



## **Knee Arthritis**

*Clinical Guidelines for Medical Necessity Review*

**Version:** 3.0

**Effective Date:** December 29, 2022

# Important Notices

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## Guideline Information:

**Specialty Area:** Diseases & Disorders of the Musculoskeletal System (M00-M99)

**CarePath Group:** Knee

**CarePath Name:** Arthritis of Knee

**Type:**  Adult (18+ yo) |  Pediatric (0-17yo)

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## **Care Path Clinical Discussion**

Osteoarthritis (OA) is a degenerative condition of the joints that contributes to significant disability in adults, especially older adults. It can be mild, moderate, or severe, depending on the pain, joint function, and quality of life. Physical therapy (exercise, education, strengthening) commonly improves pain levels and function.<sup>1</sup> OA is the leading cause of joint replacement surgery in the United States. Total knee arthroplasty (TKA) is the definitive treatment for advanced OA that persists despite conservative measures such as exercise, medications, and weight loss.<sup>2</sup> Arthroscopic procedures such as debridement and meniscectomy are not recommended.<sup>1,3</sup>

Weight-bearing radiographs are the recommended primary imaging modality of choice. Magnetic resonance imaging (MRI), computed tomography (CT), or magnetic resonance (MR) arthrogram can provide more information, depending upon presentation and previous history.<sup>4</sup> Postoperative imaging recommendations are also outlined in this overview.<sup>5</sup> Postoperatively, inpatient rehabilitation is essential. Location and disposition may vary as guidelines are lacking.

*The information contained herein gives a general overview of the pathway of this specific diagnosis, beginning with initial presentation, recommended assessments, and treatment options as supported by the medical literature and existing guidelines. The information below is meant to support clinical decision making in adult patients. It is not necessarily applicable to every case, as the entire clinical picture (including comorbidities, joint health history, etc.) should be considered. Case-by-case treatment decisions are encouraged.*

### **Key Information**

- Osteoarthritis (OA) is a degenerative disorder of joints and is predominantly noninflammatory but can have inflammatory flares.
- Symptomatic prevalence of OA significantly increases with age, and in the knee, up to 17% of adults greater than 45 years of age will exhibit symptoms.<sup>6</sup>
- Weight-bearing radiography is the recommended primary imaging modality. It is most appropriate when diagnosing or if the ordering physician is considering surgical intervention.
- Core treatments for all types include patient education on goals and self-management, multimodal exercise, and weight reduction for those overweight.
- Initial treatment may include topical or oral anti-inflammatory medication, exercise, and weight loss.

- Intra-articular corticosteroid injection is an effective treatment for short-term pain relief.
- There is insufficient evidence to support a recommendation for or against: growth factor or platelet-rich plasma (PRP) injection.

## **Definitions**

- **Osteoarthritis (OA)** is a degenerative condition of the joints that contributes to significant disability in adults, especially older adults. It can be mild, moderate, or severe, depending upon the quality of pain, joint function, and quality of life.

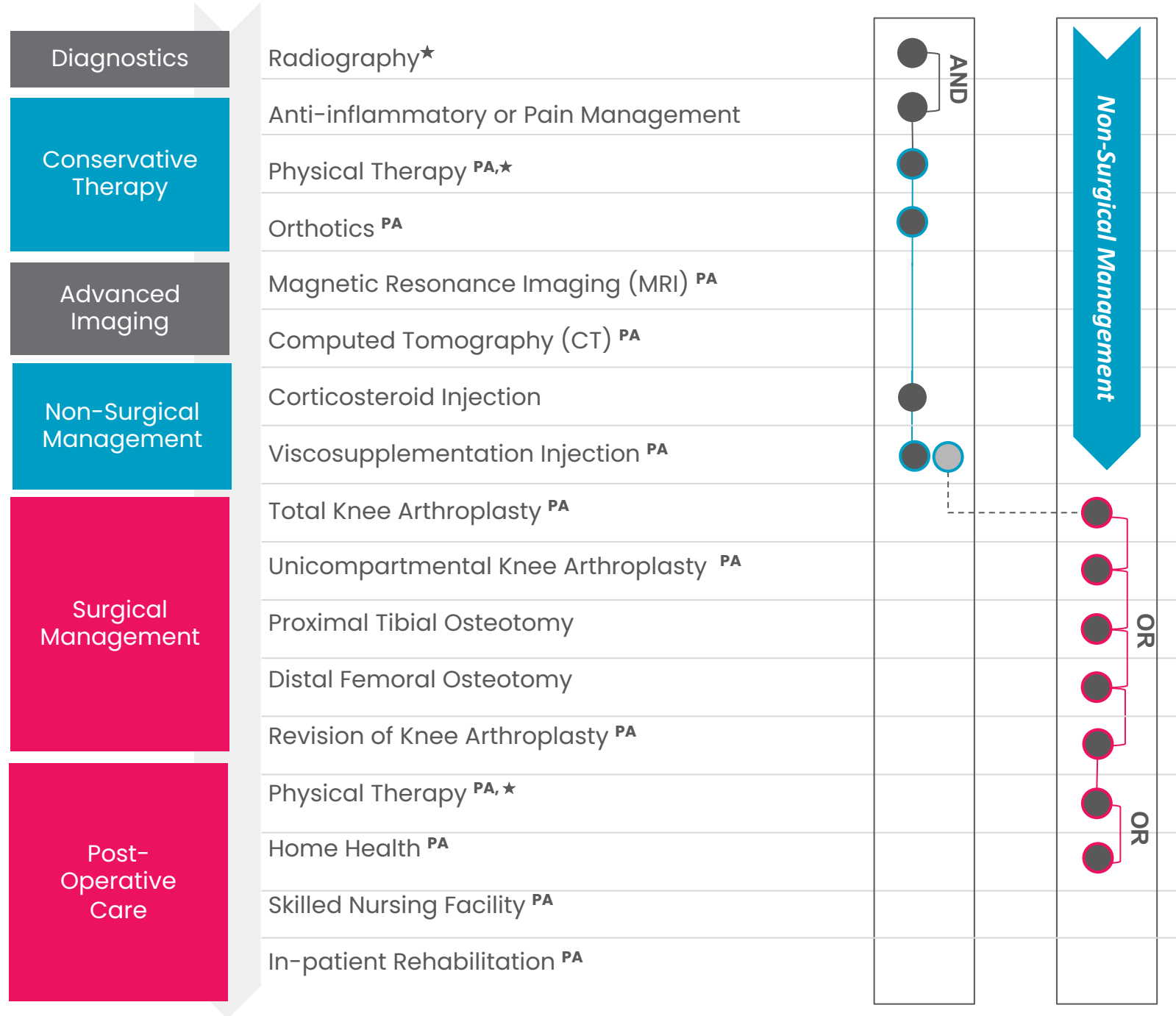


# Knee Arthritis

## What is a "Cohere Care Path"?

These Care Paths organize the services typically considered most clinically optimal and likely to be automatically approved. These service recommendations also include the suggested sequencing and quantity or frequency determined clinically appropriate and medically necessary for the management of most patient care scenarios in this Care Path's diagnostic cohort.

**Non-Surgical Management**      **Surgical Management**



# Care Path Diagnostic Criteria

## Disease Classification

Knee Arthritis

### ICD-10 Codes Associated with Classification

| ICD-10 Code | Code Description/Definition  |
|-------------|--|
| M02.361     | Reiter's disease, right knee   |
| M02.362     | Reiter's disease, left knee  |
| M02.369     | Reiter's disease, unspecified knee   |
| M05.661     | Rheumatoid arthritis of right knee with involvement of other organs and systems                      |
| M05.662     | Rheumatoid arthritis of left knee with involvement of other organs and systems                       |
| M05.669     | Rheumatoid arthritis of unspecified knee with involvement of other organs and systems                |
| M05.761     | Rheumatoid arthritis with rheumatoid factor of right knee without organ or systems involvement       |
| M05.762     | Rheumatoid arthritis with rheumatoid factor of left knee without organ or systems involvement        |
| M05.769     | Rheumatoid arthritis with rheumatoid factor of unspecified knee without organ or systems involvement |
| M05.861     | Other rheumatoid arthritis with rheumatoid factor of right knee                                      |
| M05.862     | Other rheumatoid arthritis with rheumatoid factor of left knee                                       |
| M05.869     | Other rheumatoid arthritis with rheumatoid factor of unspecified knee                                |
| M06.061     | Rheumatoid arthritis without rheumatoid factor, right knee   |
| M06.062     | Rheumatoid arthritis without rheumatoid factor, left knee  |
| M06.069     | Rheumatoid arthritis without rheumatoid factor, unspecified knee                                     |
| M06.1       | Adult-onset Still's disease  |

|         |  |
|---------|--|
| M06.861 | Other specified rheumatoid arthritis, right knee                         |
| M06.862 | Other specified rheumatoid arthritis, left knee                          |
| M06.869 | Other specified rheumatoid arthritis, unspecified knee                   |
| M08.061 | Unspecified juvenile rheumatoid arthritis, right knee                    |
| M08.062 | Unspecified juvenile rheumatoid arthritis, left knee                     |
| M08.069 | Unspecified juvenile rheumatoid arthritis, unspecified knee              |
| M08.261 | Juvenile rheumatoid arthritis with systemic onset, right knee            |
| M08.262 | Juvenile rheumatoid arthritis with systemic onset, left knee             |
| M08.269 | Juvenile rheumatoid arthritis with systemic onset, unspecified knee      |
| M08.861 | Other juvenile arthritis, right knee                                     |
| M08.862 | Other juvenile arthritis, left knee                                      |
| M08.869 | Other juvenile arthritis, unspecified knee                               |
| M08.961 | Juvenile arthritis, unspecified, right knee                              |
| M08.962 | Juvenile arthritis, unspecified, left knee                               |
| M08.969 | Juvenile arthritis, unspecified, unspecified knee                        |
| M12.561 | Traumatic arthropathy, right knee  |
| M12.562 | Traumatic arthropathy, left knee   |
| M12.569 | Traumatic arthropathy, unspecified knee                                  |
| M12.861 | Other specific arthropathies, not elsewhere classified, right knee       |
| M12.862 | Other specific arthropathies, not elsewhere classified, left knee        |
| M12.869 | Other specific arthropathies, not elsewhere classified, unspecified knee |
| M12.9   | Arthropathy, unspecified   |
| M13.0   | Polyarthritis, unspecified   |
| M13.161 | Monoarthritis, not elsewhere classified, right knee                      |
| M13.162 | Monoarthritis, not elsewhere classified, left knee                       |
| M13.169 | Monoarthritis, not elsewhere classified, unspecified knee                |
| M13.861 | Other specified arthritis, right knee                                    |
| M13.862 | Other specified arthritis, left knee                                     |
| M13.869 | Other specified arthritis, unspecified knee                              |

