Title

Shoulder Resurfacing

Description

Resurfacing the shoulder joint is a method to treat painful shoulders without replacing the humeral head. Humeral resurfacing can be conducted together with or without resurfacing of the glenoid. This policy addresses partial or complete resurfacing of the humerus, and resurfacing of both the humerus and glenoid.

Resurfacing of the humeral head can be accomplished with devices that provide either complete or partial coverage, and may be performed alone (hemi-resurfacing) or in combination with glenoid resurfacing (total shoulder resurfacing, TSR). With TSR, the glenoid is resurfaced with similar implants and procedures as are currently used for total shoulder arthroplasty. Biologic resurfacing of the glenoid with meniscal allograft or other biologic tissue has also been reported, but is outside of the scope of the current policy.

The objective of resurfacing is to preserve the individual patient's normal head-neck anatomy and bone stock. Prostheses that are used to resurface the humeral head differ from those traditionally used in hemi- or total shoulder arthroplasty by using a small peg that is impact fit through the humeral head/neck in place of a long stem inserted through the bone shaft. The prosthesis is implanted at the angle of the humeral neck instead of replacing the humeral head and neck. It has been proposed that in addition to reducing intraoperative blood loss and the occurrence of humeral periprosthetic fractures, resurfacing arthroplasty may avoid technical errors in version, head height, offset, and neck-shaft angle. It has also been proposed that resurfacing will improve revisions, since removal of stemmed implants are associated with tuberosity and shaft fractures that can lead to implant instability, proximal humerus bone loss, and poor shoulder function. In addition, the larger head size may lead to improved clinical outcomes. This policy therefore focuses on the impact of these design changes on clinical outcomes related to pain and function, as well as the long-term effects of resurfacing related to implant stability and durability in comparison with total shoulder or hemiarthroplasty.

Several prosthetic designs are currently available in the United States. Developed by Copeland and colleagues, the Mark prosthesis is currently in its third generation in Europe. The Copeland™ Mark-1 had a central pegged humeral component that was secured with a screw, and a polyethelene glenoid element that was stabilized by a peg. The Mark-2 prosthesis, which was introduced in 1990 in Europe, added a metal backing to the glenoid component and a fluted tapered peg to both components. The Mark-3 model, used since 1993, has a hydroxyapatite coating to improve bone ingrowth. Three sizes of the prosthesis are available. Copeland™ Extended Articulating Surface (EAS)™ Resurfacing Heads (Biomet Manufacturing) were cleared by the U.S. Food and Drug Administration (FDA) through the 510(k) process in 2005. They are indicated for "hemi- or total shoulder replacement in patients with massive, irreparable rotator cuff tears and arthritis. Specific indications include cuff tear arthropathy and difficult clinical management problems where other methods of treatment may not be suitable or may be inadequate." The glenoid component may be used for total shoulder resurfacing (both humerus and glenoid resurfaced) or total shoulder arthroplasty (humeral head replacement with glenoid resurfacing). The DePuy Global CAP™ CTA Resurfacing Shoulder Humeral Head (DePuy), cleared for marketing by the FDA in 2008, has the same indications as the Copeland device and lists an earlier model of the DePuy Global CAP and the Copeland EAS among predicate devices. The Axiom Shoulder

Resurfacing System (Axiom Orthopaedics) was cleared for marketing by the FDA in 2006 for use as a replacement of shoulder joints disabled by rheumatoid arthritis with pain; non-inflammatory degenerative joint disease (i.e., osteoarthritis and avascular necrosis); correction of functional deformity; fractures of the humeral head; traumatic arthritis. The Durom® cup (Zimmer, Switzerland) and the EPOCA RH Cup (Argo Medical, Switzerland) have not received clearance for marketing in the United States.

A partial resurfacing implant for the shoulder, known as the HemiCAP® (Arthrosurface), was cleared for marketing in 2003 under the name Contoured Articular Prosthetic (CAP) Humeral Head Resurfacing Prosthesis (STD Manufacturing).

When services are covered for commercial products and for Medicare HMO Blue and Medicare PPO Blue [1]

There are no covered indications for shoulder resurfacing at this time.

