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MEDICAL POLICY – 7.01.590

Shoulder Arthroplasty

BCBSA Ref. Policy:	N/A	
Effective Date:	Jun. 1, 2025	RELATED MEDICAL POLICIES:
Last Revised:	May 12, 2025	None
Replaces:	N/A	

Select a hyperlink below to be directed to that section.

POLICY CRITERIA | DOCUMENTATION REQUIREMENTS | CODING
RELATED INFORMATION | EVIDENCE REVIEW | REFERENCES | APPENDIX | HISTORY

Clicking this icon returns you to the hyperlinks menu above.

Introduction

Shoulder arthroplasty is when surgery is performed to replace the shoulder joint. The damaged part of the shoulder joint is removed, and metal and plastic parts are put in its place. A common reason for people to need this surgery is very bad pain from overuse, and not being able to do normal daily activities. Some people may need only a part of their shoulder replaced, which is when the shoulder head or ball is replaced with metal or plastic parts, but the socket is left as is. Sometimes the implanted parts need to be reversed. This is called reverse shoulder arthroplasty. This policy outlines when shoulder arthroplasty may be considered medically necessary.

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.

Policy Coverage Criteria

Click on the hyperlinks below to navigate to the section pertaining to the particular surgical procedure:

Total shoulder arthroplasty | **Shoulder hemiarthroplasty**

Reverse shoulder arthroplasty | **Revision shoulder arthroplasty**

Surgery	Medical Necessity

Total shoulder arthroplasty	**Total shoulder arthroplasty may be considered medically necessary for joint disease when ALL of the following criteria are met:**
	• There is a documented diagnosis of one of the following:
	  ○ Degenerative joint disease (DJD)
	  ○ Osteoarthritis (OA)
	  ○ Rheumatoid arthritis (RA)
	  ○ Traumatic arthritis
	  ○ Avascular necrosis
	AND
	• Treatment is needed because of one or more of the following:
	  ○ Disabling pain for at least 3 months duration
	  ○ Functional disability which interferes with the ability to carry out activities of daily living for at least 3 months duration
	AND
	• Radiographic or imaging evidence (e.g., X-ray, CT, MRI) of destructive degenerative joint disease of the shoulder in the 12 months prior to surgery as evidenced by **ONE** or more of the following:
	  ○ Irregular joint surfaces
	  ○ Glenoid sclerosis
	  ○ Glenoid osteophyte changes
	  ○ Flattened glenoid
	  ○ Cystic changes in the humeral head
	  ○ Joint space narrowing
	AND
	• Documentation of three months of failed non-operative conservative management as demonstrated by a trial of one or more of the following:
	  ○ Anti-inflammatory medications or analgesics
	  ○ Intra-articular injection of corticosteroids as appropriate
	AND
	• A 6 week trial of one or more of the following physical measures under the direction of a healthcare professional:
	  ○ Physical therapy

Surgery	Medical Necessity
	○ Activity modification ○ Flexibility and muscle strengthening exercises **OR** **Total shoulder arthroplasty may be considered medically necessary for ANY of the following conditions:** • Proximal humerus fracture malunion or non-union • Reconstruction after tumor resection of the glenohumeral joint or surrounding tissue • Failed hemi-arthroplasty • Post-traumatic injury (e.g., fracture, infection) causing shoulder joint destruction
Reverse total shoulder arthroplasty	**Reverse total shoulder arthroplasty may be considered medically necessary when there is an intact deltoid muscle, there is at least 90 degrees of passive shoulder range of motion (elevation/flexion), and there is adequate bone stock to support an implant and when ALL of the following criteria are met: (See Appendix)** • Advanced joint disease of the shoulder is present and confirmed by radiologic imaging or arthroscopic findings in the 12 months prior to surgery and at least **ONE** of the following conditions is present: ○ Glenohumeral osteoarthritis with irreparable rotator cuff tear **or** ○ Pseudo paralysis from an irreparable rotator cuff tear (inability to actively elevate the arm); **or** ○ Massive rotator cuff tear arthropathy (> 5 cm); **or** ○ Avascular necrosis or osteonecrosis of the humeral head without glenoid involvement **AND** • Treatment is needed because of one or more of the following: ○ Disabling pain for at least 3 months duration ○ Functional disability which interferes with the ability to carry out activities of daily living for at least 3 months duration **AND** • Documentation of three months of failed non-operative conservative management as demonstrated by a trial of one or more of the following:

