CLINICAL GUIDELINES

CMM-313: Hip Replacement Arthroplasty Guidelines

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EviCore healthcare Clinical Decision Support Tool Diagnostic Strategies: This tool addresses common symptoms and symptom complexes. Requests for individuals with atypical symptoms or clinical presentations that are not specifically addressed will require physician review. Consultation with the referring physician, specialist and/or individual's Primary Care Physician (PCP) may provide additional insight.

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CMM-313: Hip Replacement/Arthroplasty

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Definitions

- **Hip Arthroplasty**: an orthopaedic surgical procedure during which the articular surface of the hip joint is replaced, remodeled, or realigned.
- **Hip Replacement**: a form of arthroplasty that includes the surgical replacement of the hip joint with a prosthesis.
- **Hip Resurfacing Arthroplasty (HRA)** (also called metal-on-metal [MoM] hip resurfacing and hemi-resurfacing arthroplasty): a surgical technique that involves the removal of diseased cartilage and bone from the head of the femur, and the replacement of the surface of the femoral head with a metal hemisphere that fits into a metal acetabular cup or into the acetabulum respectively. The technique conserves femoral bone and maintains normal femoral loading and stresses. Because of bone conservation, it may not compromise future total hip replacements. Hip resurfacing arthroplasty has been promoted as an alternative to total hip replacement for younger individuals. Hip resurfacing arthroplasty may be either a partial HRA (i.e., hemi-hip resurfacing, hemi-resurfacing, or femoral head resurfacing arthroplasty [FHRA]) or a total HRA.
- **Non-Surgical Management** (with regard to the treatment of lower extremity jointpain): any provider-directed non-surgical treatment, which has been demonstrated in the scientific literature as efficacious and/or is considered reasonable care in the treatment of lower extremity joint pain. The types of treatment involved can include, but are not limited to, the following: relative rest/activity modification; weight loss; supervised physiotherapy modalities and therapeutic exercises; prescription and non-prescription medications; assistive devices; and/or, intra-articular injections.
- **Partial Hip Replacement** (also called hip hemi-arthroplasty): a surgical technique where only the femoral head (the ball) of the damaged hip joint is replaced. The acetabulum (the socket) is not replaced.
- **Prosthesis**: an artificial device used to replace a structural element within a joint to improve and enhance function.
- **Revision of Hip Replacement (Partial or Total)**: surgical reconstruction or replacement due to failure or complications of previous hip replacement.
- **Tönnis Classification System**: a system commonly used to describe the presence of osteoarthritis in the hips on plain X-rays 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

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  - **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 femoral head sphericity
- **Total Hip Replacement**: a surgical technique that involves the removal of the damaged hip joint which is then replaced with an artificial prosthesis composed of two or three different components: 1) the head that replaces the original femoral head; 2) the femoral component (a metal stem placed into the femur); and, 3) the acetabular component that is implanted into the acetabulum. The stem may be secured using bone cement or press-fit for the bone to grow into it.

General Guidelines

Application of Guideline

- The determination of medical necessity for the performance of hip resurfacing and hip replacement (partial or total) is always made on a case-by-case basis.
- Until the scientific literature is more definitive, the type of bearing surface (e.g., metal-on-metal; ceramic-on-ceramic; metal-on-polyethylene) should be determined by the treating surgeon and the individual following a frank discussion explaining the pros and cons of each bearing surface.
- For individuals with significant medical conditions or comorbidities, the risk/benefit of hip arthroplasty procedures should be clearly documented in the medical record.
- For non-resurfacing and non-replacement treatment of avascular necrosis of the femoral head refer to **CMM-314: Hip Surgery – Arthroscopic and Open Procedures**
- For the advanced imaging indications prior to hip resurfacing and hip replacement surgery refer to **MS-12: Osteoarthritis** and **MS-24: Hip**
- For advanced imaging indications following hip replacement surgery refer to **MS-16: Post-Operative Joint Replacement Surgery** and **MS-24: Hip**

Hip Resurfacing Arthroplasty

Partial Hip Resurfacing Arthroplasty Indications

Partial hip resurfacing arthroplasty is considered **medically necessary** when **ALL** of the following criteria have been met:

- Individual is age 64 years or younger
- Imaging shows **EITHER** of the following findings:
  - Osteoarthritis primarily affecting the femoral head with joint space narrowing on weight-bearing radiographs
  - Avascular necrosis of the femoral head **and** there is less than 50% involvement of the femoral head

