KNEE ARTHROPLASTY (KNEE REPLACEMENT)

Description: Knee arthroplasty (also known as knee replacement) is a surgical procedure in which the worn and/or damaged surfaces of the knee joint are replaced with a prosthesis made of metal, ceramic material, or high-density plastic. It is most commonly performed for advanced knee joint disease caused by osteoarthritis (OA); however, it may also be performed for joint disease resulting from rheumatoid arthritis (RA), juvenile rheumatoid arthritis, post-traumatic arthritis, and osteonecrosis. The primary indications for knee arthroplasty are significant loss or erosion of cartilage to bone, accompanied by pain and limited function.

Definitions: Three compartments of the knee:
- **Patellofemoral**: area behind the kneecap riding over the end of the femur “trochlea/sulcus” groove
- **Medial**: the area of joint contact between the femur and tibia on the “inside” or medial aspect of the knee
- **Lateral**: the area of joint contact between the femur and tibia on the “outside” or lateral aspect of the knee

**Total knee arthroplasty (also known as TKA, or total knee replacement)**: Performed when all three compartments of the knee are affected by advanced joint disease. TKA involves removal of a thin layer of subchondral bone and overlying articular cartilage, with anatomic resurfacing of all three compartments and insertion of the implant and bearing surface.

**Unicompartmental knee arthroplasty (also known as UKA or partial knee arthroplasty)**: May be performed in patients with advanced joint disease limited to a single compartment (i.e., medial, lateral, or patellofemoral).
- **UKA of the medial or lateral compartment** requires a smaller incision that does not interrupt the anterior and posterior cruciate ligaments which are the main structures stabilizing the knee.
• **UKA of the patellofemoral compartment** treats degenerative disease underneath the patella and involves implantation of a prosthesis to resurface the articulating surfaces of the patella and femur.

**Bicompartmental knee arthroplasty:** Replacement of the medial and patellofemoral compartments, with sparing of the cruciate ligaments.

**Bi-unicompartmental knee arthroplasty:** UKA performed in the contralateral compartment of a knee previously treated with a UKA.

**Unicondylar interpositional spacers (e.g., UniSpacer™):** Metallic implants are inserted into the joint space between the affected tibial plateau and femoral condyle. Instead of being fixed, the spacers are held in place by the geometry of the curved implant, ligament tension, and surrounding soft tissue structures.

**Grading Systems for Knee Osteoarthritis:**

- **The Modified Outerbridge Classification** addresses arthroscopic evidence of articular cartilage damage and provides delineation of varying areas of chondral pathology, based on the qualitative appearance of the cartilage surface.
  - **Grade 0:** Normal
  - **Grade I:** Cartilage with softening and swelling
  - **Grade II:** Partial-thickness defect with fissures on the surface that do not reach subchondral bone or exceed 1.5 centimeters (cm) in diameter
  - **Grade III:** Fissuring to the level of subchondral bone in an area with a diameter more than 1.5 cm
  - **Grade IV:** Exposed subchondral bone head. Subchondral bone is the bone underneath the joint cartilage

- **The Kellgren-Lawrence Grading System** is based on radiographic evidence of cartilage damage.
  - **Grade 1:** Doubtful narrowing of joint space and possible osteophytic lipping
  - **Grade 2:** Definite osteophytes, definite narrowing of joint space
  - **Grade 3:** Moderate multiple osteophytes, definite narrowing of joint space, some sclerosis and possible deformity of bone contour
  - **Grade 4:** Large osteophytes, marked narrowing of joint space, severe sclerosis and definite deformity of bone contour.

**Policy:**

I. **Total knee arthroplasty (also known as total knee replacement)** for the treatment of advanced knee joint disease may be considered **MEDICALLY NECESSARY** for **EITHER** of the following indications:

  A. Imaging and/or arthroscopic evidence of complete cartilage destruction (i.e., modified Outerbridge grade IV or Kellgren-Lawrence grade 4) **AND** both of the following:
1. Moderate to severe persistent knee pain; AND
2. Clinically significant functional limitation resulting in impaired, age-appropriate activities of daily living and diminished quality of life.

OR

B. Imaging and/or arthroscopic evidence of cartilage damage (i.e., modified Outerbridge grade III or Kellgren-Lawrence grade 3) when ALL of the following criteria are met:
1. Moderate to severe persistent knee pain despite use of BOTH of the following:
   a. Medical management with nonsteroidal anti-inflammatory agents (NSAIDS) or other analgesic medications; AND
   b. Physical therapy, including strengthening exercises: 6 week course;
   AND
2. Clinically significant functional limitation resulting in impaired, age-appropriate activities of daily living and diminished quality of life.