Surgery	Medical Necessity
	○ Anti-inflammatory medications or analgesics ○ Intra-articular injection of corticosteroids as appropriate **AND** • A 6 week trial of one or more of the following physical measures under the direction of a healthcare professional: ○ Physical therapy ○ Activity modification ○ Flexibility and muscle strengthening exercises **OR** **Reverse shoulder arthroplasty may be considered medically necessary for ANY of the following conditions:** • Shoulder fracture that is not repairable and cannot be reconstructed with other techniques • Reconstruction required after a tumor resection • Failed hemi-arthroplasty • Failed total shoulder arthroplasty with non-repairable rotator cuff tear
Shoulder hemiarthroplasty	**Shoulder hemiarthroplasty may be considered medically necessary when ALL of the following criteria are met:** • Advanced joint disease of the shoulder is present and at least **ONE** of the following conditions is present: ○ Glenohumeral osteoarthritis with irreparable rotator cuff tear; **or** ○ Glenoid bone stock inadequate to support a glenoid prosthesis; **or** ○ Osteonecrosis of the humeral head without glenoid involvement; **or** ○ Radiographic or imaging evidence (e.g., X-ray, CT, MRI) of destructive degenerative joint disease of the shoulder in the 12 months prior to surgery as evidenced by **ONE** or more of the following: ▪ Irregular joint surfaces ▪ Glenoid sclerosis ▪ Glenoid osteophyte changes ▪ Flattened glenoid ▪ Cystic changes in the humeral head ▪ Joint space narrowing

Surgery	Medical Necessity

	AND
	• Treatment is needed because of one or more of the following:
	  ○ Disabling pain for at least 3 months duration
	  ○ Functional disability which interferes with the ability to carry out activities of daily living for at least 3 months duration
	AND
	• Documentation of three months of failed non-operative conservative management as demonstrated by a trial of one or more of the following:
	  ○ Anti-inflammatory medications or analgesics
	  ○ Intra-articular injection of corticosteroids as appropriate
	AND
	• A 6 week trial of one or more of the following physical measures under the direction of a healthcare professional:
	  ○ Physical therapy
	  ○ Activity modification
	  ○ Flexibility and muscle strengthening exercises
	OR
	Shoulder hemiarthroplasty may be considered medically necessary for ANY of the following conditions:
	• Proximal humerus fracture not amenable to internal fixation
	• Tumor involving the glenohumeral joint or surrounding soft tissue requiring reconstruction

Revision/replacement shoulder arthroplasty	**A revision shoulder arthroplasty may be considered medically necessary as indicated by ONE or more of the following:** • Aseptic loosening of one or more prosthetic components confirmed by imaging • Bearing surface wear leading to symptomatic synovitis or local bone or soft tissue reaction • Component instability • Displaced periprosthetic fracture • Fracture, mechanical failure, or recall of a prosthetic component • Migration of the humeral head • Periprosthetic infection • Recurrent prosthetic dislocation • Persistent shoulder pain of unknown etiology unresponsive to non-operative conservative care for 6 months

