurs when the cartilage is displaced and resembles the shape of a bucket handle. It's a serious injury that often requires surgery.
Bursitis is the painful inflammation of small, fluid-filled sacs that cushion the bones, tendons and muscles near your joints
Cartilage is a strong, flexible connective tissue that protects your joints and bones. It acts as a shock absorber throughout your body
Chondral defect is a focal area of damage to the articular cartilage (the cartilage that lines the end of the bones).
Chondromalacia patella is the breakdown of cartilage on the underside of the kneecap (patella). When the kneecap rubs against the thigh bone, it hurts and swells.
Chondroplasty is a surgical procedure that involves repairing or restoring damaged cartilage in a joint. It is typically performed using arthroscopy, a minimally invasive surgical technique that uses a small camera and surgical instruments inserted through tiny incisions.
Claudication is a condition in which cramping pain in the leg is induced by exercise, typically caused by obstruction of the arteries.
Contracture the permanent tightening of the muscles, tendons, skin, and nearby tissues that causes the joints to shorten and become very stiff. This prevents normal movement of a joint or other body part.
Corticosteroids are potent drugs used to reduce inflammation in the body's tissues. They are different from anabolic steroids. These are illegally used by some athletes to increase muscle tone

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Crepitus is the medical term for cracking or popping sounds in a joint such as the knee. Crepitus can have associated pain symptoms and treatments.
Cyclops lesions are nodules or hypertrophied graft tissues that are commonly associated with a more anteriorly placed tibial tunnel or a disorganized mass of scar tissue in the anterior compartment.
Debridement is the process of removing nonliving tissue or foreign objects from pressure ulcers, burns, and other wounds.
Deformity is an alteration in or distortion of the natural form of a part, organ, or the entire body.
Excision removal of tissue from the body using a scalpel (a sharp knife), laser, or other cutting tool. A surgical excision is usually done to remove a lump or other suspicious growth.
Extensor mechanism is a group of structures that work together to move a joint into an extended position. For most joints, this mechanism is its group of extensor tendons; for other joints, additional structures are involved, such as the patella (a sesamoid bone), which is part of the extensor mechanism of the knee.
Fat pad impingement occurs when the infrapatellar fat pad can become impinged (pinched) between the patella (kneecap) and the femoral condyle (large bony prominence at the end of the long bone of the thigh). Impingement causes microtrauma within the fat pad, resulting in pain, swelling and inflammation.
Flail knee is the loss of function in the knee joint caused by loss of ability to stabilize the joint in any plane within its normal range of motion.
Hemarthrosis is a condition where blood accumulates in a joint cavity, causing pain, swelling, and limited mobility.
Hemophilic arthritis is joint disease resulting from hemophilic bleeding into a joint.
Incision and drainage a surgical cut made to achieve access or to allow discharge of unwanted material such as pus.
Inflammatory arthritides is joint inflammation, often accompanied by pain, swelling, stiffness, and deformity.
Joint laxity refers to a condition where the ligaments and other tissues that support a joint are overly loose or stretched. This can result in increased range of motion and instability in the affected joint.
Kellgren-Lawrence Grading System is a measurement of level of osteoarthritis using standing/ weight-bearing X-rays, as follows:

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Table 2. Kellgren-Lawrence Grading System

Description	Grade
No radiographic features of osteoarthritis	0
Possible joint space narrowing and osteophyte formation	1
Definite osteophyte formation with possible joint space narrowing	2
Moderate multiple osteophytes, definite narrowing of joint space, some sclerosis and possible deformity of bone contour	3
Large osteophytes, marked narrowing of joint space, severe sclerosis and definite deformity of bone contour	4

Knee arthroscopy involves the use of a fiber-optic camera within the knee joint, accessed through a small incision for diagnostic visualization purposes. Additional tools may then be introduced to remove, repair, or reconstruct the joint.

A **Lateral Collateral Ligament (LCL)** is a band of tissue located on the outside of the knee joint, connecting the thighbone (femur) to the smaller lower leg bone (fibula), which primarily functions to stabilize the knee by preventing excessive sideways movement or rotation; essentially acting as a "check" against outward stress on the knee joint.