When services are not covered for commercial products or for Medicare HMO Blue and Medicare PPO Blue [1]

We do not cover shoulder resurfacing, including total, hemi, or partial resurfacing, as it is considered investigational and does not meet our Medical Technology Assessment Guidelines, #350.

Individual consideration

All our medical policies are written for the majority of people with a given condition. Each policy is based on medical science. For many of our medical policies, each individual's unique clinical circumstances may be considered in light of current scientific literature. For consideration of an individual patient, physicians may send relevant clinical information to:

For services already billed	Prior to performance of service
Blue Cross Blue Shield of Massachusetts Provider Appeals PO Box 986065 Boston, MA 02298	Blue Cross Blue Shield of Massachusetts Case Creation/Medical Policy One Enterprise Drive Quincy, MA 02171 Tel: 1-800-327-6716 Fax: 1-888-641-5330

Managed care guidelines

This is not a covered service.

Indemnity and PPO Guidelines

This is not a covered service.

Other information

For our Medical Technology Assessment Guidelines, see document #350.

Coding information

Procedure codes are from current CPT, HCPCS Level II, Revenue Code, and/or ICD-9-CM manuals, as recommended by the American Medical Association, Centers for Medicare and Medicaid Services and American Hospital Associations. Blue Cross Blue Shield Association national codes may be developed when appropriate.

The following codes are included below for informational purposes. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

There are no CPT codes specific to resurfacing of the shoulder.

Note:
We do not cover shoulder resurfacing and the procedure will reject as non-covered, leaving no patient balance, as this procedure does not meet our Medical Technology Assessment Guidelines.

Policy update history

New policy, effective 3/01/10. Reviewed 7/2010 MPG – Orthopedics, Rehabilitation Medicine and Rheumatology, no changes in coverage were made.

References

References for footnote 1:

1. Bryant D, Litchfield R, Sandow M et al. A comparison of pain, strength, range of motion, and functional outcomes after hemiarthroplasty and total shoulder arthroplasty in patients with osteoarthritis of the shoulder. A systematic review and meta-analysis. J Bone Joint Surg Am 2005; 87(9):1947-56.
2. Radnay CS, Setter KJ, Chambers L et al. Total shoulder replacement compared with humeral head replacement for the treatment of primary glenohumeral osteoarthritis: a systematic review. J Shoulder Elbow Surg 2007; 16(4):396-402.
3. Levy O, Copeland SA. Cementless surface replacement arthroplasty of the shoulder. 5- to 10-year results with the Copeland mark-2 prosthesis. J Bone Joint Surg Br 2001; 83(2):213-21.
4. Levy O, Copeland SA. Cementless surface replacement arthroplasty (Copeland CSRA) for osteoarthritis of the shoulder. J Shoulder Elbow Surg 2004; 13(3):266-71.
5. Levy O, Funk L, Sforza G et al. Copeland surface replacement arthroplasty of the shoulder in rheumatoid arthritis. J Bone Joint Surg Am 2004; 86-A(3):512-8.
6. Thomas SR, Wilson AJ, Chambler A et al. Outcome of Copeland surface replacement shoulder arthroplasty. J Shoulder Elbow Surg 2005; 14(5):485-91.
7. Buchner M, Eschbach N, Loew M. Comparison of the short-term functional results after surface replacement and total shoulder arthroplasty for osteoarthritis of the shoulder: a matched-pair analysis. Arch Orthop Trauma Surg 2008; 128(4):347-54.
8. Fuerst M, Fink B, Rüther W. The DUROM cup humeral surface replacement in patients with rheumatoid arthritis. J Bone Joint Surg Am 2007; 89(8):1756-62.
9. Uribe JW, Bemden AB. Partial humeral head resurfacing for osteonecrosis. J Shoulder Elbow Surg 2009 Jan 29 [Epub ahead of print].
10. ClinicalTrials.gov Available at: http://www.clinicaltrials.gov/ct2/results?term=shoulder+resurfacing Last viewed May 2009.

Footnotes

[1.] Based on BCBSA policy #7.01.119, Shoulder Resurfacing issued 6/09.