|         |  |
|---------|--|
| M14.861 | Arthropathies in other specified diseases classified elsewhere, right knee       |
| M14.862 | Arthropathies in other specified diseases classified elsewhere, left knee        |
| M14.869 | Arthropathies in other specified diseases classified elsewhere, unspecified knee |
| M15.0   | Primary generalized (osteo)arthritis   |
| M15.3   | Secondary multiple arthritis   |
| M15.8   | Other polyosteoarthritis   |
| M15.9   | Polyosteoarthritis, unspecified  |
| M17     | Osteoarthritis of knee   |
| M17.0   | Bilateral primary osteoarthritis of knee   |
| M17.1   | Unilateral primary osteoarthritis of knee  |
| M17.10  | Unilateral primary osteoarthritis, unspecified knee                              |
| M17.11  | Unilateral primary osteoarthritis, right knee                                    |
| M17.12  | Unilateral primary osteoarthritis, left knee                                     |
| M17.2   | Bilateral post-traumatic osteoarthritis of knee                                  |
| M17.3   | Unilateral post-traumatic osteoarthritis of knee                                 |
| M17.30  | Unilateral post-traumatic osteoarthritis, unspecified knee                       |
| M17.31  | Unilateral post-traumatic osteoarthritis, right knee                             |
| M17.32  | Unilateral post-traumatic osteoarthritis, left knee                              |
| M17.4   | Other bilateral secondary osteoarthritis of knee                                 |
| M17.5   | Other unilateral secondary osteoarthritis of knee                                |
| M17.9   | Osteoarthritis of knee, unspecified  |
| M19.90  | Unspecified osteoarthritis, unspecified site                                     |
| M19.91  | Primary osteoarthritis, unspecified site   |
| M19.92  | Post-traumatic osteoarthritis, unspecified site                                  |
| M19.93  | Secondary osteoarthritis, unspecified site                                       |
| M25.561 | Pain in right knee   |
| M25.562 | Pain in left knee  |
| M25.569 | Pain in unspecified knee   |
| M36.2   | Hemophilic arthropathy   |
| M79.661 | Pain in right lower leg  |
| M79.662 | Pain in left lower leg   |

|          |   |
|----------|---|
| M79.669  | Pain in unspecified lower leg   |
| M87.051  | Idiopathic aseptic necrosis of right femur  |
| M87.052  | Idiopathic aseptic necrosis of left femur   |
| M87.059  | Idiopathic aseptic necrosis of unspecified femur  |
| M87.061  | Idiopathic aseptic necrosis of right tibia  |
| M87.062  | Idiopathic aseptic necrosis of left tibia   |
| M87.063  | Idiopathic aseptic necrosis of unspecified tibia  |
| M87.161  | Osteonecrosis due to drugs, right tibia   |
| M87.162  | Osteonecrosis due to drugs, left tibia  |
| M87.163  | Osteonecrosis due to drugs, unspecified tibia   |
| M87.261  | Osteonecrosis due to previous trauma, right tibia   |
| M87.262  | Osteonecrosis due to previous trauma, left tibia  |
| M87.263  | Osteonecrosis due to previous trauma, unspecified tibia   |
| M87.361  | Other secondary osteonecrosis, right tibia  |
| M87.362  | Other secondary osteonecrosis, left tibia   |
| M87.363  | Other secondary osteonecrosis, unspecified tibia  |
| M87.861  | Other osteonecrosis, right tibia  |
| M87.862  | Other osteonecrosis, left tibia   |
| M87.863  | Other osteonecrosis, unspecified tibia  |
| M96.671  | Fracture of tibia or fibula following insertion of orthopedic implant, joint prosthesis, or bone plate, right leg       |
| M96.672  | Fracture of tibia or fibula following insertion of orthopedic implant, joint prosthesis, or bone plate, left leg        |
| M96.679  | Fracture of tibia or fibula following insertion of orthopedic implant, joint prosthesis, or bone plate, unspecified leg |
| M97.11XA | Periprosthetic fracture around internal prosthetic right knee joint, initial encounter                                  |
| M97.11XD | Periprosthetic fracture around internal prosthetic right knee joint, subsequent encounter                               |
| M97.11XS | Periprosthetic fracture around internal prosthetic right knee joint, sequela  |
| M97.12XA | Periprosthetic fracture around internal prosthetic left knee joint, initial encounter                                   |
| M97.12XD | Periprosthetic fracture around internal prosthetic left knee joint, subsequent encounter                                |

|          |   |
|----------|---|
| M97.12XS | Periprosthetic fracture around internal prosthetic left knee joint, sequela |
| T84.012A | Broken internal right knee prosthesis, initial encounter                    |
| T84.012D | Broken internal right knee prosthesis, subsequent encounter                 |
| T84.012S | Broken internal right knee prosthesis, sequela                              |
| T84.013A | Broken internal left knee prosthesis, initial encounter                     |
| T84.013D | Broken internal left knee prosthesis, subsequent encounter                  |
| T84.013S | Broken internal left knee prosthesis, sequela                               |
| T84.018A | Broken internal joint prosthesis, other site, initial encounter             |
| T84.018D | Broken internal joint prosthesis, other site, subsequent encounter          |
| T84.018S | Broken internal joint prosthesis, other site, sequela                       |
| T84.019A | Broken internal joint prosthesis, unspecified site, initial encounter       |
| T84.019D | Broken internal joint prosthesis, unspecified site, subsequent encounter    |
| T84.019S | Broken internal joint prosthesis, unspecified site, sequela                 |
| T84.022A | Instability of internal right knee prosthesis, initial encounter            |
| T84.022D | Instability of internal right knee prosthesis, subsequent encounter         |
| T84.022S | Instability of internal right knee prosthesis, sequela                      |
| T84.023A | Instability of internal left knee prosthesis, initial encounter             |
| T84.023D | Instability of internal left knee prosthesis, subsequent encounter          |
| T84.023S | Instability of internal left knee prosthesis, sequela                       |
| T84.028A | Dislocation of other internal joint prosthesis, initial encounter           |
| T84.028D | Dislocation of other internal joint prosthesis, subsequent encounter        |
| T84.028S | Dislocation of other internal joint prosthesis, sequela                     |
| T84.029A | Dislocation of unspecified internal joint prosthesis, initial encounter     |
| T84.029D | Dislocation of unspecified internal joint prosthesis, subsequent encounter  |
| T84.029S | Dislocation of unspecified internal joint prosthesis, sequela               |

|          |   |
|----------|---|
| T84.032A | Mechanical loosening of internal right knee prosthetic joint, initial encounter         |
| T84.032D | Mechanical loosening of internal right knee prosthetic joint, subsequent encounter      |
| T84.032S | Mechanical loosening of internal right knee prosthetic joint, sequela                   |
| T84.033A | Mechanical loosening of internal left knee prosthetic joint, initial encounter          |
| T84.033D | Mechanical loosening of internal left knee prosthetic joint, subsequent encounter       |
| T84.033S | Mechanical loosening of internal left knee prosthetic joint, sequela                    |
| T84.038A | Mechanical loosening of other internal prosthetic joint, initial encounter              |
| T84.038D | Mechanical loosening of other internal prosthetic joint, subsequent encounter           |
| T84.038S | Mechanical loosening of other internal prosthetic joint, sequela                        |
| T84.039A | Mechanical loosening of unspecified internal prosthetic joint, initial encounter        |
| T84.039D | Mechanical loosening of unspecified internal prosthetic joint, subsequent encounter     |
| T84.039S | Mechanical loosening of unspecified internal prosthetic joint, sequela                  |
| T84.052A | Periprosthetic osteolysis of internal prosthetic right knee joint, initial encounter    |
| T84.052D | Periprosthetic osteolysis of internal prosthetic right knee joint, subsequent encounter |
| T84.052S | Periprosthetic osteolysis of internal prosthetic right knee joint, sequela              |
| T84.053A | Periprosthetic osteolysis of internal prosthetic left knee joint, initial encounter     |
| T84.053D | Periprosthetic osteolysis of internal prosthetic left knee joint, subsequent encounter  |
| T84.053S | Periprosthetic osteolysis of internal prosthetic left knee joint, sequela               |
| T84.058A | Periprosthetic osteolysis of other internal prosthetic joint, initial encounter         |

|          |  |
|----------|--|
| T84.058D | Periprosthetic osteolysis of other internal prosthetic joint, subsequent encounter               |
| T84.058S | Periprosthetic osteolysis of other internal prosthetic joint, sequela                            |
| T84.059A | Periprosthetic osteolysis of unspecified internal prosthetic joint, initial encounter            |
| T84.059D | Periprosthetic osteolysis of unspecified internal prosthetic joint, subsequent encounter         |
| T84.059S | Periprosthetic osteolysis of unspecified internal prosthetic joint, sequela                      |
| T84.062A | Wear of articular bearing surface of internal prosthetic right knee joint, initial encounter     |
| T84.062D | Wear of articular bearing surface of internal prosthetic right knee joint, subsequent encounter  |
| T84.062S | Wear of articular bearing surface of internal prosthetic right knee joint, sequela               |
| T84.063A | Wear of articular bearing surface of internal prosthetic left knee joint, initial encounter      |
| T84.063D | Wear of articular bearing surface of internal prosthetic left knee joint, subsequent encounter   |
| T84.063S | Wear of articular bearing surface of internal prosthetic left knee joint, sequela                |
| T84.068A | Wear of articular bearing surface of other internal prosthetic joint, initial encounter          |
| T84.068D | Wear of articular bearing surface of other internal prosthetic joint, subsequent encounter       |
| T84.068S | Wear of articular bearing surface of other internal prosthetic joint, sequela                    |
| T84.069A | Wear of articular bearing surface of unspecified internal prosthetic joint, initial encounter    |
| T84.069D | Wear of articular bearing surface of unspecified internal prosthetic joint, subsequent encounter |
| T84.069S | Wear of articular bearing surface of unspecified internal prosthetic joint, sequela              |
| T84.092A | Other mechanical complication of internal right knee prosthesis, initial encounter               |
| T84.092D | Other mechanical complication of internal right knee prosthesis, subsequent encounter            |



