1. **Purpose**

   The purpose of this policy is to establish the criteria when knee arthroplasty may be considered medically necessary.

2. **Definitions**

   2.1. **Knee arthroplasty** is a surgical procedure, which attempts to reconstruct or replace a malformed or degenerated knee joint with internal hardware. Total knee arthroplasty (TKA) involves surgical reconstruction or replacement of the entire knee joint as a result of bicompartamental or tricompartmental involvement. Partial knee arthroplasty involves surgical reconstruction or replacement of one joint surface of the knee joint as a result of unicompartmental involvement. Total or partial knee revision involves surgical reconstruction or replacement due to failure or complications of previous knee arthroplasty.

   2.2. **The Modified Outerbridge Classification** is a system that has been developed for judging articular cartilage injury to the knee. This system allows delineation of varying areas of chondral pathology, based on the qualitative appearance of the cartilage surface, and can assist in identifying those injuries that are suitable for repair techniques. The characterization of cartilage in this system is as follows:

   - Grade I - Softening with swelling
   - Grade II - Fragmentation and fissuring less than one square centimeter (1 cm²)
   - Grade III - Fragmentation and fissuring greater than one square centimeter (1 cm²)
   - Grade IV - Subchondral bone exposed.

   2.3. **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.
2.4. **Non-surgical care**, with regard to the treatment of the knee, is defined as any non-surgical treatment, which has been demonstrated in the scientific literature as efficacious and/or is considered a standard of care in the treatment of knee pain. The types of treatment involved can include, but are not limited to: relative rest/activity modification, physical therapy modalities, supervised therapeutic exercise, oral medications, bracing, and/or injections (steroid and/or viscosupplementation).

2.5. **The UniSpacer** is a small, kidney shaped insert made of cobalt chrome for patients with early stage osteoarthritis of the knee. The UniSpacer is said to treat isolated, moderate degeneration of the medial compartment (Grade III-IV chondromalacia) with no more than minimal degeneration (Grade I-II chondromalacia; no loss of joint space) in the lateral condyle or patellofemoral compartment. The proposed goals of UniSpacer surgery are to relieve pain and to improve joint stability by restoring ligament tension and normal knee alignment.

3. **Statement of Policy**

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

3.2. Partial Knee Arthroplasty (Replacement):

3.2.1. Partial (un compartmental) knee arthroplasty **may be considered medically necessary** when all of the following criteria have been met:

- Patient has chronic severe, disabling pain for at least six (6) months in duration and a documented loss of knee function to the extent which interferes with their ability to carry out their age appropriate activities of daily living and/or their demands of employment; and

- Patient demonstrates unicompartmental degenerative arthritis (Kellgren-Lawrence Grade IV) with joint space narrowing on weight-bearing radiographs or Modified Outerbridge Classification Grade IV changes documented by arthroscopy; and

- Patient must have intact, stable ligaments, in particular the Anterior Cruciate Ligament; and

- Patient’s knee arc of motion (full extension to full flexion) must be greater than 90°; and
• Patient is at least 50 years of age; and
• Patient has undergone a reasonable course of non-surgical care.

3.2.2. Partial (unicompartmental) knee arthroplasty may be considered not medically necessary when any of the following criteria are present:

• Patient has severe Grade III or IV patellofemoral joint arthritis (when unicompartmental arthroplasty to be performed is medial or lateral); or
• Patient has previously undergone a High Tibial Osteotomy; or
• Patient has a tibial or femoral shaft deformity; or
• Patient demonstrates radiographic evidence of medial or lateral subluxation; or
• Patient demonstrates a flexion contracture greater than 15º; or
• Patient demonstrates a varus deformity greater than 15º or a valgus deformity greater than 20º; or
• Patient has an inflammatory arthropathy; or
• Patient demonstrates osteoporosis or other osseous abnormalities, which would make the likelihood of a poor outcome more probable.

3.2.3. Based on a lack of scientific evidence of efficacy and safety, bicompartmental knee arthroplasty and bi-unicompartmental knee arthroplasty as an alternative for Total Knee Replacement is considered not medically necessary.

3.3. Total Knee Arthroplasty (Replacement):

3.3.1. Total knee arthroplasty may be considered medically necessary when all of the following criteria have been met:

• Patient has chronic severe, disabling pain for at least six (6) months in duration and a documented loss of knee function to the extent which interferes with their ability to carry out their age appropriate activities of daily living and/or their demands of employment; and
• Patient demonstrates bicompartmental or tricompartmental degenerative arthritis (Kellgren-Lawrence Grade IV) with joint space narrowing on
weight-bearing radiographs or Modified Outerbridge Classification Grade IV changes documented by arthroscopy; and

- Patient’s knee arc of motion is not limited to 50º or less; and
- Patient is at least 50 years of age; and
- Patient has undergone a reasonable course of non-surgical care.

### 3.3.2. Knee arthroplasty (partial or total) may be considered not medically necessary when any of the following criteria are present:

- Patient has an active local or systemic infection; or
- Patient demonstrates a severe loss of musculature, neuromuscular compromise or vascular deficiency in the affected limb, rendering the procedure unjustifiable; or
- Patient demonstrates osteoporosis or other osseous abnormalities which would make the likelihood of a poor outcome more probable; or
- Patient demonstrates a severe lack of collateral ligament integrity leading to joint instability; or
- Patient demonstrates over 30 degrees of fixed varus or valgus deformity.

### 3.3.3. Based on the increased risk of serious complications (cardiac complications, pulmonary complications, and mortality) simultaneous bilateral total knee replacement may be considered not medically necessary.