Surgery	Not Medically Necessary
• **Total shoulder** • **Reverse total shoulder** • **Hemi-arthroplasty**	**Total shoulder, reverse total shoulder, or hemi-arthroplasty is considered not medically necessary when the above medical necessity criteria are not met.** **Total shoulder, reverse total shoulder, or hemi-arthroplasty is considered not medically necessary when ANY of the following are present:** • Active infection of the joint or active systemic bacteremia • Active skin infection or open wound within the planned surgical site • Allergy to components of the implant (e.g., cobalt, chromium, stainless steel, titanium, etc.) • Deltoid deficiency (e.g., axillary nerve palsy) • Inadequate bone stock to support implantation of prosthesis • Neuropathic (Charcot) arthropathy of the shoulder • Paralytic disorder of the shoulder (e.g., flail shoulder due to irreversible brachial plexus palsy, spinal cord injury) • Rapidly progressive neurological disease

Documentation Requirements

The individual's medical records submitted for review for all conditions should document that medical necessity criteria are met for the procedure requested. The record should include the following:

- For a **total shoulder arthroplasty** and degenerative joint disease such as osteoarthritis or rheumatoid arthritis or traumatic arthritis or osteonecrosis ALL of the following are present:
  - Needs treatment because of disabling pain and/or limited shoulder function interfering with activities of daily living (ADLs)

AND

  - Imaging evidence of destructive degenerative joint disease of the shoulder in the 12 months prior to surgery as evidenced by one or more of the following: irregular joint surfaces, glenoid sclerosis, glenoid osteophyte changes, flattened glenoid, cystic changes in the humeral head or joint space narrowing

AND

Documentation Requirements

- History of unsuccessful three-month trial of failed non-operative conservative management of one or more of the following medications: anti-inflammatory drugs or analgesics, or intra-articular injection of corticosteroids as appropriate, and a 6 week trial of one or more of the following physical measures under the direction of a healthcare professional: physical therapy, or flexibility and muscle strengthening exercises, or reasonable restriction of activities.

- For **other conditions**, detailed clinical documentation supporting the diagnosis of one of the following:
  - Proximal humerus fracture malunion or non-union
  - Reconstruction after tumor resection of the glenohumeral joint or surrounding tissue
  - Failed hemi-arthroplasty
  - Post-traumatic injury (e.g., fracture, infection) causing shoulder joint destruction
- For **replacement/revision** of previous arthroplasty with evidence of one of the following:
  - Aseptic loosening of one or more prosthetic components confirmed by imaging
  - Bearing surface wear leading to symptomatic synovitis or local bone or soft tissue reaction
  - Component instability
  - Displaced periprosthetic fracture
  - Fracture, mechanical failure, or recall of a prosthetic component
  - Migration of the humeral head
  - Periprosthetic infection
  - Recurrent prosthetic dislocation
  - Persistent shoulder pain of unknown etiology unresponsive to non-operative conservative care for 6 months
- For a **reverse total shoulder arthroplasty** when there is an intact deltoid muscle, there is at least 90 degrees of passive shoulder range of motion (elevation/flexion), and there is adequate bone stock to support an implant along with ANY of the following: shoulder fracture that is not repairable and cannot be reconstructed with other techniques, reconstruction after a tumor resection, failed hemi-arthroplasty, failed total shoulder arthroplasty with non-repairable rotator cuff tear

OR

- Advanced joint disease of the shoulder is present and confirmed by radiologic imaging or arthroscopic findings in the 12 months prior to surgery and at least ONE of the following conditions is present: glenohumeral osteoarthritis with irreparable rotator cuff repair, or pseudo paralysis from an irreparable rotator cuff tear (inability to actively elevate the arm), or massive cuff tear arthropathy (> 5 cm), or avascular necrosis or osteonecrosis of the humeral head without glenoid involvement

AND

Documentation Requirements

- Needs treatment because of disabling pain and/or limited shoulder function interfering with activities of daily living (ADLs)

AND

- History of unsuccessful three-month trial of failed non-operative conservative management of one or more of the following medications: anti-inflammatory drugs or analgesics, or intra-articular injection of corticosteroids as appropriate, and a 6 week trial of one or more of the following physical measures under the direction of a healthcare professional: physical therapy, or flexibility and muscle strengthening exercises, or reasonable restriction of activities.

