Upper Extremity Soft Tissue Dysfunction Rehabilitation

ACG: A-0528 (AC)
Link to Codes

MCG Health
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Clinical Indications

- Upper extremity soft tissue dysfunction rehabilitation may be indicated for **1 or more** of the following:
  - Initial therapy, when **ALL** of the following are present:
    - Upper extremity dysfunction, as indicated by **1 or more** of the following(4):
      - Acromioclavicular ligament injury (nonoperative treatment or after repair)(5)N
      - Adhesive capsulitis of shoulder(6)(7)(8)N
      - Bankart lesion (nonoperative treatment or after repair)(11)(12)N
      - Biceps tendinitis or repair(13)(14)(15)N
      - Carpal tunnel syndrome(1)(16)(17)N
      - Elbow dislocation(21)N
      - Elbow stiffness (posttraumatic)(22)N
      - Epicondylitis(23)(24)(25)(26)N
      - Hand stiffness or joint contracture(32)(33)(34)(35)N
      - Myopathy(36)N
      - Postoperative hand tendon or ligament repair or tenolysis(37)(38)(39)(40)(41)N
      - Postoperative pectoralis major tear repair(42)N
      - Rotator cuff tear (nonoperative treatment or following operative repair)(43)(44)(45)(46)(47)(48)N
      - Shoulder dislocation(50)(51)(52)(53)(54)N
      - Shoulder impingement syndrome[A](56)(57)(58)N

- SLAP lesion (nonoperative treatment or following operative repair)(63)(64)(65)(66)N
- Tendon or ligament strain(67)N
- Thoracic outlet syndrome(70)(71)(72)N
- Upper extremity dysfunction following breast cancer treatment(73)(74)(75)(76)N
- Upper extremity pain or dysfunction in paraplegic patient (ie, from chronic wheelchair use)(77)(78)N

  - No evidence of fracture
  - No evidence of new or worsening neurologic symptoms
  - No evidence of rupture of repaired or injured tissue
  - Patient is expected to be able to adequately participate in and respond as planned to proposed treatment.
- Extended therapy, when **ALL** of the following are present(79)(80)(81)(82):
  - Functional progress has been made during initial therapy, or patient requires maintenance therapy plan[B] to prevent further deterioration or preserve existing function.
  - Goals of therapy are not yet met.
  - Patient is actively participating in treatment sessions.
  - Patient is adherent to plan of care.

Treatment Plan

- Treatment plan includes:
  - Goals of therapy(83):
    - Decreased pain(62)(84)(85)(86)(87)
    - Earlier safe return to work(1)
    - Improvement in quality of life
    - Increased functional ability(62)(87)(88)
    - Increased understanding of disease management
    - Increased understanding of self-management of disease, injury, or surgical procedure
    - Independence in performing home exercise program
    - Prevent recurrence
  - Planned interventions:
    - Education:
      - Disease process(85)
      - Edema and inflammation control(7)
      - Energy conservation as it relates to dysfunction or surgery
      - Healing process
      - Home exercise program(30)(62)(77)(88)
      - Joint protection and range of motion(85)
      - Self-management of disease
      - Work and home environment modifications as they relate to dysfunction or surgery(86)
    - Therapeutic modalities:
      - During acute phase(4):
        - Edema control(89)
        - Scar and wound management post surgery
        - Splints, orthoses, or taping for:
          - Carpal tunnel syndrome(16)(20)(90)
          - Elbow dislocation(21)
          - Elbow stiffness (posttraumatic)(22)
          - Rotator cuff repair(91)(92)
          - Shoulder dislocation(50)(51)
          - Wrist and hand tendon injuries(37)
        - Therapeutic exercise for strengthening, range of motion, flexibility, or endurance(93):
          - Acromioclavicular ligament injury (nonoperative treatment or after repair)(5)

        - Bankart lesion (nonoperative treatment or after repair)(11)
        - Biceps tendinitis or repair(15)
        - Carpal tunnel syndrome(17)(20)
        - Elbow dislocation(21)
        - Elbow stiffness (posttraumatic)(22)
        - Lateral epicondylitis(24)(25)(30)
        - Myopathy(36)
        - Postoperative hand tendon or ligament repair or tenolysis(90)
        - Postoperative pectoralis major tear repair(42)
        - Rotator cuff tear (nonoperative treatment or following operative repair)(45)(49)(56)(83)(94)
        - Shoulder adhesive capsulitis(85)(88)
        - Shoulder dislocation(53)(55)
        - Shoulder impingement syndrome(56)(94)
        - SLAP lesion (nonoperative treatment or following operative repair)(11)(66)
        - Tendon or ligament strain
        - Thoracic outlet syndrome(70)
        - Upper extremity dysfunction following breast cancer treatment(74)
        - Upper extremity pain or dysfunction in paraplegic patient (ie, from chronic wheelchair use)(77)
- During restorative phase(4):
    - Manual therapy for(95):
        - Adhesive capsulitis(85)
        - Shoulder impingement syndrome(56)(94)
    - Scar and wound management post surgery
    - Therapeutic exercise for strengthening, range of motion, flexibility, or endurance(93):
        - Acromioclavicular ligament injury (nonoperative treatment or after repair)(5)
        - Bankart lesion (nonoperative treatment or after repair)(11)
        - Biceps tendinitis or repair(15)
        - Carpal tunnel syndrome(16)(96)
        - Elbow dislocation(21)
        - Elbow stiffness (posttraumatic)(22)
        - Lateral epicondylitis(30)
        - Myopathy(36)
        - Postoperative hand tendon or ligament repair or tenolysis(90)
        - Postoperative pectoralis major tear repair(42)
        - Rotator cuff tear (nonoperative treatment or following operative repair)(43)(44)(49)
        - Shoulder adhesive capsulitis(85)(88)
        - Shoulder dislocation(53)(55)
        - Shoulder impingement syndrome(56)(94)
        - SLAP lesion (nonoperative treatment or following operative repair)(11)(66)
        - Tendon or ligament strain
        - Thoracic outlet syndrome(70)
        - Upper extremity dysfunction following breast cancer treatment(74)
        - Upper extremity pain or dysfunction in paraplegic patient (ie, from chronic wheelchair use)(77)
    - Thermotherapy

Visits per Episode

ICD-10-CM Code	Diagnosis Description	One Visit Episode %	Mean *	25th %ile *	50th %ile (Median) *	75th %ile *	Episode > 1 Year % *

