Introduction

Hip arthroplasty is the medical term for a total hip replacement. A surgeon removes the damaged part of the hip joint and replaces it with implants made from combinations of metal, ceramic or plastic. These implants replace the hip joint, which is where the thigh bone attaches to the hip socket. Hip replacement is designed to reduce pain and improve quality of life. People who may qualify for this surgery are those who have severe pain from “wear-and-tear” arthritis (osteoarthritis) of the hip, who are not able to perform their normal daily activities, and who have failed nonsurgical treatments. Replacement joints have a limited life. Factors such as a person’s age, severity of disease, obesity, and the type of replacement used affect how long an artificial joint may last. Hip arthroplasty must be pre-approved by the health plan. This policy outlines the information needed for the health plan review.

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.
Note: This policy only applies to those aged 18 and over.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Medical Necessity</th>
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| Osteoarthritis or degenerative joint disease   | **Total hip arthroplasty may be considered medically necessary for osteoarthritis or degenerative joint disease when ALL of the following criteria are met:**  
  - Treatment is needed because of one or more of the following:  
    - Disabling pain for at least 3 months duration  
    - Functional disability which interferes with the ability to carry out activities of daily living  
  AND  
  - Radiographic or imaging evidence of severe osteoarthritis in the 12 months prior to surgery as evidenced by two or more of the following:  
    - Subchondral cysts  
    - Subchondral sclerosis  
    - Periarticular osteophytes  
    - Joint subluxation  
    - Bone on bone articulation  
    - Severe joint space narrowing  
  AND  
  - Documentation of failure of non-surgical medical management of ALL of the following:  
    - Anti-inflammatory medication ≥ 3 weeks  
    - Physical therapy or home exercise ≥12 weeks  
    - Activity modification ≥ 12 weeks  |
| Replacement/revision of previous arthroplasty  | **Hip arthroplasty may be considered medically necessary for a replacement/revision of a previous arthroplasty as indicated by one or more of the following:**  
  - Aseptic loosening of one or more prosthetic components confirmed by imaging  
  - Bearing surface wear leading to symptomatic synovitis or local bone or soft tissue reaction  
  - Component instability  
  - Displaced periprosthetic fracture  
  - Fracture, mechanical failure, or recall of a prosthetic component  
  - Periprosthetic infection  
  - Progressive or substantial periprosthetic bone loss |
## Procedure

<table>
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<tr>
<td>• Recurrent or irreducible dislocation</td>
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<tr>
<td>• Recurrent, disabling pain associated with clinically significant leg length inequality or audible noise</td>
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## Other conditions

**Hip arthroplasty may be considered medically necessary for the following diagnoses:**

- Acute hip fracture by imaging
- Avascular necrosis, femoral head with unresponsive severe pain
- Malignancy of the joint involving the bones or soft tissues of the pelvis or proximal femur
- Non-union or malunion, articular fracture

## Not medically necessary

**Total hip arthroplasty is considered not medically necessary when any of the above indications are not met.**

**Total hip arthroplasty is considered not medically necessary when ANY of the following are present:**

- Active infection of the hip joint or active systemic bacteremia
- Active skin infection (except for recurrent cutaneous staph infections) or open wound within the planned surgical site of the hip
- Permanent or irreversible muscle weakness in the absence of pain that prevents ambulation
- Rapidly progressive neurological disease except in the clinical situation of a concomitant displaced femoral neck fracture
- Neuropathic (Charcot) joint

## Documentation Requirements

The patient’s medical records submitted for review for all conditions should document that medical necessity criteria are met. The record should include the following:

- For osteoarthritis or degenerative joint disease with ALL of the following:
  - Needs treatment because of disabling pain and/or limited hip function interfering with activities of daily living (ADLs)

  **AND**

  - Imaging evidence of severe osteoarthritis evidenced by two or more of the following: subchondral cysts, subchondral sclerosis, periarticular osteophytes, joint subluxation, bone on bone articulation, or severe joint space narrowing. Radiographs or imaging must be done in the 12 months prior to planned surgery
Documentation Requirements

AND

- History of unsuccessful trial of the following conservative/medical management: anti-inflammatories for at least 3 weeks, and physical therapy or home exercise, and activity modification for at least 12 weeks.

- For replacement/revision of previous arthroplasty with evidence of one of the following:
  - Aseptic loosening of one or more prosthetic components confirmed by imaging
  - Bearing surface wear leading to symptomatic synovitis or local bone or soft tissue reaction
  - Component instability
  - Displaced periprosthetic fracture
  - Fracture, mechanical failure, or recall of a prosthetic component
  - Periprosthetic infection
  - Progressive or substantial periprosthetic bone loss
  - Recurrent or irreducible dislocation
  - Recurrent, disabling pain associated with clinically significant leg length inequality or audible noise

- For other conditions, detailed clinical documentation supporting the diagnosis of one of the following:
  - Acute hip fracture by imaging
  - Avascular necrosis, femoral head with unresponsive severe pain
  - Malignancy of the joint involving the bones or soft tissues of the pelvis or proximal femur
  - Non-union or malunion, articular fracture