- For a **shoulder hemiarthroplasty** one of the following conditions is present:
  - Proximal humerus fracture not amenable to internal fixation
  - Tumor involving the glenohumeral joint or surrounding soft tissue requires reconstruction

OR

- Advanced joint disease of the shoulder is present and at least **ONE** of the following conditions is present:
  - Glenohumeral osteoarthritis with irreparable rotator cuff tear
  - Glenoid bone stock inadequate to support a glenoid prosthesis
  - Osteonecrosis of the humeral head without glenoid involvement
  - Radiographic or imaging evidence (e.g., X-ray, CT, MRI) of destructive degenerative joint disease of the shoulder in the 12 months prior to surgery as evidenced by one or more of the following:
    - Irregular joint surfaces
    - Glenoid sclerosis
    - Glenoid osteophyte changes
    - Flattened glenoid
    - Cystic changes in the humeral head
    - Joint space narrowing

AND

- Needs treatment because of disabling pain and/or limited shoulder function interfering with activities of daily living (ADLs)

AND

- History of unsuccessful three-month trial of failed non-operative conservative management of one or more of the following medications: anti-inflammatory drugs or analgesics, or intra-articular injection of corticosteroids as appropriate, and a 6 week trial of one or more of the following physical measures under the direction of a healthcare professional:

Documentation Requirements
physical therapy, or flexibility and muscle strengthening exercises, or reasonable restriction of activities.

Coding

Code	Description
CPT	
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

Note: CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). HCPCS codes, descriptions and materials are copyrighted by Centers for Medicare Services (CMS).

Related Information

N/A

Evidence Review

Description

Total shoulder arthroplasty (replacement) (aka anatomic shoulder arthroplasty) is a surgical procedure in which damaged bone and cartilage is removed from the glenohumeral joint and replaced with artificial implant (prosthetic) components made usually of metal and plastic. The head of the humerus is replaced with a ball component and the glenoid surface is replaced with a socket component. Reverse shoulder arthroplasty, as the name implies, reverses the implant

components. The ball component is attached to the shoulder blade and the socket component is attached to the upper arm bone. This procedure is usually performed when the rotator cuff is severely damaged. Hemiarthroplasty (partial arthroplasty) is a procedure where only the ball component (the humeral head) is replaced with an artificial implant component, the glenoid is left intact. The goal of these procedures is to reduce pain and secondarily to restore mobility and function of the shoulder in order for an individual to return to an activity level as close to normal as possible.

Background

Shoulder arthroplasty (replacement) has become a common surgical procedure for joint replacement due to joint degeneration leading to pain and functional impairment that is not improved by conservative medical management such as non-steroidal anti-inflammatories, injections of corticosteroids, or physical therapy. It is considered the gold standard for treatment for shoulder disorders such as osteoarthritis, rheumatoid arthritis, complex fractures, avascular necrosis, and rotator cuff arthropathy.

The prevalence of shoulder arthroplasty in the US has increased from 0.031% in 1995 to 0.083% in 2005 according to the National Inpatient Sample query taken from 1988 to 2017[22]. In 2017 an estimated 823,361 individuals were living in the US with a shoulder replacement. This represents a prevalence of 0.258%, which is projected to continue to grow to 174,000 to 350,000 shoulder replacement procedures annually by 2025. Currently, it is estimated that more than 100,000 individuals have shoulder replacement surgery each year. Glenohumeral osteoarthritis, one of the main indications for shoulder joint degeneration, occurs more commonly in women and increases with age, especially over age 60.[1]

The shoulder is made up of three bones: the humerus (upper arm bone), the scapula (the shoulder blade) and the clavicle (collar bone). Like the hip joint, the shoulder is a ball and socket joint. The ball, or the head of the upper arm bone fits into the socket of the shoulder blade, called the glenoid. When the articular cartilage covering these bones becomes damaged one of the types of shoulder arthroplasty described above may be needed.