I97.2	Postmastectomy lymphedema syndrome	26.64%	9.9	3	6	13	6.81%
M12.811	Other specific arthropathies, not elsewhere classified, right shoulder	18.62%	9.6	4	7	11	0%
M12.812	Other specific arthropathies, not elsewhere classified, left shoulder	9.41%	11.3	4	9	14	0%
M20.011	Mallet finger of right finger(s)	38.76%	5.6	2	4	7	0%
M20.012	Mallet finger of left finger(s)	42.47%	5.6	2	4	7	0.86%
M20.021	Boutonniere deformity of right finger(s)	29.84%	7.4	3	6	11	0%
M20.022	Boutonniere deformity of left finger(s)	19.66%	7.9	3	6	11	0%
M24.111	Other articular cartilage disorders, right shoulder	14.67%	15.0	6	14	21	0%
M24.112	Other articular cartilage disorders, left shoulder	8.57%	12.5	4	8	16	0%
M24.411	Recurrent dislocation, right shoulder	4%	13.8	5	10	19	0.46%
M24.412	Recurrent dislocation, left shoulder	4.91%	16.1	6	13	25	0%
M24.511	Contracture, right shoulder	16.22%	13.3	5	11	20	3.23%
M24.541	Contracture, right hand	22.35%	10.2	4	7	13	1.52%
M24.542	Contracture, left hand	18.06%	9.6	3	6	11	2.36%
M24.811	Other specific joint derangements of right shoulder, not elsewhere classified	7.04%	11.2	5	9	14	0%

M24.812	Other specific joint derangements of left shoulder, not elsewhere classified	15.53%	12.1	5	9	16	0%
M24.9	Joint derangement, unspecified	17.35%	9.3	3	7	12	1.23%
M25.311	Other instability, right shoulder	9.46%	12.7	5	9	16	1.33%
M25.312	Other instability, left shoulder	9.76%	12.0	5	8	15	1.64%
M25.411	Effusion, right shoulder	7.35%	18.3	6	13	25	1.59%
M25.412	Effusion, left shoulder	7.69%	18.0	7	14	25	0%
M25.441	Effusion, right hand	25.23%	10.9	4	8	12	2.41%
M25.442	Effusion, left hand	28.87%	10.6	3	6	14	1.45%
M25.511	Pain in right shoulder	10.75%	12.1	5	9	16	1.53%
M25.512	Pain in left shoulder	10.45%	12.1	5	9	16	1.43%
M25.519	Pain in unspecified shoulder	21.1%	9.4	3	6	12	5.31%
M25.521	Pain in right elbow	12.03%	10.2	4	7	13	1.08%
M25.522	Pain in left elbow	12.83%	10.1	4	8	13	0.81%
M25.529	Pain in unspecified elbow	17.41%	7.9	3	5	9	0.45%
M25.531	Pain in right wrist	18.51%	9.5	4	7	12	0.97%
M25.532	Pain in left wrist	18.81%	9.5	4	7	12	0.82%
M25.539	Pain in unspecified wrist	22.48%	9.4	3	6	11	2.16%
M25.59	Pain in other specified joint	18.92%	10.9	4	8	14	4.44%
M25.60	Stiffness of unspecified joint, not elsewhere classified	14.46%	9.9	4	7	12	1.62%

M25.611	Stiffness of right shoulder, not elsewhere classified	9.24%	13.8	5	10	20	1.82%
M25.612	Stiffness of left shoulder, not elsewhere classified	8.7%	14.3	5	10	19	2.47%
M25.619	Stiffness of unspecified shoulder, not elsewhere classified	19.9%	9.5	3	6	12	3.73%
M25.621	Stiffness of right elbow, not elsewhere classified	9.45%	12.3	4	8	16	1.01%
M25.622	Stiffness of left elbow, not elsewhere classified	12.48%	11.7	5	9	15	0.53%
M25.631	Stiffness of right wrist, not elsewhere classified	13.72%	10.2	4	8	14	0.77%
M25.632	Stiffness of left wrist, not elsewhere classified	13.58%	10.0	4	8	14	0.88%
M25.641	Stiffness of right hand, not elsewhere classified	19.7%	9.6	3	6	12	0.95%
M25.642	Stiffness of left hand, not elsewhere classified	18.49%	9.9	4	7	13	0.77%
M25.649	Stiffness of unspecified hand, not elsewhere classified	25.27%	7.1	3	5	8	1.47%
M25.69	Stiffness of other specified joint, not elsewhere classified	11.53%	9.1	4	7	12	1.57%
M25.811	Other specified joint disorders, right shoulder	16.29%	10.5	3	6	12	0.9%
M25.812	Other specified joint disorders, left shoulder	16.48%	8.7	3	6	11	0.68%
M35.7	Hypermobility syndrome	16.8%	11.8	4	8	16	5.93%
M62.411	Contracture of muscle, right shoulder	34.65%	6.6	2	4	9	6.04%

M62.412	Contracture of muscle, left shoulder	36.46%	8.5	2	4	12	13.11%
M65.30	Trigger finger, unspecified finger	27.81%	7.1	3	5	9	1.48%
M65.311	Trigger thumb, right thumb	32.54%	8.1	3	6	10	1.06%
M65.312	Trigger thumb, left thumb	37.88%	6.9	3	4	8	0.61%
M65.321	Trigger finger, right index finger	18.52%	7.9	3	6	11	0.91%
M65.322	Trigger finger, left index finger	27.1%	7.2	3	6	9	0%
M65.331	Trigger finger, right middle finger	26.73%	7.8	3	5	10	1.24%
M65.332	Trigger finger, left middle finger	24.57%	7.1	3	5	9	0.77%
M65.341	Trigger finger, right ring finger	29.55%	7.2	3	6	9	0.85%
M65.342	Trigger finger, left ring finger	33.33%	7.1	3	5	8	0.96%
M65.4	Radial styloid tenosynovitis [de Quervain]	23.36%	8.2	3	6	10	1.15%
M65.831	Other synovitis and tenosynovitis, right forearm	20.83%	8.0	3	6	8	0%
M65.841	Other synovitis and tenosynovitis, right hand	24.12%	9.3	4	7	12	0.66%
M65.842	Other synovitis and tenosynovitis, left hand	22.9%	9.8	3	6	13	1.98%
M66.821	Spontaneous rupture of other tendons, right upper arm	11.69%	12.6	5	10	16	1.47%
M67.431	Ganglion, right wrist	29.63%	6.6	3	5	8	0.58%
M67.432	Ganglion, left wrist	31.09%	7.3	3	5	9	1.22%

M67.813	Other specified disorders of tendon, right shoulder	11.82%	10.0	4	7	12	0.84%
M67.814	Other specified disorders of tendon, left shoulder	13.25%	10.5	4	7	13	1.85%
M67.819	Other specified disorders of synovium and tendon, unspecified shoulder	8.33%	8.2	3	6	12	0%
M67.823	Other specified disorders of tendon, right elbow	14.74%	9.1	3	7	12	1.23%
M67.833	Other specified disorders of tendon, right wrist	20.16%	7.8	3	6	11	0%
M67.911	Unspecified disorder of synovium and tendon, right shoulder	14.61%	8.8	4	6	11	1.34%
M67.912	Unspecified disorder of synovium and tendon, left shoulder	12.22%	8.3	3	6	10	1.27%
M67.921	Unspecified disorder of synovium and tendon, right upper arm	7.04%	8.3	3	5	10	0%
M72.0	Palmar fascial fibromatosis [Dupuytren]	23.09%	8.6	3	6	11	0.59%
M75.00	Adhesive capsulitis of unspecified shoulder	8.55%	12.1	5	8	15	1.44%
M75.01	Adhesive capsulitis of right shoulder	8.75%	13.3	5	10	17	1.34%
M75.02	Adhesive capsulitis of left shoulder	8.09%	12.9	5	10	17	1.38%
M75.100	Unspecified rotator cuff tear or rupture of unspecified shoulder, not specified as traumatic	9.66%	14.5	5	12	19	0.53%
M75.101	Unspecified rotator cuff tear or rupture of right shoulder, not specified as traumatic	7.93%	16.3	6	12	24	1.06%

