Shoulder Pain

Diagnosis/Condition:	Chronic shoulder pain and Rotator Cuff disorders
Discipline:	LAc
ICD-10 Codes:	M25.5X, M75.XX
Origination Date:	2000
Review/Revised Date:	01/2025
Next Review Date:	01/2027

Shoulder pain encompasses a diverse array of pathologies and can affect up to one-fourth of the population, depending on age and risk factors. It is estimated that two-thirds of adults experience shoulder pain at some time in their life with the highest prevalence in middle age (40-65 years) and nearly half of patients with a specific shoulder disorder will develop chronic shoulder pain.[1-3] In general, shoulder pain disorders are associated with substantial disability on tasks essential to daily living and often lead to impaired sleep, mood, and concentration.[4] Indeed, patients with shoulder pain report substantially lower than *'normal'* values on quality of life questionnaires, especially in categories associated with physical and emotional function and these estimates are *on par* with patients with heart disease and clinical depression.[4] Taken as a whole, painful conditions of the shoulder are the third leading musculoskeletal complaint seen in primary care.[5]

Shoulder pain may be due to problems with the neck, glenohumeral joint, acromioclavicular joint, rotator cuff, or other soft tissues around the shoulder. Of the common shoulder pain conditions, rotator cuff disorders are most prevalent (50-85%)[6], followed by adhesive capsulitis and glenohumeral osteoarthritis; however, the majority of shoulder pain disorders are poorly diagnosed.[7] Rotator cuff disorders refer to a cluster of pathologies, (i.e. tears, tendinitis, tendinopathy, or impingement syndrome).[8] Although not widely implemented, it has been suggested that these similar, yet different conditions are best categorized as part of an overarching syndrome, Subacromial Pain Syndrome (SAPS).[9] Taken as a whole, SAPS refers to a cluster of common symptoms, namely non-traumatic, usually unilateral, shoulder problems that cause pain, localized around the acromion, often worsening with lifting of the arm. Chronic shoulder pain is categorized as pain lasting longer than six months and the insinuating pain may be the result of any of the common shoulder pain diagnoses, e.g., SAPS, rotator cuff tears, impingement syndrome, adhesive capsulitis, and/or glenohumeral osteoarthritis.

The majority of acupuncture-based research for shoulder pain has focused on two broad categories: chronic shoulder pain and rotator cuff disorders. Based on the evidence, acupuncture appears to be an effective health care option for the treatment of generalized shoulder pain. In line with this, a few current treatment guidelines for shoulder pain call for

early interventions with a multidisciplinary approach, including acupuncture.[10-12] One guideline in particular suggests 8 treatments over 6 weeks; if improvements are noted then up to 16 sessions over 12 weeks.[10]

Subjective Findings and History

- Etiology of common shoulder pain disorders is primarily grouped into four categories: 1) Tendon inflammation/tears; 2) Joint instability; 3) Arthritis; and 4) Fracture.[13]
- Chronic shoulder pain (>6 months) is often a result of unsuccessful treatment for a specific shoulder disorder (e.g. SAPS, adhesive capsulitis, and/or glenohumeral osteoarthritis).[7]
- Age related Findings
    - <40 years: Suspect glenohumeral instability or mild rotator cuff disorders.[2]
    - >40 years: Suspect glenohumeral osteoarthritis or more severe/chronic rotator cuff disorders.[14]
    - >40 years: Age association with poorer outcomes.[15]
- Duration of symptoms >3 months is a poor prognostic factor.[9]
- Co-morbidities: Diabetes and thyroid disorders may be associated with adhesive capsulitis.[13]
- History of repetitive use and/or postural strain; common with overhead work
- Pain, weakness, difficulty using arm overhead.
- Limitations in Activities of Daily Living.
- Pain worse at night and worse sleeping on the affected side

Objective Findings

- Pain in the area of the acromion and/or rotator cuff muscles/tendons; especially with overhead reaching, reaching behind the back, or lifting objects.
- Unable to reach higher >90° abduction or anteflexion.
- Rotator cuff-associated muscular weakness.
- Channels involved: SI, LI and TB channels; at times PC and SP-21 (luo connecting point).
- Pulse and tongue diagnosis will vary; often Qi and/or Blood stagnation.
- Common Orthopedic Test:
    - Subacromial pain syndrome (cluster of items all 3 increases probability)[9]
        1. Hawkins-Kennedy Test (coracoacromial impingement) (https://physio-pedia.com/Hawkins_/_Kennedy_Impingement_Test_of_the_Shoulder)
            - 1b: Neers Test (subacromial impingement) (https://physio-pedia.com/Neers_Test?utm_source=physiopedia&utm_medium=search&utm_campaign=ongoing_internal)
        2. Painful Arc Test (subacromial impingement) (https://physio-pedia.com/Painful_Arc)
        3. Infraspinatus Resistance Test (subacromial impingement or rotator cuff tears) (https://physio-pedia.com/Infraspinatus_Test)

