Clinical Policy: Total Knee Arthroplasty

Common Name: Total Knee Replacement

Description: Total knee arthroplasty, or surgical replacement of the knee joint with an artificial prosthesis, is a reconstructive procedure that has improved the management of those diseases of the knee joint that have responded poorly to other more conservative medical therapies.

Device Capture: Product Line + Devices

I. Criteria for Inclusion:
   A. Total knee arthroplasty using FDA approved devices is considered medically necessary for any of the following indications:
      1. Advanced degenerative joint disease as indicated by ALL of the following:
         a. Osteoarthritis, post-traumatic arthritis, osteonecrosis, or rheumatoid arthritis confirmed by standing x-rays with documentation of all of the following:
            i. Significant (at least moderate-to-severe) joint destruction
            ii. Descriptive criteria including at least two of the following:
               • Subchondral cysts
               • Subchondral sclerosis
               • Joint space narrowing
               • Joint subluxation
               • Osteophyte formation
         b. Symptoms correlate with knee pathology, supported by physical exam findings (e.g. antalgic gait, pain or limitation with range of motion, crepitus, joint effusion, swelling)
         c. Presence of significant pain or disability that interferes with ability to perform daily activities that has failed to improve with at least 3 months of conservative treatment, including all of the following, unless contraindicated:
            i. Analgesics or anti-inflammatory medications
            ii. Muscle strengthening and flexibility exercises, instructed by medical professional, in preparation for post-operative interval and recovery
            iii. Activity modification
            iv. Weight reduction as appropriate;
               • For BMI 30 to 35, medical record must document weight discussion
               • For BMI 35 to 40, medical record must document plan for weight loss
               • BMI greater than 40 is a contraindication for total knee replacement, unless significant weight loss is clearly documented

See Important Reminder at the end of this policy for important regulatory and legal information.
v. Use of an assistive device (optional)
vi. Therapeutic knee injections (optional)

2. Failure of previous proximal tibial osteotomy, distal femoral osteotomy, or unicompartmental knee arthroplasty
3. Posttraumatic knee joint destruction
4. Distal femur fracture repair in elderly patient with osteoporosis
5. Limb salvage for malignancy
6. Hemophilic arthropath

B. Knee arthrodesis is considered medically necessary for any of the following indications:
1. As a salvage procedure for failed total knee arthroplasty
2. Reconstruction after tumor resection
3. Posttraumatic arthritis not amenable to traditional total knee arthroplasty
4. Painful ankylosis after infection or trauma
5. Loss of extensor mechanism
6. Persistent/chronic joint infection

II. Criteria for Exclusion:
A. In persons with any of the following contraindications, total knee replacement is considered not medically necessary:
1. Infection of the knee joint, skin, and/or systemic bacteremia that is active or persistent
2. Neurological disorder or disease that is rapidly progressing
3. Allergy or history of allergy to implant material used (e.g. cobalt, chromium, alumina) that has not been evaluated by an allergist or immunologist
4. Current smoker within 2 months
5. Simultaneous bilateral TKA is considered not medically necessary for persons over 70 years of age or ASA 3-4.
B. Bicompartmental (or bi-unicompartmental) knee arthroplasty is considered not medically necessary.
C. Knee arthrodesis is considered not medically necessary if any of the following are present:
   1. Active infection
   2. Ankle or hip degeneration or hip fusion in the same limb
   3. Contralateral knee arthrodesis or amputation
D. Patients unable or unwilling to cooperate with postoperative rehabilitation.
E. For persons with significant co-morbidities or complications, the medical record must contain documentation of the risk/benefit of total knee replacement.

