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## 1.0 Description of the Procedure, Product, or Service

### 1.1 Background

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.

### 1.2 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.

### 1.3 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 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.

## **2.0 Eligible Recipients**

### **2.1 General Provisions**

To be eligible, NCHC recipients must be enrolled on the date of service.

## **3.0 When the Procedure, Product, or Service Is Covered**

### **3.1 General Criteria**

NCHC covers procedures, products, and services related to this policy when they are medically necessary and

- a. the procedure, product, or service is individualized, specific, and consistent with symptoms or confirmed diagnosis of the illness or injury under treatment, and not in excess of the recipient's needs;
- b. the procedure, product, or service can be safely furnished, and no equally effective and more conservative or less costly treatment is available; **AND**
- c. the procedure, product, or service is furnished in a manner not primarily intended for the convenience of the recipient, the recipient's caretaker, or the provider.

### **3.2 Specific Criteria**

Minimally invasive hip and knee arthroplasty is covered under the NC Health Choice Program when it is determined to be medically necessary because the following medical criteria and guidelines are met.

- a. Minimally invasive hip and knee arthroplasty is considered medically necessary when performed in appropriately selected recipients, 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 recipients 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.

### **3.3 Other Medical Policy Guidelines**

- a. 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 misalignment 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.

- b. 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 procedure and by surgeons with appropriate training and practice volume.

#### **4.0 When the Procedure, Product, or Service Is Not Covered**

##### **4.1 General Criteria**

Procedures, products, and services related to this policy are not covered when

- a. the recipient does not meet the eligibility requirements listed in **Section 2.0**;
- b. the recipient does not meet the medical necessity criteria listed in **Section 3.0**;
- c. the procedure, product, or service unnecessarily duplicates another provider's procedure, product, or service; or
- d. the procedure, product, or service is experimental or investigational.

##### **4.2 Specific Criteria**

Minimally invasive hip and knee arthroplasty is not covered when the criteria and guidelines in **Subsection 3.2** are not met.

#### **5.0 Requirements for and Limitations on Coverage**

##### **5.1 Prior Approval**

Prior approval is not required for minimally invasive hip and knee arthroplasty.

#### **6.0 Providers Eligible to Bill for the Procedure, Product, or Service**

To be eligible to bill for procedures, products, and services related to this policy, providers shall

- a. meet NCHC qualifications for participation;
- b. be currently enrolled with NCHC; **AND**
- c. bill only for procedures, products, and services that are within the scope of their clinical practice, as defined by the appropriate licensing entity.

## 7.0 Additional Requirements

### 7.1 Compliance

Providers must comply with all applicable federal, state, and local laws and regulations, including the Health Insurance Portability and Accountability Act (HIPAA) and record retention requirements.

## 8.0 Policy Implementation/Revision Information

**Original Effective Date:** July 1, 2010

**Revision Information:**

Date	Section Revised	Change
July 1, 2010		Policy Conversion: Implementation of Session Law 2009-451, <b>Section 10.32 “NC HEALTH CHOICE/PROCEDURES FOR CHANGING MEDICAL POLICY.”</b>
September 30, 2011	Throughout	Policy Date of Termination

## Attachment A: Claims-Related Information

Reimbursement requires compliance with all NCHC guidelines.

### A. Claim Type

Professional (CMS-1500/837P transaction)

Institutional (UB-04/837I transaction)

### B. Diagnosis Codes

Providers must bill the ICD-9-CM diagnosis codes(s) to the highest level of specificity that supports medical necessity.

### C. Procedure Code(s)

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). When unlisted codes are filed, claims suspend for medical review

CPT Code(s)	Description
27299	Unlisted procedure, pelvis or hip joint (claim will suspend for medical review)
27599	Unlisted procedure, femur or knee (claim will suspend for medical review)

### D. Modifiers

Providers are required to follow applicable modifier guidelines.

### E. Billing Units

The appropriate procedure code(s) used determines the billing unit(s).

### F. Place of Service

Inpatient Hospital, Outpatient Hospital and Ambulatory Surgical Center

### G. Co-payments

Co-payment(s) may apply to covered prescription drugs and services.

### H. Reimbursement

Providers must bill their usual and customary charges.