MEDICAL POLICY

Excellus
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Medical Policy Title	**Metal-on-Metal Total Hip Resurfacing**
Policy Number	**7.01.74**
Current Effective Date	October 15, 2025
Next Review Date	June 2026

Our medical policies are based on the assessment of evidence based, peer-reviewed literature, and professional guidelines. Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract. (Link to Product Disclaimer)

POLICY STATEMENT(S)

I. Metal-on-metal total hip resurfacing also known as hip resurfacing arthroplasty (HRA) using a device that has been approved by the United States Food and Drug Administration (FDA) is **medically appropriate**, when **ALL** of the following criteria are met:

A. The individual is age 64 years or younger;

B. Imaging shows **EITHER** of the following findings:

1. Osteoarthritis or an inflammatory arthritis affecting **BOTH** the femoral head and the acetabulum, with joint space narrowing on weight-bearing radiographs; **or**

2. Avascular necrosis of the femoral head with possible acetabular surface involvement and there is less than 50% involvement of the femoral head;

C. Symptoms include **BOTH** of the following:

1. The individual has 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); **and**

2. Loss of hip function which interferes with the ability to carry out age-appropriate activities of daily living; **and**

D. 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.

II. Metal-on-metal total hip resurfacing is **not medically necessary** for **ANY** other condition or contraindication including, but not limited to:

A. There is evidence of avascular necrosis of the femoral head with more than 50% involvement of the femoral head;

B. The individual is skeletally immature;

C. The individual has an active local or systemic infection;

D. There is evidence of vascular insufficiency, significant muscular atrophy of the hip or leg musculature, or neuromuscular disease severe enough to compromise implant stability or post-operative recovery;

E. The individual has Charcot joint;

F. The individual is undergoing dialysis and on a renal transplant list;

G. The individual has inadequate bone stock to support the device;

H. The individual is severely overweight;

I. The individual is immunosuppressed or receiving high doses of corticosteroids;

J. The individual with a known or suspected metal sensitivity;

K. Individuals with childbearing potential of childbearing age due to unknown effect of metal ion release on the fetus.

RELATED POLICIES

Not Applicable

POLICY GUIDELINE(S)

This policy does not address partial hip resurfacing involving resurfacing of only the femoral component.

DESCRIPTION

Total hip resurfacing is an alternative to watchful waiting or total hip arthroplasty (THA) for younger, active individuals less than 65 years old with hip disease such as osteoarthritis, rheumatoid arthritis, or advanced avascular necrosis.

In total hip resurfacing, the surface of the femoral head is trimmed and covered with a hollow metal hemisphere that fits into a metal acetabular cup. It is believed to optimize stress transfer to the proximal femur, and, because of the large diameter of the articulation, to offer stability and optimal range of movement. Because total hip resurfacing preserves the proximal femoral bone stock, it may not compromise future total hip replacements.

Proposed advantages of total hip resurfacing as compared with THA include preservation of the femoral neck and femoral canal, thus allowing for revision or conversion to THA, if required. In

addition, the resurfaced head is more similar in size to the normal femoral head, thus increasing the stability and decreasing the risk of dislocation compared with THA.

Non-surgical management with regard to the treatment of lower extremity joint pain is defined as any provider-directed, non-surgical treatment which has been demonstrated in the scientific literature to be efficacious and/or is considered reasonable care in the treatment of lower extremity joint pain. Types of treatment may include but are not limited to relative rest/activity modification, weight loss, supervised physiotherapy modalities and therapeutic exercises, oral prescription and non-prescription medications, assistive devices (e.g., cane, crutches, walker, wheelchair), and/or intra-articular injections (e.g., steroid).

Total hip resurfacing using polyethylene components offers a promising bone-conserving alternative to total hip replacement, particularly for individuals with metal allergies or small femoral geometries (variations in the shape and size of the upper part of the femur, particularly around the hip joint). Earlier concerns with conventional polyethylene relative to wear, thickness, osteolysis, and deformation are currently being studied with the use of cross-linked polyethylene which provides a low-friction bearing surface, mimicking the natural joint's articulation and thus promoting good outcomes.

