

Cigna Medical Coverage Policies – Musculoskeletal Shoulder Arthroplasty/ Replacement/Resurfacing/Revision/Arthrodesis

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Instructions for use

The following coverage policy applies to health benefit plans administered by Cigna. Coverage policies are intended to provide guidance in interpreting certain standard Cigna benefit plans and are used by medical directors and other health care professionals in making medical necessity and other coverage determinations. Please note the terms of a customer's particular benefit plan document may differ significantly from the standard benefit plans upon which these coverage policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a coverage policy.

In the event of a conflict, a customer's benefit plan document always supersedes the information in the coverage policy. In the absence of federal or state coverage mandates, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of:

1. The terms of the applicable benefit plan document in effect on the date of service
2. Any applicable laws and regulations
3. Any relevant collateral source materials including coverage policies
4. The specific facts of the particular situation

Coverage policies relate exclusively to the administration of health benefit plans. Coverage policies are not recommendations for treatment and should never be used as treatment guidelines.

This evidence-based medical coverage policy has been developed by eviCore, Inc. Some information in this coverage policy may not apply to all benefit plans administered by Cigna.

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CMM-318: Shoulder Arthroplasty

Definitions

- **Shoulder arthroplasty** is an orthopedic surgical procedure during which the articular surface of the shoulder joint is replaced, remodeled, or realigned.
- **Shoulder replacement** is a form of arthroplasty that includes the surgical replacement of the shoulder joint with a prosthesis.
- **Prosthesis** refers to an artificial device used to replace a structural element within a joint to improve and enhance function.
- **Hemi-arthroplasty (replacement)** is a surgical technique that involves replacing the humeral head and not replacing the glenoid (socket), which is typically the best option if the glenoid does not have any arthritis or if there is some concern that the glenoid component might fail if it is replaced.
- **Total shoulder arthroplasty (replacement)** is a surgical technique that involves replacing the humeral head and the glenoid. A total shoulder arthroplasty is typically the best option if the glenoid is damaged, but sufficient bone and rotator cuff remain to ensure that the glenoid component will last.
- **Reverse total shoulder arthroplasty (replacement)** is a surgical technique that involves replacing both the humeral head and the glenoid, but the ball and socket are reversed to improve muscle function. This allows the deltoid muscle, which has a longer movement arm, to generate greater force, allowing it to act in place of an inadequate functioning or torn rotator cuff.
- **Revision of shoulder arthroplasty (replacement)** is a technique that involves surgical reconstruction or replacement due to failure or complication of previous shoulder arthroplasty.
- **Shoulder resurfacing** is a surgical technique that involves replacing the diseased part of the shoulder joint without replacing the humeral head. Resurfacing of the humeral head involves a prosthetic metal covering or cap to provide complete or partial coverage. It can be performed alone (hemi-resurfacing) or in combination with glenoid resurfacing (total or partial shoulder resurfacing).
- **Shoulder arthrodesis** is a surgical resection and fusion of the shoulder (glenohumeral) joint.
- **Rotator cuff tear arthropathy** is a condition that results from **ALL** of the following:
 - ◆ Rotator cuff insufficiency (e.g., secondary to irreparable massive rotator cuff tear)
 - ◆ Advanced glenohumeral arthritis
 - ◆ Radiographically diminished acromio-humeral distance
- **Non-surgical management**, with regard to the treatment of shoulder pain, is defined as any provider-directed non-surgical treatment that has been demonstrated in the scientific literature to be efficacious and/or is considered reasonable care in the treatment of shoulder pain. The types of treatment involved can include, but are not limited to: relative rest/activity modification, supervised physiotherapy modalities and therapeutic exercises, oral prescription and non-prescription medications, assistive devices (e.g., sling, splint, brace) and/or injections (i.e., steroid).

General Guidelines

- The determination of medical necessity for the performance of shoulder surgery is always made on a case-by-case basis.
- Refer to **MS-12: Osteoarthritis** and **MS-19: Shoulder** for advanced imaging indications prior to shoulder arthroplasty/replacement surgery.
- Refer to **MS-16: Post-Operative Joint Replacement Surgery** and **MS-19: Shoulder** for advanced imaging indications following shoulder arthroplasty/replacement surgery.

