

BSC7.11 Hip Arthroplasty for Adults			
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Section:	7.0 Surgery	Page:	Page 1 of 20

Policy Statement

- I. Total hip arthroplasty may be considered **medically necessary** when **ALL** of the following criteria are met:
 - A. The reason for the arthroplasty is osteoarthritis (OA), rheumatoid arthritis, avascular necrosis (osteonecrosis), or post-traumatic arthritis of the hip joint
 - B. It is NOT for a [customized](#) hip replacement, including **all** of the following:
 1. It does NOT use [customized](#) hip implant
 2. It does NOT use a "Gender specific" implant
 - C. There is NO active infection of the joint or active systemic bacteremia (that has not been treated)
 - D. There is NO skin infection (exception recurrent cutaneous staph infections) or open wound within the planned surgical site of the hip
 - E. There is NO allergy to components of the implant (e.g., cobalt, chromium or alumina)
 - F. There is NO skeletal immaturity
 - G. There is NO paraplegia or quadriplegia, permanent or irreversible muscle weakness (in the absence of pain) that prevents ambulation, or rapidly progressive neurological disease (except in the clinical situation of a concomitant displaced femoral neck fracture)
 - H. An individual has **any** of the following conditions:
 1. Degenerative joint disease when **all** of the following exist:
 - a. Documentation of failure of conservative therapy (non-surgical medical management) or documentation of rationale if conservative therapy is considered inappropriate
 - b. Documentation of limited range of motion, antalgic gait, and pain in hip joint with passive range of motion on physical examination
 - c. Radiographic evidence of **any** of the following:
 - i. Severe osteoarthritis of hip joint as evidenced by **two or more** of the following:
 - Subchondral cysts
 - Subchondral sclerosis
 - Periarticular osteophytes
 - Joint subluxation
 - Bone on bone articulation
 - Joint space narrowing
 - ii. Avascular necrosis (osteonecrosis) with greater than stage II with collapse and in stage II avascular necrosis with severe recalcitrant hip pain in spite of treatment with medications
 - iii. Rheumatoid arthritis (joint space narrowing)
 - iv. Post traumatic conditions not amenable to hip preservation (even in the absence of severe osteoarthritis), including but not limited to femoral head fractures or some acetabular fractures
 - v. Synovitic and tumorous conditions that do not respond to conservative therapy or hip preservation surgery, including but not limited to synovial osteochondromatosis and pigmented villonodular synovitis
 2. Tumor involving proximal femur or acetabulum
 3. Unstable fracture of the femoral neck or acetabulum
 4. Symptomatic findings of FemoroAcetabular Impingement (FAI) in the presence of significant (advanced) osteoarthritis
 5. Previous arthroplasty or resurfacing revision, indicated by **one or more** of the following conditions:

- a. Joint instability
- b. Implant failure
- c. Infection
- d. Irreducible or recurrent dislocation
- e. Displaced fracture at prosthesis site
- f. Allergy to implant material

- II. Total hip arthroplasty is considered **investigational** for **all** other indications due to insufficient evidence of effectiveness.

NOTE: Refer to [Appendix A](#) to see the policy statement changes (if any) from the previous version.

Policy Guidelines

Conservative Treatment

As medically indicated, members with osteoarthritis, traumatic arthritis, rheumatoid arthritis, or avascular necrosis (osteonecrosis) should have non-surgical treatment documented in the medical record, including **all** of the following unless contraindicated:

- Anti-inflammatory medications or analgesics
- Activity modification
- Supervised physical therapy which could include an instructed home exercise program, including flexibility and muscle-strengthening exercises. Post-op physical therapy visits will be allowed in addition to the pre-op physical therapy visits.
- Weight reduction counseling as appropriate
- Assistive device use (as required)
- Intra-articular steroid injections may be appropriate, but are not a requirement for conservative therapy

Relative contraindications to joint replacement include the following: Morbid obesity (BMI greater than 40), or age less than 50 years unless there are no other treatment options for the individual. Individuals with relative contraindications should exhaust all appropriate nonsurgical treatment options prior to surgical consideration.

Customized refers to something that is made specifically for that individual and could not be used for anyone else.

Description

Total hip arthroplasty (THA), also known as total hip replacement, is a surgical procedure to replace the diseased bone and cartilage of the hip joint with prosthetic components in order to increase mobility, improve the function of the hip joint, and relieve pain. Normally, the hip would function as a "ball-and-socket" joint. The head of the femur (top of the thigh bone) as a ball fits into a part of the pelvis as a socket (the acetabulum). This allows for smooth joint movement in multiple directions. The most common conditions requiring the hip joint to be replaced is osteoarthritis, rheumatoid arthritis, avascular necrosis, or post-traumatic arthritis.

Related Policies

- Knee Arthroplasty for Adults

Benefit Application

Benefit determinations should be based in all cases on the applicable contract language. To the extent there are any conflicts between these guidelines and the contract language, the contract language will control. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

Some state or federal mandates (e.g., Federal Employee Program [FEP]) prohibits plans from denying Food and Drug Administration (FDA)-approved technologies as investigational. In these instances, plans may have to consider the coverage eligibility of FDA-approved technologies on the basis of medical necessity alone.