SUPPORTIVE LITERATURE

Evidence from numerous case series demonstrates symptomatic and functional improvements that appear to be comparable to those obtained with the current generation of total hip replacement in individuals younger than age 65 years at similar follow-up duration. In addition, hip resurfacing leaves femoral bone stock intact and therefore revision is technically similar to primary total hip replacement. Increased concentrations of metal ions have been documented after metal-on-metal hip resurfacing in some individuals. The effect of metal ion release on a fetus is also unknown.

Za and colleagues (2024) performed a systematic review and meta-analysis of eight (8) randomized control trials that compared the outcomes of hip resurfacing (HR) and total hip arthroplasty (THA) in the treatment of hip osteoarthritis in 844 patients (n=387 hip resurfacing; n=469 THA). The mean follow-up was 7.72 years. The systematic review identified no significant differences between the groups in terms of Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) and University of California Los Angeles (UCLA) scores, revision rates, infection, aseptic loosening, or pseudotumor occurrence (all $p>0.05$). However, the dislocation rate was significantly lower in the hip resurfacing group (0.72% vs 4%; $p=0.04$). Some studies evaluated metal ion levels with slightly higher chromium levels noted in THA patients postoperatively. The most common cause of revision in HR was aseptic loosening (48%), while adverse reactions to metal debris were the leading cause in THA (30.77%). The authors concluded that HR is a safe and effective alternative to THA.

In a 2019 retrospective cohort study, Inoue and colleagues compared post-operative complications and survivorship of total hip and knee arthroplasty in dialysis and renal transplantation patients. They included a total of 107 patients undergoing primary total joint arthroplasty, including 50 who were receiving dialysis and 57 who had a prior renal transplantation. The end point was defined as revision surgery secondary to post-operative complications. Researchers found a significantly higher rate of post-operative complications in the dialysis cohort (28%, n=14 of 50 joints), compared to the renal

transplant cohort (7.1%, n= 4 of 57 joints). There was a higher rate of SSI and PJI in dialysis patients, compared with renal transplantation patients (18% versus 3.5%, P=0.02). In addition, there was an increased rate of revision surgery in the dialysis cohort, compared to transplant cohort (24% versus 3.5%, P=0.002). A multi-variate analysis considering demographics and comorbidities revealed that patients with renal transplantation were less likely to have revision surgery, compared to patients on dialysis as the time of arthroplasty (95 % CI, P=0.031) and demonstrated a strong trend for lower complications (95% CI, P=0.76), although the latter was not statistically significant. Researchers concluded that transplantation was independently associated with reduced rates of revision surgery in the setting of chronic renal failure, suggesting that those who are candidates may benefit from renal transplantation before undergoing elective total joint arthroplasty.

Ren and colleagues (2024) performed a retrospective review of 104 individuals who underwent 134 hip resurfacing arthroplasties with either the Birmingham Hip Resurfacing (BHR) (n=67) implant or the ReCap Magnum implant (n=67) at a single institution between 2006 and 2018. The primary aim of this study was to evaluate and compare early and midterm blood metal ion levels in hips implanted with BHR and ReCap devices as both contain cobalt-chromium (CoCr) metals. The study participants were matched 1:1 by sex, femoral head and acetabular cup sizes (±2 millimeters), age at surgery (±5 y), and year of surgery (±5 y). The ReCap group had lower median metal ion levels compared to the BHR group at 1-2 years (Co: 1.5 versus 1.9 parts per billion [ppb], P=0.018; Cr: 1.3 versus 2.8 ppb, P=0.008) and 3-5 years (Co: 1.1 versus 1.9 ppb, P=0.001; Cr: 1.2 versus 2.2 ppb, P=0.003) after surgery. Metal levels were identified in both study groups but potentially not clinically significant. Correlation analysis showed no significant associations between Co and Cr ion levels and pre- and postoperative patient-reported outcomes. Revisions for both study groups varied and included three (3) BHR hip revisions due to adverse reactions to metal debris as compared to two (2) ReCap hips revisions: one for instability and another for periprosthetic fracture. The authors concluded that the study identified that the BHR group had higher metal ion levels than the ReCap group at one to two (1-2) and three to five (3-5) years after surgery; however, these metal levels are still low and in line with prior studies.