|          |  |
|----------|--|
| T84.092S | Other mechanical complication of internal right knee prosthesis, sequela                             |
| T84.093A | Other mechanical complication of internal left knee prosthesis, initial encounter                    |
| T84.093D | Other mechanical complication of internal left knee prosthesis, subsequent encounter                 |
| T84.093S | Other mechanical complication of internal left knee prosthesis, sequela                              |
| T84.098A | Other mechanical complication of other internal joint prosthesis, initial encounter                  |
| T84.098D | Other mechanical complication of other internal joint prosthesis, subsequent encounter               |
| T84.098S | Other mechanical complication of other internal joint prosthesis, sequela                            |
| T84.099A | Other mechanical complication of unspecified internal joint prosthesis, initial encounter            |
| T84.099D | Other mechanical complication of unspecified internal joint prosthesis, subsequent encounter         |
| T84.099S | Other mechanical complication of unspecified internal joint prosthesis, sequela                      |
| T84.119A | Breakdown (mechanical) of internal fixation device of unspecified bone of limb, initial encounter    |
| T84.119D | Breakdown (mechanical) of internal fixation device of unspecified bone of limb, subsequent encounter |
| T84.119S | Breakdown (mechanical) of internal fixation device of unspecified bone of limb, sequela              |
| T84.218A | Breakdown (mechanical) of internal fixation device of other bones, initial encounter                 |
| T84.218D | Breakdown (mechanical) of internal fixation device of other bones, subsequent encounter              |
| T84.218S | Breakdown (mechanical) of internal fixation device of other bones, sequela                           |
| T84.228A | Displacement of internal fixation device of other bones, initial encounter                           |
| T84.228D | Displacement of internal fixation device of other bones, subsequent encounter                        |
| T84.228S | Displacement of internal fixation device of other bones, sequela                                     |

|          |  |
|----------|--|
| T84.298A | Other mechanical complication of internal fixation device of other bones, initial encounter    |
| T84.298D | Other mechanical complication of internal fixation device of other bones, subsequent encounter |
| T84.298S | Other mechanical complication of internal fixation device of other bones, sequela              |
| T84.310A | Breakdown (mechanical) of electronic bone stimulator, initial encounter                        |
| T84.310D | Breakdown (mechanical) of electronic bone stimulator, subsequent encounter                     |
| T84.310S | Breakdown (mechanical) of electronic bone stimulator, sequela                                  |
| T84.318A | Breakdown (mechanical) of other bone devices, implants and grafts, initial encounter           |
| T84.318D | Breakdown (mechanical) of other bone devices, implants and grafts, subsequent encounter        |
| T84.318S | Breakdown (mechanical) of other bone devices, implants and grafts, sequela                     |
| T84.320A | Displacement of electronic bone stimulator, initial encounter                                  |
| T84.320D | Displacement of electronic bone stimulator, subsequent encounter                               |
| T84.320S | Displacement of electronic bone stimulator, sequela  |
| T84.328A | Displacement of other bone devices, implants and grafts, initial encounter                     |
| T84.328D | Displacement of other bone devices, implants and grafts, subsequent encounter                  |
| T84.328S | Displacement of other bone devices, implants and grafts, sequela                               |
| T84.390A | Other mechanical complication of electronic bone stimulator, initial encounter                 |
| T84.390D | Other mechanical complication of electronic bone stimulator, subsequent encounter              |
| T84.390S | Other mechanical complication of electronic bone stimulator, sequela                           |
| T84.398A | Other mechanical complication of other bone devices, implants and grafts, initial encounter    |

|          |   |
|----------|---|
| T84.398D | Other mechanical complication of other bone devices, implants and grafts, subsequent encounter                |
| T84.398S | Other mechanical complication of other bone devices, implants and grafts, sequela                             |
| T84.410A | Breakdown (mechanical) of muscle and tendon graft, initial encounter  |
| T84.410D | Breakdown (mechanical) of muscle and tendon graft, subsequent encounter                                       |
| T84.410S | Breakdown (mechanical) of muscle and tendon graft, sequela  |
| T84.418A | Breakdown (mechanical) of other internal orthopedic devices, implants and grafts, initial encounter           |
| T84.418D | Breakdown (mechanical) of other internal orthopedic devices, implants and grafts, subsequent encounter        |
| T84.418S | Breakdown (mechanical) of other internal orthopedic devices, implants and grafts, sequela                     |
| T84.420A | Displacement of muscle and tendon graft, initial encounter  |
| T84.420D | Displacement of muscle and tendon graft, subsequent encounter   |
| T84.420S | Displacement of muscle and tendon graft, sequela  |
| T84.428A | Displacement of other internal orthopedic devices, implants and grafts, initial encounter                     |
| T84.428D | Displacement of other internal orthopedic devices, implants and grafts, subsequent encounter                  |
| T84.428S | Displacement of other internal orthopedic devices, implants and grafts, sequela                               |
| T84.490A | Other mechanical complication of muscle and tendon graft, initial encounter                                   |
| T84.490D | Other mechanical complication of muscle and tendon graft, subsequent encounter                                |
| T84.490S | Other mechanical complication of muscle and tendon graft, sequela   |
| T84.498A | Other mechanical complication of other internal orthopedic devices, implants and grafts, initial encounter    |
| T84.498D | Other mechanical complication of other internal orthopedic devices, implants and grafts, subsequent encounter |

|          |  |
|----------|--|
| T84.498S | Other mechanical complication of other internal orthopedic devices, implants and grafts, sequela                     |
| T84.50XA | Infection and inflammatory reaction due to unspecified internal joint prosthesis, initial encounter                  |
| T84.50XD | Infection and inflammatory reaction due to unspecified internal joint prosthesis, subsequent encounter               |
| T84.50XS | Infection and inflammatory reaction due to unspecified internal joint prosthesis, sequela                            |
| T84.53XA | Infection and inflammatory reaction due to internal right knee prosthesis, initial encounter                         |
| T84.53XD | Infection and inflammatory reaction due to internal right knee prosthesis, subsequent encounter                      |
| T84.53XS | Infection and inflammatory reaction due to internal right knee prosthesis, sequela                                   |
| T84.54XA | Infection and inflammatory reaction due to internal left knee prosthesis, initial encounter                          |
| T84.54XD | Infection and inflammatory reaction due to internal left knee prosthesis, subsequent encounter                       |
| T84.54XS | Infection and inflammatory reaction due to internal left knee prosthesis, sequela                                    |
| T84.59XA | Infection and inflammatory reaction due to other internal joint prosthesis, initial encounter                        |
| T84.59XD | Infection and inflammatory reaction due to other internal joint prosthesis, subsequent encounter                     |
| T84.59XS | Infection and inflammatory reaction due to other internal joint prosthesis, sequela                                  |
| T84.60XA | Infection and inflammatory reaction due to internal fixation device of unspecified site, initial encounter           |
| T84.60XD | Infection and inflammatory reaction due to internal fixation device of unspecified site, subsequent encounter        |
| T84.60XS | Infection and inflammatory reaction due to internal fixation device of unspecified site, sequela                     |
| T84.629A | Infection and inflammatory reaction due to internal fixation device of unspecified bone of leg, initial encounter    |
| T84.629D | Infection and inflammatory reaction due to internal fixation device of unspecified bone of leg, subsequent encounter |
| T84.629S | Infection and inflammatory reaction due to internal fixation device of unspecified bone of leg, sequela              |

|          |  |
|----------|--|
| T84.69XA | Infection and inflammatory reaction due to internal fixation device of other site, initial encounter                               |
| T84.69XD | Infection and inflammatory reaction due to internal fixation device of other site, subsequent encounter                            |
| T84.69XS | Infection and inflammatory reaction due to internal fixation device of other site, sequela   |
| T84.7XXA | Infection and inflammatory reaction due to other internal orthopedic prosthetic devices, implants and grafts, initial encounter    |
| T84.7XXD | Infection and inflammatory reaction due to other internal orthopedic prosthetic devices, implants and grafts, subsequent encounter |
| T84.7XXS | Infection and inflammatory reaction due to other internal orthopedic prosthetic devices, implants and grafts, sequela              |
| T84.81XA | Embolism due to internal orthopedic prosthetic devices, implants and grafts, initial encounter                                     |
| T84.81XD | Embolism due to internal orthopedic prosthetic devices, implants and grafts, subsequent encounter                                  |
| T84.81XS | Embolism due to internal orthopedic prosthetic devices, implants and grafts, sequela   |
| T84.82XA | Fibrosis due to internal orthopedic prosthetic devices, implants and grafts, initial encounter                                     |
| T84.82XD | Fibrosis due to internal orthopedic prosthetic devices, implants and grafts, subsequent encounter                                  |
| T84.82XS | Fibrosis due to internal orthopedic prosthetic devices, implants and grafts, sequela   |
| T84.83XA | Hemorrhage due to internal orthopedic prosthetic devices, implants and grafts, initial encounter                                   |
| T84.83XD | Hemorrhage due to internal orthopedic prosthetic devices, implants and grafts, subsequent encounter                                |
| T84.83XS | Hemorrhage due to internal orthopedic prosthetic devices, implants and grafts, sequela   |
| T84.84XA | Pain due to internal orthopedic prosthetic devices, implants and grafts, initial encounter   |
| T84.84XD | Pain due to internal orthopedic prosthetic devices, implants and grafts, subsequent encounter                                      |
| T84.84XS | Pain due to internal orthopedic prosthetic devices, implants and grafts, sequela   |

|          |   |
|----------|---|
| T84.86XA | Thrombosis due to internal orthopedic prosthetic devices, implants and grafts, initial encounter                  |
| T84.86XD | Thrombosis due to internal orthopedic prosthetic devices, implants and grafts, subsequent encounter               |
| T84.86XS | Thrombosis due to internal orthopedic prosthetic devices, implants and grafts, sequela                            |
| T84.89XA | Other specified complication of internal orthopedic prosthetic devices, implants and grafts, initial encounter    |
| T84.89XD | Other specified complication of internal orthopedic prosthetic devices, implants and grafts, subsequent encounter |
| T84.89XS | Other specified complication of internal orthopedic prosthetic devices, implants and grafts, sequela              |
| T84.9XXA | Unspecified complication of internal orthopedic prosthetic device, implant and graft, initial encounter           |
| T84.9XXD | Unspecified complication of internal orthopedic prosthetic device, implant and graft, subsequent encounter        |
| T84.9XXS | Unspecified complication of internal orthopedic prosthetic device, implant and graft, sequela                     |
| T84.622A | Infection and inflammatory reaction due to internal fixation device of right tibia, initial encounter             |
| T84.622D | Infection and inflammatory reaction due to internal fixation device of right tibia, subsequent encounter          |
| T84.622S | Infection and inflammatory reaction due to internal fixation device of right tibia, sequela                       |
| T84.623A | Infection and inflammatory reaction due to internal fixation device of left tibia, initial encounter              |
| T84.623D | Infection and inflammatory reaction due to internal fixation device of left tibia, subsequent encounter           |
| T84.623S | Infection and inflammatory reaction due to internal fixation device of left tibia, sequela                        |
| T84.624A | Infection and inflammatory reaction due to internal fixation device of right fibula, initial encounter            |
| T84.624D | Infection and inflammatory reaction due to internal fixation device of right fibula, subsequent encounter         |
| T84.624S | Infection and inflammatory reaction due to internal fixation device of right fibula, sequela                      |

|          |  |
|----------|--|
| T84.625A | Infection and inflammatory reaction due to internal fixation device of left fibula, initial encounter    |
| T84.625D | Infection and inflammatory reaction due to internal fixation device of left fibula, subsequent encounter |
| T84.625S | Infection and inflammatory reaction due to internal fixation device of left fibula, sequela              |
| Z47.1    | Aftercare following following joint replacement surgery  |
| Z96.651  | Presence of right artificial knee joint  |
| Z96.652  | Presence of left artificial knee joint   |
| Z96.653  | Presence of artificial knee joint, bilateral   |
| Z96.659  | Presence of unspecified artificial knee joint  |

