Shoulder Fracture

Clinical Guidelines for Medical Necessity Review

Version: 4.0
Effective Date: December 29, 2022

Important Notices

Notices & Disclaimers:

GUIDELINES SOLELY FOR COHERE'S USE IN PERFORMING MEDICAL NECESSITY REVIEWS AND ARE NOT INTENDED TO INFORM OR ALTER CLINICAL DECISION MAKING OF END USERS.

Cohere Health, Inc. (**"Cohere"**) has published these clinical guidelines to determine the medical necessity of services (the **"Guidelines"**) for informational purposes only and solely for use by Cohere's authorized **"End Users."** These Guidelines (and any attachments or linked third party content) are not intended to be a substitute for medical advice, diagnosis, or treatment directed by an appropriately licensed healthcare professional. These Guidelines are not in any way intended to support clinical decision-making of any kind; their sole purpose and intended use are to summarize certain criteria Cohere may use when reviewing the medical necessity of any service requests submitted to Cohere by End Users. Always seek the advice of a qualified healthcare professional regarding any medical questions, treatment decisions, or other clinical guidance. The Guidelines, including any attachments or linked content, are subject to change at any time without notice.

Other Notices:

Guideline Information:

Specialty Area: Diseases & Disorders of the Musculoskeletal System (M00-M99)
CarePath Group: Shoulder
CarePath Name: Shoulder Fracture
Type: [**X**] Adult (18+ yo) | [_] Pediatric (0-17yo)

Physician Author: Mandy Armitage, MD (Sports Medicine)
Peer reviewed by: Edwin Spencer, MD (Orthopedic Shoulder Surgeon), Brian Covino, MD (Orthopedic Surgeon, Knee/Hip & Total Joint Replacement), Traci Granston, MD (Orthopedic Surgeon)
Literature review current through: December 29, 2022
Document last updated: December 29, 2022

Table of Contents

Important Notices **2**
Care Path Clinical Discussion 6
Key Information 7
Definitions 7
CarePath Diagnostic Criteria **10**
Disease Classification 10
ICD-10 Codes Associated with Classification 10
Presentation and Etiology 19
Causes and Risk Factors 19
Clinical Presentation 19
Typical Diagnostic Findings 20
Care Path Services & Medical Necessity Criteria **21**
Conservative Therapy 21
Service: Physical Therapy 21
General Guidelines 21
Medical Necessity Criteria 22
Indications 22
Non-Indications 22
Site of Service Criteria 22
Procedure Codes (HCPCS/CPT) 22
Advanced Imaging 29
Service: Computed Tomography (CT) without Contrast 29
General Guidelines 29
Medical Necessity Criteria 29
Indications 29
Non-Indications 29
Site of Service Criteria 29
Procedure Codes (HCPCS/CPT) 29
Service: Computed Tomography Angiogram (CTA) 30
General Guidelines 30
Medical Necessity Criteria 30
Indications 30
Non-Indications 30
Site of Service Criteria 30
Procedure Codes (HCPCS/CPT) 30

Surgical Management 32
Service: Open Reduction and Internal Fixation (ORIF) 32
General Guidelines 32
Medical Necessity Criteria 32
Indications 32
Non-Indications 33
Site of Service Criteria 33
Procedure Codes (HCPCS/CPT) 33
Service: Intramedullary Fixation 34
General Guidelines 34
Medical Necessity Criteria 34
Indications 34
Non-Indications 34
Site of Service Criteria 34
Procedure Codes (HCPCS/CPT) 34
Service: Reverse Shoulder Arthroplasty (RSA) 35
General Guidelines 35
Medical Necessity Criteria 35
Indications 35
Non-Indications 35
Site of Service Criteria 35
Procedure Codes (HCPCS/CPT) 36
Service: Hemiarthroplasty 37
General Guidelines 37
Medical Necessity Criteria 37
Indications 37
Non-Indications 37
Site of Service Criteria 37
Procedure Codes (HCPCS/CPT) 37
Surgical Risk Factors 38
Postoperative Care 42
Service: Skilled Nursing Facility (SNF) 42
General Guidelines 42
Medical Necessity Criteria 42
Indications 42
Non-Indications 42
Site of Service Criteria 42

Procedure Codes (HCPCS/CPT) 43
Service: Physical Therapy 46
General Guidelines 46
Medical Necessity Criteria 46
Indications 46
Non-Indications 46
Site of Service Criteria 46
Procedure Codes (HCPCS/CPT) 46
Service: Home Health Care 54
General Guidelines 54
Medical Necessity Criteria 54
Indications 54
Non-Indications 54
Site of Service Criteria 54
Procedure Codes (HCPCS/CPT) 54
References 56
Clinical Guideline Revision History/Information 58

Care Path Clinical Discussion

Proximal humerus fractures are the third most common fracture in elderly patients.[1] They are most commonly associated with osteoporosis and falls.[2] Incidence is higher in women versus men and increases exponentially between 40 and 84 years of age. With the aging population, an estimated 275,000 emergency room visits in 2030 will be due to proximal humerus fractures.[2]

Clavicle and scapula fractures are less common than humerus fractures. About 5% of all adult fractures are clavicle fractures, and scapula fractures account for less than 1% of all fractures.[3,4] Displaced clavicle fractures are frequently treated operatively, and the vast majority of scapula fractures are treated nonoperatively.

Conventional radiography is adequate for diagnosing proximal humerus fractures. However, occasionally, computed tomography (CT) is needed to assess the fracture pattern further. A CT angiogram is indicated if there is suspicion of vascular injury.[3] Approximately 85% of proximal humerus fractures in the elderly are managed nonoperatively with good outcomes.[4,5] Indications for orthopedic referral include displaced fracture, fracture dislocation, neurovascular injury, open fracture, and fracture of the anatomic neck.[4] The most common operative approach is open reduction and internal fixation (ORIF),[5] and other surgical treatment options include intramedullary nail fixation, hemiarthroplasty, and reverse shoulder arthroplasty.[6,7] Utility of hemiarthroplasty is decreasing due to poorer outcomes (except in younger patients).[5-7]

The information contained herein gives a general overview of the pathway of this specific diagnosis, beginning with initial presentation, recommended assessments, and treatment options as supported by the medical literature and existing guidelines. It should be noted that the care of patients can be complex. The information below is meant to support clinical decision making in adult patients. It is not necessarily applicable to every case, as the entire clinical picture (including comorbidities, history, etc.) should be considered.

Key Information

- ➢ Patients are likely to present with a shoulder fracture to the emergency department.
- ➢ The incidence rate of shoulder fractures in the United States is high.[2]
  - In 2008 approximately 370,000 patients presented to the emergency department with a humerus fracture.
  - The most common type of humerus fracture is the proximal humerus fracture which is more common in women 40-84 years of age.
- ➢ The most appropriate treatment plan is dependent on the location and severity of the fracture.
  - Non-surgical management is recommended for 12 weeks or until fracture union.
  - Functional gains in range of motion and strength will continue for many months after fracture union. Continuing therapy to recover those activities of daily living (ADLs) is imperative.
  - Surgical management of a shoulder fracture is recommended if radiography or advanced imaging shows displaced fractures or significant angular deformity or if progressive healing does not occur with non-surgical management.
- ➢ External fixation can lead to complications within the elderly population, and therefore, it has seen a decline in use.

Definitions

Proximal humerus

- **Varus:** the angulation within the bone shaft where the distal part is more medial.
- **Valgus:** the angulation within the bone shaft where the distal part is more lateral.
- **Greater tuberosity**: the attachment site of the rotator cuff.
- **Calcar:** the hard bone that supports the head of the humerus.

Clavicle

- **Proximal:** the half of the clavicle that curves outward and creates space for the neurovascular bundle in the upper limb.
- **Distal:** the half of the clavicle curves back and attaches to the scapula.
- **Midshaft:** between the proximal and distal halves; the bone's thinnest section.