M75.102	Unspecified rotator cuff tear or rupture of left shoulder, not specified as traumatic	8.21%	16.6	6	12	23	1.25%
M75.111	Incomplete rotator cuff tear or rupture of right shoulder, not specified as traumatic	8.07%	16.1	6	12	22	1.91%
M75.112	Incomplete rotator cuff tear or rupture of left shoulder, not specified as traumatic	8.04%	15.5	6	12	21	1.79%
M75.120	Complete rotator cuff tear or rupture of unspecified shoulder, not specified as traumatic	1.28%	20.8	10	20	27	0%
M75.121	Complete rotator cuff tear or rupture of right shoulder, not specified as traumatic	5.34%	20.9	10	19	29	1.97%
M75.122	Complete rotator cuff tear or rupture of left shoulder, not specified as traumatic	5.02%	21.1	10	19	29	0.97%
M75.21	Bicipital tendinitis, right shoulder	11.16%	10.9	4	8	14	1.01%
M75.22	Bicipital tendinitis, left shoulder	12.54%	10.8	4	8	14	0.88%
M75.31	Calcific tendinitis of right shoulder	11.99%	10.7	4	8	13	0.71%
M75.32	Calcific tendinitis of left shoulder	14.79%	10.5	4	7	14	0.73%
M75.40	Impingement syndrome of unspecified shoulder	16.67%	9.2	4	7	11	3.87%
M75.41	Impingement syndrome of right shoulder	12.04%	10.3	4	8	13	1.11%
M75.42	Impingement syndrome of left shoulder	11.81%	10.3	4	8	13	0.82%
M75.51	Bursitis of right shoulder	13.13%	10.0	4	7	12	1.36%

M75.52	Bursitis of left shoulder	12.64%	9.7	4	7	12	0.99%
M75.80	Other shoulder lesions, unspecified shoulder	15.85%	8.4	4	7	11	0%
M75.81	Other shoulder lesions, right shoulder	15.46%	8.9	4	7	11	0.88%
M75.82	Other shoulder lesions, left shoulder	14.91%	9.6	4	7	11	0.54%
M75.91	Shoulder lesion, unspecified, right shoulder	11.64%	9.2	3	6	12	0.78%
M75.92	Shoulder lesion, unspecified, left shoulder	20%	11.0	4	8	14	2.5%
M77.01	Medial epicondylitis, right elbow	16.24%	9.0	4	7	11	0.81%
M77.02	Medial epicondylitis, left elbow	14.25%	8.3	3	6	11	1.33%
M77.10	Lateral epicondylitis, unspecified elbow	17.98%	9.0	4	7	12	0.46%
M77.11	Lateral epicondylitis, right elbow	14.2%	9.2	4	7	12	1.18%
M77.12	Lateral epicondylitis, left elbow	15.37%	8.7	4	7	11	1.04%
M79.9	Soft tissue disorder, unspecified	22.45%	8.3	3	7	11	8.42%
M92.8	Other specified juvenile osteochondrosis	31.14%	8.4	4	7	11	0.53%
M95.8	Other specified acquired deformities of musculoskeletal system	19.42%	12.1	5	9	16	1.79%
M99.07	Segmental and somatic dysfunction of upper extremity	22.9%	10.0	3	6	12	2.64%
R22.31	Localized swelling, mass and lump, right upper limb	45.77%	7.2	3	5	8	1.3%

R22.32	Localized swelling, mass and lump, left upper limb	40.52%	7.7	3	4	10	0%
S43.002D	Unspecified subluxation of left shoulder joint, subsequent encounter	11.76%	9.6	4	8	12	0%
S43.004A	Unspecified dislocation of right shoulder joint, initial encounter	13.41%	9.4	4	7	13	2.82%
S43.004D	Unspecified dislocation of right shoulder joint, subsequent encounter	11.74%	12.2	4	9	17	0%
S43.005A	Unspecified dislocation of left shoulder joint, initial encounter	2.74%	11.0	5	8	13	2.82%
S43.005D	Unspecified dislocation of left shoulder joint, subsequent encounter	4.4%	12.9	4	9	18	0.57%
S43.014D	Anterior dislocation of right humerus, subsequent encounter	3.42%	12.6	5	10	17	0%
S43.015D	Anterior dislocation of left humerus, subsequent encounter	7.09%	13.1	5	10	19	0.85%
S43.101D	Unspecified dislocation of right acromioclavicular joint, subsequent encounter	10.76%	10.6	4	8	15	0.71%
S43.102D	Unspecified dislocation of left acromioclavicular joint, subsequent encounter	9.18%	10.4	5	9	15	0%
S43.401A	Unspecified sprain of right shoulder joint, initial encounter	25.15%	9.3	3	6	11	3.28%
S43.401D	Unspecified sprain of right shoulder joint, subsequent encounter	8.63%	9.5	3	5	12	0%
S43.402A	Unspecified sprain of left shoulder joint, initial	21.77%	7.8	3	5	10	0.87%

	encounter						
S43.402D	Unspecified sprain of left shoulder joint, subsequent encounter	15.09%	11.2	4	8	15	1.11%
S43.421A	Sprain of right rotator cuff capsule, initial encounter	13.31%	11.5	4	9	16	1.75%
S43.421D	Sprain of right rotator cuff capsule, subsequent encounter	10.32%	15.0	6	12	20	1.59%
S43.422A	Sprain of left rotator cuff capsule, initial encounter	10.87%	12.3	4	9	18	2.44%
S43.422D	Sprain of left rotator cuff capsule, subsequent encounter	6.78%	14.4	5	12	21	0.91%
S43.431A	Superior glenoid labrum lesion of right shoulder, initial encounter	8.51%	14.6	5	11	21	1.46%
S43.431D	Superior glenoid labrum lesion of right shoulder, subsequent encounter	6.64%	16.4	6	13	23	1.22%
S43.432A	Superior glenoid labrum lesion of left shoulder, initial encounter	7.71%	14.4	6	11	21	0%
S43.432D	Superior glenoid labrum lesion of left shoulder, subsequent encounter	6.59%	16.7	7	13	23	1.74%
S43.491A	Other sprain of right shoulder joint, initial encounter	10.81%	10.6	4	7	14	1.52%
S43.491D	Other sprain of right shoulder joint, subsequent encounter	4.79%	15.0	5	11	22	0.63%
S43.492D	Other sprain of left shoulder joint, subsequent encounter	10.9%	14.5	5	12	19	2.16%

