Cohere Medicare Advantage Policy - Hip Core Decompression With or Without Bone Grafting

Clinical Guidelines for Medical Necessity Review

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Important Notices

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Other Notices:

Guideline Information:

Specialty Area: Disorders of the Musculoskeletal System
Guideline Name: Hip Core Decompression With or Without Bone Grafting
Date of last literature review: 3/7/2025
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Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Hip Core Decompression With or Without Bone Grafting

Benefit Category

Not applicable.

Related CMS Documents

Please refer to the CMS Medicare Coverage Database for the most current applicable CMS National Coverage.

- There are no applicable NCDs and/or LCDs for hip core decompression with or without bone grafting.

Recommended Clinical Approach

Core decompression (CD) is a technique used to treat early (stage I-II) osteonecrosis of the hip. This minimally invasive surgery involves drilling into the part of the femoral head affected by osteonecrosis (also referred to as avascular necrosis). CD helps relieve pressure within the bone, restore blood flow, and reduce pain. The procedure is an effective method with an overall success rate of 65% up to 54 months follow-up, depending on the disease stage of the femoral head. Surgical treatment depends on the severity and location of the disease, which is determined by advanced imaging. CD is recommended for pre-collapse osteonecrosis if the lesion is less than 30% of the femoral head volume.[1,2] Encouraging results are found when CD is performed for small lesions in the early (pre-collapse) stages of femoral head osteonecrosis.[3] Bone grafting may provide mechanical support for the osteonecrotic lesion, and delivery of bone marrow cells into the necrotic femoral head in early-stage osteonecrosis lowers the conversion rate to total hip replacement.[1,2] CD has limited efficacy in patients over the age of 50 or with an advanced stage of necrosis.[4]

Evaluation of Clinical Harms and Benefits

Cohere Health uses the criteria below to ensure consistency in reviewing the conditions to be met for coverage of hip core decompression with or without

bone grafting. This process helps to prevent both incorrect denials and inappropriate approvals of medically necessary services. Specifically, limiting incorrect approvals reduces the risks associated with unnecessary procedures, such as complications from surgery, infections, and prolonged recovery times.

The potential clinical harms of using these criteria may include:

- Surgical complications of hip core decompression that have been reported include intertrochanteric fracture, seromas and wound infections, femoral head fractures, deep vein thrombosis, and pulmonary embolus.[5] The risk of complications may be lower in procedures with bone grafts.[1,6,7]
- As with any surgical procedure, there is a risk of incision site infection as well as adverse reactions to anesthesia or other medications used.
- Inappropriate patient selection may increase the risk of treatment failure. For example, one study reported significant risk factors for treatment failure, including age over 50 years, corticosteroid intake, and advanced stage of necrosis.[4]
- Delays or denials in surgical treatment can increase the risk of femoral head collapse and potentially worsen other patient outcomes.[8,9]
- Increased healthcare costs and complications from the inappropriate use of emergency services or additional treatments.

The clinical benefits of using these criteria include:

- Improved patient outcomes through timely and appropriate access to a hip core decompression procedure.
- Reduction in complications and adverse effects from unnecessary procedures, such as total hip replacement.[8,10]
- Hip core decompression can reduce the risk of femoral head collapse, necessitating total hip replacement.[8]
- Addressing the underlying causes of hip core decompression can help prevent or delay the development of osteonecrosis.[11] Lifestyle factors such as a healthy diet and physical activity are essential for bone health.
- Timely performance of the hip core compression after symptom onset can maximize benefits, such as improved pain and mobility.[8]

- Enhanced overall patient satisfaction and healthcare experience.

This policy includes provisions for expedited reviews and flexibility in urgent cases to mitigate risks of delayed access. Evidence-based criteria are employed to prevent inappropriate denials, ensuring that patients receive medically necessary care. The criteria aim to balance the need for effective treatment with the minimization of potential harms, providing numerous clinical benefits in helping avoid unnecessary complications from inappropriate care.

In addition, the use of these criteria is likely to decrease inappropriate denials by creating a consistent set of review criteria, thereby supporting optimal patient outcomes and efficient healthcare utilization.