- Rotator cuff tear (cluster of all 3 increases probability)[9]
    1. Drop-arm test (full thickness tear of rotator cuff: supraspinatus) (https://physio-pedia.com/Drop_Arm_Test#sts=Technique?utm_source=physiopedia&utm_medium=search&utm_campaign=ongoing_internal)
    2. Infraspinatus Resistance Test (subacromial impingement or rotator cuff tears) (https://physio-pedia.com/Infraspinatus_Test)
    3. Empty can Test (Supraspinatus muscle/tendon) (https://physio-pedia.com/Empty_Can_Test?utm_source=physiopedia&utm_medium=search&utm_campaign=ongoing_internal)

Assessment

- Assessment of common shoulder disorders relies on three key areas: patient history, physical exam, and if needed, diagnostic imaging.[16]
    - Recent evidence advises limiting imaging technologies to trauma or to differentiate full vs. partial-thickness tears.[17-19]
- The clinical impression should indicate the specific anatomical structures and acupuncture channels involved; clinically correlate with the mechanism of injury, history, and subjective/objective findings.
- Differentiate shoulder pain originating from other areas, i.e., elbow or neck (referred cervical or thoracic pain).
- Pain is mostly provoked by overhead maneuvers and often accompanied by weakness/tenderness of the shoulder muscles.
- Differentiate based on disorder:
    - Rotator Cuff Disorders (SAPS): Consider Tears/Tendinopathy *vs.* subacromial Impingement or Tendon overload/degeneration.
        - If full thickness tear is suspected, refer for imaging.
    - Chronic shoulder pain: Consider central sensitization and development of chronic pain syndrome (e.g., disproportionate and diffuse pain; see below).
        - Central Sensitization: Emerging evidence suggests the presence of central sensitization in patients with unilateral shoulder pain (including SAPS).[20]
        - An exploratory trial suggests that peripheral sensitization is not a prerequisite for the presence of central sensitization in patients with shoulder pain.[21] Tenderness at three acupoints (TB-14, LI-15 and SI-9) appear to be diagnostic and offer insight into the common use of these points known as *'the 3 shoulder points.'*

Plan

Current treatment guidelines suggest a focus on improved function through pain relief and enhanced mobility.[14, 19, 22, 23] Most guidelines suggest a combination of activity modification, a physical medicine (e.g. acupuncture), pain/inflammatory medication (e.g. NSAIDs), and if needed corticosteroid injections.[9, 12, 14] One guideline (on rotator cuff

disorders) suggests initial treatment strategy of 2-6 weeks consisting of: 1) acupuncture and/or exercise and/or manual therapy; 2) Acetaminophen and/or NSAIDS; and 3) Heat/Ice.[12] Of note, this guideline supports the use of acupuncture and rated the evidence as on par with the use of Acetaminophen (i.e. Tylenol). A return to work guideline (Massachusetts, 2022), also recommends adjunctive passive therapies (like acupuncture) during the early phases of treatment and suggests up to 16 sessions over 12 weeks.[10]

Summary of Acupuncture Research:

Chronic Shoulder Pain

The research evidence supports the benefit of acupuncture.

- Two large RCTs (n>400) demonstrate that acupuncture is effective as either stand-alone or add-on therapy; results were sustained at long-term follow-up.
    - Compared to usual care (NSAIDs & physiotherapy); results maintained at 3-months (15 Tx's: 1-3/wk for 6wks).[24]
    - Adjunctive to physiotherapy; results maintained at 1-year (3 Tx's: Weekly; ipsilateral ST-38).[25]

Rotator Cuff Disorders (SAPS)

The evidence is promising but limited.

- A 2025 meta-analysis (n=13; participants 1,371), suggests mixed results for pain when comparing acupuncture alone or combined with other conservative interventions (e.g. PT, corticosteroid injection).[26]
    - Short term (0-1mth): Positive Effect (WMD: -1.37; 95% CI: -2.36 to -0.38; *P*=0.006)
    - Mid-term (1-3mths): Positive Effect (WMD = -1.66; 95% CI: -2.70 to -0.63; *P*=0.002)
    - Long-term (3-12 months): No effects were observed (WMD: -1.78; 95% CI: -3.83 to 0.28; *P*=0.09).

Tendinosis: The evidence is promising but limited.

- A single trial (n=85) suggests superiority of acupuncture (plus Phlogenzym e.g. bromelain) compared to physical therapy; results maintained at 1-year (12 Tx's: 1/wk.).[27]

Impingement syndrome: The evidence is promising but limited.