Zuke and colleagues (2025) assessed the long-term outcomes of the Birmingham Hip Resurfacing (BHR) implant in a retrospective study of 224 male individuals under 60 years of age with osteoarthritis. The study followed the participants for an average of 14 years. Survivorship analysis revealed excellent long-term durability, with 96.0% of BHR implants remaining free from any revision and 97.4% free from aseptic revision at 15 years. Eight individuals required revision surgery, primarily due to infection (n=3), pseudotumor formation with elevated metal ions (n=2), and femoral component loosening (n=2). Median serum cobalt and chromium levels were 1.4 ppb and 1.5 ppb, respectively, with only two (2) cases of late-onset elevated metal ions requiring revision. Study participant-reported outcomes were similar between the cohort of individuals who received the BHR implant and the study participant group who received total hip arthroplasty (THA), with no significant differences in the modified Harris Hip Score (92.65 vs. 93.56; p=0.44) or long-term activity levels. The authors concluded that this cohort study demonstrated that metal on metal hip resurfacing arthroplasty using BHR implants is safe and effective with outcomes comparable to THA surgery.

PROFESSIONAL GUIDELINE(S)

Professional Society Name	Guideline/Version/Year	Summary of Content
Hip Society	2012 Algorithmic Approach to the Diagnosis and Management of Metal-on-Metal Arthroplasty	Awareness of adverse local tissue reactions to metal debris. All arthroplasty patients returning for follow-up should be queried for pain, discomfort, or compromiseof function. Description of ideal candidate for MoM arthroplasty. Listing of contraindications for MoM arthroplasty.
National Institute for Health and Care Excellence (NICE)	2014 Updated Guidance on THA and Total Hip Resurfacing for End-stage Arthritis of the Hip	NICE advised that both THA and total hip resurfacing were options for treating end-stage arthritis of the hip. NICE concluded that THA was more effective and less costly than total hip resurfacing in all analyses, that the revision rate was the most important key driver of costs and quality-adjusted life years, and that because the predicted revision rate of THA was less than 5% at 10 years in the population for whom both THA and total hip resurfacing were suitable, the revision rate standard for total hip resurfacing should be the same as that for THA. NICE recommended specific prostheses for THA and total hip resurfacing only if the

		prostheses have revision rates of 5% or less at 10 years.

REGULATORY STATUS

Surgeries of the hip are procedures and, therefore, not regulated by the United States Food and Drug Administration (FDA). However, devices and instruments used during the surgery may require FDA approval. All devices including related components require FDA approval before marketing and use in the United States to ensure they are safe and effective for human use.

The Birmingham Hip Resurfacing Device (BHR), a metal-on-metal system, received U.S. Food and Drug Administration (FDA) premarket approval in May 2006. The Cormet Hip Resurfacing system, another metal-on-metal system, received FDA premarket approval in July 2007. Two additional metal-on-metal hip resurfacing systems have received approval: the Cormet Hip Resurfacing System (Corin) in 2007 and the Conserve Plus Total Hip Resurfacing System (MicroPort Orthopedics) in 2009. Both implants were approved for skeletally mature patients with either noninflammatory degenerative arthritis (e.g., osteoarthritis and avascular necrosis) or inflammatory arthritis (e.g., rheumatoid arthritis).

Refer to the FDA Medical Device website. Available from: https://www.fda.gov/medical-devices [accessed 2025 May 12]

CODE(S)

- Codes may not be covered under all circumstances.
- Code list may not be all inclusive (AMA and CMS code updates may occur more frequently than policy updates).
- (E/I)=Experimental/Investigational
- (NMN)=Not medically necessary/appropriate

CPT Codes

Code	Description
No specific codes	

HCPCS Codes

Code	Description
S2118	Metal-on-metal total hip resurfacing, including acetabular and femoral components

ICD10 Codes

Code	Description
M16.0-M16.9	Osteoarthritis of hip (code range)
M87.050	Idiopathic aseptic necrosis of pelvis
M87.051-M87.059	Idiopathic aseptic necrosis of femur (code range)
M87.150	Osteonecrosis due to drugs, pelvis
M87.151-M87.159	Osteonecrosis due to drugs, femur (code range)
M87.250	Osteonecrosis due to previous trauma, pelvis
M87.251-M87.256	Osteonecrosis due to previous trauma, femur (code range)
M87.350	Other secondary osteonecrosis, pelvis
M87.351-M87.353	Other secondary osteonecrosis, femur (code range)
M87.850	Other osteonecrosis, pelvis
M87.851-M87.859	Other osteonecrosis, femur (code range)

REFERENCES

Adrados M, et al. Institutional adherence to the American Association of Hip and Knee Surgeons body mass index guidelines lowers perioperative emergency department visits in primary total knee arthroplasty. J Arthroplasty. 2023 Jun;38(6S): S88-S93.