S43.51XA	Sprain of right acromioclavicular joint, initial encounter	15.23%	8.4	4	7	12	0.78%
S43.51XD	Sprain of right acromioclavicular joint, subsequent encounter	10.27%	10.2	4	8	12	0.38%
S43.52XA	Sprain of left acromioclavicular joint, initial encounter	20.65%	7.5	3	5	10	0%
S43.52XD	Sprain of left acromioclavicular joint, subsequent encounter	7.58%	9.8	5	7	13	1.09%
S46.001A	Unspecified injury of muscle(s) and tendon(s) of the rotator cuff of right shoulder, initial encounter	10.69%	12.4	4	9	17	2.11%
S46.001D	Unspecified injury of muscle(s) and tendon(s) of the rotator cuff of right shoulder, subsequent encounter	8.24%	13.5	5	10	20	0.78%
S46.002A	Unspecified injury of muscle(s) and tendon(s) of the rotator cuff of left shoulder, initial encounter	9.4%	10.7	5	8	15	1.89%
S46.002D	Unspecified injury of muscle(s) and tendon(s) of the rotator cuff of left shoulder, subsequent encounter	6.56%	12.9	5	9	17	0.58%
S46.011A	Strain of muscle(s) and tendon(s) of the rotator cuff of right shoulder, initial encounter	15.35%	11.8	4	7	15	2.16%
S46.011D	Strain of muscle(s) and tendon(s) of the rotator cuff of right shoulder, subsequent encounter	7.16%	13.8	5	10	19	1.04%

S46.012A	Strain of muscle(s) and tendon(s) of the rotator cuff of left shoulder, initial encounter	15.23%	11.1	4	7	15	3%
S46.012D	Strain of muscle(s) and tendon(s) of the rotator cuff of left shoulder, subsequent encounter	7.89%	13.5	5	10	19	1.21%
S46.091D	Other injury of muscle(s) and tendon(s) of the rotator cuff of right shoulder, subsequent encounter	4.35%	18.7	9	16	25	0.91%
S46.092D	Other injury of muscle(s) and tendon(s) of the rotator cuff of left shoulder, subsequent encounter	3.05%	18.6	7	14	26	2.52%
S46.111A	Strain of muscle, fascia and tendon of long head of biceps, right arm, initial encounter	13.16%	11.1	4	8	15	4.55%
S46.111D	Strain of muscle, fascia and tendon of long head of biceps, right arm, subsequent encounter	11.76%	12.9	5	8	16	1.33%
S46.112D	Strain of muscle, fascia and tendon of long head of biceps, left arm, subsequent encounter	12.9%	11.9	5	10	15	0.93%
S46.211A	Strain of muscle, fascia and tendon of other parts of biceps, right arm, initial encounter	12.83%	8.9	4	7	12	0.61%
S46.211D	Strain of muscle, fascia and tendon of other parts of biceps, right arm, subsequent encounter	11.63%	10.7	4	8	14	1.01%
S46.212A	Strain of muscle, fascia and tendon of other parts of biceps, left arm, initial encounter	16.15%	11.0	4	7	15	1.48%

S46.212D	Strain of muscle, fascia and tendon of other parts of biceps, left arm, subsequent encounter	10.17%	10.8	4	7	14	0.54%
S46.291D	Other injury of muscle, fascia and tendon of other parts of biceps, right arm, subsequent encounter	2.74%	11.8	5	9	15	0%
S46.292D	Other injury of muscle, fascia and tendon of other parts of biceps, left arm, subsequent encounter	5.56%	11.4	7	11	15	0%
S46.311D	Strain of muscle, fascia and tendon of triceps, right arm, subsequent encounter	10.09%	10.7	4	7	14	1.02%
S46.312D	Strain of muscle, fascia and tendon of triceps, left arm, subsequent encounter	12.33%	9.7	3	7	12	1.56%
S46.811A	Strain of other muscles, fascia and tendons at shoulder and upper arm level, right arm, initial encounter	24.64%	7.8	3	6	9	3.14%
S46.811D	Strain of other muscles, fascia and tendons at shoulder and upper arm level, right arm, subsequent encounter	12%	9.9	4	8	13	2.6%
S46.812A	Strain of other muscles, fascia and tendons at shoulder and upper arm level, left arm, initial encounter	24.32%	8.7	3	5	11	3.57%
S46.812D	Strain of other muscles, fascia and tendons at shoulder and upper arm level, left arm, subsequent encounter	16.6%	8.8	4	7	11	1.36%
S46.911A	Strain of unspecified muscle, fascia and tendon	15.57%	8.1	3	5	10	0.82%

	at shoulder and upper arm level, right arm, initial encounter						
S46.911D	Strain of unspecified muscle, fascia and tendon at shoulder and upper arm level, right arm, subsequent encounter	14.68%	9.3	4	7	10	1.62%
S46.912A	Strain of unspecified muscle, fascia and tendon at shoulder and upper arm level, left arm, initial encounter	24.37%	8.0	3	5	10	2.01%
S46.912D	Strain of unspecified muscle, fascia and tendon at shoulder and upper arm level, left arm, subsequent encounter	15.49%	8.0	3	6	11	0%
S49.91XA	Unspecified injury of right shoulder and upper arm, initial encounter	20.31%	8.3	3	6	11	0%
S49.91XD	Unspecified injury of right shoulder and upper arm, subsequent encounter	15.28%	8.7	3	6	9	0.82%
S49.92XA	Unspecified injury of left shoulder and upper arm, initial encounter	28.74%	10.5	3	7	13	1.61%
S49.92XD	Unspecified injury of left shoulder and upper arm, subsequent encounter	17.71%	7.6	4	6	9	0%
S53.105D	Unspecified dislocation of left ulnohumeral joint, subsequent encounter	6.02%	11.0	4	8	15	3.85%
S53.31XD	Traumatic rupture of right ulnar collateral ligament, subsequent encounter	6.8%	17.6	7	13	22	2.08%
S53.32XD	Traumatic rupture of left ulnar collateral ligament, subsequent encounter	8.86%	10.1	4	7	15	0%

S53.401D	Unspecified sprain of right elbow, subsequent encounter	17.89%	9.6	4	6	12	1.28%
S53.441A	Ulnar collateral ligament sprain of right elbow, initial encounter	9.45%	13.4	5	9	17	0.87%
S53.441D	Ulnar collateral ligament sprain of right elbow, subsequent encounter	8.16%	13.9	6	10	18	1.59%
S53.442D	Ulnar collateral ligament sprain of left elbow, subsequent encounter	8%	12.4	6	11	17	0.87%
S63.501A	Unspecified sprain of right wrist, initial encounter	33.61%	7.4	3	5	10	0%
S63.501D	Unspecified sprain of right wrist, subsequent encounter	15.79%	8.6	3	6	11	0%
S63.502D	Unspecified sprain of left wrist, subsequent encounter	22.45%	8.5	3	5	11	0%
S63.591D	Other specified sprain of right wrist, subsequent encounter	19.23%	9.2	4	6	11	0.95%
S63.592D	Other specified sprain of left wrist, subsequent encounter	20%	9.4	5	6	11	0%
S63.641D	Sprain of metacarpophalangeal joint of right thumb, subsequent encounter	17.58%	7.3	3	5	9	0%
S63.642D	Sprain of metacarpophalangeal joint of left thumb, subsequent encounter	25.74%	7.9	3	6	10	0.67%
S69.91XD	Unspecified injury of right wrist, hand and finger(s), subsequent encounter	26.32%	7.7	3	5	11	1.19%