- A 2024 meta-analysis (n=5; 382 participants) found positive effects of manual acupuncture plus physical therapy (PT) *vs.* PT alone.
    - Reduced pain (SMD: -0.50; 95% CI: -0.74 to -0.27)
    - Improved shoulder function/ disability (SMD: -0.57; 95% CI: -0.96 to -0.19)
        - Caution due to low quality trials
- Two earlier RCTs not included in the review support the review
    - A trial (n=117) suggests acupuncture is as effective as corticosteroid injection; both treatments effective at 1-year (10 Tx's: 2/wk for 5wks).[28]
    - A trial (n=85) suggests acupuncture is superior to ultrasound therapy (10 Tx's: 2/wk for 5wks).[29]

Addendum: Post-Stroke Shoulder Pain

Emerging evidence is promising; more research is needed.

- A 2023 meta-analysis (n=15; 978 participants) suggests that acupuncture is as effective as rehabilitation training for shoulder pain, improving upper limb motor function and ADL.[30]
- A 2022 meta-analysis suggests that acupuncture combined with rehabilitation training is more effective than rehabilitation training alone.[31]
    - (N=35; 2,554 patients); 34/35 published in Chinese.

Other Modalities:

- Adding Tuina/Massage to acupuncture may be helpful.[32, 33]

Active Care:

- Rest from inciting activity.
- Activities/work restrictions if appropriate may include: No repetitive motion, lifting or overhead reaching.
- Appropriate stretching and strengthening exercises, e.g., *tai ji, qigong*.
    - Focus on low intensity and high frequency, combining eccentric training with stabilization training of the scapula and focusing on relaxation and proper posture.[9]
- Home-based self-administered acupressure protocols may be helpful[34, 35]
    - Treatment of myofascial trigger points (consider ashi acupoints) can support exercise therapy.[9]
- Common herbal topical medicaments, (e.g., Kwan long oil), heat and or ice as needed
- Appropriate dietary modifications; Mediterranean-diet approaches seem best and *"may play a modulatory role in chronic pain through management of inflammation and oxidative stress..."*[36]

Outcome Assessment Tools

- Shoulder Pain and Disability Index (SPADI) (https://www.worksafe.qld.gov.au/__data/assets/pdf_file/0014/22136/shoulder-pain-and-disability-index-spadi1.pdf)
- Quick Disabilities of the Arm, Shoulder and Hand (DASH) (https://dash.iwh.on.ca/about-quickdash)
- Penn Shoulder Score (https://orthotoolkit.com/penn-shoulder-score/)
- MYMOP (See OATs)

Length of Treatment

- The estimated duration of care varies based on chronicity and the specific shoulder condition. For example, an acute flare of chronic shoulder pain may require 3 weeks of care. Whereas, for chronic shoulder pain due to impingement syndrome may require up to 6-8wks. (See above, *Acupuncture Plan*, for clinical trial protocols).

- Patient should demonstrate clinically meaningful improvements within 6-8 treatments. Treatments can continue for 2-3 months in acute cases, for up to 6-months in chronic shoulder pain.

Referral Criteria

- If a patient has signs of neurological damage (e.g., weakness, atrophy) the patient should be immediately referred.
- Other 'red flag' etiologies, which require immediate referral, include tumor, infection, and nerve-related disorders.[13]
- Referral to a specialist is indicated for patients with pain that does not respond to an appropriate regimen of treatment (~6wks).[9]
- Consider central sensitization and Central Sensitivity Syndrome; refer for mental health and chronic pain management as needed.
- Surgical interventions, such as arthroscopic acromioplasty, are suggested if conservative treatment options fail.
    - Despite the increase in these procedures, studies suggest no difference between the effects of physical therapy and surgical interventions.[37-40]
    - It is suggested that there is no convincing evidence that surgical treatment for SAPS is more effective than conservative management.[9]
- Specific shoulder disorders, such as adhesive capsulitis, may have unique and or/complex etiologies related to diabetes and thyroid disorders; refer as needed.[16]
- Manipulation and physical medicine care may be used for further improvements in ROM and strength.

Resources for Clinicians

UpToDate: evaluation of the adult with shoulder complaints; shoulder impingement syndrome. https://www.uptodate.com/contents/evaluation-of-the-adult-with-shoulder-complaints?source=related_link

American Academy of Orthopedic Surgeons. Clinical Practice Guideline on Glenohumeral Joint Osteoarthritis. Evidence Based Clinical Practice Guideline. https://www.aaos.org/globalassets/quality-and-practice-resources/glenohumeral/gjo-cpg.pdf

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