Regulatory Status

Hip replacement surgery is a procedure and therefore is not regulated by the U.S. Food and Drug Administration (FDA). However, devices and instruments used during the surgery require FDA approval and are regulated by the FDA through the 510(k) marketing process. Hip joint prostheses are regulated by the FDA as Class II devices.

Rationale

Background

Total hip arthroplasty (THA) or hip replacement surgeries are successful and cost effective interventions for individuals with significant symptoms and/or functional limitations associated with reduced health related quality of life despite conservative therapy.⁴ Although THA can provide potential benefits and successful outcomes, it is an elective procedure and should only be considered after extensive discussion of the risks, benefits, and alternatives. The use of shared decision making aides and functional outcome measures have shown to improve an individual's knowledge of the options available, and allows an individual to have a more accurate expectation of possible benefits and harm of their options.⁵

In certain circumstances, a trial of conservative treatment is warranted prior to THA. Conservative treatment (non-surgical medical management) may consist of anti-inflammatory medications or analgesics, activity modification, supervised physical therapy including flexibility and strengthening exercises, weight reduction, use of an assistive device and therapeutic injections as indicated. If these measures fail, then THA is considered an appropriate option.

According to the American Academy of Orthopaedic Surgeons (AAOS) a total hip replacement (also called total hip arthroplasty), involves the removal of damaged bone and cartilage which is replaced with prosthetic components.

- The damaged femoral head is removed and replaced with a metal stem that is placed into the hollow center of the femur. The femoral stem may be either cemented or "press fit" into the bone.
- A metal or ceramic ball is placed on the upper part of the stem. This ball replaces the damaged femoral head that was removed.
- The damaged cartilage surface of the socket (acetabulum) is removed and replaced with a metal socket. Screws or cement are sometimes used to hold the socket in place.
- A plastic, ceramic, or metal spacer is inserted between the new ball and the socket to allow for a smooth gliding surface.⁶

Serious complications after hip replacement surgery are not common and can be minimized by choosing a clinician who is experienced and who performs the procedure frequently; and by choosing a hospital that is experienced in caring for individuals before, during, and after surgery.

Complications can occur during surgery, in the immediate postoperative period, or many years after surgery. These risks can include, but are not limited to: blood clots, infection, dislocation of the hip joint, loosening or breakage of the implant, change in leg length and stiffening of the joint. It is important to understand these potential risks before deciding to undergo hip replacement. For most individuals, the benefits of reduced pain and improved function outweigh the small risk of complications.⁷

Total hip arthroplasty is one of the most successful orthopedic procedures performed today. It is estimated that over 300,000 total hip arthroplasties are performed each year in the United States alone. Since 1960, improvements in joint replacement surgical techniques and technology have greatly increased the effectiveness of total hip replacement. For individuals with hip pain due to a variety of conditions, THA can relieve pain, restore function, and improve quality of life.⁶ The primary reason to undergo a THA is osteoarthritis. Other conditions leading to THA include inflammatory arthritis, fracture, dysplasia, and malignancy.⁸

In an increasingly ageing society coupled with the increased demand for hip-replacement surgery, we will experience an increase in the need to appropriately assess the clinical necessity for surgical intervention. It also emphasizes the need for new strategies to treat early-stage osteoarthritis, which will ultimately reduce the demand for joint-replacement surgery.⁹

Literature Review

Degenerative Joint Disease

Arthritis is a large and growing public health problem in the United States, resulting in costs of \$128 billion annually, and continues to be the most common cause of disability. With the aging of the U.S. population, even assuming that the prevalence of obesity and other risk factors remain unchanged, the prevalence of doctor-diagnosed arthritis and arthritis-attributable activity limitation (AAAL) is expected to increase significantly by 2030.¹⁰

The most common cause of chronic hip pain and disability is arthritis. Osteoarthritis, rheumatoid arthritis, and traumatic arthritis are the most common forms of this disease.¹¹

Osteoarthritis

Osteoarthritis (OA) is the most common cause of chronic disability in older adults. Although classically considered a "wear and tear" degenerative condition of articular joints, recent studies have demonstrated an inflammatory component to OA that includes increased activity of several cytokines and chemokines in joint tissues that drive production of matrix-degrading enzymes. Rather than directly causing OA, aging changes in the musculoskeletal system contribute to the development of OA by making the joint more susceptible to the effects of other OA risk factors that include abnormal biomechanics, joint injury, genetics, and obesity. Age-related sarcopenia and increased bone turnover may also contribute to the development of OA. Understanding the basic mechanisms by which aging affects joint tissues should provide new targets for slowing or preventing the development of OA.¹²

Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a chronic, systemic, inflammatory disorder of unknown etiology that primarily involves synovial joints. The arthritis is typically symmetrical, and usually leads, if uncontrolled, to destruction of joints due to erosion of cartilage and bone, causing joint deformities. The disease usually progresses from the periphery to more proximal joints and results in significant locomotor disability within 10 to 20 years in individuals who do not fully respond to treatment.¹³

Post-Traumatic Arthritis

Fractures with joint involvement can cause damage to articular cartilage, ultimately resulting in premature osteoarthritis.