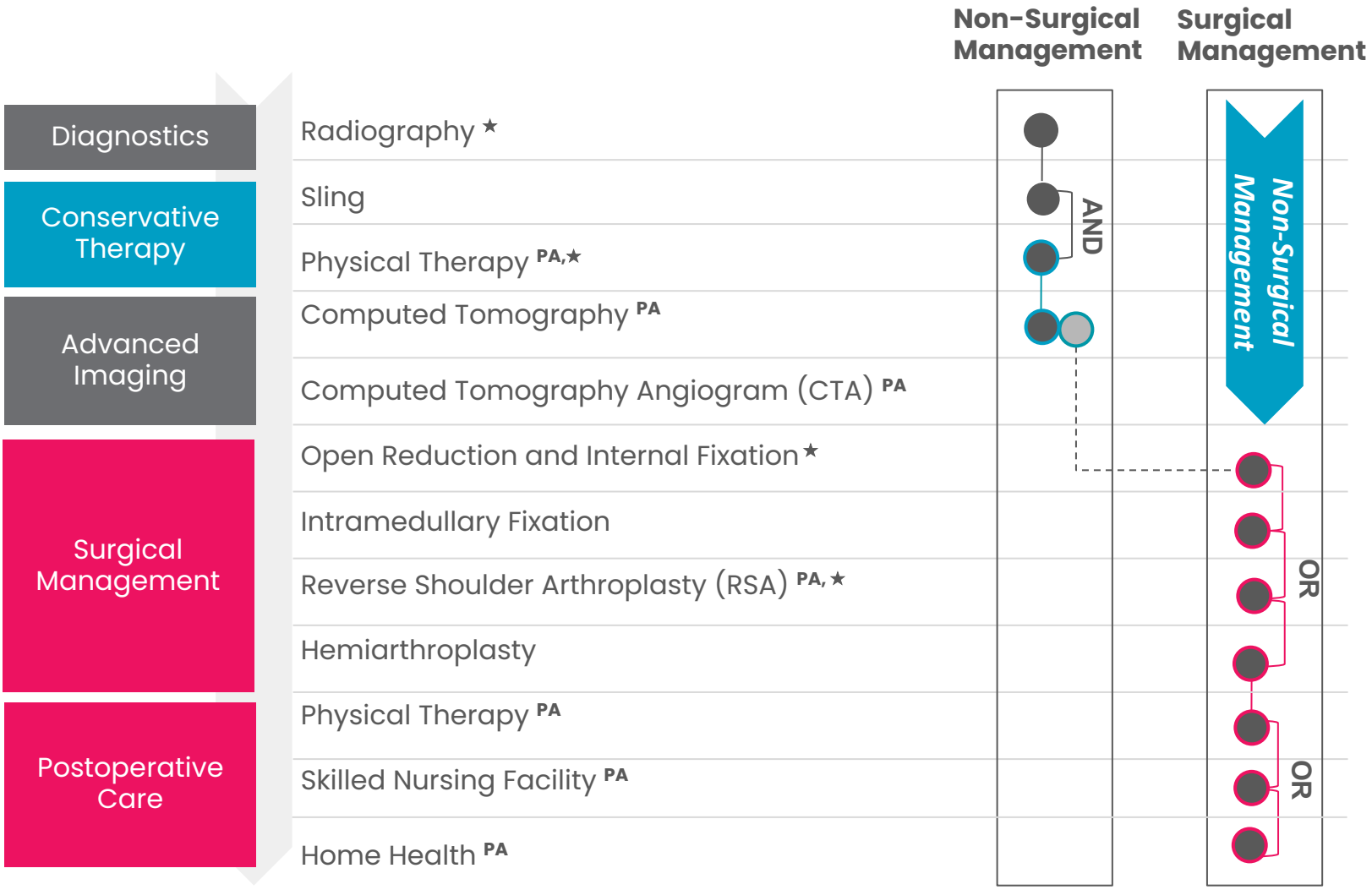
Scapula

- **Scapula spine:** the attachment to the deltoid muscle.

- **Glenoid:** located on the lateral angle of the scapula; it moves with the head of the humerus.
- **Scapula body:** the large triangular portion of the scapula. 95% of scapular body fractures are treated non-surgically.

Shoulder Fracture

What is a "Cohere Care Path"?
These Care Paths organize the services typically considered most clinically optimal and likely to be automatically approved. These service recommendations also include the suggested sequencing and quantity or frequency determined clinically appropriate and medically necessary for the management of most patient care scenarios in this Care Path's diagnostic cohort..



Key

PA = Service may require prior authorization
★ = Denotes preferred service
AND = Services completed concurrently
OR = Services generally mutually exclusive

= Non-surgical management prior authorization group of services
= Surgical management prior authorization group of services
= Subsequent service
= Management path moves to a different management path

CarePath Diagnostic Criteria

Disease Classification

Humerus, clavicle, and scapula fractures

ICD-10 Codes Associated with Classification

ICD-10 Code	Code Description/Definition
M25.511	Pain in right shoulder
M25.512	Pain in left shoulder
M25.519	Pain in unspecified shoulder
M79.601	Pain in right arm
M79.602	Pain in left arm
M79.603	Pain in arm, unspecified
M79.621	Pain in right upper arm
M79.622	Pain in left upper arm
M79.629	Pain in unspecified upper arm
M84.3	Stress fracture
M84.30XD	Stress fracture, unspecified site, subsequent encounter for fracture with routine healing
M84.30XG	Stress fracture, unspecified site, subsequent encounter for fracture with delayed healing
M84.30XK	Stress fracture, unspecified site, subsequent encounter for fracture with nonunion
M84.30XP	Stress fracture, unspecified site, subsequent encounter for fracture with malunion
M84.30XS	Stress fracture, unspecified site, sequela
M84.31	Stress fracture, shoulder
M84.311	Stress fracture, right shoulder
M84.311D	Stress fracture, right shoulder, subsequent encounter for fracture with routine healing

M84.311G	Stress fracture, right shoulder, subsequent encounter for fracture with delayed healing
M84.311K	Stress fracture, right shoulder, subsequent encounter for fracture with nonunion
M84.311P	Stress fracture, right shoulder, subsequent encounter for fracture with malunion
M84.311S	Stress fracture, right shoulder, sequela
M84.312	Stress fracture, left shoulder
M84.312S	Stress fracture, left shoulder, sequela
M84.312D	Stress fracture, left shoulder, subsequent encounter for fracture with routine healing
M84.312G	Stress fracture, left shoulder, subsequent encounter for fracture with delayed healing
M84.312K	Stress fracture, left shoulder, subsequent encounter for fracture with nonunion
M84.312P	Stress fracture, left shoulder, subsequent encounter for fracture with malunion
M84.319	Stress fracture, unspecified shoulder
M84.319A	Stress fracture, unspecified shoulder, initial encounter for fracture
M84.319D	Stress fracture, unspecified shoulder, subsequent encounter for fracture with routine healing
M84.319G	Stress fracture, unspecified shoulder, subsequent encounter for fracture with delayed healing
M84.319K	Stress fracture, unspecified shoulder, subsequent encounter for fracture with nonunion
M84.319P	Stress fracture, unspecified shoulder, subsequent encounter for fracture with malunion
M84.319S	Stress fracture, unspecified shoulder, sequela
M84.32	Stress fracture, humerus
M84.321	Stress fracture, right humerus
M84.321A	Stress fracture, right humerus, initial encounter for fracture

M84.321D	Stress fracture, right humerus, subsequent encounter for fracture with routine healing
M84.321G	Stress fracture, right humerus, subsequent encounter for fracture with delayed healing
M84.321K	Stress fracture, right humerus, subsequent encounter for fracture with nonunion
M84.321P	Stress fracture, right humerus, subsequent encounter for fracture with malunion
M84.321S	Stress fracture, right humerus, sequela
M84.322	Stress fracture, left humerus
M84.322A	Stress fracture, left humerus, initial encounter for fracture
M84.322D	Stress fracture, left humerus, subsequent encounter for fracture with routine healing
M84.322G	Stress fracture, left humerus, subsequent encounter for fracture with delayed healing
M84.322K	Stress fracture, left humerus, subsequent encounter for fracture with nonunion
M84.322P	Stress fracture, left humerus, subsequent encounter for fracture with malunion
M84.322S	Stress fracture, left humerus, sequela
M84.329	Stress fracture, unspecified humerus
M84.329A	Stress fracture, unspecified humerus, initial encounter for fracture
M84.329D	Stress fracture, unspecified humerus, subsequent encounter for fracture with routine healing
M84.329G	Stress fracture, unspecified humerus, subsequent encounter for fracture with delayed healing
M84.329K	Stress fracture, unspecified humerus, subsequent encounter for fracture with nonunion
M84.329P	Stress fracture, unspecified humerus, subsequent encounter for fracture with malunion
M84.329S	Stress fracture, unspecified humerus, sequela