Coding

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>27130</td>
<td>Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft</td>
</tr>
<tr>
<td>27132</td>
<td>Conversion of previous hip surgery to total hip arthroplasty, with or without autograft or allograft</td>
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<tr>
<td>27134</td>
<td>Revision of total hip arthroplasty; both components, with or without autograft or allograft</td>
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<tr>
<td>27137</td>
<td>Revision of total hip arthroplasty; acetabular component only, with or without autograft or allograft</td>
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<td>Code</td>
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<tr>
<td>27138</td>
<td>Revision of total hip arthroplasty; femoral component only, with or without allograft</td>
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**Related Information**

**The Tönnis Classification System** is commonly used to describe the presence of osteoarthritis in the hips with grading as follows:

- Grade 0: No signs of osteoarthritis
- Grade 1: Sclerosis of the joint with slight joint space narrowing and osteophyte formation, and no or slight loss of femoral head sphericity
- Grade 2: Small cysts in the femoral head or acetabulum with moderate joint space narrowing and moderate loss of femoral head sphericity
- Grade 3: Large cysts in the femoral head or acetabulum, severe joint space narrowing or obliteration of the joint space, and severe deformity and loss of sphericity of the femoral head.

**Evidence Review**

**Description**

The hip joint is a large, weight bearing joint that consists of two main components: a ball (femoral head) and socket (acetabulum). The bone surfaces are covered with articular cartilage and the hip joint is surrounded by a thin synovial membrane that produces synovial fluid, both of which help cushion and lubricate the joint to eliminate friction and aid in hip movement. A total hip arthroplasty (aka total hip replacement, THA, THR) involves removing diseased bone and cartilage and replacing it with a prosthetic implant.¹
Background

A total hip arthroplasty (aka total hip replacement, THA, THR) is one of the most common orthopedic surgeries currently performed. The surgical procedure involves removing damaged bone and cartilage of the hip joint and replacing it with a prosthetic implant. The hip joint consists of two main components: a ball (femoral head) which is the upper end of the femur (thighbone) and socket (acetabulum) which is part of the large pelvis bone.¹

Total hip replacement surgery is most often performed due to severe pain caused by osteoarthritis (degenerative arthritis) of the hip joint that persists despite conservative treatment with non-steroidal anti-inflammatory medications, activity modification, or physical therapy. Pain from a damaged joint also limits a person’s ability to carry out their everyday activities of living such as walking, bending, climbing stairs, bathing, and cooking. Other conditions that cause hip pain and loss of function that may result in the need of a total hip arthroplasty include rheumatoid arthritis, posttraumatic arthritis, avascular necrosis, and malignant tumors of the affected bones. The goal of a total hip arthroplasty is to provide pain relief and restore functional mobility and range of motion.¹

Implant Components

The prosthetic implant components are of various designs and materials such as ceramic, metal, or plastic (polyethylene) and consist of a femoral component (a femoral stem and head piece), an acetabular component (a shell and liner), and a bearing surface. Having modular, separate components enable a surgeon the ability to adjust leg length and to select a component material that best suits the anatomic variations of any given patient. These components are either cemented into place or “press-fit” (non-cemented) into the bone to allow one’s own bone to grow onto the components.²

There are advantages and disadvantages to the material type of the implant components and whether to use cement for fixation. Over time, the wear of the polyethylene components produce debris, which may lead to loosening. Ceramic implants tend to be more brittle and may break. A ceramic-on-ceramic bearing surface has been known to cause an audible squeaking noise³. Metal-on-metal bearing surfaces use has produced local tissue reactions and have resulted in higher revision rates. Cemented stems tend to have increased longevity over non-cemented; they are also less expensive, but they require skilled surgical technique for correct placement. Cemented acetabular components have been shown to have a higher loosening rate than uncemented implants. Cemented femoral components are generally used in older patients with poor bone quality and non-cemented components are used in younger patients.⁴⁻⁷
most widely used combination is a ceramic femoral head with an acetabular liner made of highly crosslinked polyethylene which has shown superior wear and longevity. Data from national registries support that most hip replacements last approximately 20 to 25 years.

### Potential Complications of Surgery

The complication rate following hip replacement surgery is low. Complications discussed here are specific to hip arthroplasty versus complications that may be commonly seen following any other major surgery.

- **Aseptic loosening** is a loss of fixation between an implant and bone. Cement fatigue or fracture may be a cause, but most often the cause is wearing of the prosthetic components. It is usually associated with pain. This condition requires revision surgery.

- **Dislocation** occurs when the ball comes out of the socket. It is not a common occurrence, but when it does occur it is usually in the first few months after surgery. Treatment is with a closed reduction under sedation or anesthesia. If a closed reduction is not successful, then an open surgical reduction is required.

- **Fracture**—*Intraoperative fractures* may occur during femoral stem insertion and may require revision of components or placement of screws or plates. Risk of intraoperative fractures is increased in women, persons with inflammatory arthropathies, and with the use of non-cemented fixation. A *periprosthetic fracture* is a broken bone near an implant. If the break is unstable and the stem is well fixed, internal fixation surgery is required. If the stem is loose, revision arthroplasty is recommended. An *implant fracture*, which is uncommon due to improvements in current implants, may occur secondary to years of repetitive loading as a result of high patient activity level, poor implant fixation and stability, or the increased weight of a patient.