# **Presentation and Etiology**

## ***Causes and Risk Factors***

- Age greater than 50 years<sup>6,7,8</sup>
- More frequently found in females than in males<sup>9</sup>
- Genetic predisposition<sup>10</sup>
- Obesity<sup>11</sup>
- Occupations that require heavy lifting, climbing stairs, prolonged kneeling or squatting
- History of trauma affecting the joint or subchondral bone adjacent to the joint
- Prior intra-articular damage (meniscus, ligament)

## ***Clinical Presentation***

Symptoms may include knee pain, swelling, stiffness, instability, locking, or difficulty walking.

- Common pain characteristics:
  - Worse at night
  - May be present at rest
  - Exacerbated by prolonged sitting, standing, or walking
  - Positional change (sitting to standing)
  - Ambulation of stairs

## ***Typical Physical Exam Findings***

The following findings may be found on physical examination of the knee singularly or in combination:

- Joint line tenderness
- Joint effusion
- Deformity
- Limited range of motion
- Crepitus
- Quadriceps weakness or atrophy
- Gait disturbance (antalgic, Trendelenberg, or other)

## ***Typical Diagnostic Findings***

Weight-bearing radiographs can diagnose osteoarthritis of the knee. Common diagnostic findings on a radiograph include joint space narrowing, complete joint space loss, marginal osteophytes, and subchondral sclerosis.<sup>12,13</sup>



# CarePath Services & Medical Necessity Criteria

## Conservative Therapy

**Service: Physical Therapy**

### General Guidelines

- **Units, Frequency, & Duration:** There is insufficient evidence available to support recommendations regarding timing, duration, and frequency of conservative treatment.<sup>14,15</sup>
- **Criteria for Subsequent Requests:** The patient should be progressing towards goals in the physical therapy plan without fully obtaining all goals.
- **Recommended Clinical Approach:** The first line of treatment should be land-based. If land-based is not working, patients can try aquatic exercises. Physical therapy, including land-based or aquatic exercise and strengthening, is recommended for all patients with symptomatic knee osteoarthritis. Preoperative physical therapy is recommended. Preoperative range of motion (ROM) is a useful functional indicator of predicting functional outcomes and range of motion outcomes of knee replacement surgery.<sup>16</sup>
- **Exclusions:** There is insufficient evidence available to support a recommendation for or against manual therapy or electric modalities (e.g., TENS).<sup>17,18</sup>

### Medical Necessity Criteria

#### Indications

→ **Physical therapy** is considered appropriate if **ALL** of the following are **TRUE**<sup>16</sup>:

- ◆ The patient has **ANY** positive findings from the [presentation](#) list:
  - Knee pain
  - Knee effusion (swelling)
  - Knee stiffness
  - Knee instability
  - Difficulty walking
  - Locking
- ◆ The patient has **ANY** positive findings from the [exam findings](#) list:
  - Joint effusion

- Limited range of motion
  - Functional instability of the knee
  - Gait disturbance
  - Muscle weakness
- ◆ A weight-bearing radiograph shows **ANY** of the following evidence of osteoarthritis of the knee:
- Joint space narrowing
  - Complete joint space loss
  - Marginal osteophytes
  - Subchondral sclerosis

**Non-Indications**

None.

**Site of Service Criteria**

Outpatient

**Procedure Codes (HCPCS/CPT)**

| HCPCS Code | Code Description/Definition                  |
|------------|--|
| 97010      | Application of hot or cold packs             |
| 97012      | Application of mechanical traction           |
| 97014      | Application of electrical stimulation        |
| 97016      | Application of vasopneumatic devices         |
| 97018      | Application of paraffin bath                 |
| 97022      | Application of whirlpool                     |
| 97024      | Application of diathermy                     |
| 97026      | Application of infrared modality             |
| 97028      | Application of ultraviolet modality          |
| 97032      | Application of manual electrical stimulation |
| 97033      | Application of iontophoresis                 |
| 97034      | Application of contrast baths                |
| 97035      | Application of ultrasound modality           |

|        |   |
|--------|---|
| 97036  | Application of Hubbard tank   |
| 97039  | Modality service  |
| 97110* | Therapeutic exercises to develop strength and endurance, range of motion and flexibility  |
| 97112  | Neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and proprioception for sitting and standing activities  |
| 97113  | Aquatic therapy with therapeutic exercises  |
| 97116  | Gait training including stair climbing  |
| 97124  | Massage including effleurage and petrissage; Massage including effleurage and tapotement; Massage including effleurage, petrissage and tapotement; Massage including petrissage and tapotement  |
| 97139  | Therapeutic procedure   |
| 97140  | Manual therapy techniques   |
| 97150  | Group therapeutic procedures  |
| 97164  | Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient 20 minutes;<br>Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient and family 20 minutes;<br>Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient's family 20 minutes |
| 97530  | Direct therapeutic activities with use of dynamic activities to improve functional performance, each 15 minutes   |
| 97535  | Home management training, direct one-on-one contact, each 15 minutes;<br>Self-care management training, direct one-on-one contact, each 15 minutes  |
| 97537  | Community reintegration training, direct one-on-one contact, each 15 minutes;<br>Work reintegration training, direct one-on-one contact, each 15 minutes  |

|       |  |
|-------|--|
| 97542 | Wheelchair management, each 15 minutes   |
| 97545 | Work conditioning, initial 2 hours;<br>Work hardening, initial 2 hours   |
| 97546 | Work conditioning, each additional hour;<br>Work hardening, each additional hour   |
| 97750 | Physical performance measurement with written report, each 15 minutes; Physical performance test with written report, each 15 minutes  |
| 97755 | Assistive technology assessment with written report, direct one-on-one contact, each 15 minutes  |
| 97760 | Initial orthotic management and training with assessment and fitting of lower extremities and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremities, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity, each 15 minutes; Initial orthotic management and training with assessment and fitting of trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of upper and lower extremities and trunk, each 15 minutes |
| 97761 | Initial prosthetic training of lower extremities, each 15 minutes;<br>Initial prosthetic training of lower extremity, each 15 minutes<br>Initial prosthetic training of upper and lower extremities, each 15 minutes;<br>Initial prosthetic training of upper extremities, each 15 minutes;<br>Initial prosthetic training of upper extremity, each 15 minutes   |
| 97763 | Subsequent orthotic management and training of lower extremities and trunk, each 15 minutes<br>Subsequent orthotic management and training of lower extremity and trunk, each 15 minutes<br>Subsequent orthotic management and training of lower   |

|  |  |
|--|--|
|  | <p>extremity, each 15 minutes</p> <p>Subsequent orthotic management and training of upper and lower extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic management and training of upper extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic management and training of upper extremities, each 15 minutes</p> <p>Subsequent orthotic management and training of upper extremity and trunk, each 15 minutes</p> <p>Subsequent orthotic management and training of upper extremity, each 15 minutes</p> <p>Subsequent orthotic management of lower extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic management of lower extremity and trunk, each 15 minutes</p> <p>Subsequent orthotic management of lower extremity, each 15 minutes</p> <p>Subsequent orthotic management of upper and lower extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic management of upper extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic management of upper extremities, each 15 minutes</p> <p>Subsequent orthotic management of upper extremity and trunk, each 15 minutes</p> <p>Subsequent orthotic management of upper extremity, each 15 minutes</p> <p>Subsequent orthotic training of lower extremity, each 15 minutes</p> <p>Subsequent orthotic training of upper and lower extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic training of upper extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic training of upper extremities, each 15 minutes</p> <p>Subsequent orthotic training of upper extremity and trunk, each 15 minutes</p> <p>Subsequent orthotic training of upper extremity, each 15</p> |
|--|--|

|  |   |
|--|---|
|  | <p>minutes</p> <p>Subsequent prosthetic management and training of lower extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of lower extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of lower extremity, each 15 minutes</p> <p>Subsequent prosthetic management and training of upper and lower extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of upper extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of upper extremities, each 15 minutes</p> <p>Subsequent prosthetic management and training of upper extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of upper extremity, each 15 minutes</p> <p>Subsequent prosthetic management of lower extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management of lower extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic management of lower extremity, each 15 minutes</p> <p>Subsequent prosthetic management of upper and lower extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management of upper extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management of upper extremities, each 15 minutes</p> <p>Subsequent prosthetic management of upper extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic management of upper extremity, each 15 minutes</p> <p>Subsequent prosthetic training of lower extremity, each 15 minutes</p> <p>Subsequent prosthetic training of upper and lower extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic training of upper extremities and</p> |
|--|---|

|       |   |
|-------|---|
|       | <p>trunk, each 15 minutes</p> <p>Subsequent prosthetic training of upper extremities, each 15 minutes</p> <p>Subsequent prosthetic training of upper extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic training of upper extremity, each 15 minutes</p> <p>Subsequent orthotic management and training of lower extremities, each 15 minutes</p> <p>Subsequent orthotic management of lower extremities, each 15 minutes</p> <p>Subsequent orthotic training of lower extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic training of lower extremities, each 15 minutes</p> <p>Subsequent orthotic training of lower extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of lower extremities, each 15 minutes</p> <p>Subsequent prosthetic management of lower extremities, each 15 minutes</p> <p>Subsequent prosthetic training of lower extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic training of lower extremities, each 15 minutes</p> <p>Subsequent prosthetic training of lower extremity and trunk, each 15 minutes</p> |
| 97799 | Unlisted physical medicine/rehabilitation service or procedure  |
| 420   | Physical Therapy  |
| 421   | Physical Therapy: Visit Charge  |
| 422   | Physical Therapy: Hourly Charge   |
| 423   | Physical Therapy: Group Rate  |
| 424   | Physical Therapy: Evaluation/Re-evaluation  |
| 429   | Physical Therapy: Other Physical Therapy  |
| 97163 | Evaluation of physical therapy, typically 45 minutes  |

|       |  |
|-------|--|
| 97161 | Evaluation of physical therapy, typically 20 minutes                                 |
| 97162 | Evaluation of physical therapy, typically 30 minutes                                 |
| 97168 | Re-evaluation of occupational therapy established plan of care, typically 30 minutes |
| 97165 | Evaluation of occupational therapy, typically 30 minutes                             |
| 97166 | Evaluation of occupational therapy, typically 45 minutes                             |
| 97167 | Evaluation of occupational therapy established plan of care, typically 60 minutes    |
| G0151 | Hhcp-serv of pt,ea 15 min  |

\*Default codes for suggested services



## Service: Orthotics

### General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** A medial compartment unloader or valgus unloader brace may be appropriate for patients with predominant medial or lateral compartment symptoms (i.e., knee pain, swelling, stiffness, and limited range of motion). Unloader braces push the knee, forcing the patient to bear weight on the side of the knee that has articular cartilage intact. Unloader braces have limited utility; the target population is those with arthritis who are physically active or in an active occupation (e.g., manual laborers).
- **Exclusions:** None.