S69.92XD	Unspecified injury of left wrist, hand and finger(s), subsequent encounter	31.46%	6.6	2	4	9	0%

* Visit Summary for Episodes with 2 or more Visits

Evidence Summary

Background

Soft tissue dysfunction encompasses muscle and tendon sprains, ligament strains, fasciitis, and other posttraumatic, overuse, inflammatory, or poorly defined processes involving nonbony structures.(1) **(EG 2)** Rehabilitation for these conditions is divided into the acute phase and the chronic or restorative phase.(2) **(EG 2)** During the acute phase, the aim is to control edema and inflammation, reduce the risk of further injury or tissue damage, and promote healing.(3) **(EG 2)** The aim of the restorative phase is to restore range of motion, strength, and endurance. (2)(3) **(EG 2)**

Criteria

The evidence for the clinical indications found in this guideline includes 60 published peer reviewed articles, 2 specialty society or other evidence-based guidelines, 4 Cochrane systematic reviews, and 14 book sections.

For acromioclavicular ligament injury (nonoperative treatment or after repair), evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Rehabilitation, including range-of-motion and strengthening exercises, is recommended as primary treatment for acromioclavicular ligament injuries of grades I and II (and selected grade III injuries). Light dumbbell exercises or resistance bands can be utilized to strengthen the internal and external rotator muscles, and the program can be advanced to isolate the shoulder abductors and incorporate strengthening of the internal and external rotators at different degrees of shoulder abduction. Postoperative rehabilitation varies by the type of injury (grades III to VI), acute vs chronic repair, and surgical technique. In general, patients undergo immobilization or support in a sling for 1 to 6 weeks during which time active, passive, and active-assisted range-of-motion exercises can be initiated. Strengthening exercises can begin at 2 to 12 weeks postoperatively, depending upon the repair.(5) **(EG 2)**

For adhesive capsulitis of the shoulder, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** A systematic review that included 39 articles with 4350 subjects regarding physical therapy interventions for adhesive capsulitis of the shoulder concluded that therapeutic exercises and mobilization are strongly recommended for reducing pain and improving range of motion and function in patients with stages 2 (acute adhesive or freezing stage) and 3 (fibrotic or frozen stage) frozen shoulder.(6) **(EG 1)** A systematic review of the outcomes of corticosteroid injections for adhesive capsulitis included 25 studies and concluded that corticosteroid injections offer rapid pain relief in the short term (particularly in the first 6 weeks), but that long-term outcomes seem to be similar to those of other treatments, likely because the natural history of adhesive capsulitis is spontaneous resolution over time.(7) **(EG 1)** A systematic review of 32 randomized and quasi-randomized trials with 1836 participants with adhesive capsulitis found moderate-quality evidence that the combination of manual therapy and exercise may not be as effective as glucocorticoid injection for improvement of pain and function in the short term. Additional high-quality randomized controlled trials are needed to establish whether combinations of manual therapy and exercise interventions that reflect actual practice are more effective than placebo, no treatment, or active interventions.(9) **(EG 1)** A randomized controlled trial, in which 75 patients with frozen shoulder were randomly assigned to 1 of 3 common physiotherapy interventions, found that a hospital-based exercise class can produce rapid recovery from a frozen shoulder with a minimum number of visits to the hospital and is more effective than individual multimodal physiotherapy or a home exercise program.(8) **(EG 1)** A multicenter, 3-arm, randomized controlled trial in 503 adults with adhesive capsulitis compared manipulation under anesthesia, arthroscopic capsular release, and early structured physiotherapy (plus a single supplemental steroid injection in all groups) and found, at 12 months, that none of the 3 interventions were clinically superior for improving shoulder pain and function as assessed by the Oxford Shoulder Score. The authors noted that participants who underwent capsular release or manipulation had to wait longer for treatment and that, consequently, their time point of assessment after treatment varied; lack of blinding was another limitation.(10) **(EG 1)**

For Bankart lesion (nonoperative treatment or after repair), evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Rehabilitation is recommended as the initial treatment for Bankart lesions, with surgery being reserved for patients with recurrent shoulder instability or young active patients with first-time tears.(11) **(EG 2)** After a period of immobilization, passive, active-assisted, and active range-of-motion exercises are initiated, with progression to progressive resistance training of rotator cuff, deltoid, and scapular stabilizers.(11)(12) **(EG 2)** After surgery, the shoulder is immobilized for approximately 4 weeks, and only limited active-assisted range of motion is allowed. Glenohumeral mobilization exercises and proprioceptive training are initiated after 4 weeks, with a goal of full restoration of range of motion after 2 months. Stabilization and rotator cuff strengthening exercises can be initiated 2 months postoperatively.(12) **(EG 2)**

For biceps tendinitis or repair, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Initial management of symptomatic biceps tendinopathy includes nonsurgical interventions such as rest, activity modification, and physical therapy to correct the underlying scapular rhythm and manage concomitant shoulder disorders. However, data are lacking to support the efficacy of this common approach.(13)(14)(15) **(EG 2)**

For carpal tunnel syndrome, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** A systematic review of conservative (nonsurgical) treatment for carpal tunnel syndrome included 16 longitudinal cohort studies and concluded that symptom duration, positive Phalen test, and thenar wasting were associated with a negative outcome. However, not all results were statistically significant and need to be confirmed in further well-designed prognostic studies.(18) **(EG 1)** A systematic review of rehabilitation following carpal tunnel syndrome surgery included 22 randomized or quasi-randomized clinical trials (1521 participants) and found limited and low-quality evidence to support postoperative rehabilitation interventions. Until more high-quality trials are available, postoperative rehabilitation interventions should be based on the clinician's expertise, the patient's preferences, and the context of the rehabilitation environment.(19) **(EG 1)** A randomized controlled trial of 53 patients concluded that a combination of tendon gliding, paraffin, and splint usage was most effective in decreasing symptom severity and pain in carpal tunnel syndrome.(16) **(EG 1)** A secondary analysis of data collected from 124 patients with carpal tunnel syndrome during a randomized controlled trial found that 4 weeks of nocturnal splinting and daily home exercises and stretching improved hand strength over time; however, patients were left with residual deficits.(17) **(EG 1)** A specialty society guideline includes manual therapy and a combined orthotic/stretching program as treatment options for patients with carpal tunnel syndrome, but notes that the available supporting evidence is limited.(20) **(EG 2)**

For elbow dislocation, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Rehabilitation is recommended after reduction of a dislocated elbow. After 5 to 7 days of splinting, progressive active range-of-motion exercises utilizing a hinged elbow brace can be initiated. Dynamic splints or progressive static splints can be utilized if the range of motion does not improve by 6 weeks. Strengthening exercises can be initiated after 6 to 8 weeks of rehabilitation. Full flexion usually returns in 6 to 12 weeks, with extension returning more slowly and improving for the next 3 to 5 months.(21) **(EG 2)**