Avascular Necrosis

Osteonecrosis, also known as aseptic necrosis, avascular necrosis (AVN), atraumatic necrosis, and ischemic necrosis, is a pathologic process that has been associated with numerous conditions and therapeutic interventions. In individuals in whom there is direct damage to bone vasculature (e.g., femoral neck fracture) or direct injury of bone or marrow elements (e.g., radiation injury, dysbarism, or caisson disease), the cause is clearly identifiable. However, in many individuals, the mechanisms by which this disorder develops are not fully understood. Compromise of the bone vasculature, leading to the death of bone and marrow cells (bone marrow infarction), and ultimate mechanical failure appear to be common to most proposed etiologies. The process is most often progressive, resulting in joint destruction within a few months to two years in the majority of individuals.^{14,15}

Conservative Treatment

Before proceeding to total hip arthroplasty for an indication of osteoarthritis, a multifaceted regimen of nonoperative treatment should be attempted. Societies such as The Osteoarthritis Research Society international and The American College of Rheumatology have extensive guidelines on the pharmacologic and non-pharmacologic treatment of Osteoarthritis. These guidelines include (See Practice Guidelines section and Position Statements):

- Exercise for strength, endurance, and flexibility
- Use of walking aids
- Use of thermal agents
- Use of oral medication such as acetaminophen, oral NSAIDS and Tramadol
- Interarticular corticosteroid injections

Shared Decision Making (SDM)

Shared decision making (SDM) is promoted as an ideal model to incorporate in the treatment plan between patient and physician. This is based on the premise that the best medical decision for an individual patient incorporates the patient's preferences and values through the process of information sharing and planning. This idea involves at least two participants; the clinician and the patient.¹⁶⁻²¹ It represents the optimal physician-patient communication. Individuals most likely to perceive their physicians as providing excellent care are those experiencing their preferred decision-making style with their primary physicians.²²⁻²³ Studies show that patient satisfaction, medication compliance, and health outcomes are improved by shared decision making.²⁴⁻²⁶

On July 19, 2015, the first joint International Shared Decision-Making/International Society for Evidence-Based Health Care (ISDM/ISEHC) Conference met in Sydney, Australia with over 300 people from around the globe to share knowledge and inspire action to improve the entire health care experience. Highlights of this meeting included:

- Informed consents are gaining importance connected with the use of the SDM, which includes a collaborative conversation around the patient's informed preferences and the best available scientific evidence.
- Aligned incentives are necessary to maximize SDM, but not necessarily monetary.
- Increasing in interest and gaining support is the inclusion of family engagement in the decision-making process with the patient/family/care team (called a triad) rather than the patient/care team (called a dyad). The discussion was how to make this a reality, as it has long been felt the family needed to be part of the SDM, but not easily implemented.
- Development of learning programs/greater communication skills for medical students was repeatedly discussed, looking for ways to include training for these as learned skills to build conversations around individual preferences and evidence-based scientific medicine/practice.²⁷

Total Hip Arthroplasty

Total hip arthroplasty (THA) and knee joint arthroplasty (TKA) are universally recommended in 14/14 existing treatment guidelines,⁴ and generally accepted as reliable and appropriate surgical procedures to restore function and improve health-related quality of life in individuals with hip and knee OA who are not obtaining adequate pain relief and functional improvement with a combination of pharmacological and non-pharmacological treatments.⁴ The American Association of Hip and Knee Surgeons called the total hip arthroplasty the 'gold standard' for treating disabling hip pain.³⁸

There are multiple types of prostheses, including metal on polyethylene, metal on metal, ceramic on ceramic and hybrid prostheses. There are also cemented and uncemented prostheses. The risks and benefits of the different types of prostheses are beyond the scope of this policy.

As ethical and methodological considerations have precluded evaluation of total joint replacement with RCTs, evidence to support their efficacy is based substantially on numerous uncontrolled observational studies and a very small number of cohort studies where outcomes have been compared with standard medical care (LoE III). These are well summarized in a 2004 qualitative and systematic review of the scientific literature relating to health-related quality of life outcomes following THA and TKA.⁴

Avascular Necrosis

Total hip arthroplasty (THA) is a highly successful surgery for the management of both osteo-arthritis (OA) and avascular necrosis (AVN) of the hip.³⁹ While a majority of THA is performed for OA, a significant portion is performed in the setting of AVN. Multiple studies demonstrate positive outcomes with THA for AVN.⁴⁰⁻⁴²

Recent studies have shown 96.6% survivorship with revision as an endpoint with an average of 16 year follow up.³⁹ THA for AVN has shown to have superior outcomes when compared to hemi-arthroplasty with lower rates of groin pain and migration.⁴³ When compared to OA, THA for AVN has been found to have similar functional outcomes but worse long term pain outcomes.⁴⁴

One hundred twenty-three total hip arthroplasties were performed in 85 individuals with osteo-necrosis of the femoral head. There were 51 males and 34 females with an average age of 45 years. The average follow-up time was 4.6 years with a range of 2 to 10 years. All femoral stems and 71 sockets were fixed with acrylic cement. Fifty-two of the sockets used were placed with-out cement. The average Harris hip score improved from 45 points preoperatively to 92 points at the time of last follow-up. Using modern cement techniques and components, total hip arthro-plasty can give excellent results in the young individual with avascular necrosis and may be the treatment of choice when reconstructive surgery is required.⁴¹