Indications and Non-Indications

Hemi-arthroplasty (Replacement)

- Hemi-arthroplasty (replacement) is considered **medically necessary** when **ALL** of the following criteria are met:
 - ◆ Function-limiting pain (e.g., loss of shoulder function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment) for at least three (3) months
 - ◆ Failure of at least three (3) months of provider-directed non-surgical management
 - ◆ Radiographic imaging and/or an advanced diagnostic procedure (i.e., MRI, CT scan, etc.) is conclusive for the presence of **ANY** of the following and correlates with the individual's reported symptoms and physical exam findings:
 - Arthritic conditions in which the glenoid bone stock is inadequate to support a glenoid prosthesis
 - Avascular necrosis without glenoid involvement
- Hemi-arthroplasty (replacement) is considered **medically necessary** when radiographic imaging and/or an advanced diagnostic study (i.e., MRI, CT scan) is conclusive for the presence of a proximal humerus fracture that is not amenable to internal fixation. Criteria for duration and severity of symptoms, physical examination findings, and provider-directed non-surgical management are not required to be met.
- Hemi-arthroplasty (replacement) is considered **not medically necessary** for any other indication or condition, including the following:
 - ◆ Active local or systemic infection
 - ◆ Paralytic disorder of the shoulder (e.g., flail shoulder due to irreversible brachial plexus palsy, spinal cord injury, or neuromuscular disease)
 - ◆ One or more uncontrolled or unstable medical conditions that would significantly increase the risk of morbidity (e.g., cardiac, pulmonary, liver, genitourinary, or metabolic disease; hypertension; abnormal serum electrolyte levels)
 - ◆ Charcot arthropathy
 - ◆ Advanced destructive degenerative joint disease (i.e., rheumatoid arthritis or osteoarthritis) resulting in marked narrowing of the joint space
 - ◆ Rotator cuff tear arthropathy (i.e., severe rotator cuff tearing and end-stage arthritic disease)

Total Shoulder Arthroplasty (Replacement)

- Total shoulder arthroplasty (replacement) is considered **medically necessary** when **ALL** of the following criteria are met:
 - ◆ Function-limiting pain (e.g., loss of shoulder function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment) for at least three (3) months
 - ◆ Failure of at least three (3) months of provider-directed of non-surgical management
 - ◆ Radiographic imaging and/or an advanced diagnostic procedure (i.e., MRI, CT scan), which is conclusive for the presence of advanced destructive degenerative joint disease (i.e., osteoarthritis, rheumatoid arthritis, avascular necrosis) that correlates with the individual's reported symptoms and physical exam findings including marked narrowing of the joint space and **ONE OR MORE** of the following:
 - Irregular joint surfaces
 - Glenoid sclerosis
 - Glenoid osteophyte changes
 - Flattened glenoid
 - Cystic changes in the humeral head
- Total shoulder arthroplasty (replacement) is considered **not medically necessary** for any other indication or condition, including the following:
 - ◆ Active local or systemic infection
 - ◆ Paralytic disorder of the shoulder (e.g., flail shoulder due to irreversible brachial plexus palsy, spinal cord injury, or neuromuscular disease)
 - ◆ One or more uncontrolled or unstable medical conditions that would significantly increase the risk of morbidity (e.g., cardiac, pulmonary, liver, genitourinary, or metabolic disease; hypertension; abnormal serum electrolyte levels)
 - ◆ Charcot arthropathy

Reverse Total Shoulder Arthroplasty (Replacement)

- Reverse total shoulder arthroplasty (replacement) is considered **medically necessary** when **ALL** of the following criteria are met:
 - ◆ Function-limiting pain (e.g., loss of shoulder function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment) for at least three (3) months duration
 - ◆ The individual must possess functional use of the deltoid muscle
 - ◆ At least 90° of passive shoulder range of motion (elevation/flexion)
 - ◆ Failure of at least three (3) months of provider-directed non-surgical management
 - ◆ Presence of **ANY** of the following:
 - Deficient rotator cuff with severe glenohumeral arthropathy and limited ability to actively flex the upper extremity to 90° against gravity (i.e., rotator cuff tear arthropathy)
 - Pseudoparalysis from an irreparable rotator cuff tear (i.e., active forward flexion less than 90 degrees)

