

Shoulder Health after SCI: PT Examination

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Fact Sheet

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How can shoulder pain and injury be thoroughly evaluated for an individual with a SCI?

Since shoulder pain and dysfunction in patients with a SCI is known to be multifactorial, a thorough physical examination & evaluation is necessary for differential diagnosis.^{1,2}

Examination/Evaluation of the Shoulder:

- Perform probing history, determine onset of pain, location of pain, and activity-related aggravators (may appear as avoidance of activity or fatigue during activity)
- Use validated, responsive, and sensitive self-reported questionnaires to quantify and track function and pain intensity (See examples below)
- Upper quarter screen. Rule out pain of cervical origin
- Perform provocation tests that load multiple structures to reproduce pain (such as Neer, Hawkins-Kennedy, Speeds, external rotation resistance)
- Determine goniometric range of motion (active and passive). Pay particular attention to internal and external glenohumeral rotation; internal rotation deficits closely related to impingement
- Assess scapulothoracic flexibility, symmetry and quality of movement
- Assess muscle strength. Consider strength quantification using dynamometry, if available. Determine side-to-side asymmetries or measurements below age established norms that manual muscle testing cannot capture
- Assess muscle tone and spasticity (throughout the body) and the effect on shoulder kinematics
- Evaluate posture and wheelchair configuration. Look for rounded shoulder posture
- Evaluate movement during ADLs, including wheelchair propulsion and transfers; document risky patterns for the upper extremity
- Palpate the shoulder. Note areas of sensitivity
- Review imaging findings, if available

Evaluation items to pay particular attention to:

- Look for worsening in shoulder pain symptoms over time. Any change in severity of regularly experienced pain may indicate new or worsening shoulder tendon pathology
- Progression of any upper limb weakness. Immediate referral to a specialist is indicated
- Acute trauma with suspected tearing of a rotator cuff tendon. Immediate referral to a specialist indicated; timeliness of treatment is necessary for surgical repair of complete tears

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What self-reported outcome measures are available to track shoulder pain and dysfunction?

Patients with SCI may not seek treatment for or even report shoulder pain. However, due to the fact that pathology, pain, and loss of function increase with age and time since SCI, it is important that this issue be addressed continuously rather than waiting until significant loss of function. Validated and reliable options for a self-report questionnaire to include as part of ongoing outpatient therapy or annual clinic appointments are highlighted below:

- The Wheelchair Users Shoulder Pain Index (WUSPI)^{3,4} allows the patient to rate pain intensity during common activities performed by wheelchair users. The activities shown to be most pain provoking can then be modified as part of the treatment plan.
- The Disabilities of the Arm, Shoulder and Hand Questionnaire (DASH)⁵ and the Quick DASH were designed to determine upper extremity symptoms and function. They have been utilized as an outcome measure to detect change in clinical intervention studies of shoulder pain after SCI. Since the DASH queries the patient to answer questions about the entire upper extremity, problems with the wrist and elbow may be identified as a result of the completion of this survey.
- The Patient Specific Functional Scale (PSFS)⁶ is used to assess functional ability to complete specific activities. The respondent identifies and rates up to five activities that are causing difficulty for them, allowing activities important to the patient to be identified that may not have been captured with other questionnaires. At follow-up visits, the patient can nominate new activities if the initial ones have resolved.

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