

Final Key Questions and Background **Hip Resurfacing**

*** Update of Hip Resurfacing (2009)**

Introduction

Patients with joint pain and dysfunction caused by non-inflammatory arthritis (degenerative joint disease) such as osteoarthritis, traumatic arthritis, avascular necrosis, dysplasia, or inflammatory arthritis such as rheumatoid arthritis, may be treated with hip replacement technologies including hip resurfacing (HR). Hip resurfacing is proposed as a bone conserving alternative to the conventional total hip replacement or arthroplasty (THA) after more conservative medical therapy fails.

Unlike THA, hip resurfacing does not involve the removal of the femoral head and neck or removal of bone from the femur. Rather, the head, neck and femur bone is preserved in an effort to facilitate future surgery should it be necessary and to enable the patient to take advantage of newer technology or treatments in the future. Hip resurfacing is anatomically and biomechanically more similar to the natural hip joint. FDA approved devices in the USA include metal-on-metal (MoM) bearing surfaces.

Proposed benefits of hip resurfacing include increased stability, flexibility and range of motion. Additionally, younger patients needing full joint replacement and expected to out-live the full replacement, may benefit from symptom relief in the short term, while maintaining more bone should subsequent replacement surgery become necessary.

Policy Context*

The Health Technology Assessment program reviewed *Hip Resurfacing* in 2009. This topic was selected for re-review based on new evidence from registries of hip resurfacing and hip replacement identified through literature searches, that could change the previous determination.

Metal-on-Metal (MoM) Bearing Safety Concerns: MoM hip systems (both THA and HR) have received widespread usage. As a result, more information has become available regarding the safety profile and clinical performance of these systems. Data from national total joint registries as well as peer-reviewed journal publications and presentations at scientific meetings have suggested increases in potential safety issues associated with MoM hip systems to include:

1. Local complications such as pseudotumors and aseptic lymphocytic vasculitis-associated lesions (ALVAL)
2. Early device failure and the need for revision surgery
3. Systemic complications from metal ion exposure

Scope of This HTA

Key questions guide the development of the evidence report. HTA seeks to identify the appropriate clinical topics (e.g., population, indications, comparators, outcomes) to address the statutory elements of evidence on safety, efficacy, and cost-effectiveness relevant to coverage determinations.

Population: Patients with non-inflammatory arthritis (osteoarthritis, traumatic arthritis, avascular necrosis, dysplasia) or inflammatory arthritis (e.g., rheumatoid arthritis)

Interventions: Hip resurfacing (HR)

Comparators: Primary total hip arthroplasty (THA)

Outcomes: Functional outcomes (e.g., Harris Hip Score), pain, loosening or osteolysis, revision or conversion to total hip arthroplasty, fracture of femur, other complications

Key Questions

1. What is the evidence of efficacy and effectiveness of hip resurfacing (HR) compared with total hip arthroplasty?
2. What is the evidence about the safety profile for hip resurfacing compared with total hip arthroplasty?
3. What is the evidence of efficacy, effectiveness and safety of revisions to hip resurfacing compared with revisions of total hip arthroplasty?
4. Is there evidence of differential efficacy or safety issues with use of hip resurfacing?
5. What is the evidence of cost implications and cost effectiveness of hip resurfacing?

Public Comment & Response

See Key Question Public Comment and Response document published separately.