M84.41	Pathological fracture, shoulder
M84.411	Pathological fracture, right shoulder
M84.411D	Pathological fracture, right shoulder, subsequent encounter for fracture with routine healing
M84.411G	Pathological fracture, right shoulder, subsequent encounter for fracture with delayed healing
M84.411K	Pathological fracture, right shoulder, subsequent encounter for fracture with nonunion
M84.411P	Pathological fracture, right shoulder, subsequent encounter for fracture with malunion
M84.411S	Pathological fracture, right shoulder, sequela
M84.412	Pathological fracture, left shoulder
M84.412D	Pathological fracture, left shoulder, subsequent encounter for fracture with routine healing
M84.412G	Pathological fracture, left shoulder, subsequent encounter for fracture with delayed healing
M84.412K	Pathological fracture, left shoulder, subsequent encounter for fracture with nonunion
M84.412P	Pathological fracture, left shoulder, subsequent encounter for fracture with malunion
M84.412S	Pathological fracture, left shoulder, sequela
M84.419	Pathological fracture, unspecified shoulder
M84.419D	Pathological fracture, unspecified shoulder, subsequent encounter for fracture with routine healing
M84.419G	Pathological fracture, unspecified shoulder, subsequent encounter for fracture with delayed healing
M84.419K	Pathological fracture, unspecified shoulder, subsequent encounter for fracture with nonunion
M84.419P	Pathological fracture, unspecified shoulder, subsequent encounter for fracture with malunion
M84.419S	Pathological fracture, unspecified shoulder, sequela
M84.42	Pathological fracture, humerus

M84.421	Pathological fracture, right humerus
M84.421A	Pathological fracture, right humerus, initial encounter for fracture
M84.421D	Pathological fracture, right humerus, subsequent encounter for fracture with routine healing
M84.421G	Pathological fracture, right humerus, subsequent encounter for fracture with delayed healing
M84.421K	Pathological fracture, right humerus, subsequent encounter for fracture with nonunion
M84.421P	Pathological fracture, right humerus, subsequent encounter for fracture with malunion
M84.421S	Pathological fracture, right humerus, sequela
M84.422	Pathological fracture, left humerus
M84.422A	Pathological fracture, left humerus, initial encounter for fracture
M84.422D	Pathological fracture, left humerus, subsequent encounter for fracture with routine healing
M84.422G	Pathological fracture, left humerus, subsequent encounter for fracture with delayed healing
M84.422K	Pathological fracture, left humerus, subsequent encounter for fracture with nonunion
M84.422P	Pathological fracture, left humerus, subsequent encounter for fracture with malunion
M84.422S	Pathological fracture, left humerus, sequela
M84.429	Pathological fracture, unspecified humerus
M84.429A	Pathological fracture, unspecified humerus, initial encounter for fracture
M84.429D	Pathological fracture, unspecified humerus, subsequent encounter for fracture with routine healing
M84.429G	Pathological fracture, unspecified humerus, subsequent encounter for fracture with delayed healing
M84.429K	Pathological fracture, unspecified humerus, subsequent encounter for fracture with nonunion

M84.429P	Pathological fracture, unspecified humerus, subsequent encounter for fracture with malunion
M84.429S	Pathological fracture, unspecified humerus, sequela
M96.621	Fracture of humerus following insertion of orthopedic implant, joint prosthesis, or bone plate, right arm
M96.622	Fracture of humerus following insertion of orthopedic implant, joint prosthesis, or bone plate, left arm
M96.629	Fracture of humerus following insertion of orthopedic implant, joint prosthesis, or bone plate, unspecified arm
M97.31XA	Periprosthetic fracture around internal prosthetic right shoulder joint, initial encounter
M97.31XD	Periprosthetic fracture around internal prosthetic right shoulder joint, subsequent encounter
M97.31XS	Periprosthetic fracture around internal prosthetic right shoulder joint, sequela
M97.32XA	Periprosthetic fracture around internal prosthetic left shoulder joint, initial encounter
M97.32XD	Periprosthetic fracture around internal prosthetic left shoulder joint, subsequent encounter
M97.32XS	Periprosthetic fracture around internal prosthetic left shoulder joint, sequela
S42.0	Fracture of clavicle
S42.00	Fracture of unspecified part of clavicle
S42.001	Fracture of unspecified part of right clavicle
S42.002	Fracture of unspecified part of left clavicle
S42.009	Fracture of unspecified part of unspecified clavicle
S42.01	Fracture of sternal end of clavicle
S42.011	Anterior displaced fracture of sternal end of right clavicle
S42.012	Anterior displaced fracture of sternal end of left clavicle
S42.013	Anterior displaced fracture of sternal end of unspecified clavicle
S42.014	Posterior displaced fracture of sternal end of right clavicle

S42.015	Posterior displaced fracture of sternal end of left clavicle
S42.016	Posterior displaced fracture of sternal end of unspecified clavicle
S42.017	Nondisplaced fracture of sternal end of right clavicle
S42.018	Nondisplaced fracture of sternal end of left clavicle
S42.019	Nondisplaced fracture of sternal end of unspecified clavicle
S42.02	Fracture of shaft of clavicle
S42.021	Displaced fracture of shaft of right clavicle
S42.022	Displaced fracture of shaft of left clavicle
S42.023	Displaced fracture of shaft of unspecified clavicle
S42.024	Nondisplaced fracture of shaft of right clavicle
S42.025	Nondisplaced fracture of shaft of left clavicle
S42.026	Nondisplaced fracture of shaft of unspecified clavicle
S42.03	Fracture of lateral end of clavicle
S42.031	Displaced fracture of lateral end of right clavicle
S42.032	Displaced fracture of lateral end of left clavicle
S42.033	Displaced fracture of lateral end of unspecified clavicle
S42.034	Nondisplaced fracture of lateral end of right clavicle
S42.035	Nondisplaced fracture of lateral end of left clavicle
S42.036	Nondisplaced fracture of lateral end of unspecified clavicle
S42.1	Fracture of scapula
S42.10	Fracture of unspecified part of scapula
S42.101	Fracture of unspecified part of scapula, right shoulder
S42.102	Fracture of unspecified part of scapula, left shoulder
S42.109	Fracture of unspecified part of scapula, unspecified shoulder
S42.11	Fracture of body of scapula
S42.111	Displaced fracture of body of scapula, right shoulder
S42.112	Displaced fracture of body of scapula, left shoulder
S42.113	Displaced fracture of body of scapula, unspecified shoulder

S42.114	Nondisplaced fracture of body of scapula, right shoulder
S42.115	Nondisplaced fracture of body of scapula, left shoulder
S42.116	Nondisplaced fracture of body of scapula, unspecified shoulder
S42.12	Fracture of acromial process
S42.121	Displaced fracture of acromial process, right shoulder
S42.122	Displaced fracture of acromial process, left shoulder
S42.123	Displaced fracture of acromial process, unspecified shoulder
S42.124	Nondisplaced fracture of acromial process, right shoulder
S42.125	Nondisplaced fracture of acromial process, left shoulder
S42.126	Nondisplaced fracture of acromial process, unspecified shoulder
S42.13	Fracture of coracoid process
S42.131	Displaced fracture of coracoid process, right shoulder
S42.132	Displaced fracture of coracoid process, left shoulder
S42.133	Displaced fracture of coracoid process, unspecified shoulder
S42.134	Nondisplaced fracture of coracoid process, right shoulder
S42.135	Nondisplaced fracture of coracoid process, left shoulder
S42.136	Nondisplaced fracture of coracoid process, unspecified shoulder
S42.14	Fracture of glenoid cavity of scapula
S42.141	Displaced fracture of glenoid cavity of scapula, right shoulder
S42.142	Displaced fracture of glenoid cavity of scapula, left shoulder
S42.143	Displaced fracture of glenoid cavity of scapula, unspecified shoulder
S42.144	Nondisplaced fracture of glenoid cavity of scapula, right shoulder