A study was conducted to evaluate the role of total hip replacement in cases of advanced avascular necrosis of the head of femur in individuals admitted to two tertiary care military hospitals. 20 individuals reporting with avascular necrosis of femoral head were taken for study. Out of 20 individuals, 16 were males and 4 were females. They were evaluated pre-operatively and total hip replacement was done in all twenty cases. Individuals were evaluated using Harris hip score and showed improvement of the score in all cases. The authors concluded that total hip replacement is beneficial for individuals of advanced avascular necrosis of femoral head.⁴⁵

Chang *et al*/evaluated 74 hips in 52 individuals who underwent THR for ONFH after kidney transplantation with cementless THRs. They reported 96.6% cumulative implant survivorship at a mean follow-up of 10.2 years, which is comparable with survivorship due to other causes of THR. In the light of these findings, the outcomes of THR even in these high-risk individuals are improving, potentially due to improved medical and surgical management, as well as the use of modern prosthetic designs, including cementless acetabular and femoral fixation.⁴⁶

Unstable Fracture

Sidhu et al studied postoperative complications, mortality rate, functional outcome using the Harris hip score, time to return to normal activities, and radiographic evidence of healing. Two individuals died on the third and fifth postoperative days. Seven more individuals died within one year. The Harris hip score at one month was 66 ± 7 (mean \pm standard deviation); at three months 72 ± 6 ; at one year 74 ± 5 ; at three years 76 ± 6 and in the 27 individuals who completed five year follow-up it was 76 ± 8 . Mobilization and weight-bearing was started immediately in the post-operative period. Average time taken to return to normal daily activities was 28 days (range 24–33). No loosening or infection of the implants was observed. Total hip arthroplasty is a valid treatment option for mobile and mentally healthy elderly individuals with intertrochanteric fractures. This procedure offers quick recovery with little risk of mechanical failure, avoids the risks associated with internal fixation and enables the individual to maintain a good level of function immediately after surgery.⁴⁷

Simko et al performed a study to evaluate the clinical and functional outcomes of THAS in individuals with acetabular fractures due to low energy injury. They concluded that acute primary THA with the use of an antiprotrusion cage and bone grafting for acetabular fractures in elderly individuals allows us to employ only one surgical technique for definitive repair. It provides primary stability and immediate pain relief, permits graded weight-bearing and early pain-free mobilization, and may also treat hip arthritis, if it exists. This technique has also good prospects for a selected group of younger individuals in whom the treatment of acetabular fractures has a poor prognosis.⁴⁸

A non-randomized prospective multicenter study compared osteosynthesis by trochanteric nailing ($n=113$) to hip arthroplasty ($n=134$) in unstable trochanteric fracture (AO types 31 A2.2 and 3 and A3.3) in 247 individuals over the age of 75 years. They found that three-month mortality was identical in the two groups (21.2% versus 21%). General complications did not differ, although mechanical complications were more frequent in the nailing group (12.5% versus 2.8%). Functional results (Parker and PMA scores) were better in the implant than in the nail group. They concluded that their study validated hip arthroplasty in these indications. Cemented stems associated to a dual-mobility acetabular component gave the best results.⁴⁹

Revision Total Hip Arthroplasty

Revision hip arthroplasty, which constitutes close to one quarter of all arthroplasties performed in the U.S., places immense financial burden on healthcare and has a less favorable outcome than primary total hip arthroplasty.⁵⁰

A study published in the Journal of Bone and Joint Surgery America noted that the most common type of revision THA procedure was an all component revision (41.1%). The most common causes of revision were instability/dislocation (22.5%), mechanical loosening (19.7%) and infection (14.1%) The average length of hospital stay for all types of revision arthroplasties was 6.2 days.⁵¹

Slif et al found that potential reasons for hip revisions can be stratified into three groups: patient-related factors, implant-related factors, and failures related to inadequate surgical technique.⁵²⁻⁵⁴ Osteolysis and aseptic loosening, resulting from the failure of bearing surfaces, are considered to be the most common reasons for revision hip arthroplasty.^{52,55} These are failures that occur relatively long after the primary implantation. Other causes of failure which occur at earlier times include implant-related problems, such as periprosthetic fractures,^{56,57} delamination of the porous coating,⁵⁴ or other manufacturing problems. Patient-related factors leading to the failure of total hip arthroplasty include co-morbidities such as sickle cell anaemia,⁵⁸ poor bone quality,⁵⁹ or other variables that may predispose the individual to infections or dislocation. Surgical technique may also affect the outcome of total hip arthroplasty. This technical influence may be greater than previously believed as many revisions are required because of recurrent dislocation, malpositioning of components, or other technical problems.⁶⁰⁻⁶² Various other factors, such as high body mass index, use of non-steroidal anti-

inflammatory drugs (NSAIDs) and smoking, are still subject to controversy in terms of being potential causes of prosthetic failure.⁶³⁻⁶⁷

