

Shoulder Pain

ICD-9-CM code: 726.19 Subacromial bursitis

ICF codes: Activities and Participation Domain codes:

d4452 Reaching (Using the hands and arms to extend outwards and touch and grasp something, such as when reaching across a table or desk for a book.)

d4300 Lifting (Raising up an object in order to move it from a lower to a higher level, such as when lifting a glass from the table.)

d4305 Putting down objects (Using hands, arms or other parts of the body to place an object down on a surface or place, such as when lowering a container of water to the ground.)

d4451 Pushing (Using fingers, hands and arms to move something from oneself, or to move it from place to place, such as when pushing an animal away.)

d4452 Reaching (Using the hands and arms to extend outwards and touch and grasp something, such as when reaching across a table or desk for a book.)

d4300 Throwing (Using fingers, hands and arms to lift something and propel it with some force through the air, such as when tossing a ball.)

d4550 Crawling (Moving the whole body in a prone position from one place to another on hands, or hands and arms, and knees.)

d4551 Climbing (Moving the whole body upwards or downwards, over surfaces of objects, such as climbing steps, rocks, ladders or stairs, curbs or other objects.)

Body Structure code: **s7201** Joints of shoulder region

Body Functions code: **b28016** Pain in joints

Common Historical Findings:

Diffuse shoulder pain

Pain at rest

Recent unaccustomed repetitive use of upper extremity

Common Impairment Findings - Related to the Reported Activity Limitation or Participation Restrictions:

Pain with all shoulder movements

Symptoms are reproduced/increased with palpation of subacromial bursa

Physical Examination Procedures:



Subacromial Bursa Palpation/Provocation

Performance Cue:

Slightly extend and internally rotate the humerus to improve access to the bursa

Shoulder Pain: Description, Etiology, Stages, and Intervention Strategies

The below description is consistent with descriptions of clinical patterns associated with
“Subacromial Bursitis.”

Description: An inflammatory condition of the sub-deltoid bursa which develops due to recent unaccustomed overuse causing diffuse shoulder pain. A discriminating characteristic of acute subacromial bursitis is pain/aching at rest, which is aggravated by most all shoulder movements.

Etiology: The subacromial bursa is a synovial-lined sac separating the superior surface of the supraspinatus tendon from coracoacromial arch and deep surface of deltoid muscle. The floor of the bursa is the supraspinatus tendon and the roof is the acromium. Inflammation of this bursa is most commonly the result of repetitive strain, or overuse, injury to other structures like the rotator cuff. Subacromial bursitis rarely occurs alone and is usually associated with supraspinatus tendonitis, or tenosynovitis of the rotator cuff, bicipital muscles, or glenohumeral arthritis. A detailed history is important to distinguish the bursa from a supraspinatus strain or involvement of other rotator cuff structures.

Acute Stage / Severe Condition: Physical Examinations Findings (Key Impairments)

ICF Body Functions codes: **b28016.3** SEVERE pain in joints

- Protection of the shoulder and avoidance of use of the injured arm
- Unable to flex or abduct the shoulder or reach during overhead activities secondary to pain
- Apprehension with all shoulder movements
- Symptoms are reproduced or increased with palpation of the subacromial bursa

Sub Acute Stage / Moderate Condition: Physical Examinations Findings (Key Impairments)

ICF Body Functions codes: **b28016.2** MODERATE pain in joints

As above with the following differences:

- Symptoms are provoked at end range of active abduction
- Pain with resisted abduction/ flexion of the shoulder
- Painful arc of ROM for subacromial bursitis is 70-110° of abduction
- Resisted tests may be weak and painful due to the compression of an inflamed subacromial bursa by a contracting deltoid muscle and involvement of rotator cuff muscles
- Impingement sign may help distinguish between bicipital tendonitis and bursitis. Lateral subacromial tenderness suggests bursitis or supraspinatus tendonitis, anterior subacromial tenderness suggests bicipital tendonitis
- Arthritis may cause osteophyte/calcium projections into the bursa (calcific bursitis)
- Limitations in functional activities include difficulty in sleeping, grooming, dressing, work and sports activities