S42.145	Nondisplaced fracture of glenoid cavity of scapula, left shoulder
S42.146	Nondisplaced fracture of glenoid cavity of scapula, unspecified shoulder
S42.19	Fracture of other part of scapula
S42.191	Fracture of other part of scapula, right shoulder
S42.192	Fracture of other part of scapula, left shoulder
S42.199	Fracture of other part of scapula, unspecified shoulder
S42.201A	Unspecified fracture of upper end of right humerus, initial encounter for closed fracture
S42.201D	Unspecified fracture of upper end of right humerus, subsequent encounter for fracture with routine healing
S42.202A	Unspecified fracture of upper end of left humerus, initial encounter for closed fracture
S42.202D	Unspecified fracture of upper end of left humerus, subsequent encounter for fracture with routine healing
S42.291A	Other displaced fracture of upper end of right humerus, initial encounter for closed fracture
S42.291D	Other displaced fracture of upper end of right humerus, subsequent encounter for fracture with routine healing
S42.292A	Other displaced fracture of upper end of left humerus, initial encounter for closed fracture
S42.292D	Other displaced fracture of upper end of left humerus, subsequent encounter for fracture with routine healing
S42.301D	Unspecified fracture of shaft of humerus, right arm, subsequent encounter for fracture with routine healing
S42.302D	Unspecified fracture of shaft of humerus, left arm, subsequent encounter for fracture with routine healing

Presentation and Etiology

Causes and Risk Factors

Most proximal humerus fractures are due to falls. Factors that increase the risk of fracture or fall include[1,8]:

- Female sex
- Increasing age
- White race
- A recent decline in health status
- Insulin-dependent diabetes mellitus
- Low bone density
- Depression
- History of fractures or falls
- Impaired balance
- Neuromuscular weakness
- Poor vision
- Alcohol use
- Seizure medication use
- Maternal history of hip fracture

Clavicle fracture

- Male sex
- Younger in age
- A direct blow to the shoulder or falling directly on the shoulder[9]

Scapula fracture[10]

- Blunt trauma injuries that are high impact (e.g., motor vehicle accidents)
- Falls

Clinical Presentation

- Fall directly on the arm or shoulder
    - Less common:
        - Direct trauma to the proximal arm
        - Seizure
- Pain at rest
- Pain exacerbated by arm movement
- Inability to use arm functionally

Typical Physical Exam Findings

- Visible deformity possible
- Ecchymosis
- Soft tissue swelling
- Arm held in adduction
- Tenderness to palpation
- Guarding
- Crepitus
- Limited active and passive ROM
- Motor function may not be fully assessed secondary to pain
- Decreased distal pulses or sensations may indicate neurovascular injury secondary to fracture[4]

Typical Diagnostic Findings

Radiography is recommended. MRI, CT without contrast, or a CT angiogram may also help diagnose a fracture. A CT scan is usually not performed for suspected clavicle fractures.

Care Path Services & Medical Necessity Criteria

Conservative Therapy

Service: Physical Therapy

General Guidelines

- **Units, Frequency, & Duration:** There is insufficient evidence to support an exact timing for the start of rehabilitation and frequency.[11]
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:**
    - Non-surgical management is appropriate for[6]:
        - 2-part fractures
        - 3- and 4-part fractures, if there is poor baseline function or are comorbidities that preclude surgery
    - If surgery is not indicated, conservative management with physical therapy is appropriate.
        - Humerus fracture: an initial period of immobilization (sling) and non-weight-bearing is indicated, followed by early ROM (2 weeks) if there is no displacement noted on the first follow-up radiograph.[4]
        - Scapula fracture: a sling can be used until the pain improves (6 weeks). Stretching is recommended until functional improvement returns or until there is a reasonable return to daily activities (6 months - 1 year).[11]
        - Clavicle fracture: a sling can be used to keep the shoulder in position to heal. Gentle shoulder exercises can prevent stiffness and maintain elbow motion.[10] Functional improvement can take 4-6 months.
        - Home exercises may be done in the early phase after the physical therapy (PT) consultation/education. Formal physical therapy is indicated if the patient can complete ROM exercises at home.
- **Exclusions:** There is insufficient evidence to support the use of electrotherapy.[11]

Medical Necessity Criteria

Indications

- ➔ **Physical therapy** is considered appropriate if **ALL** of the following are **TRUE:**
  - ◆ A radiograph or advanced imaging study confirms the diagnosis of a fracture.

Non-Indications

- ➔ **Physical therapy** is not considered appropriate if **ALL** of the following are **TRUE**[4]:
  - ◆ Prior to orthopedic referral and **ANY** of the following are **TRUE**:
    - Displaced fracture
    - Fracture dislocation
    - Neurovascular injury
    - Open fracture
    - Fracture of the anatomic neck

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
97010	Application of hot or cold packs
97012	Application of mechanical traction
97014	Application of electrical stimulation
97016	Application of vasopneumatic devices
97018	Application of paraffin bath
97022	Application of whirlpool
97024	Application of diathermy
97026	Application of infrared modality
97028	Application of ultraviolet modality
97032	Application of manual electrical stimulation

97033	Application of iontophoresis
97034	Application of contrast baths
97035	Application of ultrasound modality
97036	Application of Hubbard tank
97039	Modality service
97110	Therapeutic exercises to develop strength and endurance, range of motion and flexibility
97112	Neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and proprioception for sitting and standing activities
97113	Aquatic therapy with therapeutic exercises
97116	Gait training including stair climbing
97124	Massage including effleurage and petrissage; Massage including effleurage and tapotement; Massage including effleurage, petrissage and tapotement; Massage including petrissage and tapotement
97139	Therapeutic procedure
97140	Manual therapy techniques
97150	Group therapeutic procedures
97164	Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient 20 minutes; Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient and family 20 minutes; Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient's family 20 minutes
97530	Direct therapeutic activities with use of dynamic activities to improve functional performance, each 15 minutes
97535	Home management training, direct one-on-one contact, each 15 minutes; Self-care management training, direct one-on-one

	contact, each 15 minutes
97537	Community reintegration training, direct one-on-one contact, each 15 minutes; Work reintegration training, direct one-on-one contact, each 15 minutes
97542	Wheelchair management, each 15 minutes
97545	Work conditioning, initial 2 hours; Work hardening, initial 2 hours
97546	Work conditioning, each additional hour; Work hardening, each additional hour
97750	Physical performance measurement with written report, each 15 minutes; Physical performance test with written report, each 15 minutes
97755	Assistive technology assessment with written report, direct one-on-one contact, each 15 minutes
97760	Initial orthotic management and training with assessment and fitting of lower extremities and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremities, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity, each 15 minutes; Initial orthotic management and training with assessment and fitting of trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of upper and lower extremities and trunk, each 15 minutes
97761	Initial prosthetic training of lower extremities, each 15 minutes; Initial prosthetic training of lower extremity, each 15 minutes Initial prosthetic training of upper and lower extremities, each 15 minutes; Initial prosthetic training of upper extremities, each 15 minutes; Initial prosthetic training of upper extremity, each 15