### 3.4. Total Knee Revision:

#### 3.4.1. Total Knee Revision may be considered medically necessary when the following criteria have been met:

- Patient has previously undergone a partial or total knee arthroplasty and has developed chronic severe, disabling pain and a documented loss of knee function to the extent which interferes with their ability to carry out their age appropriate activities of daily living and/or their demands of employment; and
- Patient demonstrates one of the following:
  - Fracture or dislocation of the patella; or
- Instability of the components; or
- Aseptic loosening; or
- Infection; or
- Periprosthetic fracture; or
- Unexplained pain for greater than six (6) months not responsive to non-surgical management.

3.4.2. Total Knee Revisions **may be considered not medically necessary** when any of the following criteria are present:

- Patient suffers persistent infection; or
- Patient demonstrates poor bone quality; or
- Patient demonstrates limited quadriceps or extensor function; or
- Patient demonstrates poor skin coverage; or
- Patient has a poor vascular status.

3.5. UniSpacer:

3.5.1. Based on a lack of scientific evidence of efficacy and safety, the use of the UniSpacer Device **is considered not medically necessary**.

4. References

4.1. Scientific:

The following scientific references were utilized in the formulation of this medical policy. Triad Healthcare, Inc. will continue to review clinical evidence surrounding knee arthroplasty and may modify this policy at a later date based upon the evolution of the published clinical evidence. Should additional scientific studies become available and they are not included in the list, please forward the reference(s) to Triad Healthcare, Inc. so the information can be reviewed by the Academic Advisory Committee (AAC) and the Medical Quality Improvement Committee (MQIC) to determine if a modification of the policy is in order.

- Altman, R, et al. American College of Rheumatology Subcommittee on Osteoarthritis Guidelines. Recommendations for the medical management of


4.2. Related Triad Medical Policies:

- **TMMP 18 – Medical Necessity**

**CPT Codes**

This policy relates to the use of the following CPT Codes:

<table>
<thead>
<tr>
<th>CPT Codes</th>
<th>Description (AMA CPT Guide)</th>
</tr>
</thead>
<tbody>
<tr>
<td>27437</td>
<td>Arthroplasty, patella; without prosthesis.</td>
</tr>
<tr>
<td>27438</td>
<td>Arthroplasty, patella; with prosthesis.</td>
</tr>
<tr>
<td>CPT Codes</td>
<td>Description (AMA CPT Guide)</td>
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<tr>
<td>27440</td>
<td>Arthroplasty, knee; tibial plateau.</td>
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<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 platea; medial OR lateral compartment.</td>
</tr>
<tr>
<td>27447</td>
<td>Arthroplasty, knee, condyle and platea; medial 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>
</tbody>
</table>

This list may not be all inclusive and is not intended to be used for coding/billing purposes.

### Table of Revisions

<table>
<thead>
<tr>
<th>Revision Date</th>
<th>Modified By</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/20/2015</td>
<td>Level 1, 2, 3</td>
<td>Annual Review. §2.4. spelling of : &quot;physical&quot; in second sentence, corrected. §3.2.1, first bullet and §3.3.1, first bullet, updated to read “six (6) months” instead of “6 months to 1 year.” §3.2.1 removed sixth bullet, BMI criteria. §3.3.1, removed sixth bullet, BMI criteria.</td>
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<tr>
<td>04/24/2014</td>
<td>Level 1, 2, 3</td>
<td>§3.2.1, 4th bullet updated to reflect greater than 90° rather than 50° or less. §4.1 scientific references updated to support the policy change.</td>
</tr>
<tr>
<td>12/09/2013</td>
<td>Level 1, 2, 3</td>
<td>Annual Review. §3.2.1. &amp; 3.3.1., 2nd bullet, rearranged wording. §3.2.2., 4th bullet, added ‘radiographic evidence of’. §3.2., 27th bullet, removed &quot;severe.”</td>
</tr>
<tr>
<td>11/16/2012</td>
<td>Level 1, 2, 3</td>
<td>Annual Review. No changes.</td>
</tr>
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</table>
| 07/25/2011    | Level 1, 2, 3 | Annual Review. Added §2.3. with a definition of the K-L grading system. §2.4. deleted ice, acupuncture and manual therapy. §3.2.1. 1st bullet changed to 6 months to a year. §3.2.1. 2nd bullet added K-L. §3.2.1. 4th bullet removed ROM, added full extension to full flexion; changed from 105 to 50. §3.2.2. 1st bullet added ‘when unicompartamental arthroplasty to be performed is medial or lateral’. §3.2.2. removed the following bullet points: patient has an active local or systemic infection; ‘patient demonstrates a severe loss of musculature, neuromusculature compromise or vascular deficiency in the affected limb, rendering the procedure unjustifiable’. §3.2.2. 2nd bullet from bottom deleted ‘or is likely to progress to’. §3.3.1. 1st bullet changed to
Triad’s Medical Policies are not recommendations for treatment and providers are expected to exercise their clinical judgment in providing the most appropriate care. Health care providers and patients should not rely on these Medical Policies in making health care decisions. These Medical Policies are guidelines and do not constitute an authorization, certification, explanation of benefits or guarantee of payment. Applications of Triad’s Medical Policies are determined by the enrollee’s benefit documents and contracts and as such individual benefits must be verified. Determinations of medical necessity apply only if the benefit exists and no contract exclusions are applicable. In the event of a conflict, a participant’s benefit plan document shall supersede the information contained in Triad’s Medical Policies.