### Medical Necessity Criteria

#### Indications

- **Orthotics** are considered appropriate if **ALL** of the following are **TRUE**<sup>19</sup>:
- ◆ The patient has **ANY** positive findings from the [presentation](#) list:
    - Knee pain
    - Knee effusion (swelling)
    - Knee stiffness
    - Knee instability
    - Difficulty walking
    - Locking
  - ◆ The patient has **ANY** positive findings from the [exam findings](#) list:
    - Joint effusion
    - Limited range of motion
    - Functional instability of the knee
    - Gait disturbance
    - Muscle weakness
  - ◆ A weight-bearing radiograph shows **ANY** of the following evidence of osteoarthritis of the knee:
    - Joint space narrowing
    - Complete joint space loss
    - Marginal osteophytes
    - Subchondral sclerosis
  - ◆ The patient has a high level of physical activity (lifestyle or due to occupation)

## Non-Indications

→ **Orthotics** are not considered appropriate if **ANY** of the following is **TRUE**:

- ◆ Skin conditions that would be irritated by a brace
- ◆ Anatomy does not accommodate proper fitting
- ◆ Sedentary lifestyle

## Site of Service Criteria

Outpatient

## Procedure Codes (HCPCS/CPT)

| HCPCS Code | Code Description/Definition  |
|------------|--|
| 29530      | Strapping of knee  |
| L1834      | Knee orthosis, without knee joint, rigid, custom fabricated  |
| L1840      | Knee orthosis, derotation, medial-lateral, anterior cruciate ligament, custom fabricated   |
| L1844      | Knee orthosis, single upright, thigh and calf, with adjustable flexion and extension joint (unicentric or polycentric), medial-lateral and rotation control, with or without varus/valgus adjustment, custom fabricated      |
| L1846      | Knee orthosis (KO), double upright, thigh and calf, with adjustable flexion and extension joint (unicentric or polycentric), medial-lateral and rotation control, with or without varus/valgus adjustment, custom fabricated |
| L2320      | Addition to lower extremity, non-molded lacer, for custom fabricated orthosis only   |
| L2330      | Addition to lower extremity, lacer molded to patient model, for custom fabricated orthosis only  |
| L2755      | Addition to lower extremity orthosis, high strength, lightweight material, all hybrid lamination/prepreg composite, per segment, for custom fabricated orthosis only   |
| L2800      | Addition to lower extremity orthosis, knee control, knee cap, medial or lateral pull, for use with custom fabricated orthosis only   |
| L2861      | Addition to lower extremity joint, knee or ankle, concentric adjustable torsion style mechanism for custom fabricated orthotics only   |

|       |                              |
|-------|------------------------------|
| L1834 | Ko w/0 joint rigid molded to |
| L2330 | Lacer molded to patient mode |

## **Advanced Imaging**

***Service: Magnetic Resonance Imaging (MRI) (with or without contrast)***

### **General Guidelines**

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** Weight-bearing radiography is recommended on the initial presentation of knee pain to confirm osteoarthritis of the knee. If a patient has all the signs and symptoms of osteoarthritis and their plain radiographs do not provide substantial information about their diagnosis, an MRI would help determine the degree of arthritis or other intra-articular pathology.<sup>12</sup>
- **Exclusions:** None.

### **Medical Necessity Criteria**

#### **Indications**

- **MRI** is considered appropriate if **ALL** of the following are **TRUE**:
- ◆ The patient has **ANY** positive findings from the [presentation](#) list:
    - Knee pain
    - Knee effusion (swelling)
    - Knee stiffness
    - Knee instability
    - Difficulty walking
    - Locking
  - ◆ The patient has **ANY** positive findings from the [exam findings](#) list:
    - Crepitus
    - Functional instability of the knee
    - Joint effusion
    - Limited range of motion
    - Gait disturbance
  - ◆ Weight-bearing radiograph shows **ANY** of the following:
    - Preservation of joint space
    - A normal radiograph (no findings)<sup>12</sup>

#### **Non-Indications**

- **MRI** may not be considered appropriate if **ANY** of the following are **TRUE**<sup>20</sup>:
- ◆ Non-compatible implanted devices

- ◆ Metallic intraocular foreign bodies
- ◆ Claustrophobia

**Site of Service Criteria**

Outpatient

**Procedure Codes (HCPCS/CPT)**

| HCPCS Code | Code Description/Definition                      |
|------------|--|
| 73721      | MRI of lower extremity                           |
| 73722      | MRI of lower extremity with contrast             |
| 73723      | MRI of lower extremity with and without contrast |

## **Service: Computed Tomography (CT) without contrast**

### **General Guidelines**

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** Computed tomography (CT) is helpful for preoperative planning, especially when there is a significant bone or joint deformity. A CT is necessary for robot-assisted knee replacement surgery. The CT creates a 3D model of the knee joint, which is then analyzed by software to customize the surgical plan.
- **Exclusions:** None.

### **Medical Necessity Criteria**

#### **Indications**

- **CT** is considered appropriate if **ANY** of the following is **TRUE**<sup>21</sup>:
- ◆ Suspected fracture around the knee.
  - ◆ Significant knee bone or joint deformity.
  - ◆ The patient is having robot-assisted knee replacement surgery.

#### **Non-Indications**

None.

### **Site of Service Criteria**

Outpatient

### **Procedure Codes (HCPCS/CPT)**

| <b>HCPCS Code</b> | <b>Code Description/Definition</b> |
|-------------------|------------------------------------|
| 73700             | CT of lower extremity              |

## Non-Surgical Management

**Service: Intra-articular Injection (hyaluronic acid viscosupplementation)**

### General Guidelines

- **Units, Frequency, & Duration:** Patients should receive no more than 2 treatments per year, 6 months apart. This includes both single injections and injection series.
- **Criteria for Subsequent Requests:** Significant clinical improvement with the previous viscosupplementation.
- **Recommended Clinical Approach:** Ultrasound guidance should only be used if visualization of the patient's joint anatomy is difficult (e.g., obesity, effusion).
- **Exclusions:** Routine hyaluronic acid injection/viscosupplementation is not recommended. It may be appropriate for patients who cannot or will not have corrective knee surgery.<sup>18</sup>

### Medical Necessity Criteria

#### Indications

- **Viscosupplementation** is considered appropriate if **ALL** of the following are **TRUE**:
- ◆ The previous viscosupplementation therapy was completed greater than 6 months ago.<sup>22</sup>
  - ◆ The patient failed at least 3 months of conservative therapy (e.g., non-pharmacologic treatment such as but not limited to physical therapy or simple analgesics/anti-inflammatory medication).<sup>22</sup>
  - ◆ The patient has **ANY** positive findings from the [presentation](#) and [exam findings](#) list.
  - ◆ A weight-bearing radiograph shows **ANY** of the following evidence of knee arthritis:
    - Joint space narrowing (less than 50%)
    - Joint space narrowing (greater than 50%)
    - Marginal osteophytes
    - Subchondral sclerosis
  - ◆ The patient meets **ANY** of the following criteria<sup>22</sup>:
    - Failed to show significant improvement in pain or disability level following treatment with corticosteroid injections (corticosteroid therapy must have been attempted within the prior 45 days unless contraindicated)
    - Contraindication for the use of corticosteroids (i.e., allergy).

- The patient does not intend to have corrective knee surgery within 6 months or is not a candidate for surgery.
- Demonstrated a significant improvement in pain or disability level after previous viscosupplementation therapy.

**Non-Indications**

None.

**Site of Service Criteria**

Outpatient

**Procedure Codes (HCPCS/CPT)**

| HCPCS Code | Code Description/Definition                                    |
|------------|--|
| 20610      | Arthrocentesis and injection of joint (without ultrasound)     |
| 20611      | Arthrocentesis and injection of joint with ultrasound guidance |
| J7327      | Monovisc inj per dose  |



# Surgical Management

## **Service: Total Knee Arthroplasty (TKA)**

### General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** Consecutive knee arthroplasties can be performed as early as 3 months apart based on medical comorbidities.<sup>23</sup> Most patients wait 6 months to 1 year between the two knee arthroplasty procedures. There is no recommendation available for the timing of bilateral total knee arthroplasty.<sup>24-25</sup> A period of greater than 6 months between knee arthroplasty procedures results in better patient outcomes.
- **Recommended Clinical Approach:** Bilateral total knee arthroplasty may be appropriate for patients 70 years or younger or for patients with ASA status 1-2.<sup>26</sup> Periarticular anesthesia is recommended to decrease postoperative pain and opioid use (e.g., local anesthesia infiltration, peripheral nerve block, and neuraxial anesthesia).<sup>26</sup> General anesthesia is also acceptable.
- **Exclusions:** This procedure is not recommended for patients with active infections.

### Medical Necessity Criteria

#### Indications

- **Total knee arthroplasty** is considered appropriate if **ALL** of the following are **TRUE**<sup>24-26</sup>:
  - ◆ Persistent symptoms of moderate to severe osteoarthritis (OA) despite more than 6 weeks of conservative and non-surgical management.
  - ◆ Symptoms limit activities of daily living (ADLs).
  - ◆ A weight-bearing radiograph shows **ANY** of the following evidence of knee arthritis:
    - Joint space narrowing (less than 50%) and marginal osteophytes or subchondral sclerosis
    - Joint space narrowing (greater than 50%)
    - Complete joint space loss
- **Total knee arthroplasty procedure for the subsequent knee** is considered appropriate if **ALL** of the following are **TRUE**:
  - ◆ The request for the second knee arthroplasty is greater than 3 months after the first knee arthroplasty.