	minutes
97763	Subsequent orthotic management and training of lower extremities and trunk, each 15 minutes Subsequent orthotic management and training of lower extremity and trunk, each 15 minutes Subsequent orthotic management and training of lower extremity, each 15 minutes Subsequent orthotic management and training of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic management and training of upper extremities and trunk, each 15 minutes Subsequent orthotic management and training of upper extremities, each 15 minutes Subsequent orthotic management and training of upper extremity and trunk, each 15 minutes Subsequent orthotic management and training of upper extremity, each 15 minutes Subsequent orthotic management of lower extremities and trunk, each 15 minutes Subsequent orthotic management of lower extremity and trunk, each 15 minutes Subsequent orthotic management of lower extremity, each 15 minutes Subsequent orthotic management of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic management of upper extremities and trunk, each 15 minutes Subsequent orthotic management of upper extremities, each 15 minutes Subsequent orthotic management of upper extremity and trunk, each 15 minutes Subsequent orthotic management of upper extremity, each 15 minutes Subsequent orthotic training of lower extremity, each 15 minutes Subsequent orthotic training of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic training of upper extremities and trunk,

	each 15 minutes Subsequent orthotic training of upper extremities, each 15 minutes Subsequent orthotic training of upper extremity and trunk, each 15 minutes Subsequent orthotic training of upper extremity, each 15 minutes Subsequent prosthetic management and training of lower extremities and trunk, each 15 minutes Subsequent prosthetic management and training of lower extremity and trunk, each 15 minutes Subsequent prosthetic management and training of lower extremity, each 15 minutes Subsequent prosthetic management and training of upper and lower extremities and trunk, each 15 minutes Subsequent prosthetic management and training of upper extremities and trunk, each 15 minutes Subsequent prosthetic management and training of upper extremities, each 15 minutes Subsequent prosthetic management and training of upper extremity and trunk, each 15 minutes Subsequent prosthetic management and training of upper extremity, each 15 minutes Subsequent prosthetic management of lower extremities and trunk, each 15 minutes Subsequent prosthetic management of lower extremity and trunk, each 15 minutes Subsequent prosthetic management of lower extremity, each 15 minutes Subsequent prosthetic management of upper and lower extremities and trunk, each 15 minutes Subsequent prosthetic management of upper extremities and trunk, each 15 minutes Subsequent prosthetic management of upper extremities, each 15 minutes Subsequent prosthetic management of upper extremity and trunk, each 15 minutes Subsequent prosthetic management of upper extremity,

	each 15 minutes Subsequent prosthetic training of lower extremity, each 15 minutes Subsequent prosthetic training of upper and lower extremities and trunk, each 15 minutes Subsequent prosthetic training of upper extremities and trunk, each 15 minutes Subsequent prosthetic training of upper extremities, each 15 minutes Subsequent prosthetic training of upper extremity and trunk, each 15 minutes Subsequent prosthetic training of upper extremity, each 15 minutes Subsequent orthotic management and training of lower extremities, each 15 minutes Subsequent orthotic management of lower extremities, each 15 minutes Subsequent orthotic training of lower extremities and trunk, each 15 minutes Subsequent orthotic training of lower extremities, each 15 minutes Subsequent orthotic training of lower extremity and trunk, each 15 minutes Subsequent prosthetic management and training of lower extremities, each 15 minutes Subsequent prosthetic management of lower extremities, each 15 minutes Subsequent prosthetic training of lower extremities and trunk, each 15 minutes Subsequent prosthetic training of lower extremities, each 15 minutes Subsequent prosthetic training of lower extremity and trunk, each 15 minutes
97799	Unlisted physical medicine/rehabilitation service or procedure
420	Physical Therapy
421	Physical Therapy: Visit Charge

422	Physical Therapy: Hourly Charge
423	Physical Therapy: Group Rate
424	Physical Therapy: Evaluation/Re-evaluation
429	Physical Therapy: Other Physical Therapy
97163	Evaluation of physical therapy, typically 45 minutes
97161	Evaluation of physical therapy, typically 20 minutes
97162	Evaluation of physical therapy, typically 30 minutes
97168	Re-evaluation of occupational therapy established plan of care, typically 30 minutes
97165	Evaluation of occupational therapy, typically 30 minutes
97166	Evaluation of occupational therapy, typically 45 minutes
97167	Evaluation of occupational therapy established plan of care, typically 60 minutes
G0151	Hhcp-serv of pt,ea 15 min

Advanced Imaging

Service: Computed Tomography (CT) without Contrast

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:**
  - While radiography is the recommended initial assessment for traumatic shoulder pain, CT may be indicated for characterizing fracture patterns and for surgical planning.[3]
  - Medial clavicle fractures may require CT.
  - Although most scapular fractures are treated nonoperatively, many require a non-contrast CT to define the fracture pattern and the extent of glenoid involvement.
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **CT** is considered appropriate if **ALL** of the following are **TRUE**[3]:

◆ Evaluation of fracture patterns and displacement to determine the appropriate treatment

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
73200	Computed tomography (CT) of upper extremity without contrast material
73201	CT scan of arm with contrast

Service: Computed Tomography Angiogram (CTA)

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** While radiography is the recommended initial assessment for traumatic shoulder pain, CTA is indicated if there is a clinical suspicion of vascular compromise in the setting of a proximal humerus fracture.[3] CTA is more commonly used in cases of fracture dislocation, as the axillary artery can be injured in cases of dislocation. This is especially true in patients older than 50.
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **CTA** is considered appropriate if **ANY** of the following is **TRUE**[3]:

- Suspected vascular compromise in the setting of a fracture
- Chronic presentation
- Malunion
- There is a concern for the proximity of vascular structures.

Non-Indications

➔ **CTA** is not considered appropriate if **ANY** of the following is **TRUE**[12]:

- Pregnancy
- Significant previous allergic reactions to contrast medium
- Diabetes mellitus

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
23350	Injection procedure for enhanced CT arthrography of glenohumeral joint
73206	Computed tomographic angiography (CTA) of upper extremity with contrast material and image postprocessing; Computed tomographic angiography (CTA) of upper extremity with contrast material, including

	noncontrast images and image postprocessing

Surgical Management

Service: Open Reduction and Internal Fixation (ORIF)

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:**
  - ORIF is recommended for displaced 2-part fractures or 3- and 4-part fractures.[8]
  - ORIF is indicated at 3-6 months post-injury if there is no evidence of progressive healing on consecutive radiographs that are 6-8 weeks apart (i.e., nonunion).[13]
    - It may require an autogenous or allograft bone augmentation.
  - ORIF is indicated for symptomatic malunion.[14]
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Open reduction and internal fixation** is considered appropriate if **ANY** of the following are **TRUE**[7]:

◆ The patient has a **humerus fracture** and **ALL** of the following are **TRUE**[7]:

- Radiography or an advanced imaging study shows a displaced 2-part fracture or a 3- or 4-part fracture.
- The patient has **ANY** of the following:
  - Subsequent radiography (more than 12 weeks after previous radiography) does not show evidence of progressive healing (i.e., nonunion).
  - Diagnosed symptomatic malunion
  - Subsequent radiography after the initial presentation reveals a new displacement or an angular deformity of fracture fragments.

◆ The patient has a **clavicle fracture** and **ALL** of the following are **TRUE**[10,14]:

- The patient has a significantly displaced clavicle fracture or a shortened clavicle fracture.
- The patient is considered low-risk for surgery because they do **not** have any surgical risk factors.

- ◆ The patient has a **scapula fracture** and **ALL** of the following are **TRUE**[15-16]:
  - The patient has **ANY** of the following:
    - Acute scapula spine fracture
    - Significantly displaced scapular body fracture
    - Displaced scapula fracture that extends into the glenoid
    - Displaced coracoid fracture
  - The patient is considered low-risk for surgery because they do **not** have any surgical risk factors.

