*National Imaging Associates, Inc. *	
Clinical guidelines: **HIP ARTHROPLASTY**	**Original Date: November 2015**
CPT Codes:** - **Total Hip Arthroplasty (THA): 27130, S2118** - **Revision/Conversion Hip Arthroplasty: 27132, 27134, 27137, 27138** ***See UM Matrix for allowable billed groupings and additional covered codes*	**Last Revised Date: ~~May 2022~~ May 2023**
Guideline Number: NIA_CG_313	**Implementation Date: January 2024~~23~~**

GENERAL INFORMATION

It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.

General Requirements

Elective hip arthroplasty may be considered if the following general criteria are met:

- Hip pain with documented loss of function, which may include painful weight bearing, painful or inadequate range of motion to accomplish age-appropriate activities of daily living (ADLs) and/or employment~~;~~ and mechanical catching, locking
- Individual is medically stable and optimized for surgery with no uncontrolled comorbidities (such as diabetes)
- Individual does not have an active local or systemic infection
- Individual does not have active, untreated drug dependency (including but not limited to narcotics, opioids, muscle relaxants) unless engaged in treatment program
- Individual has good oral hygiene and does not have major dental work scheduled or anticipated (ideally, within one year of joint replacement), due to increased post-surgical infection risk

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Clinical notes should address:

- Symptom onset, duration, and severity
- Loss of function and/or limitations
- Type and duration of non-operative management modalities
- Discussion with patient regarding decision making and timing

Non-operative management must include at least **two** or more of the following unless otherwise specified in clinical indications below:

- Rest or activity modifications/limitations
- Weight reduction for individual with elevated BMI
- Protected weight-bearing with cane, walker, or crutches
- Physical therapy modalities
- Physician-supervised exercise program (including home exercise program)
- Pharmacologic treatment: oral/topical NSAIDS, acetaminophen, or analgesics
- Intra-articular injection(s)

INDICATIONS

TOTAL HIP ARTHROPLASTY (THA)

THA may be considered medically necessary when the following criteria are met:

- Hip pathology is due to rheumatoid arthritis,[1, 2] femoral neck fracture,[3, 4] malignancy, dysplasia, avascular necrosis (confirmed by imaging)[5] **or** radiographs (X-rays) demonstrate bone-on-bone articulation

  AND

- There is persistent pain and documented loss of function with any of the above

  NOTE: There is no medical necessity to perform THA in individuals with severe radiological disease and no symptoms, except in the case of malignancy

  OR

- When **ALL** of the following criteria are met:
  - Pain due to advanced osteoarthritis (Tönnis Grade 2 or 3 [see grading appendix] **AND** documented loss of function that has been present for at least 12 weeks[6, 7]
  - Failure of **at least 12 weeks** of non-operative treatment, including **at least two** of the following:
    - Rest or activity modifications/limitations[8]
    - Weight reduction for individual with elevated BMI[8]
    - Protected weight-bearing with cane, walker, or crutches

        - Physical therapy modalities[9]
        - Physician-supervised exercise program (including home exercise program)[10]
        - Pharmacologic treatment: oral/topical NSAIDS, acetaminophen, or analgesics[8]
        - Intra-articular corticosteroid injection[8]
    - Physical exam demonstrates findings of hip pathology as evidenced by **one or more** of the following:
        - Painful, limited range of motion or antalgic gait
        - Contracture
        - Crepitus
        - Leg length difference
    - Radiographic findings show evidence of advanced arthritic changes, described as Tönnis grade 2 or 3 [see grading appendix] or described as X-rays showing advanced changes such as, severe narrowing or bone-on-bone compartment collapse, subchondral sclerosis or cysts, osteophyte formation and/or bony deformity etc.; X-rays described only as showing "severe", "advanced" or "end-stage" arthritis require more definitive descriptions as stated above. Weightbearing X-rays are not required.[11]

      NOTE: MRI should not be the primary radiographic test used to determine the presence or severity of arthritic changes in the joint.
    - No corticosteroid injection into the joint within 12 weeks of surgery[12-18]

Additional Information

- All requests for simultaneous bilateral total hip replacements should clearly indicate why simultaneous THA is preferable to staged procedures. ~~Associated~~Associated risks with simultaneous bilateral total hip ~~replacements should~~replacements should also be discussed with the individual and documented in the medical record[19-26].

Absolute Contraindications

- Active infection (local or remote). If a local or remote infection is documented in the patient's history, records should clearly demonstrate that the previous infection had been treated and symptoms have resolved or that the individual has no clinical signs or symptoms of the previous infection at the time of the operation.
- Any corticosteroid injection into the joint within 12 weeks of surgery[12-18]

Relative Contraindications

- Prior infection at site (unless aspiration with cultures and serology [CBC with differential, ESR, CRP] demonstrates no infection). If prior infection at site, tissue biopsies should be sent intra-operatively to exclude latent/dormant infection
- Documented allergy to any proposed component

- BMI > 40[27]; without attempts at weight loss or discussion of increased risk conferred by BMI
- Compromised soft tissue envelope
- Uncontrolled comorbidities[28]

HIP RESURFACING ARTHROPLASTY

Hip resurfacing procedures will be reviewed on a case-by-case basis.