- ◆ The above criteria for total knee arthroplasty are satisfied.

**Non-Indications**

- **Total knee arthroplasty** is not considered appropriate if **ANY** of the following are **TRUE**:
  - ◆ Skeletal immaturity (under the age of 18)
  - ◆ Active infection
  - ◆ Lower extremity weakness, especially quad strength/knee extensor weakness (relative)
  - ◆ Quadriplegia
- **Total knee arthroplasty** may not be appropriate for patients when **ANY** of the following is **TRUE**:
  - ◆ Body mass index (BMI) greater than or equal to 40 kg/m<sup>2</sup> (severely obese)
  - ◆ Active tobacco use
  - ◆ Chronic lower extremity ischemia

**Site of Service Criteria**

Inpatient or outpatient

**Procedure Codes (HCPCS/CPT)**

| HCPCS Code | Code Description/Definition   |
|------------|---|
| 27437      | Arthroplasty of patella   |
| 27445      | Arthroplasty of knee with hinge prosthesis                            |
| 27447      | Arthroplasty of medial and lateral femoral condyle and tibial plateau |

## ***Service: Proximal Tibial Osteotomy***

### **General Guidelines**

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** Periarticular anesthesia is recommended to decrease postoperative pain and opioid use (e.g., local anesthesia infiltration, peripheral nerve block, and neuraxial anesthesia).<sup>26</sup> General anesthesia is also acceptable.
- **Exclusions:** None.

### **Medical Necessity Criteria**

#### **Indications**

- **Proximal tibial osteotomy** is considered appropriate if **ALL** of the following are **TRUE**<sup>19</sup>:
- ◆ Persistent symptoms of moderate to severe osteoarthritis (OA) despite more than 6 weeks of non-surgical management.
  - ◆ Symptoms limit activities of daily living (ADLs).
  - ◆ A weight-bearing radiograph shows **ANY** of the following evidence of knee arthritis:
    - Joint space narrowing (less than 50%) and marginal osteophytes or subchondral sclerosis in the medial compartment only
    - Joint space narrowing (greater than 50%) in the medial compartment only
  - A proximal tibial osteotomy is appropriate in younger patients (typically less than 60-65 years) if they have **ANY** of the following:
    - Medial unicompartmental osteoarthritis
    - Varus knee
    - Flexion of at least 90°
    - Flexion contracture of less than 10°
    - No ligamentous instability<sup>27</sup>

#### **Non-Indications**

- **Proximal tibial osteotomy** is **NOT** considered appropriate if **ANY** of the following is **TRUE**:
- ◆ Skeletal immaturity
  - ◆ Active infection
  - ◆ Lower extremity weakness, especially quad strength/knee extensor weakness

→ **Proximal tibial osteotomy** may not be appropriate for patients when **ANY** of the following is **TRUE**:

- ◆ Body mass index (BMI) greater than or equal to 40 kg/m<sup>2</sup> (severely obese)
- ◆ Active tobacco use
- ◆ Chronic lower extremity ischemia

**Site of Service Criteria**

Inpatient or outpatient.

**Procedure Codes (HCPCS/CPT)**

| HCPCS Code | Code Description/Definition |
|------------|-----------------------------|
| 27457      | High Tibial Osteotomy       |

## **Service: Distal Femoral Osteotomy (DFO)**

### **General Guidelines**

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** Periarticular anesthesia is recommended to decrease postoperative pain and opioid use (e.g., local anesthesia infiltration, peripheral nerve block, neuraxial anesthesia).<sup>26</sup> General anesthesia is also acceptable.
- **Exclusions:** None.

### **Medical Necessity Criteria**

#### **Indications**

- **Distal femoral osteotomy** is considered appropriate if **ALL** of the following are **TRUE**:
  - ◆ The patient has persistent symptoms of moderate to severe OA despite more than 6 weeks of non-surgical management.
  - ◆ The patient's symptoms limit their activities of daily living (ADLs).
  - ◆ Weight-bearing radiograph shows **ANY** of the following evidence of osteoarthritis of the knee:
    - Joint space narrowing (less than 50%) and marginal osteophytes or subchondral sclerosis in the lateral compartment only
    - Joint space narrowing (greater than 50%) in the lateral compartment only
- DFO is appropriate in younger patients (typically younger than 60-65 years) if they have the following:
  - ◆ Lateral unicompartamental osteoarthritis
  - ◆ Valgus knee
  - ◆ Knee range of motion of at least 90°<sup>28</sup>
  - ◆ Less than 10° flexion contracture<sup>28</sup>
  - ◆ No ligamentous instability<sup>27</sup>

#### **Non-Indications**

- **Distal femoral osteotomy** is not considered appropriate if **ANY** of the following is **TRUE**:
  - ◆ Skeletal immaturity
  - ◆ Active infection
  - ◆ Lower extremity weakness, especially quad strength/knee extensor weakness (relative)

→ **Distal femoral osteotomy** may not be appropriate for patients when **ANY** of the following is **TRUE**:

- ◆ Body mass index (BMI) greater than or equal to 40 kg/m<sup>2</sup> (severely obese)
- ◆ Active tobacco use
- ◆ Chronic lower extremity ischemia

**Site of Service Criteria**

Inpatient or outpatient

**Procedure Codes (HCPCS/CPT)**

| HCPCS Code | Code Description/Definition |
|------------|-----------------------------|
| 27450      | Distal Femoral Osteotomy    |

## Service: Unicompartmental Knee Arthroplasty (UKA)

### General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** Periarticular anesthesia is recommended to decrease postoperative pain and opioid use (e.g., local anesthesia infiltration, peripheral nerve block, neuraxial anesthesia).<sup>26</sup> General anesthesia is also acceptable.
- **Exclusions:** None.

### Medical Necessity Criteria

#### Indications

- **UKA** is considered appropriate if **ANY** of the following is **TRUE**<sup>29</sup>:
- ◆ The patient is older than 60–65 years old and **ALL** of the following are **TRUE**:
    - Persistent symptoms of moderate to severe OA despite more than 6 weeks of non-surgical management
    - Symptoms limit activities of daily living (ADLs).
    - Weight-bearing radiograph shows **ANY** of the following evidence of osteoarthritis of the knee:
      - Joint space narrowing (less than 50%) and marginal osteophytes or subchondral sclerosis
      - Joint space narrowing (greater than 50%)
      - Complete joint space loss
  - ◆ UKA is appropriate in younger patients (typically younger than 60–65 years) if **ALL** of the following are **TRUE**:
    - Unicompartmental osteoarthritis (OA)<sup>30</sup>
    - No evidence of patellofemoral subluxation or lateral patella facet OA with tilt or collapse (for medial or lateral unicompartmental)
    - No radiographic evidence of tibiofemoral OA (for patellofemoral replacement)
    - Flexion contracture less than 10°<sup>30</sup>
    - Flexion of at least 110°
    - Intact anterior cruciate ligament necessary for mobile-bearing device<sup>30</sup>
    - Less than 10° of fixed varus or valgus

#### Non-Indications

- **UKA** is not considered appropriate if **ANY** of the following is **TRUE**:

- ◆ Skeletal immaturity
  - ◆ Active infection
  - ◆ Lower extremity weakness, especially quad strength/knee extensor weakness (relative)
- **UKA** may not be considered appropriate if **ANY** of the following is **TRUE**:
- ◆ Body mass index (BMI) greater than or equal to 40 kg/m<sup>2</sup> (severely obese)
  - ◆ Active tobacco use
  - ◆ Chronic lower extremity ischemia

**Site of Service Criteria**

Inpatient or outpatient

**Procedure Codes (HCPCS/CPT)**

| HCPCS Code | Code Description/Definition  |
|------------|--|
| 27438      | Arthroplasty of patella with prosthesis                                  |
| 27440      | Arthroplasty of tibial plateau   |
| 27441      | Arthroplasty of tibial plateau with debridement and partial synovectomy  |
| 27442      | Arthroplasty of femoral condyle  |
| 27443      | Arthroplasty of femoral condyle with debridement and partial synovectomy |
| 27446      | Unicompartmental knee arthroplasty                                       |



## ***Service: Revision of Knee Arthroplasty***

### **General Guidelines**

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** If a patient had a joint arthroplasty and presents with pain due to loosening, prosthesis failure, instability, or infection, then revision surgery may be indicated.
- **Exclusions:** None.

### **Medical Necessity Criteria**

#### **Indications**

- **Revision of knee arthroplasty** is considered appropriate if **ALL** of the following are **TRUE**<sup>31</sup>:
- ◆ The patient has **ANY** of the following findings:
    - Pain
    - Infection
    - Instability
    - Loosening of the prosthesis
    - Failure of the prosthesis
    - Periprosthetic fracture
  - ◆ The patient has **ANY** of the following advanced imaging or weight-bearing radiograph findings:
    - Loosening of the prosthesis
    - Failure of the prosthesis
    - Normal (no findings)

#### **Non-Indications**

None.