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
23615	Open treatment of proximal humerus fractures
23515	Open treatment of clavicular fracture, includes internal fixation, when performed
23585	Open treatment is scapular fracture by the glenoid or acromion
23630	Open treatment of greater tuberosity fracture
23670	Open treatment of shoulder dislocation with fracture of greater tuberosity
23680	Open treatment of shoulder dislocation with surgical neck fracture

Service: Intramedullary Fixation

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:**
  - Intramedullary fixation may be appropriate for[7,17]:
    - 2- and 3-part fractures in younger patients if a good reduction is feasible
    - Fractures that extend into the humeral shaft
    - Impending pathologic fractures
  - This procedure is not recommended for scapula fractures.
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Intramedullary fixation** is considered appropriate if **ANY** of the following is **TRUE**[6,13,18]:

- Impending or complete pathologic humerus and clavicle fracture
- 2- and 3-part humerus fractures in younger patients
- Fractures extend into the humeral shaft.
- Displaced clavicle fracture

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
24516	Reduction of fracture of shaft of humerus with fixation using intramedullary implant and cerclage; Reduction of fracture of shaft of humerus with fixation using intramedullary implant and locking screws; Reduction of fracture of shaft of humerus with fixation using intramedullary implant, cerclage and locking screws; Reduction of fracture of shaft of humerus with fixation using intramedullary implant

Service: Reverse Shoulder Arthroplasty (RSA)

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** RSA is recommended for 3- and 4-part humerus fractures in patients above 65 years of age.[7,8]
    - Irreparable fracture or significant comminution
    - High likelihood of humeral head osteonecrosis
    - Poor tuberosity bone quality
    - Chronic rotator cuff tear or arthritis
    - Revision of failed fixation
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Reverse shoulder arthroplasty** is considered appropriate if **ALL** of the following are **TRUE**[7,8,19]:

- ◆ Radiography shows a 3- or 4- part humerus fracture.
- ◆ The patient has **ANY** of the following:
    - An irreparable fracture or significant comminution
    - High likelihood of humeral head osteonecrosis
    - Poor tuberosity bone quality
    - A chronic rotator cuff tear or arthritis
    - Revision of failed fixation
    - Proximal humeral malunion

Non-Indications

➔ **Reverse shoulder arthroplasty** is not considered appropriate if **ANY** of the following is **TRUE**[7,8]:

- ◆ Permanent axillary nerve dysfunction
- ◆ Global deltoid muscle dysfunction
- ◆ Global brachial plexopathy
- ◆ Scapular spine fracture
- ◆ Glenoid fracture or deficiency that precludes stable fixation
- ◆ Open fracture

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
23472	Total arthroplasty of glenohumeral joint; Total arthroplasty of glenohumeral joint with glenoid and proximal humeral replacement

Service: Hemiarthroplasty

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** This procedure is recommended for severe fractures of the humeral head and anatomic neck that have a high chance of progressing to osteonecrosis.[20] Recommended for patients under 60 years of age who have good bone quality.
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Hemiarthroplasty** is considered appropriate if **ALL** of the following are **TRUE**[20]:

- ◆ Displaced 3-4-part fracture in a patient with good bone quality

Non-Indications

None.

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
23470	Hemiarthroplasty of glenohumeral joint

Surgical Risk Factors

Patient Medical Risk Stratification

Patient Risk Score	Patient Characteristic	Min Range	Max Range	Guidance
1- Very Low Risk	No known medical problems			
2- Low Risk	Hypertension		180/110 mm Hg	
2- Low Risk	Asthma	peak flow >80% of predicted or personal best value		
2- Low Risk	Prior history of alcohol abuse			Screen for liver disease and malnutrition
2- Low Risk	Prior history of tobacco use			
3- Intermediate Risk	Asthma	peak flow <80% of predicted or personal best value		
3- Intermediate Risk	Active alcohol abuse			
3- Intermediate Risk	Age	65	75	
3- Intermediate Risk	History of treated, stable coronary artery disease (CAD)			
3- Intermediate Risk	Stable atrial fibrillation			
3- Intermediate Risk	Diabetes mellitus	HbA1C >7%		
3- Intermediate Risk	Morbid obesity	BMI 30	BMI 40	
3- Intermediate Risk	Anemia	hemoglobin <11 (females), <12 (males)		Workup to identify etiology
3- Intermediate Risk	HIV	CD4 <200 cells/mm3		Get clearance from HIV specialist

3- Intermediate Risk	Rheumatologic disease			Preoperative consultation with rheumatologist re: perioperative medication management
3- Intermediate Risk	Peripheral vascular disease or history of peripheral vascular bypass	ankle-brachial pressure index (ABPI) <0.9		Preoperative consultation with vascular surgeon
3- Intermediate Risk	History of venous thromboembolism (VTE)			
3- Intermediate Risk	Well-controlled obstructive sleep apnea			
3- Intermediate Risk	Malnutrition	transferrin <200 mg/dL albumin <3.5 g/dL prealbumin <22.5 mg/dL total lymphocyte count <1200-1500 cell/mm3 BMI <18		Preoperative consultation with nutritionist
3- Intermediate Risk	Active tobacco Use			Enroll patient in smoking cessation program
4- High Risk	Diabetes mellitus with complications	HbA1c >8%		
4- High Risk	Age	76	85	
4- High Risk	Oxygen dependent pulmonary disease			
4- High Risk	Sickle cell anemia			
4- High Risk	Obesity	BMI 40		
4- High Risk	Cirrhosis, history of hepatic decompensation or variceal bleeding			

4- High Risk	Impaired cognition; dementia			
4- High Risk	Compensated CHF			
4- High Risk	Cerebrovascular disease			
4- High Risk	Uncontrolled or suspected obstructive sleep apnea (OSA)			
4- High Risk	Renal insufficiency	serum creatinine >1.5 mg/dL or creatinine clearance <100 mL/min		
4- High Risk	Opioid dependence			
4- High Risk	End Stage Liver Disease			
4- High Risk	Uncontrolled Seizure Disorder			
4- High Risk	History of Malignant Hyperthermia			
5- Very High Risk	Cardiovascular: unstable angina, recent myocardial infarction (60 days), uncontrolled atrial fibrillation or other high-grade abnormal rhythm, severe valvular disease, decompensated heart failure			
5- Very High Risk	Primary pulmonary hypertension			Preoperative consultation with pulmonologist warranted
5- Very High Risk	Cirrhosis or severe liver disease, history of hepatic decompensation or variceal bleeding			
5- Very High Risk	Severe frailty, dependence for ADLs, or history of 3 or more falls in last 6 mos			
5- Very High Risk	Obesity		BMI >50	
5- Very High Risk	Age		>85	

5- Very High Risk	History of VTE with CI to anticoagulation, failure of anticoagulation, cessation of anticoagulation therapy secondary to bleeding			Preoperative consultation with hematologist or internist
5- Very High Risk	Renal failure requiring dialysis			
5- Very High Risk	Immunosuppression			
5- Very High Risk	Chronic Pain			

Postoperative Care

Service: Skilled Nursing Facility (SNF)

General Guidelines

- **Units, Frequency, & Duration:** This is determined per functional assessment.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** Non-home discharge may be indicated after surgically treating a proximal humerus fracture, especially after a reverse arthroplasty. For hospitalized patients with a proximal humerus fracture, risk factors for non-home discharge include:
    - Aged over 75 years
    - Concomitant fractures
    - Adverse events
    - Multiple medical comorbidities including dementia, congestive heart failure, and obesity[9,21]
- **Exclusions:** Not recommended for a clavicle or scapula fracture. Functional assessments should be determined perioperatively.

Medical Necessity Criteria

Indications

➔ **Skilled nursing facilities** are considered appropriate if **ALL** of the following is **TRUE**[21]:

- ◆ The patient has **ANY** of the following:
    - A neurologic deficit occurs postoperatively.
    - There are postoperative complications.
    - The patient has multiple medical comorbidities.
    - The patient requires maximum assistance for mobility.
    - The patient does not have others to take care of them at home.
- ◆ The patient underwent surgery.

Non-Indications

Functional assessments should be determined perioperatively.

