Joint Resurfacing Arthroplasty

Medical Coverage Policy

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Description

Joint resurfacing arthroplasty, specifically hip resurfacing arthroplasty (HRA), may be considered as an alternative to conventional total hip replacement. HRA does not remove the femoral head and neck or bone from the femur. This procedure is designed for younger (< 55 years of age), active patients with good bone in the proximal femur who are probable to outlive the prosthesis used in the total HRA procedure. The basis behind the procedure is to reduce, as much as possible, the amount of bone that is removed from a patient at the time of surgery because of increased possibility of requiring future hip joint revision. Examples of Food and Drug Administration (FDA) approved hip resurfacing systems include, but may not be limited to, the Birmingham Hip Resurfacing System, Conserve® Plus Total Hip Resurfacing System, ReCAP® HA Press-Fit Femoral Resurfacing Head, and the Cormet Hip Resurfacing System.

Hip resurfacing arthroplasty can either be categorized as a partial (hemi) or total resurfacing:
Partial HRA is the removal of the damaged surface of the femoral head, which is then resurfaced with a metal shell. The socket is left intact.

Total HRA involves both the femoral shell and the acetabulum (socket) cup. A metal shell is placed over the head of the femur as in a partial HRA; however, the damaged surface of the hip socket is also resurfaced.

Knee resurfacing arthroplasty was designed as an alternative to conventional total knee replacement. Metallic implants were originally introduced in the 1950’s to treat osteoarthritis in the knees. Newer implants which do not require fixation to bone with either cement or screws were introduced in 2001. These devices do not require that bone tissue be removed. Surgeons view this technology as an alternative for individuals who are:

- Younger (between 40 and 60 years)
- Physically active
- Overweight
- Have early-stage osteoarthritic damage which is confined to the inside of the knee.

However, there is insufficient data to support this perception as this time.

Examples of FDA approved knee resurfacing systems include, but may not be limited to, the HemiCAP™ Patello-Femoral Resurfacing Prosthesis and the UniCAP™ Compartmental Resurfacing Implant System. (See Coverage Limitations.)

Shoulder resurfacings arthroplasty was introduced as an alternative to conventional total shoulder replacement. Shoulder resurfacing replaces a smaller portion of the humeral head than the conventional shoulder replacement surgery. Surgeons view this technology as a potential alternative for people who are younger, physically active and have advanced or end stage degenerative joint disease or arthritis. Total shoulder replacement is not an option for rotator cuff tear that is not repairable.

An example of an FDA approved device, includes, but may not be limited to, is the Copeland Resurfacing Head. (See Coverage and Limitations.)
Humana members **MAY** be eligible under the Plan for a **partial or total hip resurfacing arthroplasty** using an FDA-approved device for the following indications:

- Non-inflammatory degenerative joint disease such as osteoarthritis, traumatic arthritis, avascular necrosis with less than 50% involvement of the femoral head, or dysplasia/developmental dislocation of the hip; **OR**

- Inflammatory arthritis such as rheumatoid arthritis; **AND**
  - Fit, active patients who are younger than 55 years of age; **AND**
  - Normal proximal femoral bone geometry and bone quality; **AND**
  - Those who would otherwise receive a traditional primary THR, but are likely to live longer than the traditional device is expected to last.

**Note:** Hip resurfacing should be performed by an experienced orthopedic surgeon with specific expertise with these systems, as they are generally considered to be more technically demanding than traditional THR.

Humana members **MAY** be eligible under the Plan for a **partial or total hip resurfacing arthroplasty** using an FDA-approved device for the following indications:

- Bones that are not strong enough or healthy enough due to conditions such as osteoporosis, osteonecrosis or avascular necrosis with greater than 50% involvement of the femoral head, or fluid-filled cavities greater than one centimeter in the femoral head; **OR**

- Females of child-bearing age since it is unknown whether metal ions released by the device could harm an unborn child; **OR**

- Implants which are metal-on-polyethylene; **OR**

- Inactive and/or older patients who may be unlikely to require revisions of a traditional THR; **OR**

- Infections of the body or blood such as sepsis; **OR**

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Known or suspected metal sensitivity (e.g., jewelry); OR
Patients who are skeletally immature; OR
Severely overweight (BMI of 35 or greater); OR
Significantly impaired function of the kidneys (GFR < 60 mL/min/1.73 m²); OR
Suppressed immune system due to disease or due to receiving high doses of corticosteroids; OR
Vascular insufficiency, muscular atrophy, or neuromuscular disease severe enough to compromise implant stability or postoperative recovery

Humana members may NOT be eligible under the Plan for any joint resurfacing procedure other than hip, including, but not limited to toe, knee, thumb or shoulder. This technology is considered experimental/investigational as it is not identified as widely used and generally accepted for the proposed use as reported in nationally recognized peer-reviewed medical literature published in the English language.