Fink noted in the International Journal of Medical Science in 2009 that many concepts have been devised for the treatment of late periprosthetic infections of total hip prostheses. A two-stage revision with a temporary antibiotic-impregnated cement spacer and a cemented prosthesis appears to be the most preferred procedure although, in recent times, there seems to be a trend towards cementless implants and a shorter period of antibiotic treatment. Because of the differences in procedure, not only between studies but also within studies, it cannot be decided which period of parenteral antibiotic treatment and which spacer period is the most suitable. The fact that comparable rates of success can be achieved with different treatment regimens emphasizes the importance of surgical removal of all foreign materials and the radical debridement of all infected and ischemic tissues and the contribution of these crucial procedures to the successful treatment of late periprosthetic infections.⁶⁸

Springer et al noted that revision THA is indicated for most periprosthetic fractures that occur around the stem of the femoral implant. Their study noted that revision THA for the treatment of a periprosthetic fracture around the stem of the femoral implant was successful in restoring function for most individuals. The greatest long-term problems were prosthetic loosening and fracture non-union. Better results were seen when an uncemented, extensively porous-coated stem was used.⁶⁹

Summary of Evidence

Total hip arthroplasty (THA), also known as total hip replacement, for osteoarthritis (OA), is supported with sufficient clinical evidence in the published scientific literature as safe and effective in relieving pain and improving joint function and mobility in individuals who have failed nonsurgical medical management. Despite the potential benefits, THA it is an elective procedure and should only be considered after extensive discussion of the risks, benefits, and alternatives. There is insufficient evidence to support the safety, efficacy, and improved long-term outcomes for all other indications outside of the medical necessity indications.

Supplemental Information

Practice Guidelines and Position Statements

Several societies have established guidelines for the treatment of osteoarthritis. These include the American College of Rheumatology (ACR) and The Osteoarthritis Research Society International (OARSI). These groups recommend that, before turning to surgery, individuals try non-surgical options that have been shown to have some success, such as weight loss, exercise, activity modification, or the use of walking aids or orthotics.

American College of Rheumatology

The American College of Rheumatology has developed Recommendations for the use of Non-pharmacologic and Pharmacologic therapies in Osteoarthritis of the Hand, Hip, and Knee. This summary of recommendations includes those recommendations specific to the hip.⁷⁰

ACR Recommendations for the Use of Non-Pharmacologic and Pharmacologic Therapies in OA.

Recommendation	Action
Non-Pharmacologic Recommendations for the Management of Hip Osteoarthritis (OA):	
We strongly recommend that individuals with hip OA should do the following:	<ul style="list-style-type: none">• Participate in cardiovascular and/or resistance land-based exercise• Participate in aquatic exercise• Lose weight (for persons who are overweight)
We conditionally recommend that individuals with hip OA should do the following:	<ul style="list-style-type: none">• Participate in self-management programs• Receive manual therapy in combination with supervised exercise• Receive psychosocial interventions

Recommendation	Action
	<ul style="list-style-type: none"> • Be instructed in the use of thermal agents • Receive walking aids, as needed • Participation in balance exercises, either alone or in combination with strengthening exercises • Participation in tai chi • Receiving manual therapy alone
We have no recommendations regarding the following:	
Pharmacologic Recommendations for the Initial Management of Hip OA*	
We conditionally recommend that individuals with hip OA should use one of the following:	<ul style="list-style-type: none"> • Acetaminophen • Oral NSAIDs • Tramadol • Intraarticular corticosteroid injections
We conditionally recommend that individuals with hip OA should not use the following:	<ul style="list-style-type: none"> • Chondroitin sulfate • Glucosamine • Topical NSAIDs
We have no recommendation regarding the use of the following:	<ul style="list-style-type: none"> • Intraarticular hyaluronate injections • Duloxetine • Opioid analgesics

* No strong recommendations were made for the initial pharmacologic management of hip osteoarthritis (OA). For individuals who have an inadequate response to initial pharmacologic management, please see the Results for alternative strategies. NSAIDs=nonsteroidal anti-inflammatory drugs.

Osteoarthritis Research Society International

The Osteoarthritis Research Society International (OARSI) has offered consensus guidelines for the treatment/management of hip and knee osteoarthritis. The OARSI performed a literature review and consulted a panel of 16 experts from four medical disciplines.

The Osteoarthritis Research Society International (OARSI) Recommendations for the Management of Hip and Knee Osteoarthritis, Part II for Hip OA.⁴

Recommendation	Strength of Recommendation (SOR)
General Recommendations	
Optimal management of OA requires a combination of non-pharmacological and pharmacological modalities.	SOR: 96% (95% CI: 93-99)
Non-Pharmacological Modalities of Treatment	
All patients with hip and knee OA should be given information access and education about the objectives of treatment and the importance of changes in lifestyle, exercise, pacing of activities, weight reduction, and other measures to unload the damaged joint(s). The initial focus should be on self-help and patient-driven treatments rather than on passive therapies delivered by health professionals. Subsequently emphasis should be placed on encouraging adherence to the regimen of non-pharmacological therapy.	SOR: 97% (95% CI: 95-99)
The clinical status of patients with hip or knee OA can be improved if patients are contacted regularly by phone.	SOR: 66% (95% CI: 57-75)
Individuals 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. This evaluation may result in provision of assistive devices such as canes and walkers, as appropriate.	SOR: 89% (95% CI: 82-96)
Individuals with hip and knee OA should be encouraged to undertake, and continue to undertake, regular aerobic, muscle strengthening and range of motion exercises. For individuals with symptomatic hip OA, exercises in water can be effective.	SOR: 96% (95% CI: 93-99)
Individuals with hip and knee OA, who are overweight, should be encouraged to lose weight and maintain their weight at a lower level.	SOR: 96% (95% CI: 92-100)
Walking aids can reduce pain in individuals with hip and knee OA.	SOR: 90% (95% CI: 84-96)
Individuals should be given instruction in the optimal use of a cane or	