For elbow stiffness (posttraumatic), evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Rehabilitation for posttraumatic elbow stiffness includes gradual passive manipulation progressing to active-assisted stretching of the elbow. Static progressive adjustable splints and dynamic splints can also be utilized.(22) **(EG 2)**

For epicondylitis, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** A systematic review and meta-analysis evaluating the efficacy of nonoperative treatments for lateral epicondylitis included 23 studies (1044 patients) comparing physical therapy with placebo and found that physical therapy was associated with improved patient-reported pain and Patient-Rated Tennis Elbow Evaluation (PRTEE) scores compared with placebo; no difference in hand-grip strength or Disabilities of the Arm, Shoulder, and Hand (DASH) scores was seen between groups.(23) **(EG 1)** A systematic review of the effectiveness of exercise for upper extremity disorders included 4 studies (3 randomized controlled trials) of exercise for the management of lateral epicondylitis and found that clinic-based strengthening and static stretching exercises are more effective than monitored home-based strengthening and stretching exercises.(24) **(EG 1)** A systematic review of multimodal care for upper extremity disorders included 6 randomized controlled trials on lateral epicondylitis and concluded that there may be a role for education, exercise (strengthening, stretching, and occupational exercise), manual therapy (manipulation), and soft tissue therapy (massage) in the multimodal management of lateral epicondylitis.(25) **(EG 1)** A systematic review that included 5 randomized controlled trials concluded that corticosteroid injections were effective for the treatment of lateral epicondylitis at short-term follow-up, and that physiotherapeutic interventions were effective at intermediate-term and long-term follow-up (to 52 weeks).(27) **(EG 1)** A systematic review of randomized controlled trials evaluating myofascial release for chronic musculoskeletal pain with 2 studies involving patients with epicondylitis (95 patients) reported improvements with myofascial release in disability and pain, as measured by the PRTEE. One study reported maintenance of improvement at 8 weeks post treatment. Longer-term results are unknown.(28) **(EG 1)** A systematic review of 20 controlled trials evaluating joint mobilization or manipulation for lateral elbow tendinopathy reported that mobilization with movement was associated with improvements in joint pain at short-term and intermediate-term follow-up (3 months or less and 3 to 6 months, respectively) and grip strength at short-term follow-up, based on 8 studies (551 patients). Mill manipulation was also associated with improvements in pain at short-term and intermediate-term follow-up based on 5 studies (483 patients). Evidence for regional mobilization based on 7 studies (129 patients) was limited by small study sample sizes and heterogeneous interventions.(26) **(EG 1)** A randomized controlled trial that included 82 patients with chronic lateral epicondylitis found that, while a single corticosteroid injection was superior to 8 sessions of manual therapy at 6-week follow-up, manual therapy resulted in better grip strength and pain scores at 52 weeks.(29) **(EG 1)** A single-blind, prospective, randomized controlled trial of 37 subjects with long-term epicondylalgia found that those who performed daily eccentric training at home for the wrist extensors had a significantly higher pain-free hand-grip strength and pain-free wrist extensor strength at 6-week follow-up; however, there was no significant difference between groups in perceived pain.(30) **(EG 1)** A systematic review of 23 studies (1612 patients) evaluating the benefits of manual therapy and prescribed exercises for pain management in lateral epicondylitis found low-quality evidence that manual therapy, with or without exercises, may provide a reduction in pain and improvement in disability measures, but long-term benefits are unknown.(31) **(EG 1)**

For hand stiffness or joint contracture, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** A review article states that a high level of evidence supports the use of mobilizing splinting and a moderate amount of evidence supports the use of active or passive exercise in the management of joint contracture in the hand.(32) **(EG 2)** A prospective cohort study that included 46 participants with a history of traumatic injury resulting in joint contracture of 56 metacarpophalangeal or proximal interphalangeal joints of the hand found that dynamic splinting may be more effective in joints with less pretreatment stiffness, with less than 12-week onset since injury, and with flexion deficits.(33) **(EG 2)** A systematic review identified 2 studies on hand mobilization (with a total of 47 patients) and concluded that limited evidence supports the use of mobilization in patients with limited range of motion in the metacarpophalangeal joints to increase range of motion and in patients with osteoarthritis of the first carpometacarpal joint to reduce pain in the short term.(34) **(EG 1)**

For myopathy, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Physical and occupational therapy are often necessary for gait training and stretching in patients with myopathy; assistive devices can be utilized after appropriate training to minimize disability. The efficacy of exercise for maintaining joint range of motion depends upon the type of underlying myopathy.(36) **(EG 2)**

For postoperative hand tendon or ligament repair or tenolysis patients, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** A systematic review of 17 articles supported the use of dynamic splinting over static splinting for rehabilitation after extensor tendon repair in the hand; however, additional studies comparing dynamic splinting and early active motion rehabilitation are needed before a conclusive recommendation can be made.(37) **(EG 1)** A systematic review of postoperative protocols following hand extensor tendon repair that included 19 studies found generally favorable functional results for static splinting, dynamic splinting, and early active motion; however, early active motion provided a lower complication rate as compared with the other postoperative regimens.(38) **(EG 1)** A systematic review of flexor tendon rehabilitation protocols that included 34 articles provided evidence that, with improved strength of surgical repair and decreased overall rupture rate over time, early active motion protocols can likely be tolerated and used to improve postoperative range of motion.(40) **(EG 1)**

For postoperative pectoralis major tear repair, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Nonoperative treatment of a pectoralis major tear is generally reserved for older or sedentary patients and those with incomplete tears. Postoperative rehabilitation requires a balance between maintaining enough restriction of range of motion to allow for soft tissue healing, while allowing for enough activity to restore full mobility. Gradual passive range of motion generally begins 2 weeks after surgery, with sling immobilization lasting 2 to 3 weeks after surgery. During weeks 3 to 6, range-of-motion exercises are continued, and full abduction and internal rotation are generally not achieved until weeks 12 to 16, depending upon the type of repair. Strengthening exercises are initiated at week 6 and may last for 6 to 12 weeks or more.(42) **(EG 2)**