### **Site of Service Criteria**

Inpatient or outpatient

### **Procedure Codes (HCPCS/CPT)**

| <b>HCPCS Code</b> | <b>Code Description/Definition</b>  |
|-------------------|---|
| 27486             | Revision of one component of total knee joint prosthesis                                  |
| 27487             | Revision of lower thigh bone and both shin bone components of total knee joint prosthesis |
| 27488             | Removal of total knee joint prosthesis  |

# Surgical Risk Factors

## Patient Medical Risk Stratification

| Patient Risk Score          | Patient Characteristic                                   | Min Range  | Max Range     | Guidance                                  |
|-----------------------------|--|--|---------------|---|
| <b>1- Very Low Risk</b>     | No known medical problems                                |  |               |   |
| <b>2- Low Risk</b>          | Hypertension   |  | 180/110 mm Hg |   |
| <b>2- Low Risk</b>          | Asthma   | peak flow >80% of predicted or personal best value |               |   |
| <b>2- Low Risk</b>          | Prior history of alcohol abuse                           |  |               | Screen for liver disease and malnutrition |
| <b>2- Low Risk</b>          | Prior history of tobacco use                             |  |               |   |
| <b>3- Intermediate Risk</b> | Asthma   | peak flow <80% of predicted or personal best value |               |   |
| <b>3- Intermediate Risk</b> | Active alcohol abuse                                     |  |               |   |
| <b>3- Intermediate Risk</b> | Age  | 65   | 75            |   |
| <b>3- Intermediate Risk</b> | History of treated, stable coronary artery disease (CAD) |  |               |   |
| <b>3- Intermediate Risk</b> | Stable atrial fibrillation                               |  |               |   |
| <b>3- Intermediate Risk</b> | Diabetes mellitus  | HbA1C >7%  |               |   |
| <b>3- Intermediate Risk</b> | Morbid obesity   | BMI 30   | BMI 40        |   |
| <b>3- Intermediate Risk</b> | Anemia   | hemoglobin <11 (females), <12 (males)              |               | Workup to identify etiology               |
| <b>3- Intermediate Risk</b> | HIV  | CD4 <200 cells/mm3                                 |               | Get clearance from HIV specialist         |

|                             |  |  |    |   |
|-----------------------------|--|--|----|---|
| <b>3- Intermediate Risk</b> | Rheumatologic disease  |  |    | Preoperative consultation with rheumatologist re: perioperative medication management |
| <b>3- Intermediate Risk</b> | Peripheral vascular disease or history of peripheral vascular bypass | ankle-brachial pressure index (ABPI) <0.9  |    | Preoperative consultation with vascular surgeon                                       |
| <b>3- Intermediate Risk</b> | History of venous thromboembolism (VTE)                              |  |    |   |
| <b>3- Intermediate Risk</b> | Well-controlled obstructive sleep apnea                              |  |    |   |
| <b>3- Intermediate Risk</b> | Malnutrition   | transferrin <200 mg/dL<br>albumin <3.5 g/dL<br>prealbumin <22.5 mg/dL<br>total lymphocyte count <1200-1500 cell/mm <sup>3</sup><br>BMI <18 |    | Preoperative consultation with nutritionist   |
| <b>3- Intermediate Risk</b> | Active tobacco Use   |  |    | Enroll patient in smoking cessation program   |
| <b>4- High Risk</b>         | Diabetes mellitus with complications                                 | HbA1c >8%  |    |   |
| <b>4- High Risk</b>         | Age  | 76   | 85 |   |
| <b>4- High Risk</b>         | Oxygen dependent pulmonary disease                                   |  |    |   |
| <b>4- High Risk</b>         | Sickle cell anemia   |  |    |   |
| <b>4- High Risk</b>         | Obesity  | BMI 40   |    |   |
| <b>4- High Risk</b>         | Cirrhosis, history of hepatic decompensation or variceal bleeding    |  |    |   |

|                          |   |   |         |  |
|--------------------------|---|---|---------|--|
| <b>4- High Risk</b>      | Impaired cognition; dementia  |   |         |  |
| <b>4- High Risk</b>      | Compensated CHF   |   |         |  |
| <b>4- High Risk</b>      | Cerebrovascular disease   |   |         |  |
| <b>4- High Risk</b>      | Uncontrolled or suspected obstructive sleep apnea (OSA)   |   |         |  |
| <b>4- High Risk</b>      | Renal insufficiency   | serum creatinine >1.5 mg/dL or creatinine clearance <100 mL/min |         |  |
| <b>4- High Risk</b>      | Opioid dependence   |   |         |  |
| <b>4- High Risk</b>      | End Stage Liver Disease   |   |         |  |
| <b>4- High Risk</b>      | Uncontrolled Seizure Disorder   |   |         |  |
| <b>4- High Risk</b>      | History of Malignant Hyperthermia   |   |         |  |
| <b>5- Very High Risk</b> | Cardiovascular: unstable angina, recent myocardial infarction (60 days), uncontrolled atrial fibrillation or other high-grade abnormal rhythm, severe valvular disease, decompensated heart failure |   |         |  |
| <b>5- Very High Risk</b> | Primary pulmonary hypertension  |   |         | Preoperative consultation with pulmonologist warranted |
| <b>5- Very High Risk</b> | Cirrhosis or severe liver disease, history of hepatic decompensation or variceal bleeding   |   |         |  |
| <b>5- Very High Risk</b> | Severe frailty, dependence for ADLs, or history of 3 or more falls in last 6 mos  |   |         |  |
| <b>5- Very High Risk</b> | Obesity   |   | BMI >50 |  |
| <b>5- Very High Risk</b> | Age   |   | >85     |  |

|                          |   |  |  |  |
|--------------------------|---|--|--|--|
| <b>5- Very High Risk</b> | History of VTE with CI to anticoagulation, failure of anticoagulation, cessation of anticoagulation therapy secondary to bleeding |  |  | Preoperative consultation with hematologist or internist |
| <b>5- Very High Risk</b> | Renal failure requiring dialysis  |  |  |  |
| <b>5- Very High Risk</b> | Immunosuppression   |  |  |  |
| <b>5- Very High Risk</b> | Chronic Pain  |  |  |  |

# Post- Operative Care

**Service: Physical Therapy**

## General Guidelines

- **Units, Frequency, & Duration:** There is insufficient evidence available to support specific recommendations regarding timing, duration, and frequency of postoperative physical therapy.<sup>32</sup>
- **Criteria for Subsequent Requests:** The patient should be progressing towards goals in the physical therapy plan without fully obtaining all goals.
- **Recommended Clinical Approach:**
- **Exclusions:** Evidence does not support the use of postoperative continuous passive motion (CPM).<sup>26</sup>

## Medical Necessity Criteria

### Indications

- **Postoperative physical therapy** is considered appropriate if **ANY** of the following is **TRUE**:
- ◆ The patient underwent knee arthroplasty or osteotomy.

### Non-Indications

None

## Site of Service Criteria

Outpatient

## Procedure Codes (HCPCS/CPT)

| HCPCS Code | Code Description/Definition           |
|------------|---------------------------------------|
| 97010      | Application of hot or cold packs      |
| 97012      | Application of mechanical traction    |
| 97014      | Application of electrical stimulation |
| 97016      | Application of vasopneumatic devices  |
| 97018      | Application of paraffin bath          |
| 97022      | Application of whirlpool              |

|        |   |
|--------|---|
| 97024  | Application of diathermy  |
| 97026  | Application of infrared modality  |
| 97028  | Application of ultraviolet modality   |
| 97032  | Application of manual electrical stimulation  |
| 97033  | Application of iontophoresis  |
| 97034  | Application of contrast baths   |
| 97035  | Application of ultrasound modality  |
| 97036  | Application of Hubbard tank   |
| 97039  | Modality service  |
| 97110* | Therapeutic exercises to develop strength and endurance, range of motion and flexibility  |
| 97112  | Neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and proprioception for sitting and standing activities  |
| 97113  | Aquatic therapy with therapeutic exercises  |
| 97116  | Gait training including stair climbing  |
| 97124  | Massage including effleurage and petrissage; Massage including effleurage and tapotement; Massage including effleurage, petrissage and tapotement; Massage including petrissage and tapotement  |
| 97139  | Therapeutic procedure   |
| 97140  | Manual therapy techniques   |
| 97150  | Group therapeutic procedures  |
| 97164  | Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient 20 minutes;<br>Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient and family 20 minutes;<br>Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient's family 20 minutes |

|       |  |
|-------|--|
| 97530 | Direct therapeutic activities with use of dynamic activities to improve functional performance, each 15 minutes  |
| 97535 | Home management training, direct one-on-one contact, each 15 minutes;<br>Self-care management training, direct one-on-one contact, each 15 minutes   |
| 97537 | Community reintegration training, direct one-on-one contact, each 15 minutes;<br>Work reintegration training, direct one-on-one contact, each 15 minutes   |
| 97542 | Wheelchair management, each 15 minutes   |
| 97545 | Work conditioning, initial 2 hours;<br>Work hardening, initial 2 hours   |
| 97546 | Work conditioning, each additional hour;<br>Work hardening, each additional hour   |
| 97750 | Physical performance measurement with written report, each 15 minutes; Physical performance test with written report, each 15 minutes  |
| 97755 | Assistive technology assessment with written report, direct one-on-one contact, each 15 minutes  |
| 97760 | Initial orthotic management and training with assessment and fitting of lower extremities and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremities, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity, each 15 minutes; Initial orthotic management and training with assessment and fitting of trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of upper and lower extremities and trunk, each 15 minutes |



|       |  |
|-------|--|
| 97761 | <p>Initial prosthetic training of lower extremities, each 15 minutes;</p> <p>Initial prosthetic training of lower extremity, each 15 minutes</p> <p>Initial prosthetic training of upper and lower extremities, each 15 minutes;</p> <p>Initial prosthetic training of upper extremities, each 15 minutes;</p> <p>Initial prosthetic training of upper extremity, each 15 minutes</p>  |
| 97763 | <p>Subsequent orthotic management and training of lower extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic management and training of lower extremity and trunk, each 15 minutes</p> <p>Subsequent orthotic management and training of lower extremity, each 15 minutes</p> <p>Subsequent orthotic management and training of upper and lower extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic management and training of upper extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic management and training of upper extremities, each 15 minutes</p> <p>Subsequent orthotic management and training of upper extremity and trunk, each 15 minutes</p> <p>Subsequent orthotic management and training of upper extremity, each 15 minutes</p> <p>Subsequent orthotic management of lower extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic management of lower extremity and trunk, each 15 minutes</p> <p>Subsequent orthotic management of lower extremity, each 15 minutes</p> <p>Subsequent orthotic management of upper and lower extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic management of upper extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic management of upper extremities, each 15 minutes</p> <p>Subsequent orthotic management of upper extremity and</p> |

|  |  |
|--|--|
|  | <p>trunk, each 15 minutes</p> <p>Subsequent orthotic management of upper extremity, each 15 minutes</p> <p>Subsequent orthotic training of lower extremity, each 15 minutes</p> <p>Subsequent orthotic training of upper and lower extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic training of upper extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic training of upper extremities, each 15 minutes</p> <p>Subsequent orthotic training of upper extremity and trunk, each 15 minutes</p> <p>Subsequent orthotic training of upper extremity, each 15 minutes</p> <p>Subsequent prosthetic management and training of lower extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of lower extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of lower extremity, each 15 minutes</p> <p>Subsequent prosthetic management and training of upper and lower extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of upper extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of upper extremities, each 15 minutes</p> <p>Subsequent prosthetic management and training of upper extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of upper extremity, each 15 minutes</p> <p>Subsequent prosthetic management of lower extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management of lower extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic management of lower extremity, each 15 minutes</p> <p>Subsequent prosthetic management of upper and lower</p> |
|--|--|