Recommendation	Strength of Recommendation (SOR)
crutch in the contralateral hand. Frames or wheeled walkers are often preferable for those with bilateral disease.	
Every individual with hip or knee OA should receive advice concerning appropriate footwear. In individuals with knee OA insoles can reduce pain and improve ambulation. Lateral wedged insoles can be of symptomatic benefit for some individuals with medial tibio-femoral compartment OA.	SOR: 77% (95% CI: 66-88)
Some thermal modalities may be effective for relieving symptoms in hip and knee OA.	SOR: 64% (95% CI: 60-68)
Transcutaneous electrical nerve stimulation (TENS) can help with short-term pain control in some individuals with hip or knee OA.	SOR: 58% (95% CI: 45-72)
Pharmacological Modalities of Treatment	
Acetaminophen (paracetamol) (up to 4 g/day) can be an effective initial oral analgesic for treatment of mild to moderate pain in individuals with knee or hip OA. In the absence of an adequate response, or in the presence of severe pain and/or inflammation, alternative pharmacologic therapy should be considered based on relative efficacy and safety, as well as concomitant medications and comorbidities.	SOR: 92% (95% CI: 88-99)
In individuals with symptomatic hip or knee OA, non-steroidal anti-inflammatory drugs (NSAIDs) should be used at the lowest effective dose but their long-term use should be avoided if possible. In individuals with increased GI risk, either a COX-2 selective agent or a non-selective NSAID with co-prescription of a proton pump inhibitor (PPI) or misoprostol for gastroprotection may be considered, but NSAIDs, including both non-selective and COX-2 selective agents, should be used with caution in individuals with cardiovascular (CV) risk factors.	SOR: 93% (95% CI: 88-99)
Intra-articular (IA) injections with corticosteroids can be used in the treatment of hip or knee OA, and should be considered particularly when individuals have moderate to severe pain not responding satisfactorily to oral analgesic/anti-inflammatory agents and in individuals with symptomatic knee OA with effusions or other physical signs of local inflammation.	SOR: 78% (95% CI: 61-95)
Injections of IA hyaluronate may be useful in individuals with knee or hip OA. They are characterized by delayed onset, but prolonged duration, of symptomatic benefit when compared to IA injections of corticosteroids.	SOR: 64% (95% CI: 43-85)
In individuals with symptomatic knee OA glucosamine sulphate and chondroitin sulphate may have structure-modifying effects while diacerein may have structure-modifying effects in individuals with symptomatic OA of the hip.	SOR: 41% (95% CI: 20-62)
The use of weak opioids and narcotic analgesics can be considered for the treatment of refractory pain in individuals with hip or knee OA, where other pharmacological agents have been ineffective, or are contraindicated. Stronger opioids should only be used for the management of severe pain in exceptional circumstances. Non-pharmacological therapies should be continued in such individuals and surgical treatments should be considered.	SOR: 82% (95% CI: 74-90)
Surgical Modalities of Treatment	
Individuals with hip or knee OA who are not obtaining adequate pain relief and functional improvement from a combination of non-pharmacological and pharmacological treatment should be considered for joint replacement surgery. Replacement arthroplasties are effective, and cost-effective interventions for individuals with significant symptoms, and/or functional limitations associated with a reduced health-related quality of life, despite conservative therapy.	SOR: 96% (95% CI: 94-98)
Osteotomy and joint preserving surgical procedures should be considered in young adults with symptomatic hip OA, especially in the presence of dysplasia. For the young and physically active individual with significant symptoms from unicompartmental knee OA, high tibial osteotomy may offer an alternative intervention that delays the need for joint replacement some 10 years.	SOR: 75% (95% CI: 64-86)

Medicare National Coverage

Medicare does not have a National Coverage Determination, but does have a Local Coverage Determination (LCD) for Total Hip Arthroplasty (L34163) and Total Knee Arthroplasty (L36575).^{8,71}

Noridian will not consider a total hip replacement or total knee replacement medically necessary when the following contraindications are present:

- Active infection of the hip or knee joint or active systemic bacteremia
- Active urinary tract or dental infection
- Active skin infection (exception recurrent cutaneous staph infections) or open wound within the planned surgical site of the hip or knee
- Rapidly progressive neurological disease except in the clinical situation of a concomitant displaced femoral neck fracture

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Documentation for Clinical Review

Please provide the following documentation:

- History and physical and/or consultation notes including:

- Clinical records indicating pain and functional disability that interferes with ADLs
- Documentation of limited range of motion if applicable
- Reason for surgical intervention
- Treatment plan (i.e., surgical intervention)
- Prior conservative treatments, duration, and response
- Past and present diagnostic testing and results
- Pertinent past procedural and surgical history
- Radiology report(s) (i.e., MRI, CT)

Post Service (in addition to the above, please include the following):

- Results/reports of tests performed
- Procedure report(s)

Coding

This Policy relates only to the services or supplies described herein. Benefits may vary according to product design; therefore, contract language should be reviewed before applying the terms of the Policy.