American Academy of Orthopaedic Surgeons (AAOS). Management of osteoarthritis of the hip evidence-based clinical practice guideline. Rosemont, IL: American Academy of Orthopaedic Surgeons. 2017:1-850.

Browne J, et al. Peritoneal dialysis does not carry the same risk as hemodialysis in patients undergoing hip or knee arthroplasty. J Bone Joint Surg. 2019;101(14):1271-77.

Dowsey MM, et al. Effect of bariatric surgery on risk of complications after total knee arthroplasty. JAMA Network Open. 2022 Apr;5(4):e226722.

Inoue D, et al. Comparison of postoperative complications and survivorship of total hip and knee arthroplasty in dialysis and renal transplantation patients. J Arthroplasty. 2020;35(4):971-75.

Mancino F, et al. Metal-on-metal hips: Ten-year clinical and radiographic outcomes of the ADEPT metal-on-metal hip resurfacing and modular total hip arthroplasty. Journal Clinical Medicine. 2023 Jan 22;12(3):889.

National Institute for Health and Care Excellence (NICE) [Internet]. Total hip replacement and resurfacing arthroplasty for end-stage arthritis of the hip [TA304]. Original 2014 [Accessed 2025 May 15] Available from: Total hip replacement and resurfacing arthroplasty for end-stage arthritis of the hip

Ren R, et al. Blood metal ion levels after hip resurfacing: a comparison of two different implants. Arthroplasty Today. 2024;30(101555).

Treacy RB, et al. Birmingham hip resurfacing: a minimum follow-up of ten years. J Bone Joint Surg Br. 2011 Jan;93(1):27-33.

United States Food and Drug Administration (FDA) [Internet]. Medical Devices/ Metal on Metal Hip Implant Systems [Updated 2019 Mar 15; accessed 2025 May 15] Available from: https://www.fda.gov/medical-devices/metal-metal-hip-implants/metal-metal-hip-implant-systems

Za P, et al. Hip resurfacing versus total hip arthroplasty: a systematic review and meta-analysis of randomized clinical trials. Int Orthop. 2024 Oct;48(10):2589-2601.

Zuke WA, et al. Long-term results of the Birmingham Hip Resurfacing Implant in the United States: an updated analysis of a single institution's experience. J Bone Joint Surg Am. 2025 Mar 19;107(6): e19.

SEARCH TERMS

Hip resurfacing, hip surface replacement, hip resurfacing arthroplasty

CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS)

Based on our review, Total Hip Resurfacing is not specifically addressed in National or Regional Medicare coverage determinations or policies.

PRODUCT DISCLAIMER

- Services are contract dependent; if a product does not cover a service, medical policy criteria do not apply.
- If a commercial product (including an Essential Plan or Child Health Plus product) covers a specific service, medical policy criteria apply to the benefit.
- If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit.
- If a Medicare product (including Medicare HMO-Dual Special Needs Program (DSNP) product) covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.

- If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.

POLICY HISTORY/REVISION	
Committee Approval Dates	
06/15/06, 07/19/07, 05/14/08, 04/16/09, 03/18/10, 02/17/11, 02/16/12, 02/21/13, 02/20/14, 01/22/15, 01/21/16, 01/19/17, 01/18/18, 06/21/18, 12/20/18, 08/20/20, 04/15/21, 04/21/22, 04/20/23, 06/20/24, 06/26/25	
Date	**Summary of Changes**
06/26/25	• Annual review; Policy Statement II updated to include additional FDA contraindications.
01/01/25	• Summary of changes tracking implemented.
06/15/06	• Original effective date