

Corporate Medical Policy

Minimally Invasive Hip and Knee Arthroplasty

File Name: minimally_invasive_hip_and_knee_arthroplasty
Origination: 10/2004
Last CAP Review: 5/2009
Next CAP Review: 5/2011
Last Review: 5/2009

Active policy, no longer scheduled for routine literature review

Description of Procedure or Service

Introduction

Minimally invasive arthroplasty is a modification of conventional hip and total knee arthroplasty that uses specialized instruments. Along with a decrease in the size of surgical incision, a minimally invasive procedure may indicate reduced disruption of neurovascular tissues, muscle, tendons, and ligaments in comparison with conventional approaches.

The term minimally invasive surgery (MIS) refers to a variety of surgical approaches and procedures. MIS is commonly thought of as a very small incision, however, some “minimally invasive” procedures may describe incision lengths only slightly reduced from the conventional approach, with greater emphasis on approaches to reduce soft-tissue damage. Postoperative pain and rehabilitation protocols may also be changed to facilitate early recovery.

Hip

Standard hip arthroplasty is typically performed using a posterolateral or anterolateral approach, with an incision of 25-30 cm in length. This approach provides complete and continuous observation of the hip. Minimally invasive hip arthroplasty approaches include a single incision, measuring less than 10 cm in length, and two incisions, sometimes as small as 3 cm. The single-incision approach is a modification of the standard posterior, anterolateral, and anterior approaches that are commonly used for hip arthroplasty. However, the two-incision approach constitutes a novel approach to hip arthroplasty that uses intermuscular planes to gain access to the hip joint. The anterior incision is used to expose and remove the femoral head and prepare the acetabulum for placement of the acetabular component. A second lateral incision is used to prepare the femur and place the femoral component. Using either approach, the decrease in muscle and tendon trauma is achieved at the expense of complete and continuous observation of the hip.-

Knee

Standard knee arthroplasty is typically performed using a medial parapatellar arthrotomy with a 12- to 18-cm skin incision-and eversion of the patella to allow direct visualization of the knee joint. There is no generally accepted definition of a minimally invasive approach in TKA. Minimally invasive approaches have been reported using the same medial approach, or less frequently with a lateral approach. In addition to the smaller incision, the patella may be subluxated instead of everted to reduce the tension on patellar ligaments. In comparison with conventional TKA, there may be no dislocation of the tibiofemoral joint.

Minimally invasive arthroplasty requires the use of specialized surgical instruments to facilitate exposure and guide placement of the prosthesis. In addition to the potential for greater force exerted on soft tissue

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when access to the joint is reduced by a smaller opening, a limited visual field has led to an increase in component misplacement and complications. To improve the accuracy of component placement under limited visualization, some surgeons may use fluoroscopy or computer-assisted navigation for alignment of prosthetic components.

*****Note: This Medical Policy is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.**

Policy

BCBSNC will provide coverage for minimally invasive hip and knee arthroplasty when it is determined to be medically necessary because the medical criteria and guidelines shown below are met.

Benefits Application

Please refer to Certificate for availability of benefits. This policy relates only to the services or supplies described herein. Benefits may vary according to benefit design, therefore certificate language should be reviewed before applying the terms of the policy.

When Minimally Invasive Hip and Knee Arthroplasty is covered

Minimally invasive hip and total knee replacement may be considered **medically necessary** when performed in appropriately selected patients, by surgeons who are adequately trained and experienced in the specific techniques used, and in institutions that support a comprehensive postoperative rehabilitation program. Appropriately selected patients are those who would meet criteria for minimally invasive procedures (e.g., non-obese individuals who are motivated to participate in an accelerated rehabilitation program) as well as meeting established criteria for standard hip or total knee replacement.

When Minimally Invasive Hip and Knee Arthroplasty is not covered

When the criteria and guidelines noted above are not met.