- Failed hemi-arthroplasty or total shoulder replacement with a deficient rotator cuff that is non-repairable
- Required reconstruction after a tumor resection
- Reverse total shoulder arthroplasty (replacement) is considered **medically necessary** when radiographic imaging and/or an advanced diagnostic study (i.e., MRI, CT scan) is conclusive for the presence of a shoulder fracture that is not repairable or cannot be reconstructed with other techniques. Criteria for duration and severity of symptoms, physical examination findings, and provider-directed non-surgical management are not required to be met.
- Reverse total shoulder arthroplasty (replacement) is considered **not medically necessary** for any other indication or condition, including the following:
 - ◆ Active local or systemic infection
 - ◆ Paralytic disorder of the shoulder (e.g., flail shoulder due to irreversible brachial plexus palsy, spinal cord injury, or neuromuscular disease)
 - ◆ Deltoid deficiency (e.g., axillary nerve palsy)
 - ◆ One or more uncontrolled or unstable medical conditions that would significantly increase the risk of morbidity (e.g., cardiac, pulmonary, liver, genitourinary, or metabolic disease; hypertension; abnormal serum electrolyte levels)
 - ◆ Charcot arthropathy

Shoulder Resurfacing

- Shoulder Resurfacing, including total, hemi or partial resurfacing, is considered **experimental, investigational or unproven (EIU)**.

Revision of Shoulder Arthroplasty (Replacement)

- Revision of shoulder arthroplasty (replacement) is considered **medically necessary** for an individual who has previously undergone a hemi or total shoulder arthroplasty and when **EITHER** of the following criteria have been met:
 - ◆ Presence of **ANY** of the following:
 - Recurrent prosthetic dislocation unresponsive to a reasonable course of non-surgical care
 - Instability of the components
 - Aseptic loosening
 - Periprosthetic Infection
 - Periprosthetic fracture
 - ◆ Unexplained function-limiting pain (e.g., loss of shoulder function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment) for greater than six (6) months unresponsive to provider-directed non-surgical management.
- Revision of shoulder arthroplasty (replacement) is considered **not medically necessary** for the treatment of any other indication or condition, including Charcot arthropathy.

Shoulder Arthrodesis

- Shoulder arthrodesis is considered **medically necessary** when **ALL** of the following criteria are met:
 - ◆ Function-limiting pain (e.g., loss of shoulder function which interferes with the ability to carry out age appropriate activities of daily living and/or demands of employment) for at least three (3) months duration
 - ◆ Failure of at least three (3) months of provider-directed non-surgical management and is not a candidate for alternative treatments
 - ◆ Radiographic imaging and/or advanced diagnostic procedure (i.e., MRI, CT, EMG/NCV, etc.) is conclusive for the presence of **ANY** of the following and correlates with the individual's reported symptoms and physical exam findings.
 - Irreparable deltoid and rotator cuff deficiency
 - Failed total shoulder arthroplasty
 - Joint infection
 - Reconstruction after tumor resection
 - Brachial plexus palsy
 - Recurrent shoulder instability, which has failed previous repair/reconstruction
 - Paralytic disorder in infancy
- Shoulder arthrodesis is considered **not medically necessary** when **ANY** of the following is present:
 - ◆ Deficient functional scapulothoracic motion
 - ◆ Paralysis of the trapezius, levator, scapulae and serratus anterior
 - ◆ Charcot arthropathy
 - ◆ Ipsilateral elbow arthrodesis
 - ◆ Contralateral shoulder arthrodesis

Procedure (CPT®) Codes

This guideline relates to the CPT® code set below. Codes are displayed for informational purposes only. Any given code's inclusion on this list does not necessarily indicate prior authorization is required.

CPT®	Code Description/Definition
23330	Removal of foreign body, shoulder; subcutaneous
23333	Removal of foreign body, shoulder; deep (subfascial or intramuscular)
23334	Removal of prosthesis, includes debridement and synovectomy when performed; humeral or glenoid component
23335	Removal of prosthesis, includes debridement and synovectomy when performed; humeral and glenoid components (e.g. total shoulder)
23400	Scapulopexy (e.g. Sprengels deformity or for paralysis)
23470	Arthroplasty, glenohumeral joint; hemiarthroplasty
23472	Arthroplasty, glenohumeral joint; total shoulder (glenoid and proximal humeral replacement [e.g. total shoulder])
23473	Revision of total shoulder arthroplasty, including allograft when performed; humeral or glenoid component
23474	Revision of total shoulder arthroplasty, including allograft when performed; humeral and glenoid component
23800	Arthrodesis, glenohumeral joint
23802	Arthrodesis, glenohumeral joint; with autogenous graft (includes obtaining graft)

This list may not be all inclusive and is not intended to be used for coding/billing purposes. The final determination of reimbursement for services is the decision of the health plan and is based on the individual's policy or benefit entitlement structure as well as claims processing rules.