- Symptoms include **BOTH** of the following:
  - Function-limiting pain at short distances (e.g., walking less than ¼ mile, limiting activity to two city blocks, the equivalent to walking the length of a shopping mall) for at least three (3) months duration
    - **Criteria exception**: Three (3) months of function-limiting pain is **not required** when the medical record clearly documents why provider-directed non-surgical management is inappropriate (e.g., collapse of the femoral head, inflammatory arthritis, advanced dysplasia).
  - Loss of hip function which interferes with the ability to carry out age-appropriate activities of daily living and/or demands of employment

- Failure of provider-directed non-surgical management for at least three (3) months duration
  - **Criteria exception**: Provider-directed non-surgical management may be inappropriate. The medical record must clearly document why provider-directed non-surgical management is inappropriate (e.g., collapse of the femoral head, inflammatory arthritis, advanced dysplasia).
  - **Note**: It is incumbent on the surgeon to preoperatively optimize reasonably modifiable medical and behavioral health comorbidities.

Partial Hip Resurfacing Arthroplasty Non-Indications

- Partial hip resurfacing arthroplasty is considered **not medically necessary** for **ANY** other indication, condition, or when **ANY** of the following are present:
  - Osteoarthritis affecting **BOTH** the femoral head and the acetabulum with joint space narrowing on weight-bearing radiographs
  - Inflammatory arthritis affecting **BOTH** the femoral head and acetabulum
  - Avascular necrosis of the femoral head with more than 50% involvement of the femoral head
  - Skeletal immaturity
  - Active local or systemic infection
  - Vascular insufficiency, significant muscular atrophy of the hip or leg musculature, or neuromuscular disease severe enough to compromise implant stability or post-operative recovery
  - Charcot joint

Total Hip Resurfacing Arthroplasty Indications

Total hip resurfacing arthroplasty is considered **medically necessary** when **ALL** of the following criteria have been met:

- Individual is age 64 years or younger

- Imaging shows **EITHER** of the following findings:
  - Osteoarthritis or an inflammatory arthritis affecting **BOTH** the femoral head and the acetabulum, with joint space narrowing on weight-bearing radiographs
  - Avascular necrosis of the femoral head with possible acetabular surface involvement **and** there is less than 50% involvement of the femoral head

Hip Replacement/Arthroplasty

- Symptoms include **BOTH** of the following:
  - Function-limiting pain at short distances (e.g., walking less than ¼ mile, limiting activity to two city blocks, the equivalent to walking the length of a shopping mall) for at least three (3) months duration
    - **Criteria exception**: Three (3) months of function-limiting pain is **not required** when the medical record clearly documents why provider-directed non-surgical management is inappropriate (e.g., collapse of the femoral head, inflammatory arthritis, advanced dysplasia).
  - Loss of hip function which interferes with the ability to carry out age-appropriate activities of daily living and/or demands of employment
- Failure of provider-directed non-surgical management for at least three (3) months duration
  - **Criteria exception**: Provider-directed non-surgical management may be inappropriate. The medical record must clearly document why provider-directed non-surgical management is inappropriate (e.g., collapse of the femoral head, inflammatory arthritis, advanced dysplasia).
  - **Note**: It is incumbent on the surgeon to preoperatively optimize reasonably modifiable medical and behavioral health comorbidities.

Total Hip Resurfacing Arthroplasty Non-Indications

- Total hip resurfacing arthroplasty is considered **not medically necessary** for **ANY** other indication, condition, or when **ANY** of the following are present:
  - Avascular necrosis of the femoral head with more than 50% involvement of the femoral head
  - Skeletal immaturity
  - Active local or systemic infection
  - Vascular insufficiency, significant muscular atrophy of the hip or leg musculature, or neuromuscular disease severe enough to compromise implant stability or post-operative recovery
  - Charcot joint
  - Individuals undergoing dialysis who are on a renal transplant list

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Hip Replacement

Partial Hip Replacement Indications

Partial hip replacement is considered **medically necessary** for **ANY** of the following conditions when **ALL** of the associated criteria have been met:

Femoral Head/Neck Fracture

- Imaging shows a fracture of the femoral head or femoral neck
- Conservative management **or** surgical fixation is not considered a reasonable option

Avascular Necrosis (AVN)

- Imaging shows avascular necrosis with collapse of the femoral head
- Symptoms include **BOTH** of the following:
  - Function-limiting pain at short distances (e.g., walking less than ¼ mile, limiting activity to two city blocks, the equivalent to walking the length of a shopping mall) for at least three (3) months duration
    - **Criteria exception**: Three (3) months of function-limiting pain is **not required** when the medical record clearly documents why provider-directed non-surgical management is inappropriate.
  - Loss of hip function which interferes with the ability to carry out age-appropriate activities of daily living and/or their demands of employment
- Failure of provider-directed non-surgical management for at least three (3) months in duration
  - **Criteria exception**: Provider-directed non-surgical management may be inappropriate. The medical record must clearly document why provider-directed non-surgical management is inappropriate (e.g., collapse of the femoral head, inflammatory arthritis, advanced dysplasia).
  - **Note**: It is incumbent on the surgeon to preoperatively optimize reasonably modifiable medical and behavioral health comorbidities.