|  |   |
|--|---|
|  | <p>extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management of upper extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic management of upper extremities, each 15 minutes</p> <p>Subsequent prosthetic management of upper extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic management of upper extremity, each 15 minutes</p> <p>Subsequent prosthetic training of lower extremity, each 15 minutes</p> <p>Subsequent prosthetic training of upper and lower extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic training of upper extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic training of upper extremities, each 15 minutes</p> <p>Subsequent prosthetic training of upper extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic training of upper extremity, each 15 minutes</p> <p>Subsequent orthotic management and training of lower extremities, each 15 minutes</p> <p>Subsequent orthotic management of lower extremities, each 15 minutes</p> <p>Subsequent orthotic training of lower extremities and trunk, each 15 minutes</p> <p>Subsequent orthotic training of lower extremities, each 15 minutes</p> <p>Subsequent orthotic training of lower extremity and trunk, each 15 minutes</p> <p>Subsequent prosthetic management and training of lower extremities, each 15 minutes</p> <p>Subsequent prosthetic management of lower extremities, each 15 minutes</p> <p>Subsequent prosthetic training of lower extremities and trunk, each 15 minutes</p> <p>Subsequent prosthetic training of lower extremities, each 15</p> |
|--|---|

|       |   |
|-------|---|
|       | minutes<br>Subsequent prosthetic training of lower extremity and trunk, each 15 minutes |
| 97799 | Unlisted physical medicine/rehabilitation service or procedure                          |
| 420   | Physical Therapy  |
| 421   | Physical Therapy: Visit Charge  |
| 422   | Physical Therapy: Hourly Charge   |
| 423   | Physical Therapy: Group Rate  |
| 424   | Physical Therapy: Evaluation/Re-evaluation  |
| 429   | Physical Therapy: Other Physical Therapy  |
| 97163 | Evaluation of physical therapy, typically 45 minutes                                    |
| 97161 | Evaluation of physical therapy, typically 20 minutes                                    |
| 97162 | Evaluation of physical therapy, typically 30 minutes                                    |
| 97168 | Re-evaluation of occupational therapy established plan of care, typically 30 minutes    |
| 97165 | Evaluation of occupational therapy, typically 30 minutes                                |
| 97166 | Evaluation of occupational therapy, typically 45 minutes                                |
| 97167 | Evaluation of occupational therapy established plan of care, typically 60 minutes       |
| G0151 | Hhcp-serv of pt,ea 15 min   |

\*Default codes for suggested services

## **Service: Home Health Care**

### General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** May be recommended for postoperative care if outpatient treatment is not appropriate.
- **Exclusions:** None.

### Medical Necessity Criteria

#### Indications

→ **Home health care** may be appropriate if **ALL** of the following are **TRUE**<sup>33-34</sup>:

- ◆ The patient lives with those that are unable to care for the patient postoperatively.
- ◆ The patient underwent knee arthroplasty or osteotomy.

#### Non-Indications

None.

### Site of Service Criteria

Home

### Procedure Codes (HCPCS/CPT)

| <b>HCPCS Code</b> | <b>Code Description/Definition</b>  |
|-------------------|---|
| 99509             | Home visit for assistance with activities of daily living and personal care   |
| 99600             | Unlisted home visit procedure; Unlisted home visit service  |
| 99334             | Level 1 rest home visit for evaluation and management of established patient with minor and/or self-limited problem, including problem-focused interval history and physical examination, and straightforward medical decision-making, typical time with patient, family, and/or caregiver 15 minutes |
| G0129             | Partial hosp prog service   |
| G0283             | Elec stim other than wound  |

## Service: Inpatient Rehabilitation

### General Guidelines

- **Units, Frequency, & Duration:** Postoperative inpatient rehabilitation is recommended to begin as soon as possible for all patients. No guidelines are available for a specific rehabilitation duration, timing, or frequency.<sup>32</sup> Inpatient rehabilitation is rarely required following routine knee arthroplasty procedures.
- **Criteria for Subsequent Requests:**
- **Recommended Clinical Approach:** No firmly established criteria for discharge appropriateness; this generally depends upon medical stability, pain control, home situation, and PT/OT goals met. Some patients may require non-home discharge after surgery, depending on age, comorbidities, and functional needs.
- **Exclusions:** None.

### Medical Necessity Criteria

#### Indications

- **Post-acute inpatient rehabilitation** is considered appropriate if **ALL** of the following is **TRUE**<sup>34</sup>:
- ◆ **ANY** of the following are **TRUE**:
    - Neurologic deficit occurs postoperatively.
    - Postoperative complications.
    - Multiple medical comorbidities.
    - The patient requires maximum assistance for mobility.
    - The patient is a potentially unsafe discharge to home.
  - ◆ The patient underwent knee arthroplasty or osteotomy.

#### Non-Indications

None

#### Site of Service Criteria

Inpatient

#### Procedure Codes (HCPCS/CPT)

| HCPCS Code | Code Description/Definition |
|------------|-----------------------------|
|------------|-----------------------------|

|        |  |
|--------|--|
| 97014  | Application of electrical stimulation  |
| 97110* | Therapeutic exercises to develop strength and endurance, range of motion and flexibility   |
| 97112  | Neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and proprioception for sitting and standing activities |
| 97116  | Gait training including stair climbing   |
| 97140  | Manual therapy techniques  |
| 97164  | Physical therapy re-evaluation, high complexity, typical time with patient and/or family 20 minutes  |
| 97530  | Therapeutic activities with use of dynamic activities to improve functional performance  |
| 97014  | Application of electrical stimulation to 1 or more areas, unattended by physical therapist   |
| 97016  | Application of blood vessel compression or decompression device to 1 or more areas   |
| 97161  | Evaluation of physical therapy, typically 20 minutes   |
| 97162  | Evaluation of physical therapy, typically 30 minutes   |
| 97163  | Evaluation of physical therapy, typically 45 minutes   |

\*Default codes for suggested services

## **Service: Skilled Nursing Facility**

### **General Guidelines**

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** May be indicated for postoperative care in cases where the surgery occurred at an inpatient hospital, and outpatient physical therapy or home health care are not indicated.
- **Exclusions:** None.

### **Medical Necessity Criteria**

#### **Indications**

→ **Skilled nursing facilities** are considered appropriate if **ALL** of the following is **TRUE**<sup>34</sup>:

- ◆ **ANY** of the following are **TRUE**:
  - Neurologic deficit occurs postoperatively.
  - Postoperative complications.
  - Multiple medical comorbidities.
  - The patient requires maximum assistance for mobility.
  - The patient is a potentially unsafe discharge to home.
- ◆ The patient underwent knee arthroplasty or osteotomy.

#### **Non-Indications**

None

### **Site of Service Criteria**

Nursing facility

### **Procedure Codes (HCPCS/CPT)**

| <b>HCPCS Code</b> | <b>Code Description/Definition</b>  |
|-------------------|---|
| 99304             | Level 1 initial nursing facility care for evaluation and management of patient with problem of low severity, including comprehensive history and physical examination, and medical decision-making of low complexity, typical time 25 minutes; Level 1 initial nursing facility care for evaluation and management of patient with problem of low severity, including detailed history and physical examination, and straightforward medical decision-making, typical time 25 minutes |



|       |   |
|-------|---|
| 99305 | Level 2 initial nursing facility care for evaluation and management of patient with problem of moderate severity, including comprehensive history and physical examination, and medical decision-making of moderate complexity, typical time 35 minutes   |
| 99306 | Level 3 initial nursing facility care for evaluation and management of patient with problem of high severity, including comprehensive history and physical examination, and medical decision-making of high complexity typical time 45 minutes  |
| 99307 | Level 1 subsequent nursing facility care for evaluation and management of patient, including problem-focused interval history and physical examination, and straightforward medical decision-making, typical time 10 minutes; Level 1 subsequent nursing facility care for evaluation and management of patient, including problem-focused interval history and physical examination, typical time 10 minutes; Level 1 subsequent nursing facility care for evaluation and management of patient, including problem-focused interval history and straightforward medical decision-making, typical time 10 minutes; Level 1 subsequent nursing facility care for evaluation and management of patient, including problem-focused physical examination and straightforward medical decision-making, typical time 10 minutes                                   |
| 99308 | Level 2 subsequent nursing facility care for evaluation and management of patient, including expanded problem-focused interval history and medical decision-making of low complexity, typical time 15 minutes; Level 2 subsequent nursing facility care for evaluation and management of patient, including expanded problem-focused interval history and physical examination, and medical decision-making of low complexity, typical time 15 minutes; Level 2 subsequent nursing facility care for evaluation and management of patient, including expanded problem-focused interval history and physical examination, typical time 15 minutes; Level 2 subsequent nursing facility care for evaluation and management of patient, including expanded problem-focused physical examination and medical decision-making of low complexity, typical time 15 |

|       |  |
|-------|--|
|       | minutes  |
| 99309 | Level 3 subsequent nursing facility care for evaluation and management of patient, including detailed interval history and medical decision-making of moderate complexity, typical time 25 minutes; Level 3 subsequent nursing facility care for evaluation and management of patient, including detailed interval history and physical examination, and medical decision-making of moderate complexity. typical time 25 minutes; Level 3 subsequent nursing facility care for evaluation and management of patient, including detailed interval history and physical examination, typical time 25 minutes; Level 3 subsequent nursing facility care for evaluation and management of patient, including detailed physical examination and medical decision-making of moderate complexity, typical time 25 minutes         |
| 99310 | Level 4 subsequent nursing facility care for evaluation and management of patient, including comprehensive interval history and medical decision-making of high complexity, typical time 35 minutes; Level 4 subsequent nursing facility care for evaluation and management of patient, including comprehensive interval history and physical examination, and medical decision-making of high complexity, typical time 35 minutes; Level 4 subsequent nursing facility care for evaluation and management of patient, including comprehensive interval history and physical examination, typical time 35 minutes; Level 4 subsequent nursing facility care for evaluation and management of patient, including comprehensive physical examination and medical decision-making of high complexity, typical time 35 minutes |
| 99315 | Nursing facility discharge day management, 30 minutes or less  |
| 99316 | Nursing facility day management, more than 30 minutes  |
| G0128 | Corf skilled nursing service   |

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# Clinical Guideline Revision History/Information

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|------------------------------------|---|
| Original Date: September 1st, 2020 |   |
| <b>Review History</b>              |   |
| October 11, 2021 (V.2)             | Reviewing Physician: Dr. Akhilesh Sastry<br>Approving Physician: Dr. Brian Covino |
| December 29, 2022 (V.3)            | Reviewing Physician: Dr. Andrea Young<br>Approving Physician: Dr. Traci Granston  |