The following codes are included below for informational purposes. Inclusion or exclusion of a code(s) does not constitute or imply member coverage or provider reimbursement policy. Policy Statements are intended to provide member coverage information and may include the use of some codes for clarity. The Policy Guidelines section may also provide additional information for how to interpret the Policy Statements and to provide coding guidance in some cases.

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

Policy History

This section provides a chronological history of the activities, updates and changes that have occurred with this Medical Policy.

Effective Date	Action
04/01/2016	Custom Policy
07/01/2016	Policy revision without position change
12/01/2017	Policy revision without position change
09/01/2018	Policy revision without position change
03/01/2019	Policy revision without position change

Effective Date	Action
10/01/2019	Administrative update
05/01/2020	Annual review. Policy statement and guidelines updated.
11/01/2020	Administrative update. Policy statement and guidelines updated.
05/01/2021	Annual review. No change to policy statement.
06/01/2022	Annual review. No change to policy statement. Policy title changed from Total Hip Arthroplasty for Adults to current one.
09/01/2022	Administrative review. Policy statement updated.
12/01/2022	Annual review. Policy statement, guidelines and literature updated.
10/01/2023	Annual review. No change to policy statement. Literature review updated.

Definitions of Decision Determinations

Medically Necessary: Services that are Medically Necessary include only those which have been established as safe and effective, are furnished under generally accepted professional standards to treat illness, injury or medical condition, and which, as determined by Blue Shield, are: (a) consistent with Blue Shield medical policy; (b) consistent with the symptoms or diagnosis; (c) not furnished primarily for the convenience of the patient, the attending Physician or other provider; (d) furnished at the most appropriate level which can be provided safely and effectively to the patient; and (e) not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of the Member's illness, injury, or disease.

Investigational/Experimental: A treatment, procedure, or drug is investigational when it has not been recognized as safe and effective for use in treating the particular condition in accordance with generally accepted professional medical standards. This includes services where approval by the federal or state governmental is required prior to use, but has not yet been granted.

Split Evaluation: Blue Shield of California/Blue Shield of California Life & Health Insurance Company (Blue Shield) policy review can result in a split evaluation, where a treatment, procedure, or drug will be considered to be investigational for certain indications or conditions, but will be deemed safe and effective for other indications or conditions, and therefore potentially medically necessary in those instances.

Prior Authorization Requirements and Feedback (as applicable to your plan)

Within five days before the actual date of service, the provider must confirm with Blue Shield that the member's health plan coverage is still in effect. Blue Shield reserves the right to revoke an authorization prior to services being rendered based on cancellation of the member's eligibility. Final determination of benefits will be made after review of the claim for limitations or exclusions.

Questions regarding the applicability of this policy should be directed to the Prior Authorization Department at (800) 541-6652, or the Transplant Case Management Department at (800) 637-2066 ext. 3507708 or visit the provider portal at www.blueshieldca.com/provider.

We are interested in receiving feedback relative to developing, adopting, and reviewing criteria for medical policy. Any licensed practitioner who is contracted with Blue Shield of California or Blue Shield of California Promise Health Plan is welcome to provide comments, suggestions, or concerns. Our internal policy committees will receive and take your comments into consideration.

For utilization and medical policy feedback, please send comments to: MedPolicy@blueshieldca.com

Disclaimer: This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. Blue Shield of California may consider published peer-reviewed scientific literature, national guidelines, and local standards of practice in developing its medical policy. Federal and state law, as well as contract language, including definitions and specific contract provisions/exclusions, take precedence over medical policy and must be considered first in determining covered services. Member contracts may differ in their benefits. Blue Shield reserves the right to review and update policies as appropriate.