Policy Guidelines

The potential advantages of minimally invasive hip or knee arthroplasty are expected primarily for short-term outcomes such as blood loss, length of hospital stay, and rehabilitation. These proposed advantages must be balanced against the possibility of increased operative difficulty, increased operating room time, reduced visibility, and the learning curve associated with any new technique, potentially resulting in an increase in malalignment and other complications such as failure of fixation, instability, dislocation, and infection. Therefore, any improvement in short-term outcomes need be carefully weighed against the long-term outcomes of minimally invasive surgery, with a particular focus on complication and revision rates. In addition, outcomes should be compared with conventional hip or knee arthroplasty, which are generally associated with excellent outcomes of long-term improvement in pain and function and low long-term revision rates.

Summary

Randomized controlled trials suggest modest postoperative benefits in pain reduction and recovery and similar short- to mid-term outcomes with minimally invasive techniques. It remains unclear whether the postoperative benefits are due to the smaller incisions, reduced soft-tissue trauma, or the change in postoperative pain management protocols. In addition, several studies suggest that an increase in implant malalignment and other complications may increase when minimally invasive procedures are performed outside of high-volume centers with experienced surgeons. Therefore, minimally invasive procedures may be considered an alternative to other approaches when performed at centers experienced in the

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procedure and by surgeons with appropriate training and practice volume.

Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable codes: There is no specific CPT code for minimally invasive hip or knee arthroplasty. Services should be submitted in the form of an unlisted code (such as 27299 or 27599). Medical records for the explanation of the service rendered may be necessary.

BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

Scientific Background and Reference Sources

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.98, 4/16/04

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.98, 11/9/04

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.98, 10/10/06

National Institute for Clinical Excellence (NICE). Guidance for mini-incision surgery for total knee replacement. Interventional Procedure Guidance 117. London, UK: NICE; March 2005. Retrieved 3/2/07 from <http://www.nice.org.uk/download.aspx?o=IPG117guidance>.

National Institute for Clinical Excellence (NICE). Guidance for minimally invasive two-incision surgery for total hip replacement. Interventional Procedure Guidance 112. London, UK: NICE; February 2005. Retrieved 3/2/07 from <http://www.nice.org.uk/download.aspx?o=IPG112guidance>.

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.98, 12/13/07

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.98, 10/06/09

Policy Implementation/Update Information

10/14/04 New policy issued. Minimally Invasive Hip Arthroplasty is considered investigational. Reference added.

10/28/04 Title inserted into Covered and Noncovered sections.

6/02/2005 Specialty Matched Consultant Advisory Panel review on 05/23/2005. Reference added. Title changed to include Knee Arthroplasty as well as Hip. Description of procedure enhanced to describe both hip and knee minimally invasive procedures. CPT 27599 added to Billing/Coding section. Policy statement expanded to include knee indication for noncoverage. Knee inserted into Covered and Noncovered Sections. Policy Guidelines section created to explain rationale for noncoverage. Minimally invasive knee replacement and knee added to key words. Notice given 6/2/2005. Policy effective date 8/4/2005.

6/18/07 References updated. Specialty Matched Consultant Advisory Panel review on 5/18/07. No changes in policy coverage criteria. (adn)

7/6/09 References updated. Specialty Matched Consultant Advisory Panel review 5/21/09. No change to policy statement. (adn)

2/2/10 Description section revised. Policy statement changed to read: BCBSNC will provide coverage

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for minimally invasive hip and knee arthroplasty when it is determined to be medically necessary because the medical criteria and guidelines shown below are met. The statement “not applicable” was deleted from the When Covered section and replaced with the following: “Minimally invasive hip and total knee replacement may be considered medically necessary when performed in appropriately selected patients, by surgeons who are adequately trained and experienced in the specific techniques used, and in institutions that support a comprehensive postoperative rehabilitation program. Appropriately selected patients are those who would meet criteria for minimally invasive procedures (e.g., non-obese individuals who are motivated to participate in an accelerated rehabilitation program) as well as meeting established criteria for standard hip or total knee replacement.” Minimally invasive hip and knee arthroplasty is not covered when these criteria and guidelines are not met. Policy Guidelines section updated with rationale for coverage decision. Policy status changed to Active Archive, no longer scheduled for routine literature review. (adn)

6/22/10 Policy Number(s) removed (amw)

Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.