Indications for Shoulder Arthroplasty

Osteoarthritis of the shoulder is a condition that usually occurs in individuals over the age of 55. It is usually brought on by wear-and tear of the shoulder joint when the cartilage that cushions

the bones of the shoulder wears down. This wearing down of the cartilage causes the bones to rub against one another which leads to the development of pain in that area.

Rheumatoid arthritis of the shoulder is a disorder where the synovial membrane (the tissue that helps lubricate the cartilage surrounding the shoulder joints and allows for easy movement of the joints), becomes inflamed. When this inflammation is chronic, it can damage the cartilage bringing about pain and stiffness.

Traumatic arthritis is a condition that can occur after a major shoulder injury. It may stem from a fracture, dislocation, or tears of the shoulder tendons or ligaments. These injuries can also lead to damage to the cartilage bringing on pain and limiting shoulder functionality.

Avascular necrosis (osteonecrosis) occurs when there is a loss of blood supply to the shoulder bones which causes the bones to die and leads to destruction of the shoulder joints. Common causes for avascular necrosis are long-term steroid use, heavy alcohol use, sickle cell anemia, fracture, and radiation therapy. It is more common in individuals between the ages of 30 and 50.

A severe fracture or multiple fractures of the shoulder may be difficult to treat and put back together. A fracture(s) may also lead to disruption of the blood supply to the affected bones. This condition may best be treated with a shoulder replacement.

A tumor(s) requiring resection of the affected shoulder is also a condition which may require a shoulder replacement.

Rotator cuff tear arthropathy is a condition that develops from a very large tear or from the long-term presence of a tear that leads to arthritis and destruction of the shoulder joint cartilage requiring the shoulder joint to be replaced as the tear itself was not able to be repaired. This condition is best treated with a reverse shoulder replacement.

Failed previous shoulder replacement surgery may require a revision shoulder replacement due to implant loosening, wearing down of the implant components, fracture around the prosthetic component, infection, instability, or dislocation.

Summary of Evidence

Singh et al (2010) in a Cochrane review of seven studies (238 individuals) concluded that total shoulder arthroplasty seems to offer an advantage in terms of shoulder function over hemiarthroplasty[7]. Sandow et. al (2013) concluded with 10 years of follow-up that total shoulder arthroplasty (n=20) was better at pain relief and function at 2 years postoperatively (P <.02) than hemiarthroplasty (n=13). However, there were no statistically significant differences found

between the two groups with respect to pain, function, and daily activities at 10 years.[8] Ernstbrunner et al (2019) concluded that reverse total shoulder arthroplasty for massive irreparable rotator cuff tears showed significant improvement of overhead function and subjective and objective long term outcome scores up to 20 years postoperatively based on their pooled long-term results.[18] Davies et al (2022) concluded that the current literature does not support that revision of a shoulder hemiarthroplasty may lead to improved outcomes compared to revision of a total shoulder arthroplasty. This conclusion was reached after review of 15 studies (12 were case series and 3 were cohort studies) which reported on 593 revision anatomical shoulder replacements of which 557 reached the final follow-up period. The primary procedure was a total shoulder arthroplasty in 11 of the studies and a hemiarthroplasty in 4 studies.[24]

Ongoing and Unpublished Clinical Trials

Some currently ongoing trials that might influence this policy are listed in **Table 1**.

Table 1. Summary of Key Trials

NCT No.	Trial Name	Planned Enrollment	Completion Date
Ongoing			
NCT04228419	Study Evaluating Reverse Versus Anatomic Shoulder Arthroplasty Techniques in the Treatment of Osteoarthritis: Protocol	108	Dec 2028
NCT05395819	Clinical Evaluation of Reverse Versus Anatomic Shoulder Arthroplasty Techniques in the Treatment of Osteoarthritis (CERVASA)	40	May 2025
NCT05807854	Treatment of Degenerative Massive Rotator Cuff Tears: a Multicenter, Randomized Comparative Surgical Trial	160	Mar 2027

NCT: national clinical trial.