Hip resurfacing arthroplasty may be considered medically necessary when **ALL** of the following criteria are met:

- Pain and documented loss of function are present for at least 12 weeks
- 12 weeks of non-operative treatment have failed to improve symptoms
- Physical exam has typical findings of hip pathology as evidenced by **one or more** of the following:
    - Painful, limited range of motion or antalgic gait
    - Contracture
    - Crepitus
    - Leg length difference
- Imaging demonstrates advanced hip joint pathology of at least Tönnis grade 2 or 3, or avascular necrosis involving less than 50% of the femoral head [see grading appendix]
- Male patient is less than 65 years old or female patient is less than 55 years old[29]
- BMI < 40[30]
- No corticosteroid injection into the joint within 12 weeks of surgery[12-18]

Absolute Contraindications

- Any corticosteroid injection into the joint within 12 weeks of surgery[12-18]
- Osteoporosis or osteopenia (DEXA scan bone mineral density evaluation)[29]
    - Osteoporosis or poor bone quality may increase the risk of fixation failure or femoral neck fracture after hip resurfacing[30]
- Other co-morbidity (including medications that contribute to decreased bone mineral density (glucocorticoid steroids, heparin, aromatase inhibitors, thiazolidinediones, proton pump inhibitors, loop diuretics, cyclosporine, antiretrovirals, anti-psychotics, anti-seizures, certain breast cancer drugs, certain prostate cancer drugs, Depo-Provera, aluminum-containing antacids) that may contribute to active bone demineralization[31]
- Cystic degeneration at the junction of the femoral head and neck on radiographs or MRI or CT
- Malignancy at the proximal femur
- Evidence of current, ongoing, or inadequately treated hip infection, or sepsis
- Female of child-bearing age (due to metal ions circulating in blood with potential risk to fetus)[32, 33]

- Chronic renal insufficiency (due to metal ions circulating and potential renal toxicity)[33]
- Metal allergy[33]

TOTAL HIP ARTHROPLASTY REVISION / CONVERSION ARTHROPLASTY

Hip revision/conversion arthroplasty may be considered medically necessary when a previous hip reconstruction meets **ALL** the following criteria in either of the following subsections:

- Previous removal of infected hip prosthesis **AND** no evidence of current, ongoing, or inadequately treated hip infection (ruled out by normal inflammatory markers* (ESR and CRP) or significant improvement in these markers and a clear statement by the treating surgeon that infection has been adequately treated) **AND** off antibiotics.[34-36]

***NOTE**: If these inflammatory markers are elevated, further evaluation is required, including an aspiration with synovial fluid WBC count, gram stain and cultures, or an intraoperative frozen ~~biopsy;~~biopsy.

OR

- When **ALL** the following criteria are met:
  - Failed hip arthroplasty as defined by symptomatic or unstable joint upon physical ~~exam (documented~~examination, documented persistent, severe, or~~and~~ disabling pain with~~,~~ loss of function ~~, instability~~or instability), or there is persistent pain or radiographic evidence of hardware failure from ~~failed~~ previous hip fracture surgery
  - Physical exam and radiographic evidence support extensive disease or damage due to fracture, malignancy, osteolysis, other bone or soft-tissue reactive or destructive process, inappropriate positioning of components, recurrent instability, subluxation, dislocation, critical polyethylene wear, or other mechanical failure. (**NOTE**: MRI is used less often in these circumstances unless it is a metal-on-metal prosthesis and looking for soft-tissue lesions; x-ray, CT, nuclear studies are used more frequently)
  - For implant loosening seen on routine X-rays or bone scan, documentation of no current, ongoing, or inadequately treated hip infection, ruled out by normal inflammatory markers (ESR and CRP)[34, 35, 37-40]
  - If the revision is for obvious hardware failure or recurrent dislocations, ~~only,~~ inflammatory markers are not required
  - No corticosteroid injection into the joint within 12 weeks of surgery[12-18]

Additional Information

- Removal of infected hip prosthesis and subsequent insertion of antibiotic spacer is not considered to be a revision arthroplasty

~~All requests for revision THA are to have documentation in the medical record pertaining to the potential risks, benefits, and potential complications specific to this procedure.~~

GRADING APPENDIX

Tönnis Classification of Osteoarthritis by Radiographic Changes

Grade	Description
0	No signs of osteoarthritis
1	Mild: Increased sclerosis, slight narrowing of the joint space, no or slight loss of head sphericity
2	Moderate: Small cysts, moderate narrowing of the joint space, moderate loss of head sphericity
3	Severe: Large cysts, severe narrowing or obliteration of the joint space, severe deformity of the head

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BACKGROUND

HIP ARTHROPLASTY - Total & Revision/Conversion Hip Replacement

This guideline addresses elective, non-emergent hip arthroplasty (hip replacement) procedures, including total hip arthroplasty, resurfacing arthroplasty, and revision/conversion arthroplasty procedures.