Legg-Calve-Perthe's disease is a childhood condition typically occurring in children aged 4–10 years (more common in boys), occurs when blood supply to the ball part (femoral head) of the hip joint is temporarily interrupted and the bone begins to die. This weakened bone gradually breaks apart and can lose its round shape. It is a form of osteonecrosis of the femoral head, which can lead to significant collapse of the femoral head. Risk factors include genetic predispositions, environmental factors such as maternal smoking and passive smoke exposure, and certain hematologic condition scan increase the likelihood of developing LCPD, the presence of one or more does NOT guarantee the onset of the disease, nor is it necessary for all risk factors to be present for the disease to manifest. **NOTE**: NOT all symptoms are required to be present in Legg-Calvé-Perthes disease (LCPD).Symptoms can vary depending on the stage of the disease, and not all patients will exhibit all symptoms.

A **ligament** is a fibrous connective tissue that attaches bone to bone, and usually serves to hold structures together and keep them stable

Limb length discrepancy is a difference in size between the length of both arms or both legs.

Lipoma arborescens, also called diffuse articular lipomatosis, is a rare articular lesion consisting of subsynovial villous proliferation of mature fat cells, usually involving the suprapatellar pouch of the knee joint.

A **malunion** is a fracture that heals in an abnormal position. This can cause the bone to appear bent, twisted, or rotated. Malunions can occur in any bone in the body, but are more common in severe breaks.

Manipulation under anesthesia (MUA) is a noninvasive treatment technique used to treat acute and chronic conditions, including muscular or spinal pain. Under anesthesia, spastic muscles are believed to relax and pain sensations diminish, which theoretically may permit joint manipulation through a full range of motion.

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Marx Scale is a scale for measuring the activity level in ACL tears. The individual is asked to rate his/her activity when performed at healthiest state in the past 12 months.

Table 3. Marx Scale

Occurrence → Activity ↓	Less than once a month	Once a month	Once a week	2 or 3 times a week	4 or more times a week
Running (while jogging or playing a sport)	0	1	2	3	4
Cutting (changing directions quickly while running)	0	1	2	3	4
Deceleration (coming to a quick stop from running)	0	1	2	3	4
Pivoting (turning body with 1 foot planted and the other mobile)	0	1	2	3	4

The **Medial Collateral Ligament (MCL)** is a strong, thick band of tissue located on the inner side of the knee joint. It connects the femur (thigh bone) to the tibia (shin bone).

Meniscus Repair To repair the meniscus, doctors perform arthroscopic surgery, which requires making two to three small incisions in the knee, rather than one large open incision. Your surgeon inserts a tiny camera through one of these incisions to provide a live view of the meniscus and the surgical repair.

A **meniscal transplant** is a surgical procedure that involves replacing a damaged or torn meniscus with a healthy meniscus from a donor. The meniscus is a crescent-shaped piece of cartilage that cushions the knee joint.

A **meniscectomy** is a surgical procedure to remove a torn part or all of the meniscus in the knee. It's a common orthopedic procedure to treat knee pain.

Metastases is the spread of a disease-producing agency (such as cancer cells) from the initial or primary site of disease to another part of the body.

Multiple myeloma is a cancer that forms in a type of white blood cell called a plasma cell. Healthy plasma cells help you fight infections by making antibodies that recognize and attack germs. In multiple myeloma, cancerous plasma cells accumulate in the bone marrow and crowd out healthy blood cells. Rather than produce helpful antibodies, the cancer cells produce abnormal proteins that can cause complications.

Necrosis is localized death of living tissue.

Neuropathic arthropathy, also known as charcot joint, is a change in the bone or joint that occurs secondary to loss of sensation and is most often associated with diabetes, syphilis, syringomyelia, spina bifida, traumatic spinal cord injury, and leprosy.

Non-operative, conservative treatment is defined as two or more of the following, unless further specified in the criteria below:

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- Brace/orthosis
- Ice/heat
- Intraarticular corticosteroid injection
- Pharmacologic treatment (NSAIDs, analgesics)
- Physician-supervised home programs (exercise, stretching)
- Protected weight bearing
- Rest or activity modification
- Supervised physical therapy
- Weight reduction for elevated BMI