Medical Necessity Criteria

Indications

➔ **Hip core decompression with or without bone grafting** is considered medically appropriate if **ALL** of the following are **TRUE**[7,12]:
- ◆ The patient has hip pain or functional disability[8,12,13]; **AND**
- ◆ Advanced imaging shows **ALL** of the following[3,14]:
  - Osteonecrosis (stage I-II)[15]; **AND**
  - Minimal to no collapse of the femoral head (stage I-III).[15]

Non-Indications

➔ **Hip core decompression with or without bone grafting** is not considered medically appropriate if **ANY** of the following is **TRUE**[3]:
- ◆ Imaging shows moderate or severe arthritis; **OR**
- ◆ Advanced imaging shows advanced stages of osteonecrosis (stage III-IV[15]); **OR**
- ◆ The patient is over the age of 50.[16]

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
20933	Partial hemicortical intercalary allograft of bone
26992	Incision of bone cortex of pelvis; Incision of bone cortex of pelvis and hip joint; Incision of bone cortex of hip joint for bone abscess; Incision of bone cortex of hip joint for osteomyelitis; Incision of bone cortex of pelvis for bone abscess; Incision of bone cortex of pelvis for osteomyelitis; Incision of bone cortex of hip joint; Incision of bone cortex of pelvis and hip joint for bone abscess; Incision of bone cortex of pelvis and hip joint for osteomyelitis
27071	Deep craterization of wing of ilium; Deep partial excision of wing of ilium; Intramuscular craterization of wing of ilium; Subfascial craterization of wing of ilium; Deep craterization of greater trochanter of femur; Deep craterization of symphysis pubis; Deep partial excision of greater trochanter of femur; Deep partial excision of symphysis pubis; Intramuscular craterization of great trochanter of femur; Intramuscular craterization of symphysis pubis; Subfascial craterization of great trochanter of femur; Subfascial craterization of symphysis pubis
27170	Bone grafting
27299	Unlisted procedure on hip joint; Unlisted procedure on pelvis
S2325	Hip core decompression

Disclaimer: G, S, I, and N Codes are non-covered per CMS guidelines due to their experimental or investigational nature.

Medical Evidence

Kang et al (2018) performed a matched pair control study to compare the outcomes of core decompression (CD) alone vs CD combined with bone marrow mesenchymal stem cell (BMMSC) implantation for patients with osteonecrosis of the femoral head (ONFH). One hundred patients (106 hips) were analyzed; the CD+BMMSC group had a lower total hip replacement arthroplasty (THA) conversion rate compared to the CD-only group (28.3% vs 49%). The progression of the ONFH stage was similar between groups. However, in early-stage ONFH (stages I and II), CD+BMMSC significantly reduced clinical failure compared to CD alone (20% vs 50%). Survival analysis indicated a longer time to failure in the CD and BMMSC group, up to 10 years follow-up. Age and gender did not significantly affect THA conversion rates, and no complications were reported. The study suggests that BMMSC implantation for early-stage ONFH may decrease the need for THA but does not impact ONFH progression.[1]

Zalavras and Lieberman (2014) reviewed the literature for the American Academy of Orthopedic Surgeons (AAOS) regarding the evaluation and treatment of osteonecrosis of the femoral head. They concur that magnetic resonance imaging (MRI) is the preferred imaging modality. In younger patients, preserving the femoral head with CD and bone grafting may be combined with other therapies, such as stem cell transplantation. If the femoral head collapses, the recommended treatment is arthroplasty. In one of two randomized trials, alendronate used for early-stage osteonecrosis significantly reduced disease progression and femoral head collapse; however, conflicting results in the second trial show no differences between alendronate and placebo.[3]

Hu et al (2023) performed a network meta-analysis of 18 randomized controlled trials to analyze surgical interventions for ONFH. All trials were in non-traumatic ONFH, and most included outcomes for improvement in Harris hip score (HHS) or rate of conversion to THA. While CD offers promising results for the treatment of ONFH and is commonly used in clinical practice, no significant differences in preventing ONFH progression were found when comparing CD to other surgical interventions (e.g., autologous bone grafting,

free fibula grafting, vascularized bone grafting) in this study. All treatments involving bone grafting appeared to be effective in these trials.[7]

Andronic et al (2021) conducted a systematic review to evaluate CD of the femoral head in avascular necrosis (AVN; also known as osteonecrosis) to preserve the hip joint. Studies that included additional implants or augmentation techniques were excluded. Forty-nine studies covering 2540 hips were included (mean follow-up: 75.1 months; mean age at surgery: 39 years). Most studies reported improvement in outcome scores and pain improvement. Pooled data from 20 studies (1134 hips; mean follow-up: 56 months) showed that 38% of patients, primarily with early-stage AVN, underwent THA at an average of 26 months post-CD.[8]

Osteonecrosis outcomes following CD treatment, including pain relief, conversion to THA, osteonecrosis stage, and lesion size, are "poor," "fair," or "good."[12] While hip CD is often the first line of treatment, there is no consensus for the treatment of osteonecrosis of the femoral head to date.[7,9,11,12,17] The conflicting evidence for each treatment criterion suggests that no single factor may be sufficient for predicting treatment outcomes in osteonecrosis of the hip. This underscores the need for a multifaceted approach to patient selection as well as more well-designed, prospective, multicenter clinical trials for the treatment of hip CD.

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Clinical Guideline Revision History/Information

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