Cigna Medical Coverage Policies – Musculoskeletal Knee Replacement/Arthroplasty
Effective March 15, 2020

Instructions for use
The following coverage policy applies to health benefit plans administered by Cigna. Coverage policies are intended to provide guidance in interpreting certain standard Cigna benefit plans and are used by medical directors and other health care professionals in making medical necessity and other coverage determinations. Please note the terms of a customer’s particular benefit plan document may differ significantly from the standard benefit plans upon which these coverage policies are based. For example, a customer’s benefit plan document may contain a specific exclusion related to a topic addressed in a coverage policy.

In the event of a conflict, a customer’s benefit plan document always supersedes the information in the coverage policy. In the absence of federal or state coverage mandates, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of:
1. The terms of the applicable benefit plan document in effect on the date of service
2. Any applicable laws and regulations
3. Any relevant collateral source materials including coverage policies
4. The specific facts of the particular situation

Coverage policies relate exclusively to the administration of health benefit plans. Coverage policies are not recommendations for treatment and should never be used as treatment guidelines.

This evidence-based medical coverage policy has been developed by eviCore, Inc. Some information in this coverage policy may not apply to all benefit plans administered by Cigna.

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CMM-311.1: Definitions

- **Knee arthroplasty** is an orthopaedic surgical procedure, during which the articular surface of the knee joint is replaced, remodeled, or realigned.

- **Knee replacement** is a form of arthroplasty which includes the surgical placement of the knee joint with a prosthesis.

- **Prosthesis** refers to an artificial device used to replace a structural element within a joint to improve and enhance function.

- **Total knee replacement** involves surgical reconstruction or replacement of the entire knee joint as a result of unicompartmental, Bicompartmental, or tricompartmental involvement.

- **Partial knee replacement** involves surgical reconstruction or replacement of one knee joint compartment as a result of unicompartmental (e.g., medial, lateral, or patellofemoral) involvement.

- **The Modified Outerbridge Classification** is a system that has been developed for judging articular cartilage injury to the knee. This system allows delineation of varying areas of chondral pathology, based on the qualitative appearance of the cartilage surface, and can assist in identifying those injuries that are suitable for repair techniques. The characterization of cartilage in this systems is as follows:
  - Grade I – Softening with swelling
  - Grade II – Fragmentation and fissuring less than one square centimeter (1 cm²)
  - Grade III – Fragmentation and fissuring greater than one square centimeter (1 cm²)
  - Grade IV – Subchondral bone exposed

- **The Kellgren-Lawrence Grading System** is a radiographic grading system that has been developed for describing osteoarthritic changes to the knee. When used, the radiographic findings are typically reported within one of the following categories:
  - Grade I – Doubtful narrowing of joint space and possible osteophytic lipping
  - Grade II – Definite osteophytes and possible narrowing of joint space
  - Grade III – Moderate multiple osteophytes, definite narrowing of joint space, some sclerosis, and possible deformity of bone contour
  - Grade IV – Large osteophytes, marked narrowing of joint space, severe sclerosis, and definite deformity of bone contour

- **Non-surgical management**, with regard to the treatment of the knee osteoarthritis, is defined as any provider-directed non-surgical treatment, which has been demonstrated in the scientific literature as efficacious and/or is considered reasonable care in the treatment of knee pain from osteoarthritis. The types of treatment involved can include, but are not limited to relative rest/activity modification, weight loss, supervised physiotherapy modalities and therapeutic exercises, oral prescription and non-prescription medications, bracing, and other assistive devices (e.g., cane, crutches, walker, wheelchair), and/or intra-articular injection (i.e., steroid and/or viscosupplementation).
CMM-311.2: General Guidelines

The determination of medical necessity for the performance of knee replacement (total or partial) is always made on a case-by-case basis.

CMM-311.3: Indications and Non-Indications:

Partial Knee Replacement

- **Partial knee replacement** (medial, lateral, or patellofemoral) is considered medically necessary when **ALL** of the following criteria have been met:
  - Function-limiting pain at short distances (e.g., walking less than ¼ mile, limiting activity to two city blocks, the equivalent to walking the length of a shopping mall) for at least three (3) months duration
  - Loss of knee function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment
  - Radiographic or arthroscopic findings of **EITHER** of the following:
    - Severe unicompartmental (medial, lateral, or patellofemoral) degenerative arthritis evidenced by **EITHER** of the following:
      - Large osteophytes, marked narrowing of joint space, severe sclerosis and definite deformity of bone contour (i.e., Kellgren Lawrence Grade IV radiographic findings)
      - Exposed subchondral bone (i.e., Modified Outerbridge Grade IV arthroscopic findings)
    - Unicompartmental avascular necrosis (AVN) of the femoral condyles and/or proximal tibia
    - Intact, stable ligaments, particular the anterior cruciate ligament
    - Knee arc of motion (full extension to full flexion) greater than 90º
    - Failure of at least three (3) months of provider-directed non-surgical management
  - **Please note:** The medical record must clearly document why provider-directed non-surgical management is not reasonable.