A **nonunion fracture** is a broken bone that doesn't heal, even after a long recovery time. It can occur when a bone doesn't have enough blood supply, nutrients, or oxygen, or if it's infected.
Osgood-Schlatter disease is a condition that causes pain and swelling below the knee joint, where the patellar tendon attaches to the top of the shinbone (tibia), a spot called the tibial tuberosity. There may also be inflammation of the patellar tendon, which stretches over the kneecap. Osgood-Schlatter disease is most commonly found in young athletes who play sports that require a lot of jumping and/or running.
Osteoarthritis is a progressive disorder of the joints caused by gradual loss of cartilage and resulting in the development of bony spurs and cysts at the margins of the joints.
Osteochondritis dissecans is a bone and cartilage condition that most often occurs in the knee, but can also occur in the elbow, ankle, and other joints. It has no known cause, but repetitive stress on the joint, low vitamin D and a genetic predisposition are often linked to this condition. If left untreated, OCD can lead to osteoarthritis and further joint damage.
Osteolysis is dissolution or degeneration of bone tissue through disease.
Osteonecrosis is localized death of bone tissue due to impaired or disrupted blood supply.
An **osteophyte** is a bony growth that forms on the edge of a bone, typically where two bones meet in a joint.
Osteoporosis is a condition that weakens bones, making them more prone to fractures. It is a common disease, particularly among postmenopausal women and older adults.
Osteotomy is the incision or transection of a bone.
Outerbridge Arthroscopic Grading System is a system to measure knee cartilage deterioration.

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Table 4. Outerbridge Arthroscopic Grading System

Description	Grade
Normal cartilage	0
Softening and swelling/blistering	I
Partial thickness defect, fissures smaller than 1.5 cm diameter/wide	II
Fissures /defects down to subchondral bone with intact calcified cartilage layer, diameter larger than 1.5 cm	III
Exposed subchondral bone	IV

Partial knee arthroplasty (PKA) is a surgical procedure that replaces damaged parts of the knee with prosthetic components. It's also known as unicompartmental knee arthroplasty (UKA) or knee resurfacing.

A **partial meniscectomy i**s a surgical procedure where a portion of a torn meniscus in the knee is removed to relieve pain and improve knee function. It's a common treatment for meniscus tears, particularly those in the "white zone" where repair is difficult. The goal is to remove the damaged tissue while preserving as much of the healthy meniscus as possible.

Patella alta is a positional fault defined most simply as the superior displacement of the patella within the trochlear groove of the femur. Patella alta has been shown to be associated with chondromalacia on the articular surface of the patella and pain.

Patella baja is a patella distal in relationship to the femoral trochlea and present since an early age. Acquired patella baja may occur secondary to distal positioning of the patella relative to the femoral trochlea or shortening of the patellar tendon, as a result of trauma or surgery.

Patellar clunk syndrome is the development of a fibrous nodule along the undersurface of the quadriceps tendon and proximal to the superior pole of the patella after a posterior-stabilized total knee arthroplasty.

Patellar dysplasia is an L-shaped or completely flat back surface of the patella.

Patellar realignment is a surgical procedure that corrects the position of the kneecap (patella) in the trochlea, the groove of the thighbone (femur). The procedure is used to treat patellofemoral instability, which is when the kneecap dislocates from its normal position.

Patellofemoral arthroplasty (PFA) is a surgical procedure that replaces damaged cartilage in the knee with an artificial implant. It's also known as unicompartmental knee replacement.

Patellofemoral instability is a condition that occurs when the patella (kneecap) slips out of the femoral groove in the thighbone.

Periarticular osteophytes are abnormal calcifications and bony spurs that emerge through the endochondral ossification of fibrous cartilage at the synovial bone-cartilage junction.

Pigmented villonodular synovitis (PVNS) is an uncommon benign neoplastic process that may involve the synovium of the joint diffusely or focally, or that may occur extraarticularly in a bursa or tendon sheath.

A **plica** is a fold of tissue within the synovium, the lining of a joint.

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A **positive McMurray test** indicates a potential meniscal tear in the knee. During the test, the doctor will bend and rotate the patient's knee while applying pressure, and a positive result is indicated by pain, clicking, or locking in the knee joint. This suggests that a piece of the meniscus may be catching or rubbing against other structures within the knee.

The **posterior cruciate ligament (PCL)** is the strongest ligament in the knee, connecting the tibia (shinbone) to the femur (thighbone). It prevents the tibia from moving too far back or behind the femur.

Prophylactic treatment is a procedure that is done by inserting metal into the bone in order to strengthen it well before it breaks. This type of surgery can be done in a minimally invasive fashion, and can reduce pain and prevent the major problems associated with fracture.

Prosthesis a device that replaces a part of the body.

Range of motion (ROM) is the distance and direction a joint can move. It's a measure of flexibility that involves muscles, bones, ligaments, and tendons.

Radicular pain is a type of nerve pain that occurs when a spinal nerve root is compressed or irritated. It typically radiates along the path of the affected nerve, causing pain, numbness, tingling, or weakness in the affected area.