Practice Guidelines and Position Statements

The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the policy conclusions.

Guidelines or position statements will be considered for inclusion if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

American Academy of Orthopaedic Surgeons (AAOS)

In 2020, the AAOS updated clinical practice guideline for management of glenohumeral joint osteoarthritis[2] recommendation states that there is strong evidence that supports total shoulder arthroplasty demonstrates more favorable function and pain relief in the short-to mid-term compared to hemiarthroplasty for the treatment of glenohumeral osteoarthritis.

It was the opinion of the work group that individuals with glenohumeral osteoarthritis undergoing arthroplasty should be imaged with axillary and true AP radiographs. Advanced imaging should be performed at the discretion of the clinician.

It was the opinion of the work group that either total shoulder arthroplasty or reverse shoulder arthroplasty be used for the treatment of glenohumeral osteoarthritis with excessive bone loss and/or rotator cuff dysfunction.

National Institute for Health and Care Excellence (NICE)

In 2020 the NICE guideline for joint replacement (primary) elective shoulder replacement[22] made the following recommendation:

- If glenoid bone is adequate, a total shoulder replacement for treatment of osteoarthritis with no rotator cuff tear should be offered.

The committee was unable to make a recommendation for shoulder replacement for pain and loss of function for individuals with a previous proximal humeral fracture.

Medicare National Coverage

There is no national coverage determination.

Regulatory Status

Shoulder arthroplasty procedures are surgical procedures and as such, are not subject to regulation by the FDA. Several implants and instruments used during the surgery require FDA approval. Product codes for these devices include: KWS, KWT, MBF, PAO, PHX, PKC, QHE.