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Partial Hip Replacement Non-Indications

- Partial hip replacement is considered **not medically necessary** for **ANY** other indication, condition, or when **ANY** of the following are present:
  - Active local or systemic infection
  - Vascular insufficiency, significant muscular atrophy of the leg, or neuromuscular disease severe enough to compromise implant stability or post-operative recovery
  - Charcot joint
  - Inflammatory arthritis affecting **BOTH** the femoral head **and** the acetabulum

Total Hip Replacement Indications

Total hip replacement is considered **medically necessary** for **ANY** of the following conditions when **ALL** of the associated criteria have been met:

Femoral Head/Neck Fracture

- Imaging shows a fracture of the femoral head or femoral neck
- Conservative management **or** surgical fixation is not considered a reasonable option

Osteoarthritis, Avascular Necrosis (AVN), Inflammatory Arthritis

- Imaging shows **ANY** of the following findings:
  - Tönnis Grade 2-3 osteoarthritis
  - Avascular necrosis with collapse of the femoral head
  - Inflammatory arthritis affecting **BOTH** the femoral head and the acetabulum with joint space narrowing
- Symptoms include **BOTH** of the following:
  - Function-limiting pain at short distances (e.g., walking less than ¼ mile, limiting activity to two city blocks, the equivalent to walking the length of a shopping mall) for at least three (3) months duration
    - **Criteria exception**: Three (3) months of function-limiting pain is **not required** when the medical record clearly documents why provider-directed non-surgical management is inappropriate.
  - Loss of hip function which interferes with the ability to carry out age-appropriate activities of daily living and/or demands of employment
- Failure of provider-directed non-surgical management for at least three (3) months duration
  - **Criteria exception**: Provider-directed non-surgical management may be inappropriate. The medical record must clearly document why provider-directed non-surgical management is inappropriate.
  - **Note**: It is incumbent on the surgeon to preoperatively optimize reasonably modifiable medical and behavioral health comorbidities.

Total Hip Replacement Non-Indications

- Total hip replacement is considered **not medically necessary** for **ANY** other indication, condition, or when **ANY** of the following are present:
  - Active local or systemic infection
  - Vascular insufficiency, significant muscular atrophy of the leg, or neuromuscular disease severe enough to compromise implant stability or post-operative recovery
  - Individuals undergoing dialysis who are on a renal transplant list

Revision of Hip Replacement

Revision of Hip Replacement (Partial or Total) Indications

Revision of hip replacement is considered **medically necessary** for an individual who has previously undergone a partial or total hip replacement when **ANY** of the following post-operative conditions are present:

- Recurrent prosthetic dislocation/subluxation that is unresponsive to provider-directed non-surgical management
- Aseptic loosening
- Periprosthetic joint infection
- Periprosthetic fracture
- Instability of the implant (e.g., disassembly, modular neck failure)
- Leg length discrepancy
- Osteolysis without eccentric wear (wear of elevated rim liner without wear superiorly)
- Elevated serum metal levels as diagnosis for adverse local tissue reaction (ALTR) secondary to corrosion
- Function-limiting pain at short distances (e.g., walking less than ¼ mile, limiting activity to two city blocks, the equivalent to walking the length of a shopping mall) that is unexplained, greater than six (6) months duration, and is unresponsive to provider-directed non-surgical management

Revision of Hip Replacement (Partial or Total) Non-Indications

- Revision of hip replacement is considered **not medically necessary** for **ANY** other indication or condition.

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Isolated Head and Polyethylene Liner Exchange (IPE) Indications

Isolated head and polyethylene liner exchange (IPE) is considered medically necessary for **ANY** of the following post-operative conditions when **ALL** of the associated criteria have been met:

- Eccentric polyethylene wear (with or without osteolysis):
  - Individual is symptomatic
  - Well-fixed implants in an acceptable position
- Acute post-operative joint infection (periprosthetic or hematogenous) with well-fixed implants
- Dislocation/Instability:
  - Procedure includes **BOTH** of the following:
    - Conversion to a liner with higher offset, larger head size, dual-mobility, constrained liner
    - Conversion of failed metal-on-metal (MoM) or ceramic-on-ceramic (CoC) bearing surface to metal-on-polyethylene (MoP) or ceramic-on-polyethylene (CoP) bearing surface

Isolated Head and Polyethylene Liner Exchange (IPE) Non-Indications

- Isolated head and polyethylene liner exchange (IPE) is considered **not medically necessary** for **ANY** other indication or condition.