References

1. American Academy of Orthopaedic Surgeons (AAOS). *Management Of Glenohumeral Joint Osteoarthritis Evidence-Based Clinical Practice Guideline*. Rosemont, IL: American Academy of Orthopaedic Surgeons; 2020:1-76. <https://www.aaos.org/gjocpg>.
2. Armitage J, Faber K, Drosdowech D, et al. Humeral head bone defects: Remplissage, allograft and arthroplasty. *Orthop Clin North Am*. 2010; 41:417-425.
3. Boileau P, Chuinard C, Roussanne Y, et al. Reverse shoulder arthroplasty combined with a modified latissimus dorsi and teres major tendon transfer for shoulder pseudoparalysis associated with dropping arm. *Clin Orthop Relat Res*. 2008;466(3):584-593.
4. Burgess D, McGrath M, Bonutti P, et al. Shoulder resurfacing. *J Bone Joint Surg Am*. 2009; 91 (5),1228-1238.
5. Canale S, Beaty J. *Campbell's Operative Orthopaedics 11th ed.*, 483-524, 2007.
6. Cuff D, Pupello D, Nazeem V, et al. Reverse shoulder arthroplasty for the treatment of rotator cuff deficiency. *J Bone Joint Surg Am*. 2008;90(6):1244-1251.
7. Ernstbrunner L, Suter A, Catanzaro S, et al. Reverse Total Shoulder Arthroplasty for Massive Irreparable Rotator Cuff Tears Before the Age of 60 Years. *J Bone Joint Surg Am*. 2017; 99:1721-9.
8. Grassi, F., Murena, L., Valli, I., et al. Six-year experience with the Delta III reverse shoulder prosthesis. *J Orthop Surg*. 2009;17(2):151-156.
9. Harreld KL, Puskas BL, Frankle MA. Massive rotator cuff tears without arthropathy: when to consider reverse shoulder arthroplasty. *Instr Course Lect*. 2012; 61:143-56.
10. Lollino N, Pellegrini A, Paladini P, et al. Gleno-Humeral arthritis in young patients: clinical and radiographic analysis of humerus resurfacing prosthesis and meniscus interposition. *Musculoskelet Surg*. 2011;95(1):59-63.
11. Martin T, Iannotti J. Reverse total shoulder arthroplasty for acute fractures and failed management after proximal humeral fractures. *Orthop Clin North Am*. 2008;39(4):451-457.
12. Middernacht B, De Roo P, Van Maele G, et al. Consequences of scapular anatomy for reversed total shoulder arthroplasty. *Clin Orthop Relat Res*. 2008;46(6):1410-1418.
13. National Institute for Health and Care Excellence (NICE). *Shoulder resurfacing arthroplasty. July 2010*. <http://www.nice.org.uk/guidance/ipg354/evidence/shoulder-resurfacing-arthroplasty-interventional-procedures-overview>.
14. Pritchett J: Long-term results and patient satisfaction after shoulder resurfacing. *J Shoulder Elbow Surg*. 2011;20(5):771-777.
15. Reineck, J., Krishnam, S., Burkhead, W. Early glenohumeral arthritis in the competing athlete. *Clin J Sport Med*. 2008;27:803-819.
16. Roy J, Macdermid, J, Goel D, et al. What is a successful outcome following reverse total shoulder arthroplasty? *Open Orthop J*. 2010;23(4):157-163.
17. Tibbetts R, Wirth M. Shoulder arthroplasty for the young, active patient. *Instr Course Lect*. 2011;60:99-104.
18. Wagner ER, Houdek MT, Schlek C, et al. Increasing Body Mass Index Is Associated with Worse Outcomes After Shoulder Arthroplasty. *J Bone Joint Surg Am*. 2017; 99:929-937.