- **Patellofemoral unicompartmental replacement** to manage protracted anterior knee pain and/or mechanical symptoms attributed to the patellofemoral joint following a total knee replacement, during which patellar replacement was not performed at the time of the index knee replacement, is considered medically necessary when the above criteria are met for the performance of patellofemoral unicompartmental replacement, with the exception of radiographic criteria.

- **Partial knee replacement** (medial, lateral, or patellofemoral unicompartmental) is considered not medically necessary when **ANY** of the following criteria is met:
  - Grade III or IV patellofemoral joint arthritis (when unicompartmental replacement is to be performed of the medial or lateral compartment) and Grade IV medial or lateral compartment degenerative changes (when unicompartmental replacement is to be performed of the patellofemoral compartment), evidenced by **ANY** of the following:
- Large osteophytes, marked narrowing of joint space, severe sclerosis, and definite deformity of bone contour (i.e., Kellgren-Lawrence Grade IV radiographic findings)
- Moderate multiple osteophytes, definite narrowing of joint space, some sclerosis, and possible deformity of bone contour (i.e., Kellgren-Lawrence Grade III radiographic findings)
- Exposed subchondral bone (i.e., Modified Outerbridge Classification Grade IV arthroscopic findings)
  - Tibial or femoral shaft deformity
  - Radiographic evidence of medial or lateral subluxation
  - Flexion contracture greater than 15°
  - Varus deformity greater than 15°
  - Valgus deformity greater than 20°
  - Inflammatory arthropathy
  - Active local or systemic infection
  - Osseous abnormalities that cannot be optimally managed by surgery and which would increase the likelihood of a poor surgical outcome (i.e., inadequate bone stock to support the implant)
  - Severe lack of collateral ligament integrity leading to joint instability
  - One or more uncontrolled of unstable medical conditions that would significantly increase the risk of morbidity (e.g., cardiac, pulmonary, liver, genitourinary, or metabolic disease; hypertension; abnormal serum electrolyte levels)
  - Vascular insufficiency, significant muscular atrophy of the leg, or neuromuscular disease severe enough to compromise implant stability or post-operative recovery
  - Severe immunocompromised state

**Total Knee Replacement**

- **Total knee replacement** is considered medically necessary when **ALL** of the following criteria have been met:
  - Function-limiting pain at short distances (e.g., walking less than ¼ mile, limiting activity to two city blocks, the equivalent to walking the length of a shopping mall) for at least three (3) months duration
  - Loss of knee function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment
  - Radiographic or arthroscopic findings of **EITHER** of the following:
    - Severe unicompartmental (medial, lateral, or patellofemoral), bicompartamental, or tricompartmental degenerative arthritis evidenced by **EITHER** of the following:
      - Large osteophytes, marked narrowing of joint space, severe sclerosis and definite deformity of bone contour (i.e., Kellgren Lawrence Grade IV radiographic findings)
      - Exposed subchondral bone (i.e., Modified Outerbridge Grade IV arthroscopic findings)
      - Avascular necrosis (AVN) of the femoral condyles and/or proximal tibia
Failure of at least three (3) months of provider-directed non-surgical management

Please note: The medical record must clearly document why non-surgical management is not reasonable.

Total knee replacement is considered not medically necessary when ANY of the following criteria is present:

- Active local or systemic infection
- Osseous abnormalities that cannot be optimally managed prior to surgery and which would increase the likelihood of a poor surgical outcome (i.e., inadequate bone stock to support the implant)
- Joint instability due to a lack of collateral ligament integrity, not amenable to surgical correction
- Greater than 30 degrees of fixed varus or valgus deformity, not amenable to surgical correction
- One or more uncontrolled or unstable medical conditions that would significantly increase the risk of morbidity (e.g., cardiac, pulmonary, liver, genitourinary, or metabolic disease; hypertension; abnormal serum electrolyte levels)
- Vascular insufficiency, significant muscular atrophy of the leg, or neuromuscular disease severe enough to compromise implant stability or post-operative recovery
- Severe immunocompromised state

Revision of Knee Replacement – Partial or Total

Revision of knee replacement (including revision of a total knee replacement, revision of a medial, lateral, or patellofemoral unicompartmental replacement to another medial, lateral, or patellofemoral unicompartmental replacement, or revision of a medial, lateral, or patellofemoral unicompartmental replacement to a total knee replacement) is considered medically necessary for an individual who has previously undergone a partial or total knee replacement when ANY of the following criteria have been met:

- Presence of ANY of the following:
  - Fracture or dislocation of the patella
  - Aseptic loosening
  - Periprosthetic infection
  - Periprosthetic fracture
  - Implant fracture or component failure
  - Stiffness more than 12 weeks post-operatively when manipulation is deemed unsafe by provider with well positioned, well fixed, appropriately sized components
  - Stiffness due to component sizing or positioning
  - Instability of the knee
  - Clinically significant, symptomatic limb malalignment due to existing component position
- Unexplained function-limiting pain at short distances (e.g., walking less than ¼ miles, limiting activity to two city blocks, the equivalent to walking the length of a
shopping mall) for greater than six (6) months unresponsive to provider-directed non-surgical management

- Kellgren-Lawrence Grade IV radiographic findings in the non-replaced medial, lateral, or patellofemoral compartments if revising from a partial (unicompartmental) knee replacement to a total joint replacement

- **Revision of knee replacement** is considered not medically necessary for any other indication.

- **Isolated polyethylene liner exchange (IPE)** is considered medically necessary when ANY of the following criteria have been met:
  - Wear and Osteolysis;
    - Progressive osteolysis noted on imaging studies which also confirm well-fixed implants in acceptable position
  - Catastrophic polyethylene failure, including post fracture, locking mechanism failure, severe polyethylene wear with or at risk for metallosis and polyethylene liner fracture without component loosening or malalignment
  - Periprosthetic joint infection including hematogenous infection:
    - Individual is less than 4 weeks from the index replacement procedure with well-fixed implants
  - Stiffness following total knee replacement (flexion contracture of > 15 degrees with flexion limited to < 90 degrees):
    - Individual presents later than 3 months from the index replacement procedure, after failure of physical therapy and manipulation under anesthesia with persistent restricted range-of-motion
  - Instability:
    - Individual with mid-flexion instability without component malrotation or malalignment

- **Isolated polyethylene liner exchange (IPE)** is considered not medically necessary for any other indication.

- Refer to **MS-16: Post-Operative Joint Replacement Surgery** and **MS-25: Knee** for advanced imaging indications related to knee replacement surgery.

- Refer to **CMM-312.2: Procedures for Patellofemoral Conditions** for indications and non-indications of trochleoplasty using CPT®27442 for a hypoplastic trochlea in patients with patellofemoral instability.

**CMM-311.4: Experimental, Investigational, or Unproven**

- Based on lack of scientific evidence of efficacy and safety, the following are considered experimental, investigational, or unproven:
  - Bicompartmental knee arthroplasty
  - Bi-unicompartmental knee arthroplasty
  - Focal resurfacing of a single knee joint defect
  - Unicompartmental free-floating (un-fixed) interpositional device
CMM-311.5: Procedure (CPT®) Codes

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

<table>
<thead>
<tr>
<th>CPT®</th>
<th>Code Description/Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>27438</td>
<td>Arthroplasty, patella; with prosthesis</td>
</tr>
<tr>
<td>27440</td>
<td>Arthroplasty, knee, tibial plateau</td>
</tr>
<tr>
<td>27441</td>
<td>Arthroplasty, knee, tibial plateau; with debridement and partial synovectomy</td>
</tr>
<tr>
<td>27442</td>
<td>Arthroplasty, femoral condyles or tibial plateau(s), knee</td>
</tr>
<tr>
<td>27443</td>
<td>Arthroplasty, femoral condyles or tibial plateau(s), knee; with debridement and partial synovectomy</td>
</tr>
<tr>
<td>27445</td>
<td>Arthroplasty, knee, hinge prosthesis (e.g., Walldius type)</td>
</tr>
<tr>
<td>27446</td>
<td>Arthroplasty, knee, condyle and plateau; medial OR lateral compartment</td>
</tr>
<tr>
<td>27447</td>
<td>Arthroplasty, knee, condyle and plateau; medical AND lateral compartments with or without patella resurfacing (total knee Arthroplasty)</td>
</tr>
<tr>
<td>27486</td>
<td>Revision of total knee Arthroplasty, with or without allograft; 1 component</td>
</tr>
<tr>
<td>27487</td>
<td>Revision of total knee Arthroplasty, with or without allograft; femoral and entire tibial component</td>
</tr>
<tr>
<td>27488</td>
<td>Removal of prosthesis, including total knee prosthesis, methylmethacrylate with or without insertion of spacer, knee</td>
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</tbody>
</table>

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

CMM-311.6: References