Site of Service Criteria

Skilled nursing facility (SNF)

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
99304	Level 1 initial nursing facility care for evaluation and management of patient with problem of low severity, including comprehensive history and physical examination, and medical decision-making of low complexity, typical time 25 minutes; Level 1 initial nursing facility care for evaluation and management of patient with problem of low severity, including detailed history and physical examination, and straightforward medical decision-making, typical time 25 minutes
99305	Level 2 initial nursing facility care for evaluation and management of patient with problem of moderate severity, including comprehensive history and physical examination, and medical decision-making of moderate complexity, typical time 35 minutes
99306	Level 3 initial nursing facility care for evaluation and management of patient with problem of high severity, including comprehensive history and physical examination, and medical decision-making of high complexity typical time 45 minutes
99307	Level 1 subsequent nursing facility care for evaluation and management of patient, including problem-focused interval history and physical examination, and straightforward medical decision-making, typical time 10 minutes; Level 1 subsequent nursing facility care for evaluation and management of patient, including problem-focused interval history and physical examination, typical time 10 minutes; Level 1 subsequent nursing facility care for evaluation and management of patient, including problem-focused interval history and straightforward medical decision-making, typical time 10 minutes; Level 1 subsequent nursing facility care for evaluation and management of patient, including problem-focused physical examination and straightforward medical decision-making, typical time 10 minutes

99308	Level 2 subsequent nursing facility care for evaluation and management of patient, including expanded problem-focused interval history and medical decision-making of low complexity, typical time 15 minutes; Level 2 subsequent nursing facility care for evaluation and management of patient, including expanded problem-focused interval history and physical examination, and medical decision-making of low complexity, typical time 15 minutes; Level 2 subsequent nursing facility care for evaluation and management of patient, including expanded problem-focused interval history and physical examination, typical time 15 minutes; Level 2 subsequent nursing facility care for evaluation and management of patient, including expanded problem-focused physical examination and medical decision-making of low complexity, typical time 15 minutes
99309	Level 3 subsequent nursing facility care for evaluation and management of patient, including detailed interval history and medical decision-making of moderate complexity, typical time 25 minutes; Level 3 subsequent nursing facility care for evaluation and management of patient, including detailed interval history and physical examination, and medical decision-making of moderate complexity. typical time 25 minutes; Level 3 subsequent nursing facility care for evaluation and management of patient, including detailed interval history and physical examination, typical time 25 minutes; Level 3 subsequent nursing facility care for evaluation and management of patient, including detailed physical examination and medical decision-making of moderate complexity, typical time 25 minutes
99310	Level 4 subsequent nursing facility care for evaluation and management of patient, including comprehensive interval history and medical decision-making of high complexity, typical time 35 minutes; Level 4 subsequent nursing facility care for evaluation and management of patient, including comprehensive interval history and physical examination, and medical decision-making of high complexity, typical time 35 minutes; Level 4 subsequent nursing facility care for evaluation and management of patient, including comprehensive interval history and physical examination, typical time 35 minutes; Level 4

	subsequent nursing facility care for evaluation and management of patient, including comprehensive physical examination and medical decision-making of high complexity, typical time 35 minutes
99315	Nursing facility discharge day management, 30 minutes or less
99316	Nursing facility day management, more than 30 minutes
G0128	Corf skilled nursing service

Service: Physical Therapy

General Guidelines

- **Units, Frequency, & Duration:** There is insufficient evidence to support an exact protocol regarding units and frequency.
- **Criteria for Subsequent Requests:** The patient has not met physical therapy goals.
- **Recommended Clinical Approach:**
    - RSA:
        - Postoperative rehabilitation should begin immediately and progress gradually, depending on functional gains.[21]
    - ORIF:
        - Postoperative rehabilitation should begin immediately and progress gradually.
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Physical therapy** is considered appropriate if **ANY** of the following is **TRUE**[21]:

- The patient had surgical intervention for a fracture of the humerus or scapula.
- The patient has a healed clavicle fracture with decreased shoulder motion

Non-Indications

➔ **Physical therapy** is not considered appropriate if **ANY** of the following is **TRUE**:

- Acute clavicle fractures are not indicated for physical therapy

Site of Service Criteria

Outpatient

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
97010	Application of hot or cold packs
97012	Application of mechanical traction

97014	Application of electrical stimulation
97016	Application of vasopneumatic devices
97018	Application of paraffin bath
97022	Application of whirlpool
97024	Application of diathermy
97026	Application of infrared modality
97028	Application of ultraviolet modality
97032	Application of manual electrical stimulation
97033	Application of iontophoresis
97034	Application of contrast baths
97035	Application of ultrasound modality
97036	Application of Hubbard tank
97039	Modality service
97110	Therapeutic exercises to develop strength and endurance, range of motion and flexibility
97112	Neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and proprioception for sitting and standing activities
97113	Aquatic therapy with therapeutic exercises
97116	Gait training including stair climbing
97124	Massage including effleurage and petrissage; Massage including effleurage and tapotement; Massage including effleurage, petrissage and tapotement; Massage including petrissage and tapotement
97139	Therapeutic procedure
97140	Manual therapy techniques
97150	Group therapeutic procedures
97164	Physical therapy re-evaluation of established plan of care,

	high complexity, typical time with patient 20 minutes; Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient and family 20 minutes; Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient's family 20 minutes
97530	Direct therapeutic activities with use of dynamic activities to improve functional performance, each 15 minutes
97535	Home management training, direct one-on-one contact, each 15 minutes; Self-care management training, direct one-on-one contact, each 15 minutes
97537	Community reintegration training, direct one-on-one contact, each 15 minutes; Work reintegration training, direct one-on-one contact, each 15 minutes
97542	Wheelchair management, each 15 minutes
97545	Work conditioning, initial 2 hours; Work hardening, initial 2 hours
97546	Work conditioning, each additional hour; Work hardening, each additional hour
97750	Physical performance measurement with written report, each 15 minutes; Physical performance test with written report, each 15 minutes
97755	Assistive technology assessment with written report, direct one-on-one contact, each 15 minutes
97760	Initial orthotic management and training with assessment and fitting of lower extremities and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremities, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity, each 15 minutes; Initial orthotic management and training with assessment and fitting of

	trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of upper and lower extremities and trunk, each 15 minutes
97761	Initial prosthetic training of lower extremities, each 15 minutes; Initial prosthetic training of lower extremity, each 15 minutes Initial prosthetic training of upper and lower extremities, each 15 minutes; Initial prosthetic training of upper extremities, each 15 minutes; Initial prosthetic training of upper extremity, each 15 minutes
97763	Subsequent orthotic management and training of lower extremities and trunk, each 15 minutes Subsequent orthotic management and training of lower extremity and trunk, each 15 minutes Subsequent orthotic management and training of lower extremity, each 15 minutes Subsequent orthotic management and training of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic management and training of upper extremities and trunk, each 15 minutes Subsequent orthotic management and training of upper extremities, each 15 minutes Subsequent orthotic management and training of upper extremity and trunk, each 15 minutes Subsequent orthotic management and training of upper extremity, each 15 minutes Subsequent orthotic management of lower extremities and trunk, each 15 minutes Subsequent orthotic management of lower extremity and trunk, each 15 minutes Subsequent orthotic management of lower extremity, each 15 minutes Subsequent orthotic management of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic management of upper extremities and trunk, each 15 minutes

	Subsequent orthotic management of upper extremities, each 15 minutes Subsequent orthotic management of upper extremity and trunk, each 15 minutes Subsequent orthotic management of upper extremity, each 15 minutes Subsequent orthotic training of lower extremity, each 15 minutes Subsequent orthotic training of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic training of upper extremities and trunk, each 15 minutes Subsequent orthotic training of upper extremities, each 15 minutes Subsequent orthotic training of upper extremity and trunk, each 15 minutes Subsequent orthotic training of upper extremity, each 15 minutes Subsequent prosthetic management and training of lower extremities and trunk, each 15 minutes Subsequent prosthetic management and training of lower extremity and trunk, each 15 minutes Subsequent prosthetic management and training of lower extremity, each 15 minutes Subsequent prosthetic management and training of upper and lower extremities and trunk, each 15 minutes Subsequent prosthetic management and training of upper extremities and trunk, each 15 minutes Subsequent prosthetic management and training of upper extremities, each 15 minutes Subsequent prosthetic management and training of upper extremity and trunk, each 15 minutes Subsequent prosthetic management and training of upper extremity, each 15 minutes Subsequent prosthetic management of lower extremities and trunk, each 15 minutes Subsequent prosthetic management of lower extremity and trunk, each 15 minutes

