Medical Policy

Subject:	Hip Resurfacing		
Policy #:	SURG.00051	**Current Effective Date:**	11/13/2006
Status:	Revised	**Last Review Date:**	09/14/2006

Description/Scope

Hip resurfacing can be categorized in two ways: as a partial (hemi) hip resurfacing or as a total hip resurfacing. In partial hip resurfacing a femoral shell is implanted over the femoral head. In total hip resurfacing, a femoral shell is implanted over the femoral head, and in addition, an acetabular shell is placed on the hip bone for the femur to fit into.

Policy Statement

Medically Necessary:

Partial hip resurfacing of the femoral head, using an FDA approved device, is considered **medically necessary** in patients with osteonecrosis of the femoral head with subchondral collapse.

The use of metal-on-metal prosthesis for total hip resurfacing arthroplasty (HRA) is considered **medically necessary** in fit, active patients who have normal proximal femoral bone geometry and bone quality, and who would otherwise receive a conventional primary total hip replacement (THR), but are likely to live longer than a conventional THR prosthesis is expected to last.

Investigational/Not Medically Necessary:

Total hip resurfacing is considered **investigational/not medically necessary** for all other indications not listed above.

Partial hip resurfacing is considered **investigational/not medically necessary** for all other indications not listed above.

Rationale

Hemi hip resurfacing of the femoral head is an established procedure for patients with osteonecrosis of the femoral head. In one case series of 33 hips, 91% of the devices were still implanted for a minimum of five years, with good or excellent results in 61%. Another case series of 37 prostheses followed for seven years reported that 9 failed, requiring revision, but that 24 of the remaining 28 implants continued to function well with excellent or good hip scores. Several implant designs have been FDA approved for this purpose.

At the present time only one device, the Birmingham Hip™, has received Pre-Marketing Approval (PMA) from the FDA for the indication of total hip resurfacing. Other devices, such as the Buechel-Pappas Integrated Total Hip

Replacement, which have previously received FDA PMA approval for total hip replacement, have also been granted 510k clearance for use in total hip resurfacing procedures. Several other devices are under investigation or in use in Europe and other countries (i.e., Conserve Plus®, Cormet 2000™. Several types of devices have been investigated. Devices with a polyethylene-coated acetabular surface interfacing with a metal femoral head component have been used commonly until recently. Interest in newer metal on metal (MoM) designs has increased in the light of high failure rates reported on the polyethylene on metal (PoM) prostheses. One study reported a 10 year survival of 47% of PoM devices, which was deemed unacceptable (Duijsens, 2005). The current evidence addressing the safety and efficacy of total hip resurfacing with MoM devices includes three small to medium sized randomized controlled trials, a case-control study and a handful of case series studies. Most of these studies conclude that while short-term results are promising, longer-term results are needed (Beaulé, 2004a; Beaulé, 2004b; DeSmet, 2005; Pollard, 2006; Howie, 2005; Vendittoli, 2006).

While, long-term studies are needed to address the use of total hip resurfacing in most patient populations, there is adequate evidence to support the use of this procedure in patients at low risk for failure of the procedure and who have a high likelihood of outliving the expected lifespan of a total hip replacement. In such populations, the use of total hip resurfacing may successfully treat a patient's condition while preserving adequate femoral bone structure to allow for a later total hip replacement later on. For other populations, data are inadequate to allow sufficient assessment of the efficacy of this procedure.

Background/Overview

Hip replacement surgery aims to re-establish functional joint movement and alleviate pain associated with hip damage due to degenerative joint disease or trauma. In arthroplasty options for reconstruction of the hip include total hip replacement (THR), hemiarthroplasty (bipolar or unipolar), and partial or total hip resurfacing of the femoral head.

In the standard total hip replacement operation, the femoral head and neck are removed, the femoral canal (marrow space) is reamed-out. The damaged hip joint is replaced with an artificial prosthesis composed of two or three different components: 1) the head, a metal ball (stainless steel or cobalt chrome) that replaces the original femoral head, 2) the femoral component (a metal stem placed into the femur) and 3) the acetabular component (a plastic cup made of high-density polyethylene) that is implanted into the acetabulum. The stem may be secured using bone cement or press-fit for the bone to grow-into it. In partial hip resurfacing a femoral shell is implanted over the femoral head only as a proposed treatment option for avascular necrosis with collapse of the femoral head and preservation of the acetabulum.