Now (when less acute) examine the patient for common coexisting upper quadrant impairments. For example:

- Cervical and upper thoracic segmental movement abnormalities
- Limited glenohumeral physiologic and accessory movements
- Muscle flexibility deficits – especially subscapularis, infraspinatus, pectoralis minor, pectoralis major, latissimus dorsi, and teres major myofascia
- Nerve mobility deficits – especially median, radial, and ulnar nerves in the common thoracic outlet entrapment areas
- Weak scapular upward rotator muscles – commonly lower trapezius, middle trapezius, and serratus anterior
- Excessive scapular elevation, abduction, downward rotation or winging with overhead reaching
- Chronic Stage – radiographic findings show narrowing of acromiohumeral gap, superior subluxation of the humeral head, erosive changes at the inferior aspect of the acromium

Settled Stage / Mild Condition: Physical Examinations Findings (Key Impairments)

ICF Body Functions codes: **b28016.1** MILD pain in joints

As above with the following differences:

- Pain with repetitive activities of flexion/abduction such as overhead activities
- Overpressure, or passively forcing end range shoulder flexion (e.g., “impingement tests”) reproduces the patients reported pain complaint
- Painfree resisted tests when performed in midrange shoulder positions
- Pain only with repeated flexion and abduction contractions

Intervention Approaches / Strategies

Acute Stage / Severe Condition

Goal: Painfree at rest

- Physical Agents
 - Phonophoresis/iontophoresis or pulsed ultrasound to assist in reducing inflammation
 - (A random, controlled, double blind study suggests there is no evidence to support ultrasound having an important therapeutic effect over treatment with just ROM and non-steroidal anti-inflammatory drugs (NSAIDs)
 - Ice and/or TENS for relief of acute pain as well as to decrease muscle guarding
- External Devices (Taping/Splinting/Orthotics)
 - May consider a sling if necessary to temporarily limit painful active movements
- Therapeutic Exercises
 - Pendulum (Codman's) exercises
 - Painfree passive ROM, active assisted AROM, or AROM exercises once or twice a day
- Re-injury Prevention Instruction
 - Temporarily limit flexion, abduction, and, overhead activities

Sub Acute Stage / Moderate Condition

Goal: Painfree with active movements

- Approaches / Strategies listed above
- Therapeutic Exercises
 - Progress AROM exercises to painfree tolerance
 - AROM exercises progress to weighted, supine and sitting shoulder flexion, abduction and rotation strengthening program
- Manual Therapy
 - Soft tissue mobilization to shortened subscapularis, infraspinatus, pectoralis minor, pectoralis major, latissimus dorsi, and teres major myofascia
 - Joint mobilization in an attempt to normalize the accessory mobility or physiologic motion deficits believed to be associated with the patient's complaints
 - Neuromuscular reeducation in an attempt to normalize the strength and coordination deficits believed to be associated with the patient's complaints

- Ergonomic Instruction
 - Promote efficient, painfree, motor control of the trunk, scapulae and arm with overhead activities
 - Modify functional activities to prevent overuse and re-injury
 - Patient education for prevention strategies

Settled Stage / Mild Condition

Goal: Painfree with repeated active movements

- Approaches / Strategies listed above
- Therapeutic Exercises
 - Attempt to normalize the strength and endurance deficits believed to be associated with the patient's complaints
 - Maximize muscle performance of the relevant trunk, scapulae, and shoulder girdle muscles required to perform the desired occupational or recreational activities
- Ergonomic Instruction
 - Add job/sport specific training

Intervention for High Performance / High Demand Functioning in Workers or Athletes

Goal: Return to desired occupational or leisure time activities

- Approaches / Strategies listed above

Selected References

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