Arthritis is the most common cause of chronic hip pain and disability. Degenerative, age-related osteoarthritis causes cartilage to wear away and eventually the bones within the joint rub against each other causing pain and stiffness. In a total hip replacement, the femoral head and acetabulum are removed and replaced with prosthetic components. In hip resurfacing arthroplasty, a metal cup is placed in the acetabulum and a metal cap is placed over the head of the femur with limited removal of the femoral head and neck.

In some cases, the hip prosthesis may wear out or loosen. If loosening is painful, a second surgery, such as a revision or conversion may be necessary. In this procedure some or all of the components of the original replacement prosthesis are removed and replaced with new ones.

Hemiarthroplasty or partial hip replacement involves the reconstruction of the femoral head but not the acetabulum. This procedure is indicated for select traumatic events, guidelines for which fall outside of the scope of this document.

POLICY HISTORY

Date	Summary
2023	- Addition of references pertaining to the risk of infection following a cortisone injection within 3 months of surgery - Deleted risk/benefit discussion requirement for revision hip arthroplasty - Clarification of the definition of failed hip arthroplasty
May 2022	Deleted: • Documented risk and benefit discussion requirement (THA) • "Efforts have been made to ensure that the patient is optimally informed and prepared for surgery" (general requirements) Revised: • Individual is medically stable and *optimized for surgery* • 3 months to 12 weeks throughout • "patient" to "individual" where appropriate
June 2021	• Clarification of required X-ray findings: "X-rays described only as showing "severe", "advanced" or "end-stage" arthritis require more definitive descriptions" • Added statement: Weightbearing X-rays are not required (Bessa, 2020). • Added: **NOTE**: MRI should not be the primary radiographic test used to determine the presence or severity of arthritic changes in the joint. • Revised requirements for revision arthroplasty. Inflammatory markers are not required if revision is for obvious hardware failure.
October 2020	• Added: Efforts have been made to ensure that the patient is optimally informed and prepared for surgery • Added: except in the case of malignancy • Removed: Metal allergy (dependent upon implant choice) (redundant) • Removed: Chronic renal insufficiency (due to metal ions circulating and potential renal toxicity) • Removed: Female of child-bearing age (due to metal ions circulating in blood with potential risk to fetus) (NOTE: This only applies to metal on metal replacements) (USFDA, 2018) • Reordered absolute contraindication ahead of relative • Added: Compromised soft tissue envelope • Added: Uncontrolled comorbidities (Clement, 2013)

	• Added: BMI > 40 (D'Apuzzo, 2014); without attempts at weight loss or discussion of increased risk conferred by BMI (consistent with TKA) • Added: or significant improvement in these markers and a clear statement by the treating surgeon that infection has been adequately treated ((to be consistent with TKA)) • Added: critical polyethylene wear
October 2019	• Added and updated references • Added new statement that if "bone on bone" arthritis is documented, conservative treatment requirements are not necessary for approval. • Decreased required documentation of symptoms from 6 months to 3 months • Added requirement specifically stating that risks/benefits/alternative discussion must be documented in office notes prior to surgical approval • Deleted Kellgren-Lawrence grading system • Moved metal-on-metal components in child-bearing age from absolute to relative contraindication • Removed Non-covered services section
November 2018	• Total Hip Arthroplasty – Added: *Radiograph evaluation should include advanced osteoarthritis findings (joint space narrowing, subchondral sclerosis, subchondral cysts, osteophyte formation, etc.)* • Absolute Contraindications – Added '*corticosteroid*' to specify 'injection'; Added sentence *"If a local or remote infection is documented in the patient's history, additional documentation showing the previous infection is resolved must be provided"* • Hip Resurfacing Arthroplasty - Added Absolute Contraindication: "Osteoporosis or poor bone quality may increase the risk of fixation failure or femoral neck fracture after hip resurfacing" • Total Hip Arthroplasty Revision/Conversion Arthroplasty: Changed 'ruled out' criteria from 'synovial fluid aspiration/biopsy (cell count and culture)' to 'ruled out by normal inflammatory markers (ESR and CRP)'; Added content: 'If these inflammatory markers are elevated, further evaluation is required, including an aspiration with synovial fluid WBC

	~~count, gram stain and cultures, or an intraoperative frozen biopsy' – Modified to match total knee guideline~~

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ADDITIONAL RESOURCES

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POLICY HISTORY

Date	Summary
May 2023	• Addition of references pertaining to the risk of infection following a cortisone injection within 3 months of surgery • Deleted risk/benefit discussion requirement for revision hip~~knee~~ arthroplasty • Clarification of the definition of failed hip arthroplasty
May 2022	Deleted: • Documented risk and benefit discussion requirement (THA) • "Efforts have been made to ensure that the patient is optimally informed and prepared for surgery" (general requirements) Revised: • Individual is medically stable and *optimized for surgery* • 3 months to 12 weeks throughout • "patient" to "individual" where appropriate

Reviewed / Approved by NIA Clinical Guideline Committee

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~~**GENERAL INFORMATION**~~

~~It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.~~