III. Device Considerations
A. Only implants with FDA approval are considered to be medically appropriate
B. Cruciate-retaining implants may be appropriate for a patient whose posterior cruciate ligament is healthy enough to continue stabilizing the knee joint.
C. A mobile-bearing (rotating platform) prosthetic may be considered medically appropriate for younger, more active, and/or obese patients
D. In patients who are osteoporotic and/or over 75 years old, cemented fixation is recommended
E. Antibiotic impregnated bone cement, when appropriate, should be used for any
patients that are considered to be immunocompromised
F. Gender specific prosthetics have not proven superior to standard prosthetic
devices, and requests for these products will be sent to medical review

IV. Surgical Considerations
A. Pre-Operative Considerations:
   1. Preoperative care planning needs may include:
      a. Routine preoperative evaluation.
      b. Preoperative treatment, procedures, and stabilization, including:
         i. Iron supplementation and erythropoietin
         ii. Ruling out sources of infection, including dental and lower urinary tract
             infections
         iii. Dental prophylaxis as indicated
         iv. Patient education
      c. Preoperative discharge planning as appropriate.
B. Intra-Operative Considerations:
   1. Epidural anesthesia
   2. Antibacterial wipes
   3. Antibacterial nasal swab
   4. Periarticular local anesthetic infiltration
   5. Peripheral nerve blockade
   6. Neuraxial anesthesia
   7. Per AAOS guidelines, TurningPoint cannot recommend utilization of
tourniquets as studies have not shown any improvement in outcomes or
lessening of complications
C. Post-Operative & Inpatient Considerations:
   1. Diagnostic test scheduling and completion, including:
      a. Limb x-ray postoperatively
      b. Lower extremity Doppler study
   2. Treatment and procedure scheduling and completion, including:
      a. IV antibiotics
      b. DVT prophylaxis
      c. Tranexamic acid administration
      d. Transfusion
      e. Pain management
      f. Per AAOS guidelines, TurningPoint cannot recommend using cryotherapy
devices, drains, or continuous passive motion (CPM) post operatively as
studies have not shown that they improve functionality or outcomes nor
decrease complications.
   3. Consultation, assessment, and other services scheduling and completion, including:
      a. Physical therapy
      b. Occupational therapy
      c. Gait training
   4. Monitoring patient's status for deterioration and comorbid conditions; key items
      include:
      a. Neurovascular status
D. Discharge Planning & Considerations
   1. Assessment of needs and planning for care, including:
a. Develop treatment plan (involving multiple providers as needed).
b. Evaluate and address preadmission functioning as needed.
c. Evaluate and address patient or caregiver preferences as indicated.
d. Identify skilled services needed at next level of care, with specific attention to:
   i. Medication management, adherence instruction, and side effects assessment
   ii. Neurovascular status assessment
   iii. Pain management
   iv. Wound or dressing management
e. Evaluate and address psychosocial status issues as indicated.

2. Early identification of anticipated discharge destination; options include:
   a. Home, considerations include:
      i. Access to follow-up care
      ii. Home safety assessment.
      iii. Self-care ability, if appropriate.
   b. Caregiver need, ability, and availability
   c. Post-acute skilled care or custodial care, as indicated.

3. Transition of care plan complete, which may include:
   a. Patient and caregiver education complete.
   b. Medication reconciliation completion includes:
      i. Compare patient's discharge list of medications (prescribed and over-the-counter) against physician's admission or transfer orders.
      ii. Assess each medication for correlation to disease state or medical condition.
      iii. Report medication discrepancies to prescribing physician, attending physician, and primary care provider, and ensure accurate medication order is identified.
      iv. Provide reconciled medication list to all treating providers.
   v. Confirm that patient, family, or caregiver can acquire medication.
   vi. See Medication Reconciliation Tool for further information.
   vii. Educate patient, family, and caregiver.
      • Provide complete medication list to patient, family, or caregiver.
      • Confirm that patient, family, or caregiver understands importance of presenting personal medication list to all providers at each care transition, including all physician appointments.
      • Confirm that patient, family, or caregiver understands reason, dosage, and timing of medication (e.g., use "teach-back" techniques).
   c. Plan communicated to patient, caregiver, and all members of care team, including:
      i. Inpatient care and service providers
      ii. Primary care provider
      iii. All post-discharge care and service providers
   d. Post-discharge appointment plans made as needed, which may include:
      i. Primary care provider
      ii. Anticoagulation monitoring
      iii. Orthopedic surgeon
      iv. Rehabilitation therapy services
      v. Specialists for management of comorbid conditions
   e. Post-discharge testing and procedure plans made, which may include:
      i. Laboratory testing
f. Referrals made for assistance or support, which may include:
   i. Financial, for follow-up care, medication, and transportation
   ii. Community services
   iii. Smoking cessation counseling or treatment

g. Medical equipment and supplies coordinated which may include:
   i. Ambulation devices (eg, cane, crutches, walker)
   ii. Antiembolic or compression stockings
   iii. Syringes and needles for subcutaneous injections
   iv. Wound care supplies