For rotator cuff tear (nonoperative treatment or following operative repair), evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** A systematic review of 4 studies of adults with signs and symptoms of rotator cuff tendinopathy suggested that both home and supervised exercise programs might be more effective than either no intervention or placebo in terms of the outcomes of pain and functional disability. However, further studies are needed because of the paucity of high-quality research.(43) **(EG 1)** A systematic review of the initial treatment of complete rotator cuff tears included 11 studies (2 randomized controlled trials) and found that the evidence suggested that complete rotator cuff tears may be effectively treated with exercise in the intermediate term.(44) **(EG 1)** A systematic review of rehabilitation following surgical rotator cuff repair included 11 randomized controlled trials (695 participants) and concluded that no single rehabilitation protocol was superior to another.(47) **(EG 1)** A randomized controlled trial including 180 shoulders with nontraumatic supraspinatus tears compared physical therapy alone, acromioplasty plus physical therapy, and surgical repair and acromioplasty plus physical therapy; at 2-year follow-up, there was no significant difference in clinical outcomes between the treatment groups based on Constant scores (a sum of scores for pain, activities of daily living, range of motion, and strength) or visual analog scale pain scores.(49) **(EG 1)** A specialty society guideline states that there is strong evidence that patient-reported outcomes in symptomatic small to medium full-thickness rotator cuff tears are improved with either physical therapy or surgery.(45) **(EG 2)** A specialty society consensus statement on rehabilitation following arthroscopic rotator cuff repair includes 2 weeks of strict immobilization, followed by 4 weeks of staged, protected, passive range of motion, then 6 weeks of active range of motion, followed by progressive strengthening beginning at postoperative week 12.(46) **(EG 2)**

For shoulder dislocation, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** A systematic review and meta-analysis that included 6 studies found no benefit of conventional sling immobilization for longer than 1 week for the treatment of primary anterior shoulder dislocation to prevent recurrent dislocation in patients younger than 30 years. Bracing in external rotation may provide a clinically important benefit over traditional sling immobilization, but the difference in recurrence rates was not statistically significant.(50)(51) **(EG 1)** Nonoperative rehabilitation should be employed for most patients with glenohumeral instability, including subluxation and recurrent dislocation.(52)(53) **(EG 2)** Nonoperative management of shoulder dislocation and instability, which is appropriate for initial treatment in most patients after an initial instability, consists of a brief period of shoulder immobilization followed by physical therapy focused on strengthening the rotator cuff muscles and scapular stabilizers along with range-of-motion exercises.(53)(55) **(EG 2)**

For shoulder impingement syndrome, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** A systematic review and meta-analysis of 10 studies including 597 patients with subacromial pain comparing supervised physical training with usual care (no training or self-training) found that supervised training was associated with improved pain at rest, pain with movement, and shoulder function compared with no training; however, no difference in pain or function was seen between supervised training and self-training.(58) **(EG 1)** A systematic review and meta-analysis that included 16 studies with 1162 participants found strong evidence that multiple types of exercise decrease pain and improve function at short-term follow-up in patients with subacromial impingement syndrome, as well as moderate evidence that exercises result in long-term improvement in function for these patients. However, heterogeneity of the exercise interventions prevented determination of which specific components of the exercise protocols (ie, type, intensity, frequency, duration) were associated with the best outcomes.(57) **(EG 1)** A systematic review of 6 randomized controlled trials compared surgery plus physical therapy with physical therapy alone in patients with shoulder impingement syndrome. Pooled data showed no clinically meaningful improvements in pain or function after surgery as compared with physical therapy alone, including at 3 months, 6 months, 1 year, and 2 years of follow-up. The authors noted that the available research had a high risk of bias and limited data for 5 years of follow-up and longer.(59) **(EG 1)** A randomized clinical trial enrolled 64 patients with shoulder impingement syndrome and compared treatment with manual therapy using non-thrust mobilization techniques and trigger point inactivation with supervised plus home exercise; at 1 month after therapy completion, both groups had improvements in shoulder pain as measured by visual analog scale, disability as measured by the Shoulder Pain and Disability Index, and shoulder range of motion as measured by goniometer.(60) **(EG 1)** A 3-arm randomized controlled trial of 111 patients with chronic subacromial bursitis compared

treatment with corticosteroid injections alone, physiotherapy alone, or both treatments in combination and found, at 8 weeks after treatment completion, that treatment with corticosteroid injections alone or in combination with physiotherapy was associated with greater improvement in range of motion compared with treatment with physiotherapy alone. All 3 groups demonstrated improvement in pain, disability, and active range of motion.(61) **(EG 1)** A randomized study that included 61 patients with subacromial impingement, each of whom received 9 physiotherapy treatments over 12 weeks with daily home exercise, found that traditional rotator cuff training plus heavy-load eccentric training was associated with some gain in isometric strength but was not superior for decreasing pain and improving shoulder function after 12 weeks.(62) **(EG 1)**

For SLAP lesion (nonoperative treatment or following operative repair), evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Patients with suspected SLAP tears should undergo at least 3 months of conservative management before surgical options are explored; conservative management may include rest, activity modification, oral anti-inflammatory medications, and a formal physical therapy protocol to address any scapular dyskinesis and rotator cuff imbalance with open-chain and closed-chain exercises. Arthroscopic repair is currently the standard of care when conservative therapy fails, but complications are possible, and patients may require 6 months to regain full range of motion.(63) **(EG 2)** A case control study included 225 patients with a type 2 SLAP lesion who underwent arthroscopic repair and postoperative rehabilitation with supervised physical therapy; the authors stated that arthroscopic SLAP repair provides a clinical and statistically significant improvement in shoulder outcomes, although return to the previous activity level is limited and 37% of patients had failure (with a 28% revision rate).(64) **(EG 2)** If rehabilitation of a SLAP lesion is unsuccessful, surgical intervention is often warranted, followed by an individualized rehabilitation program (dependent upon the severity of the SLAP lesion and the surgical procedure performed), in order to restore and enhance the range of motion, strength, and dynamic stability of the glenohumeral joint while controlling forces on the healing labrum.(65) **(EG 2)**

For tendon or ligament strain, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Bracing in the position of function, strengthening exercises after healing, and using protective casts and splints as needed are all important parts of rehabilitation of tendon and ligament strains. Basic range-of-motion exercises to prevent adhesions must be included because recovery of motion is the most important aspect of rehabilitation.(67)(68)(69) **(EG 2)**

For thoracic outlet syndrome, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Conservative management is generally recommended as initial treatment for thoracic outlet syndrome and includes graded restoration of normal scapula control, scapula movement, and scapula positioning at rest and through movement.(70)(71) **(EG 2)** Adjunctive strategies include restoration of humeral head control, isolated strengthening of weak shoulder muscles, and other manual therapy techniques.(70)(71)(72) **(EG 2)**

For upper extremity dysfunction following breast cancer treatment, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** Survivors of breast cancer can develop a variety of conditions that cause upper extremity pain and dysfunction, including postoperative pain, rotator cuff disease, adhesive capsulitis, and cervical radiculopathy; diagnostic specificity is needed to individualize a rehabilitation strategy with the safest and most efficacious treatment strategies.(73) **(EG 2)** Systematic reviews have concluded that multifactorial physical therapy, including stretching and exercises, can result in a significant and clinically meaningful improvement in shoulder range of motion in women with breast cancer, with early postoperative implementation (1 to 3 days post surgery) suggested; however, this approach may need to be weighed against the potential for increased wound drainage volume and duration.(74)(75) **(EG 1)** A systematic review of 15 randomized controlled trials evaluating early rehabilitation after breast cancer surgery, defined as rehabilitation starting within 8 weeks of surgery, found a moderate level of evidence to support the use of protocols targeting shoulder range of motion and protocols incorporating range-of-motion exercises with shoulder flexion strengthening exercises.(76) **(EG 1)**

For upper extremity pain or dysfunction in a paraplegic patient (ie, from chronic wheelchair use), evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Surgical repair of shoulder pathology is not a realistic option for some paraplegic patients because of dependency on the upper extremities for locomotion and performance of activities of daily living.(77) **(EG 1)** A prospective randomized controlled trial that included 80 patients with paraplegia from spinal cord injury and shoulder pain found that a 12-week home-based rehabilitation program that included shoulder strengthening and stretching exercises and recommendations on how to optimize movement technique was associated with a significant reduction in shoulder pain.(77) **(EG 1)** Strategies to minimize shoulder pain in patients with spinal cord injury include postural correction, specific shoulder muscle exercises including stretching, and new transfer techniques.(78) **(EG 2)**

Rationale

Use of this MCG care guideline helps the clinician determine if a particular treatment, medication, or service might be appropriate for a specific patient, taking into account their unique health complexities.