In total hip resurfacing operations the surgeon removes only the diseased or damaged surfaces of the head of the femur and the hip socket (acetabulum). The femoral head is fitted with a spherical metal shell and the hip socket is lined with a thin spherical metal cup. Both spherical cups form a pair of metal bearings. Total hip resurfacing has been investigated in a broader range of patients including those with osteoarthritis, rheumatoid arthritis, and advanced avascular necrosis. It has been proposed as an alternative to total hip arthroplasty, particularly in young active patients who would potentially outlive a total hip prosthesis. Therefore, total hip resurfacing could be viewed as a time-buying procedure to delay the need for a total hip arthroplasty.

Total hip resurfacing has undergone various evolutions over the past several decades, with modifications in prosthetic design and composition and implantation techniques. For example, similar to total hip arthroplasty, the acetabular components of total hip resurfacing have been composed of polyethylene. However, over the years, it

has become apparent that device failure was frequently related to polyethylene debris created by wear of polyethylene articulating surfaces. The polyethylene debris is attacked by the body's immune system. The immune response is not effective against the plastic particles so, instead, the macrophages attack the adjacent bone. This leads to bone loss. Since debris accumulates in the area adjacent to the implant, the bone loss leads to loosening of the implant stem. This is the main reason for revision surgery. This problem is further aggravated in surface replacements because the larger size of the femoral head compared to total hip prosthesis increases the volume of debris wear particles.

Proposed advantages of total hip resurfacing compared to total hip arthroplasty include preservation of the femoral neck and femoral canal, thus facilitating revision or conversion to a total hip replacement, 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 to total hip arthroplasty.

At the present time, there are two devices that have been approved by the U.S. Food and Drug Administration (FDA) for total hip resurfacing, the Buechel-Pappas Integrated Total Hip Replacement and the ConservePlus. The weight-bearing surfaces of this device are composed of a ceramic femoral component and a polyethylene acetabular component. There is also interest in metal-on-metal designs as a technique to reduce the debris wear particles in total hip resurfacing.

Other surgical interventions used to alleviate the symptoms of degenerative joint disease of the hip include, but are not limited to, osteotomy, arthrodesis and arthroscopy of the hip joint. Non-surgical interventions and medications can also be used to, control these symptoms and delay or prevent the need for surgery. Once non-operative modalities have failed, femoral head-preserving procedures including grafting techniques, core decompression with vascularized or non-vascularized bone grafting, and upper femoral osteotomies have all been used with varying success.

Definitions

Arthrodesis: fusion of the femur to the pelvis; primarily indicated in children who have unilateral degenerative disease of the hip and are unresponsive to non-operative measures

Arthroscopy: a minimally invasive surgical procedure used to investigate and treat traumatic and non-traumatic disorders of the hip; performed by means of an arthroscope introduced into the joint in order to visualize anatomical structures

Osteotomy: the aim of osteotomy in dysplastic or osteonecrotic hips is to restore and realign the position of the joint by means of a fixation device; for hips affected by osteonecrosis, the major goal of surgery is to move the necrotic segment away from the weight bearing area and restore blood supply to the necrotic zone

Coding

The following codes for treatments and procedures applicable to this policy are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. 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.

When services may be Medically Necessary when criteria are met:
CPT

No specific code for partial hip resurfacing

ICD-9 Diagnosis

733.42 Aseptic necrosis of head and neck of femur

Services are Investigational/Not Medically Necessary:
For partial hip resurfacing when criteria are not met, or when the code describes a procedure indicated in the Policy section as investigational/not medically necessary.

When services may also be Medically Necessary when criteria are met:
CPT

No specific code for total hip resurfacing

ICD-9 Diagnosis

All diagnoses

Services are Investigational/Not Medically Necessary:
For total hip resurfacing when criteria are not met, or when the code describes a procedure indicated in the Policy section as investigational/not medically necessary.

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Government Agency, Medical Society, and Other Authoritative Publications:

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Index

Policy History

Status	Date	Action
Revised	09/14/2006	Medical Policy & Technology Assessment Committee (MPTAC) revised. Added metal-on-metal total hip resurfacing as medically necessary when criteria are met. Updated rationale and references sections. Published on web 11/13/2006.
Reviewed	03/23/2006	MPTAC annual review. Updated references. Published on web 04/18/2006.
Revised	04/28/2005	MPTAC review. Revision based on Policy Harmonization: Pre-merger Anthem and Pre-merger WellPoint.

Pre-Merger Organization	Last Review Date	Policy Number	Title
Anthem, Inc.	04/27/2004	SURG.00051	Hip Resurfacing
WellPoint Health Networks, Inc	06/24/2004	3.07.02	Hip Resurfacing