Salvage Procedures

Salvage Procedures Indications

Salvage procedures (e.g., Girdlestone acetabuloplasty, hip joint arthrodesis) are considered **medically necessary** when performed **as a surgical alternative** in certain individuals for whom primary hip replacement or revision of hip replacement is not a reasonable surgical option due to **ANY** of the following conditions:

- Chronic infection, osteomyelitis, or persistent periprosthetic joint infection
- Individual is non-ambulatory or has a pre-existing ambulatory dysfunction
- Presence of co-morbidities or diseases which would preclude the performance of a successful hip replacement
- Inadequate bone stock (e.g., severe osteoporosis or following tumor resection when there is insufficient bone remaining to support a joint replacement)
- Recurrent instability/dislocation of the replaced hip
- Aseptic loosening of the replaced hip with no other practical surgical options
- Inability to pursue a successful reimplantation

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Salvage Procedures Non-Indications

- Salvage procedures are considered **not medically necessary** for **ANY** other indication or condition.

Codes (CMM-313)

The inclusion of any code in this table does not imply that the code is under management or requires prior authorization. Refer to the applicable health plan for management details. Prior authorization of a code listed in this table is not a guarantee of payment. The Certificate of Coverage or Evidence of Coverage policy outlines the terms and conditions of the member's health insurance policy.

Code	Code Description/Definition
27090	Removal of hip prosthesis; (separate procedure)
27091	Removal of hip prosthesis; complicated, including total hip prosthesis, methylmethacrylate with or without insertion of spacer
27122	Acetabuloplasty; resection, femoral head (e.g., Girdlestone procedure)
27125	Hemiarthroplasty, hip, partial (e.g. femoral stem prosthesis, bipolar arthroplasty)
27130	Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft
27132	Conversion of previous hip surgery to total hip arthroplasty, with or without autograft or allograft
27134	Revision of total hip arthroplasty; both components, with or without autograft or allograft
27137	Revision of total hip arthroplasty; acetabular component only, with or without autograft or allograft
27138	Revision of total hip arthroplasty; femoral component only, with or without allograft
27284	Arthrodesis, hip joint (including obtaining graft);
27286	Arthrodesis, hip joint (including obtaining graft); with subtrochanteric osteotomy
S2118	Metal-on-metal total hip resurfacing, including acetabular and femoral components

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Evidence Discussion (CMM-313)

Hip Replacement/Arthroplasty

Hip replacement surgery is an effective treatment when non-surgical means do not provide adequate relief of osteoarthritic pain. However, there are risks to hip replacement surgery which include, but are not limited to the following: infection; neurovascular injury; fracture; instability; prosthetic failure; deep vein thrombosis; pulmonary embolus; and, death. Because of the risk of these significant complications, proper patient selection is critical to minimize the risk benefit ratio.

Hip osteoarthritis can be treated with a variety of methods to manage pain and improve function. The American Academy of Orthopaedic Surgeons (AAOS) has developed clinical practice guidelines and appropriate use criteria (AUC) for the management of hip osteoarthritis to guide both nonsurgical and surgical treatment and provide risk assessment tools to help ensure patients receive treatment that is appropriate, safe and effective. Conservative treatment is recommended for multiple clinical scenarios by the AAOS in *Appropriate Use Criteria: Osteoarthritis of the Hip*. The AAOS treatment recommendations in the AUC are based on multiple variables including, but not limited to, ambulatory capacity and radiographic severity of osteoarthritis. The duration of provider-directed non-surgical management allows for preoperative optimization of reasonably modifiable medical and behavioral health comorbidities.

Hip resurfacing arthroplasty conserves bone and may have better functional outcomes than total hip arthroplasty (THA), but THA is superior in terms of implant survival. Hip resurfacing is supported for individuals age 64 years or younger.

In certain patient groups wherein the risk of surgery far outweighs the benefit and surgery is contraindicated, hip replacement surgery has been shown to have unacceptably high rates of failure, increased morbidity, and increased mortality. The literature has documented higher complication rates in individuals with active local or systemic infection. Higher complications rates are also seen in individuals undergoing renal dialysis. It has been recommended that individuals undergoing dialysis who are also on a transplant list should await arthroplasty until transplant has taken place.

After the primary procedure, revision hip replacement surgery may be necessary for a variety of reasons both in the short term and long term. Revision surgery is associated with an increased risk of complications which can be minimized by proper patient selection and optimization prior to the primary procedure as well as the revision procedure. The *American Joint Replacement Registry (AJRR): 2023 Annual Report* indicated the most common diagnoses for all hip revisions were infection, mechanical complications, instability, aseptic loosening, pain, fracture, and osteolysis.

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