Appendix A

POLICY STATEMENT	
BEFORE Red font: Verbiage removed	AFTER Blue font: Verbiage Changes/Additions
<p>Hip Arthroplasty for Adults BSC7.11</p> <p>Policy Statement:</p> <ol style="list-style-type: none"> I. Total hip arthroplasty may be considered medically necessary when ALL of the following criteria are met: <ol style="list-style-type: none"> A. The reason for the arthroplasty is osteoarthritis (OA), rheumatoid arthritis, avascular necrosis (osteonecrosis), or post-traumatic arthritis of the hip joint B. It is NOT for a <u>customized</u> hip replacement, including all of the following: <ol style="list-style-type: none"> 1. It does NOT use <u>customized</u> hip implant 2. It does NOT use a "Gender specific" implant C. There is NO active infection of the joint or active systemic bacteremia (that has not been treated) D. There is NO skin infection (exception recurrent cutaneous staph infections) or open wound within the planned surgical site of the hip E. There is NO allergy to components of the implant (e.g., cobalt, chromium or alumina) F. There is NO skeletal immaturity G. There is NO paraplegia or quadriplegia, permanent or irreversible muscle weakness (in the absence of pain) that prevents ambulation, or rapidly progressive neurological disease (except in the clinical situation of a concomitant displaced femoral neck fracture) H. A patient has any of the following conditions: <ol style="list-style-type: none"> 1. Degenerative joint disease when all of the following exist: <ol style="list-style-type: none"> a. Documentation of failure of conservative therapy (non-surgical medical management) or documentation of rationale if conservative therapy is considered inappropriate b. Documentation of limited range of motion, antalgic gait, and pain in hip joint with passive range of motion on physical examination 	<p>Hip Arthroplasty for Adults BSC7.11</p> <p>Policy Statement:</p> <ol style="list-style-type: none"> I. Total hip arthroplasty may be considered medically necessary when ALL of the following criteria are met: <ol style="list-style-type: none"> A. The reason for the arthroplasty is osteoarthritis (OA), rheumatoid arthritis, avascular necrosis (osteonecrosis), or post-traumatic arthritis of the hip joint B. It is NOT for a <u>customized</u> hip replacement, including all of the following: <ol style="list-style-type: none"> 1. It does NOT use <u>customized</u> hip implant 2. It does NOT use a "Gender specific" implant C. There is NO active infection of the joint or active systemic bacteremia (that has not been treated) D. There is NO skin infection (exception recurrent cutaneous staph infections) or open wound within the planned surgical site of the hip E. There is NO allergy to components of the implant (e.g., cobalt, chromium or alumina) F. There is NO skeletal immaturity G. There is NO paraplegia or quadriplegia, permanent or irreversible muscle weakness (in the absence of pain) that prevents ambulation, or rapidly progressive neurological disease (except in the clinical situation of a concomitant displaced femoral neck fracture) H. An <u>individual</u> has any of the following conditions: <ol style="list-style-type: none"> 1. Degenerative joint disease when all of the following exist: <ol style="list-style-type: none"> a. Documentation of failure of conservative therapy (non-surgical medical management) or documentation of rationale if conservative therapy is considered inappropriate b. Documentation of limited range of motion, antalgic gait, and pain in hip joint with passive range of motion on physical examination

POLICY STATEMENT

BEFORE <u>Red font: Verbiage removed</u>	AFTER <u>Blue font: Verbiage Changes/Additions</u>
<p>c. Radiographic evidence of any of the following:</p> <ul style="list-style-type: none"> i. Severe osteoarthritis of hip joint as evidenced by two or more of the following: <ul style="list-style-type: none"> • Subchondral cysts • Subchondral sclerosis • Periarticular osteophytes • Joint subluxation • Bone on bone articulation • Joint space narrowing ii. Avascular necrosis (osteonecrosis) with greater than stage II with collapse and in stage II avascular necrosis with severe recalcitrant hip pain in spite of treatment with medications iii. Rheumatoid arthritis (joint space narrowing) iv. Post traumatic conditions not amenable to hip preservation (even in the absence of severe osteoarthritis), including but not limited to femoral head fractures or some acetabular fractures v. Synovitic and tumorous conditions that do not respond to conservative therapy or hip preservation surgery, including but not limited to synovial osteochondromatosis and pigmented villonodular synovitis <p>2. Tumor involving proximal femur or acetabulum</p> <p>3. Unstable fracture of the femoral <i>neck</i> or acetabulum</p> <p>4. Symptomatic findings of FemoroAcetabular Impingement (FAI) in the presence of significant (advanced) osteoarthritis</p> <p>5. Previous arthroplasty or resurfacing revision, indicated by one or more of the following conditions:</p> <ul style="list-style-type: none"> a. Joint instability b. Implant failure c. Infection d. Irreducible or recurrent dislocation e. Displaced fracture at prosthesis site f. Allergy to implant material 	<p>c. Radiographic evidence of any of the following:</p> <ul style="list-style-type: none"> i. Severe osteoarthritis of hip joint as evidenced by two or more of the following: <ul style="list-style-type: none"> • Subchondral cysts • Subchondral sclerosis • Periarticular osteophytes • Joint subluxation • Bone on bone articulation • Joint space narrowing ii. Avascular necrosis (osteonecrosis) with greater than stage II with collapse and in stage II avascular necrosis with severe recalcitrant hip pain in spite of treatment with medications iii. Rheumatoid arthritis (joint space narrowing) iv. Post traumatic conditions not amenable to hip preservation (even in the absence of severe osteoarthritis), including but not limited to femoral head fractures or some acetabular fractures v. Synovitic and tumorous conditions that do not respond to conservative therapy or hip preservation surgery, including but not limited to synovial osteochondromatosis and pigmented villonodular synovitis <p>2. Tumor involving proximal femur or acetabulum</p> <p>3. Unstable fracture of the femoral <i>neck</i> or acetabulum</p> <p>4. Symptomatic findings of FemoroAcetabular Impingement (FAI) in the presence of significant (advanced) osteoarthritis</p> <p>5. Previous arthroplasty or resurfacing revision, indicated by one or more of the following conditions:</p> <ul style="list-style-type: none"> a. Joint instability b. Implant failure c. Infection d. Irreducible or recurrent dislocation e. Displaced fracture at prosthesis site f. Allergy to implant material

POLICY STATEMENT	
BEFORE <u>Red font: Verbiage removed</u>	AFTER <u>Blue font: Verbiage Changes/Additions</u>
II. Total hip arthroplasty is considered investigational for all other indications due to insufficient evidence of effectiveness.	II. Total hip arthroplasty is considered investigational for all other indications due to insufficient evidence of effectiveness.