Revision is a new operation in a previous joint replacement during which one of the components are exchanged, removed, manipulated, or added. It includes excision arthroplasty and amputation, but not soft tissue procedures.

involves the removal of a previously implanted knee prosthesis. This occurs when a prosthesis wears out, was not aligned properly, is recalled, or is infected. If the joint is infected, an antibiotic spacer may be used between removal and replacement of a new prosthesis.

Resection is a surgical procedure done to remove tissue, or part or all of an organ.

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

Septic bursa is the infection and subsequent inflammation of the small, fluid-filled sacs that cushion and lubricate joints.

Skeletal maturation is the developmental process by which the skeleton achieves the adult form through increases in bone size, shape, and density throughout childhood and adolescence.

Stener-like lesion is a grade 3 tibia-sided tear or distal injury in which the ligament was displaced or entrapped due to interposition of a bony or soft-tissue structure between it and the tibial attachment, preventing normal ligament-to-bone healing.

Subchondral cyst is a cyst situated beneath cartilage.

Subluxation is a partial or incomplete dislocation.

Sulcus-deepening trochleoplasty is a surgical procedure used to treat recurrent patellar instability by decreasing the prominence of the trochlea and creating a new groove with normal depth, thus optimizing patellar tracking.

Synovectomy is a surgical procedure that involves removing the inflamed lining of a joint (synovium).

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Synovial disorders are inflammatory, infectious, degenerative, traumatic, hemorrhagic, and neoplastic disorders that involve the synovium, leading to irreversible joint destruction.
Tegner Scores is a subjective scale for determining the activity level in acute cruciate ligament (ACL) tears. The individual rates his/her perception of the highest activity level before injury and at current time measure is taken.

Table 5. Tegner Scores

Description	Level
Sick leave or disability pension because of knee problems	0
Work- sedentary (secretarial, etc.)	1
Work- light laborWalking on uneven ground possible, but impossible to backpack or hike	2
Work- light labor (nursing, etc.)	3
Work- moderately heavy labor (eg, truck driving)	4
Work- heavy labor (construction, etc.) • Competitive sports- cycling, cross-country skiing • Recreational sports- jogging on uneven ground at least twice weekly	5
Recreational sports- tennis and badminton, handball, racquetball, down-hill skiing, jogging at least 5 times per week	6
Competitive sports- tennis, running, motorcars speedway, handball Recreational sports- soccer, football, rugby, bandy, ice hockey, basketball, squash, racquetball, running	7
Competitive sports- racquetball or bandy, squash or badminton, track and field athletics (jumping, etc.), down-hill skiing	8
Competitive sports- soccer, football, rugby (lower divisions), ice hockey, wrestling, gymnastics, basketball	9
Competitive sports- soccer, football, rugby (national elite)	10

Tendonitis is an inflammation of a tendon, which is a fibrous cord that connects muscles to bones. It occurs when the tendon is overloaded or overused, leading to irritation and swelling. Tendonitis can cause pain, tenderness, and stiffness in the affected area.
Total knee arthroplasty (TKA) is a surgical procedure that replaces damaged parts of the knee with artificial parts. It's also known as a total knee replacement or knee replacement surgery.
Total knee arthroplasty involves the removal and replacement of articular joint surfaces.
A **transphyseal technique** refers to a surgical procedure that involves drilling tunnels or placing implants across the physis, also known as the growth plate. The physis is a cartilage area located at the ends of long bones in children and adolescents where bones grow and lengthen until skeletal maturity is reached, according to Yale Medicine.
Trochlear dysplasia is a condition where the trochlear groove is abnormally shaped, causing the patella to slip out of the groove or dislocate.
Tubercleplasty, or tibial tubercle osteotomy (TTO), is a surgical procedure to improve alignment of the patella.
A **unicompartmental knee arthroplasty (UKA)** is a minimally invasive surgery that replaces damaged cartilage in one part of the knee. It's also known as a partial knee replacement.

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Unicompartmental osteoarthritis is a type of knee arthritis that affects only one compartment of the knee. Osteoarthritis is a degenerative disease that causes cartilage in the joint to wear away.

Valgus deformity is a lower leg deformity that exists when the bone at the knee joint is angled out and away from the body's midline. This causes an inability to touch the ankles while the knees touch together.

Varus deformity is an inward angulation of the distal segment of a bone or a joint.

Knee Surgery References

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Background

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

Medical Necessity Codes

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

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