- **Leg length discrepancy** may result during a total hip arthroplasty. Surgeons generally attempt to equalize leg lengths at the time of surgery. However, slight lengthening or shortening of a lower extremity may be required to attain greater hip stability and lessen the likelihood of hip dislocation. If this occurs, a shoe lift may be needed postoperatively.

- **Metal-on-metal wear debris** has been associated with early implant failure, adverse local tissue reactions, and metal hypersensitivity reactions. An adverse local tissue reaction has been the most common complication. There is also the potential for systemic metal toxicity. In symptomatic patients, measurement of cobalt and chromium ions is recommended.
Symptoms, both local and systemic, typically improve with revision surgery. Concerns over these potential complications has led to the decreased use of metal-containing implants.\textsuperscript{14-21}

- Osteolysis and wear results from progressive destruction of the periprosthetic bony tissue. It is thought to be a response to production of particulate debris. A common source of this debris is polyethylene from the articulation between the femoral head and acetabular liner. Osteolysis is typically not associated with any symptoms unless it progresses to loosening of the prosthesis. The development of highly crosslinked polyethylene components with improved resistance to wear has been one approach in preventing wear and subsequent osteolysis. Surgical treatment is required if the patient is symptomatic or if a component loosens.\textsuperscript{22-25}

- Thromboembolism (blood clot) is one of the most common complications of hip replacement surgery and presents the highest risk of perioperative mortality following surgery. Prevention with some type of anticoagulant (blood thinning) agent and early mobilization are key in minimizing the postoperative risk of thromboembolism.\textsuperscript{12}

### Practice Guidelines and Position Statements

**American Academy of Orthopaedic Surgeons**

The American Academy of Orthopaedic Surgeons (AAOS) updated new clinical practice guideline on the treatment of osteoarthritis of the hip (2017)\textsuperscript{34} strongly supports the use of pre-surgical treatments to ease pain and mobility, including intraarticular corticosteroid injections, physical therapy, and non-narcotic medications. The Academy does not support the use of hyaluronic acid or glucosamine sulfate to minimize osteoarthritis symptoms due to a lack of evidence supporting the efficacy of these treatments.

**National Institute for Health Care Excellence (NICE)**

In 2014, NICE updated its guidance on the management of osteoarthritis. The guidance does not recommend intra-articular hyaluronan injections, nor does the guidance recommend offering glucosamine or chondroitin products for the management of osteoarthritis.\textsuperscript{35} The guidance stated intra-articular corticosteroid injections should be considered for the relief of moderate to severe osteoarthritic pain. (2008).
The Osteoarthritis Research Society International (OARSI)

The Osteoarthritis Research Society International (OARSI) in 2007 updated its recommendations for the management of hip and knee osteoarthritis (OA). The Society recommended patients with hip and knee OA be educated about the importance of lifestyle changes, exercise, pacing of activities, weight reduction and other measures to unload the damaged joint(s).

Patients with symptomatic hip and knee OA may benefit from referral to a physical therapist for evaluation and instruction in appropriate exercises to reduce pain and improve functional capacity, which may result in the use of assistive devices such as canes and walkers, as appropriate.

Intra-articular injections with corticosteroids can be used in the treatment of hip or knee OA, particularly when patients have moderate to severe pain not responding to oral analgesics/anti-inflammatory agents.

Medicare National Coverage

There is no national coverage determination.

Regulatory Status

Hip replacement surgery is a procedure and therefore is not regulated by the FDA. However, devices and instruments used during the surgery require FDA approval. Several devices have received FDA approval. Product codes for these devices are: MEH, JDJ, JDG, LWJ, LPH, LZO, KWY, KWA.

A final order was published in 2016 by the FDA requiring premarket approvals of all metal-on-metal total hip implants effective in May 2016. Since then all manufacturers of metal-on-metal (MoM) total hip implants were required to stop marketing their devices and submit premarket approvals that must be approved before the devices can be marketed. To date, there are no FDA-approved metal-on-metal total hip replacement devices marketed for use in the U.S. There are two FDA approved metal-on-metal hip resurfacing devices available.37

2. Erens GA, Walter B, Crowley M. Total hip arthroplasty. UpToDate Available online. last updated 2019 UpToDate® Waltham, MA.


12. Erens GA. Complications of total hip arthroplasty. UpToDate. Available online Waltham, last updated 2017. UpToDate® Waltham,MA.


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<tr>
<th>Date</th>
<th>Comments</th>
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<tr>
<td>09/01/19</td>
<td>New policy, approved August 13, 2019, effective January 1, 2020. Add to Surgery section. Hip arthroplasty may be considered medically necessary when criteria are met.</td>
</tr>
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U.S. Department of Health and Human Services
200 Independence Avenue SW, Room 509F, HHH Building
Washington, D.C. 20201, 1-800-368-1019, 800-537-7697 (TDD)
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Chiami 800-722-1471 (TTY: 800-842-5357)
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