References

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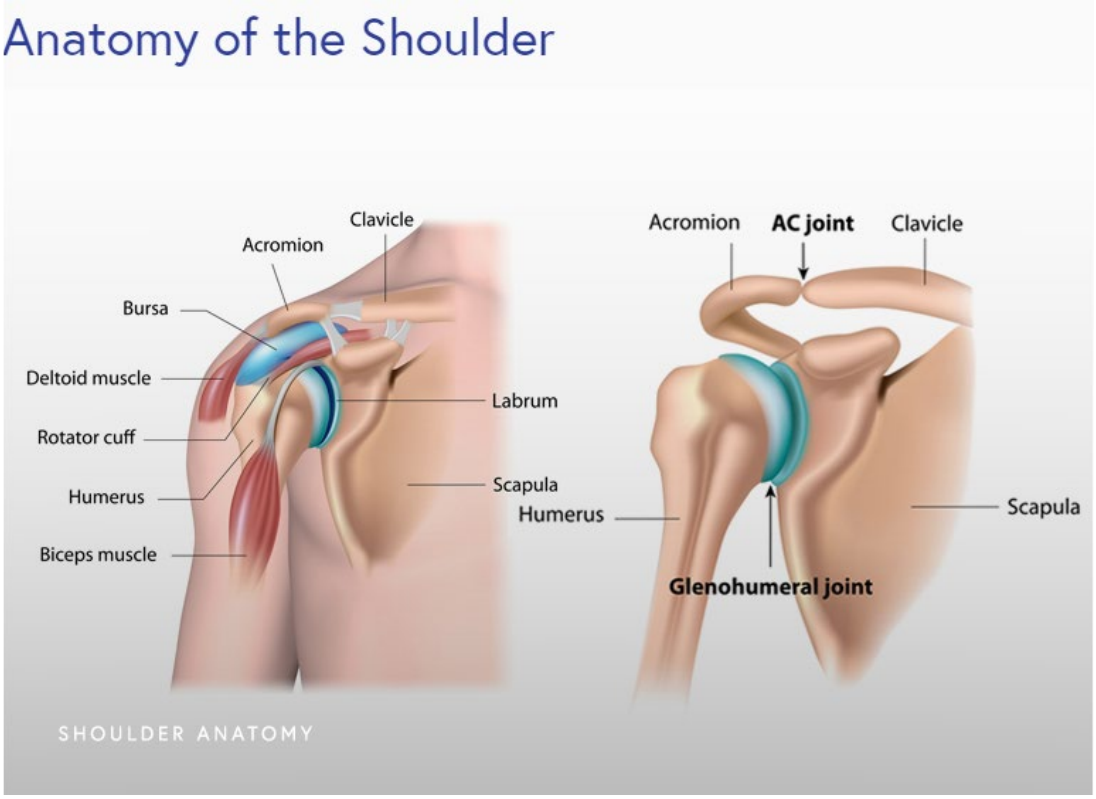
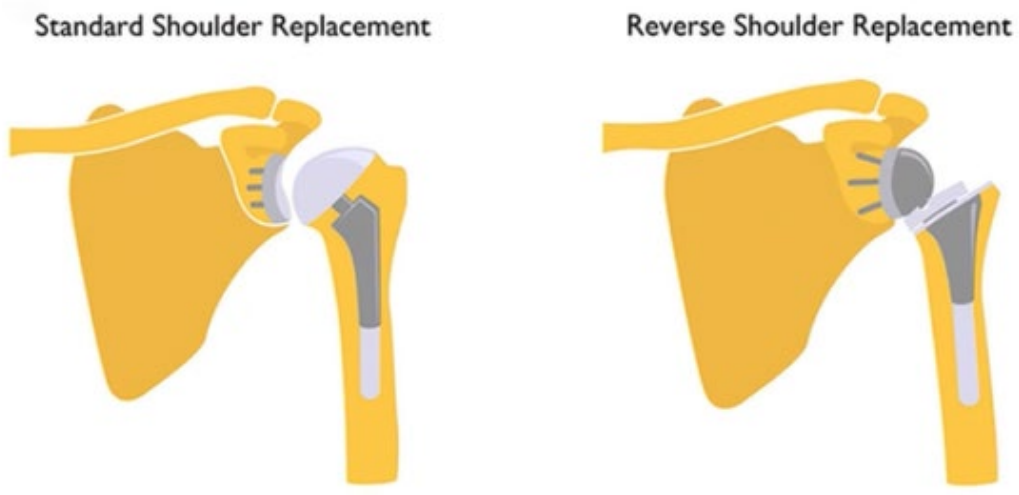
Appendix



Source: **Shoulder Anatomy | Shoulder Injuries | Chicago Westchester Oakbrook Hinsdale IL - Nikhil Verma, MD (sportssurgerychicago.com)** Accessed January 27, 2025.



Source: **https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/reverse-total-shoulder-replacement**. Accessed January 27, 2025.

History

Date	Comments
09/10/24	New policy, approved September 10, 2024, effective for dates of service on or after January 3, 2025, following 90-day provider notification. Total shoulder arthroplasty, reverse total shoulder arthroplasty, and shoulder hemiarthroplasty may be considered medically necessary when criteria are met. Add to Surgery section.
03/01/25	Annual Review, approved February 10, 2025. Policy reviewed. No references added. Some policy criteria reorganized for consistency, otherwise policy statements unchanged, policy intent unchanged.
06/01/25	Interim Review, approved May 12, 2025. Minor edits made to policy statements for greater clarity. Policy intent unchanged.

Scope: Medical policies are systematically developed guidelines that serve as a resource for Company staff when determining coverage for specific medical procedures, drugs or devices. Coverage for medical services is subject to the limits and conditions of the member benefit plan. Members and their providers should consult the member benefit booklet or contact a customer service representative to determine whether there are any benefit limitations applicable to this service or supply. This medical policy does not apply to Medicare Advantage.