V. Length of Stay Considerations
   A. Goal length of stay: Ambulatory or inpatient up to 2 days
   B. Facility type criteria
      1. Ambulatory: Selected patients may be able to be treated on ambulatory basis
         a. Patient must not have any significant comorbidities
         b. Patient has adequate support at home to support them during recovery
         c. Patient is under the age of 75
      2. Inpatient: may be more appropriate for patients with the following
         a. Bilateral knee replacement surgery
         b. Age over 75
         c. Uncontrolled diabetes mellitus, defined as hemoglobin A1c greater than 7.0%
         d. Body mass index (BMI) greater than 30 kg/m²
         e. A known bleeding disorder
         f. American Society of Anesthesiologist (ASA) scores greater than II
         g. Poorly controlled cardiac or pulmonary comorbidities
         h. History of chronic opioid consumption
         i. Functional neurologic impairments
         j. Chronic or end-stage renal disease
         k. Reduced pre-operative cognitive capacity
         l. Severe mobility disorders
         m. Voiding difficulties or pre-operative use of urologic medications
      3. Extended stay beyond goal length may be needed for:
         a. Deep venous thrombosis or pulmonary embolism: Anticipate anticoagulation as indicated and local external measures
         b. Surgical complications: May require acute inpatient care or reoperation
         c. Acute arterial thrombosis: Anticipate thrombectomy and possible bypass
         d. Extensor mechanism rupture: Requires surgical repair
         e. Infected knee joint or operative site: Anticipate antibiotics, cultures, and monitoring of hemodynamic stability
         f. Fat embolism: Anticipate hemodynamic and ventilatory support and possible steroids
         g. Bilateral knee replacements: Transition patient to recovery facility when stable if ambulation goals are not achieved
         h. Periprosthetic fractures: May require protected weight-bearing, cast or brace immobilization, surgical fixation, or revision arthroplasty
         i. Active comorbidities (eg, heart failure, renal failure, anemia)
         j. Older patient: Patient 75 years or older may require longer acute hospital care
VI. Coding

A. CPT

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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>27445</td>
<td>Arthroplasty, knee, hinge prosthesis (eg, Walldius type)</td>
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<tr>
<td>27447</td>
<td>Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)</td>
</tr>
<tr>
<td>27580</td>
<td>Arthrodesis, knee, any technique</td>
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<tr>
<td>27599</td>
<td>Unlisted procedure, femur or knee</td>
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B. HCPCS

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<tr>
<th>Code</th>
<th>Description</th>
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<tr>
<td>L8699</td>
<td>Prosthetic implant, not otherwise specified</td>
</tr>
<tr>
<td>C1763</td>
<td>Connective tissue, non-human (includes synthetic)</td>
</tr>
<tr>
<td>C1776</td>
<td>Joint device (Implantable)</td>
</tr>
</tbody>
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C. ICD-10 Procedure

No ICD-10 Procedure codes

D. ICD-10 Diagnosis

All associated ICD-10 Diagnosis codes

References

10. Palumbo, B. T., & Scott, R. D. (2014). Diagnosis and indications for


39. Lim CT, Goodman SB, Huddleston JI 3rd, Harris AHS, Bhowmick S, Maloney WJ, Amanatullah DF. Smoking is associated with earlier time to revision of total knee...
contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members. This clinical policy is not intended to recommend treatment for members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

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**Note: For Medicaid members**, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

**Note: For Medicare members**, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria set forth in this clinical policy. Refer to the CMS website at [http://www.cms.gov](http://www.cms.gov) for additional information.

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