Background
You can learn more about osteoarthritis and rheumatoid arthritis from the following sites:

- American Association of Orthopedic Surgeons (AAOS) – http://www.aaos.org

Medical Alternatives
Alternatives to hip, shoulder or knee resurfacing arthroplasty include, but may not be limited to:

- Physical therapy (Please refer to the Physical Therapy (PT) and Occupational Therapy (OT) Medical Coverage Policy)
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- Prescription drug therapy may be appropriate for this condition.
- Total joint replacement
- Weight control.

To make the best health decision for your individual needs, consult your physician.

**Provider Claims Codes**

All provider claims codes surrounding this topic may not be included in the following table:

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<th>CPT® Codes</th>
<th>Description</th>
<th>Comments</th>
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<td>Arthroplasty, glenohumeral joint; hemiarthroplasty</td>
<td>Not covered for resurfacing procedures</td>
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<tr>
<td>23472</td>
<td>Arthroplasty, glenohumeral joint, total shoulder (glenoid and proximal humeral replacement)</td>
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<td>27125</td>
<td>Hemiarthroplasty, hip, partial (e.g., femoral stem prosthesis, bipolar arthroplasty)</td>
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<td>27130</td>
<td>Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft</td>
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<tr>
<td>27447</td>
<td>Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)</td>
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**Medical Terms**

| Acetabulum | Socket in the hipbone that receives the head of the thighbone. |
| Arthritis | Acute or chronic inflammation of a joint, often accompanied by pain and structural changes and having diverse causes (e.g., infection, injury). |
| Arthroplasty | Surgical repair of a joint. |
| Avascular Necrosis | Death of bone tissue due to impaired or disrupted blood supply (e.g., those caused by traumatic injury or disease) and marked by severe pain in the affected region and by weakened bone that may flatten and collapse. |
| Cartilage | Specialized type of dense connective tissue consisting of cells embedded in a ground substance or matrix. The matrix is firm and compact and can withstand considerable pressure or tension. Cartilage is bluish-white or gray and has no nerve or blood supply of its own. It forms parts of the joints in the adult skeleton. |
| Corticosteroids | Any of the steroid hormones produced by the adrenal cortex or their synthetic equivalent, such as cortisol or aldosterone. |
| Degenerative Joint Disease | Also known as osteoarthritis. |
| Dysplasia | Abnormal development or growth of tissues, organs or cells. |

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**ICD-9© Procedure Codes**

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<td>81.97</td>
<td>Revision of joint replacement of upper extremity</td>
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Femur - Bone in the human leg extending from the pelvis to the knee and is the longest, largest, and strongest bone in the body.

Glomerular Filtration Rate (GFR) - A measure used by physicians to determine a person’s kidney function. This measure takes into account results of laboratory testing and clinical characteristics of a person.

Humerus – The long bone of the upper arm or forelimb extending from the shoulder to the elbow.

Necrosis - Death of cells, tissues, or organs.

Orthopedic - The branch of medicine that deals with the prevention or correction of injuries or disorders of the skeletal system and associated muscles, joints and ligaments.

Osteoarthritis - Most common form of arthritis, usually occurring after middle age, marked by chronic breakdown of cartilage in the joints leading to pain, stiffness, and swelling.

Osteonecrosis – The destruction and death of bone tissue due to obstruction of its bone supply.

Osteoporosis - Disorder in which the bones become increasingly porous, brittle, and subject to fracture, owing to loss of calcium and other mineral components. It sometimes results in pain, decreased height, and skeletal deformities. It is more common in older adults, but is also associated with long-term steroid therapy and certain endocrine disorders.

Polyethylene – A synthetic plastic material, forms of which have been used in reparative surgery.

Prosthesis - Artificial substitute for a missing body part, such as an arm, or leg, eye or tooth.

Proximal - Situated toward the point of origin or attachment, as of a limb or bone.
Rheumatoid Arthritis – A chronic inflammatory disease, primarily involving the peripheral joints (finger joints, wrists, toes and knees) and surrounding muscles, tendons, ligaments, and blood vessels.

Rotator Cuff – A group of four tendons that stabilize the shoulder joint.

Traumatic Arthritis – Inflammation of a joint due to an injury.

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