Use of these evidence-based clinical criteria to support decision making benefits the patient by identifying patient-specific complex clinical factors and conditions, promoting personalized treatment. Utilizing evidence-based clinical criteria promotes patient safety by helping ensure that potential patient benefits outweigh the risks. In addition, the use of evidence-based guidelines can increase consistency in treatment thresholds, leading to less variation in care and promoting equitable treatment among patients.

Related CMS Coverage Guidance

This guideline supplements but does not replace, modify, or supersede existing Medicare regulations or applicable National Coverage Determinations (NCDs) or Local Coverage Determinations (LCDs).

Code of Federal Regulations (CFR): 42 CFR 419.22(97); 42 CFR 422.101(98)

Internet-Only Manual (IOM) Citations: CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 14 - Medical Devices(99); CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 15 - Covered Medical and Other Health Services(79); CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 16 - General Exclusions from Coverage(100)

Medicare Coverage Determinations: Medicare Coverage Database(101)

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Footnotes

[A] Shoulder impingement syndrome is a generic term used for patients with shoulder pain that includes rotator cuff syndrome, tendinosis of the rotator cuff muscles, and bursitis in the shoulder area.(56) [A in Context Link 1]

[B] According to the Centers for Medicare and Medicaid Services (CMS), a maintenance therapy program helps to maintain the patient's current condition or to prevent or slow further deterioration. CMS specifies that skilled therapy services are necessary for the performance of a safe and effective maintenance program only when (a) the particular patient's special medical complications require the skills of a qualified therapist to perform a therapy service that would otherwise be considered nonskilled, or (b) the needed therapy procedures are of such complexity that the skills of a qualified therapist are required to perform the procedure.(79) [B in Context Link 1]

Codes

ICD-10 Diagnosis: I97.2, M12.811, M12.812, M12.819, M12.9, M13.10, M13.111, M13.112, M13.119, M13.121, M13.122, M13.129, M13.131, M13.132, M13.139, M13.141, M13.142, M13.149, M13.80, M13.811, M13.812, M13.819, M13.821, M13.822, M13.829, M13.831, M13.832, M13.839, M13.841, M13.842, M13.849, M13.88, M13.89, M20.001, M20.002, M20.009, M20.011, M20.012, M20.019, M20.021, M20.022, M20.029, M20.031, M20.032, M20.039, M20.091, M20.092, M20.099, M21.00, M21.021, M21.022, M21.029, M21.10, M21.121, M21.122, M21.129, M21.20, M21.211, M21.212, M21.219, M21.221, M21.222, M21.229, M21.231, M21.232, M21.239, M21.241, M21.242, M21.249, M21.511, M21.512, M21.519, M21.521, M21.522, M21.529, M21.70, M21.721, M21.722, M21.729, M21.731, M21.732, M21.733, M21.734, M21.739, M21.80, M21.90, M21.921, M21.922, M21.929, M21.931, M21.932, M21.939, M21.941, M21.942, M21.949, M24.111, M24.112, M24.119, M24.411, M24.412, M24.419, M24.511, M24.512, M24.519, M24.541, M24.542, M24.549, M24.811, M24.812, M24.819, M24.9, M25.00, M25.011, M25.012, M25.019, M25.021, M25.022, M25.029, M25.031, M25.032, M25.039, M25.041, M25.042, M25.049, M25.08, M25.10, M25.111, M25.112, M25.119, M25.121, M25.122, M25.129, M25.131, M25.132, M25.139, M25.141, M25.142, M25.149, M25.18, M25.20, M25.211, M25.212, M25.219, M25.221, M25.222, M25.229, M25.231, M25.232, M25.239, M25.241, M25.242, M25.249, M25.28, M25.30, M25.311, M25.312, M25.319, M25.321, M25.322, M25.329, M25.331, M25.332, M25.339, M25.341, M25.342, M25.349, M25.39, M25.40, M25.411, M25.412, M25.419, M25.421, M25.422, M25.429, M25.431, M25.432, M25.439, M25.441, M25.442, M25.449, M25.48, M25.50, M25.511, M25.512, M25.519, M25.521, M25.522, M25.529, M25.531, M25.532, M25.539, M25.541, M25.542, M25.549, M25.59, M25.60, M25.611, M25.612, M25.619, M25.621, M25.622, M25.629, M25.631, M25.632, M25.639, M25.641, M25.642, M25.649, M25.69, M25.70, M25.711, M25.712, M25.719, M25.721, M25.722, M25.729, M25.731, M25.732, M25.739, M25.741, M25.742, M25.749, M25.811, M25.812, M25.819, M25.821, M25.822, M25.829, M25.831, M25.832, M25.839, M25.841, M25.842, M25.849, M35.7, M60.10, M60.111, M60.112, M60.119, M60.121, M60.122, M60.129, M60.131, M60.132, M60.139, M60.141, M60.142, M60.149, M60.18, M60.19, M60.20, M60.211, M60.212, M60.219, M60.221, M60.222, M60.229, M60.231, M60.232, M60.239, M60.241, M60.242, M60.249, M60.28, M60.80, M60.811, M60.812, M60.819, M60.821, M60.822, M60.829, M60.831, M60.832, M60.839, M60.841, M60.842, M60.849, M60.88, M62.00, M62.011, M62.012, M62.019, M62.021, M62.022, M62.029, M62.031, M62.032, M62.039, M62.041, M62.042, M62.049, M62.10, M62.111, M62.112, M62.119, M62.121, M62.122, M62.129, M62.131, M62.132, M62.139, M62.141, M62.142, M62.149, M62.18, M62.40, M62.411, M62.412, M62.419, M62.421, M62.422, M62.429, M62.431, M62.432, M62.439, M62.441, M62.442, M62.449, M62.48, M62.9, M63.80, M63.811, M63.812, M63.819, M63.821, M63.822, M63.829, M63.831, M63.832, M63.839, M63.841, M63.842, M63.849, M63.88, M63.89, M65.30, M65.311, M65.312, M65.319, M65.321, M65.322, M65.329, M65.331, M65.332, M65.339, M65.341, M65.342, M65.349, M65.351, M65.352, M65.359, M65.4, M65.811, M65.812, M65.819, M65.831,

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