II. Unicompartmental knee arthroplasty (also known as partial knee replacement) for the treatment of advanced knee joint disease limited to a single compartment (i.e., medial, lateral, or patellofemoral) may be considered MEDICALLY NECESSARY for EITHER of the following indications:
A. Imaging and/or arthroscopic evidence of complete cartilage destruction (i.e., modified Outerbridge grade IV or Kellgren-Lawrence grade 4) AND ALL of the following:
   1. Moderate to severe persistent knee pain localized to the affected compartment (i.e., medial, lateral, or patellofemoral); AND
   2. Clinically significant functional limitation resulting in impaired, age-appropriate activities of daily living and diminished quality of life; AND
   3. Involved knee demonstrates adequate alignment and ligamentous stability

   OR

B. Imaging and/or arthroscopic evidence of cartilage damage (i.e., modified Outerbridge grade III or Kellgren-Lawrence grade 3) AND ALL of the following:
   1. Moderate to severe persistent knee pain localized to the affected compartment (i.e., medial, lateral, patellofemoral) despite use of BOTH of the following:
      a. Medical management with nonsteroidal anti-inflammatory agents (NSAIDS) or other analgesic medications; AND
      b. Physical therapy, including strengthening exercises: 6 week course
      AND
   2. Clinically significant functional limitation resulting in impaired, age-appropriate activities of daily living and
diminished quality of life.

AND

3. Involved knee demonstrates adequate alignment and ligamentous stability.

III. **Revision of knee arthroplasty** may be considered **MEDICALLY NECESSARY** for any of the following indications:
   A. Instability of the prosthetic components or aseptic loosening; **OR**
   B. Periprosthetic fractures; **OR**
   C. Fracture or dislocation of the patella; **OR**
   D. Infection of the implant.

IV. The following knee procedures are considered **INVESTIGATIVE** due to a lack of evidence demonstrating an impact on improved health outcomes:
   A. Bicompartmental knee arthroplasty and bi-unicompartmental knee arthroplasty;
   B. Unicondylar interpositional spacer.

**Documentation Submission:**

The following must be submitted for initial knee arthroplasty:

1. Written report describing the extent of cartilage damage as determined by arthroscopy and/or diagnostic imaging, using the Modified Outerbridge classification system or the Kellgren-Lawrence grading system.

2. Clinical notes describing:
   a. Level of knee pain;
   b. Functional limitations related to knee symptoms;
   c. Medical management with nonsteroidal anti-inflammatory agents (NSAIDS) or other analgesics; and
   d. Physical therapy.

3. For unicompartmental knee arthroplasty: an orthopedic assessment of knee alignment and ligamentous stability.

**Coverage:**

This policy does not apply to the following lines of business:

1. Federal Employee Plan (FEP); **OR**
2. Government Programs products; **OR**
3. Medicare Primary products.

Blue Cross and Blue Shield of Minnesota medical policies apply generally to all Blue Cross and Blue Plus plans and products. Benefit plans vary in coverage and some plans may not provide coverage for certain services addressed in the medical policies.

Medicaid products and some self-insured plans may have additional policies and prior authorization requirements. Receipt of benefits is subject to all terms and conditions of the member’s summary plan description (SPD). As applicable, review the provisions relating to a specific coverage determination, including exclusions and limitations. Blue Cross reserves the right to revise, update and/or add to its medical policies at any time without notice.
For Medicare NCD and/or Medicare LCD, please consult CMS or National Government Services websites.

Refer to the Pre-Certification/Pre-Authorization section of the Medical Behavioral Health Policy Manual for the full list of services, procedures, prescription drugs, and medical devices that require Pre-certification/Pre-Authorization. Note that services with specific coverage criteria may be reviewed retrospectively to determine if criteria are being met. Retrospective denial of claims may result if criteria are not met.

**Coding:**

*The following codes are included below for informational purposes only, and are subject to change without notice. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement.*

**CPT:**
- 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

**ICD-9 Procedure:**
- 00.80 Revision of knee replacement, total (all components)
- 00.81 Revision of knee replacement, tibial component
- 00.82 Revision of knee replacement, femoral component
- 00.83 Revision of knee replacement, patellar component
- 81.54 Total knee replacement
- 81.55 Revision of knee replacement, not otherwise specified

**Policy History:**

*Developed April 11, 2012*