	Subsequent prosthetic management of lower extremity, each 15 minutes Subsequent prosthetic management of upper and lower extremities and trunk, each 15 minutes Subsequent prosthetic management of upper extremities and trunk, each 15 minutes Subsequent prosthetic management of upper extremities, each 15 minutes Subsequent prosthetic management of upper extremity and trunk, each 15 minutes Subsequent prosthetic management of upper extremity, each 15 minutes Subsequent prosthetic training of lower extremity, each 15 minutes Subsequent prosthetic training of upper and lower extremities and trunk, each 15 minutes Subsequent prosthetic training of upper extremities and trunk, each 15 minutes Subsequent prosthetic training of upper extremities, each 15 minutes Subsequent prosthetic training of upper extremity and trunk, each 15 minutes Subsequent prosthetic training of upper extremity, each 15 minutes Subsequent orthotic management and training of lower extremities, each 15 minutes Subsequent orthotic management of lower extremities, each 15 minutes Subsequent orthotic training of lower extremities and trunk, each 15 minutes Subsequent orthotic training of lower extremities, each 15 minutes Subsequent orthotic training of lower extremity and trunk, each 15 minutes Subsequent prosthetic management and training of lower extremities, each 15 minutes Subsequent prosthetic management of lower extremities, each 15 minutes

	Subsequent prosthetic training of lower extremities and trunk, each 15 minutes Subsequent prosthetic training of lower extremities, each 15 minutes Subsequent prosthetic training of lower extremity and trunk, each 15 minutes
97799	Unlisted physical medicine/rehabilitation service or procedure
420	Physical Therapy
421	Physical Therapy: Visit Charge
422	Physical Therapy: Hourly Charge
423	Physical Therapy: Group Rate
424	Physical Therapy: Evaluation/Re-evaluation
429	Physical Therapy: Other Physical Therapy
97163	Evaluation of physical therapy, typically 45 minutes
97161	Evaluation of physical therapy, typically 20 minutes
97162	Evaluation of physical therapy, typically 30 minutes
97168	Re-evaluation of occupational therapy established plan of care, typically 30 minutes
97165	Evaluation of occupational therapy, typically 30 minutes
97166	Evaluation of occupational therapy, typically 45 minutes
97167	Evaluation of occupational therapy established plan of care, typically 60 minutes
G0151	Hhcp-serv of pt,ea 15 min

Service: Home Health Care

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** May be recommended for postoperative care if outpatient treatment is not appropriate.
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Home health care** is considered appropriate if **ALL** of the following are **TRUE**:

- The patient lives with those that are unable to care for the patient postoperatively
- The patient had surgical intervention for a fracture of the humerus or scapula or an unstable fracture being treated nonoperatively.

Non-Indications

None.

Site of Service Criteria

Home

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
99509	Home visit for assistance with activities of daily living and personal care
99600	Unlisted home visit procedure; Unlisted home visit service
99334	Level 1 rest home visit for evaluation and management of established patient with minor and/or self-limited problem, including problem-focused interval history and physical examination, and straightforward medical decision-making, typical time with patient, family, and/or caregiver 15 minutes

G0129	Partial hosp prog service
G0283	Elec stim other than wound

References

1. Palvanen M, Kannus P, Niemi S, Parkkari J. Update in the Epidemiology of Proximal Humeral Fractures. *Clin Orthop Relat Res*. 2006;442:87-92.
2. Kim SH, Szabo RM, Marder RA. Epidemiology of humerus fractures in the United States: nationwide emergency department sample, 2008. *Arthritis Care Res.* 2012;64: 407-414.
3. Amini B, Beckmann NM, Beaman FD, et al. ACR Appropriateness Criteria® Shoulder Pain–Traumatic. *J Am Coll Radiol*. 2018;15(5):S171 - S188.
4. Clement ND, Duckworth AD, McQueen MM, Court-Brown CM. The outcome of proximal humeral fractures in the elderly: predictors of mortality and function. Bone Joint J 2014; 96-B:970
5. Visser CPJ, Coene LNJEM, Brand R, Tavy DLJ. Nerve lesions in proximal humeral fractures. Journal of Shoulder and Elbow Surgery. 2001;10(5):421-427. doi:10.1067/mse.2001.118002
6. Hasty EK, Jernigan EW, Soo A, Varkey DT, Kamath GV. Trends in surgical management and costs for operative treatment of proximal humerus fractures in the elderly. *Orthopedics*. 2017;40(4):e641-7.
7. Kancherla VK, Singh A, Anakwenze OA. Management of Acute Proximal Humeral Fractures. *J Am Acad Orthop Surg.* 2017; 25(1):42-52.
8. Jobin CM, Galdi B, Anakwenze OA, Ahmad CS, Levine WN. Reverse Shoulder Arthroplasty for the Management of Proximal Humerus Fractures. *J Am Acad Orthop Surg.* 2015;23(3):190-201.
9. Neuhaus V, Swellengrebel CH, Bossen JK, Ring D. What are the factors influencing outcome among patients admitted to a hospital with a proximal humeral fracture? Clin Orthop Relat Res. 2013;471(5):1698-1706.
10. American Academy of Orthopedic Surgeons. Scapula (Shoulder Blade) Fractures. orthoinfo.aaos.org. 2020. https://orthoinfo.aaos.org/en/diseases--conditions/scapula-shoulder-blade-fractures.
11. Hodgson S. Proximal Humerus Fracture Rehabilitation. Clin Orthop Relat Res. 2006;442:131-138.
12. American College of Radiology. ACR Manual on Contrast Media. https://www.acr.org/-/media/ACR/Files/Clinical-Resources/Contrast_Media.pdf. 2022.
13. Cadet ER, Yin B; Schulz B, et al. Proximal Humerus and Humeral Shaft Nonunions. J Am Acad Orthop Surg. 2013;21(9):538-547.
14. Sidler-Maier CC, Dedy NJ, Schemitsch EH, McKee MD. Clavicle Malunions: Surgical Treatment and Outcome-a Literature Review. HSS J. 2018;14(1):88-98. doi:10.1007/s11420-017-9583-3
15. Jones CB, Sietsema DL. Analysis of operative versus nonoperative treatment of displaced scapular fractures. Clin Orthop Relat Res. 2011;469(12):3379-3389. doi:10.1007/s11999-011-2016-6
16. Cole PA, Freeman G, Dubin JR. Scapula fractures. Curr Rev Musculoskelet Med. 2013;6(1):79-87. doi:10.1007/s12178-012-9151-x

17. Sears BW, Hatzidakis AM, Johnston PS. Intramedullary Fixation for Proximal Humeral Fractures. J Am Acad Orthop Surg. 2020;28(9):e374-e383.
18. Wong J, Newman JM, Gruson KI. Outcomes of intramedullary nailing for acute proximal humerus fractures: a systematic review. J Orthop Traumatol. 2016;17(2):113-122. doi:10.1007/s10195-015-0384-5
19. Kelly BJ, Myeroff CM. Reverse Shoulder Arthroplasty for Proximal Humerus Fracture. Curr Rev Musculoskelet Med. 2020;13(2):186-199. doi:10.1007/s12178-020-09597-0
20. Princeton Orthopedic Associates. Shoulder Hemiarthroplasty. Accessed: May 13, 2020. https://www.princetonorthopaedic.com/procedures/shoulder/shoulder-hemiarthroplasty/
21. Boudreau S, Boudreau ED, Higgins LD, Wilcox III RB. Rehabilitation following reverse total shoulder arthroplasty. J Orthop Sports Phys Ther. 2007;37(12):734-43.

Clinical Guideline Revision History/Information

Original Date: May 21, 2020	
Review History	
September 16, 2020 (V.2)	Approving Physician: Dr. Brian Covino
November 5th, 2021 (V.3)	Reviewing Physician: Dr. Edwin Spencer Approving Physician: Dr. Brian Covino
December 29, 2022 (V.4)	Reviewing Physician: Dr. Edwin Spencer Approving Physician: Dr. Traci Granston