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An Exercise in Diagnosis

By Warren Hammer, MS, DC, DABCO

The following is an examination for a shoulder problem recently referred for consultation. This case serves as an interesting review of a soft tissue shoulder examination.

Patient is a 42-year-old registered nurse who was involved in two automobile accidents three months apart, two years ago. She was treated successfully for a severe "whiplash" by a local doctor of chiropractic. She stated that she felt shoulder pain after each accident and denies any shoulder pain before the accidents. Her present complaint was right shoulder pain extending at times to the elbow or wrist. She described a burning, dull, achy, type of pain. She complains of night pain at times.

X-rays of the shoulder area were negative. Examination of active range of motion (ROM) and passive end-feel stress to the cervical spine revealed no localized or referred pain. Motion palpation of the cervical and thoracic spinal segments revealed normal end-feel and no pain in all ranges of motion. Myofascial examination was inconclusive.

Examination of the shoulder revealed possible atrophy of the right infraspinatus muscle. There was normal alignment of all related shoulder structures. All of the following tests were compared to the normal left shoulder.

Active motion revealed pain and loss of internal rotation of the right shoulder 55/70 degrees and right horizontal adduction 110/130 degrees. There was also pain on active lateral rotation with slight limited movement.

Passive examination revealed pain at the end-range on passive coronal abduction without a painful arc. Passive lateral rotation revealed shoulder pain and very minimal loss of end-range and end-feel of the right shoulder. Passive lateral rotation reduplicated much of the patient's main pain complaint (anterior and posterior humeral head area with pain radiating into the right mid-deltoid area). Passive glenohumeral

abduction with a fixed scapular to determine glenohumeral motion was painful but within normal range. Passive medial rotation revealed limitation and posterior shoulder pain. Passive horizontal adduction was limited and painful over the posterior shoulder area.

Isometric testing of the rotator cuff muscles were all minimally aggravating and tested strong, even with repetitive loading (testing). Isometric testing of the adductors, latissimus dorsi, and pectoralis major were strong and "achy." There was minimal "achiness" with testing of the biceps. There was no evidence of instability on testing or on the relocation test to corroborate instability, although testing for instability created pain. The coraco-acromial impingement test was negative. Palpation of the glenohumeral area revealed generalized tenderness over the anterior, lateral, and posterior humeral head.

Diagnosis: Chronic capsulitis/bursitis with associated shortening of the posterior capsule.

Rationale: The active motion tests of pain and limitation on internal rotation, lateral rotation, and horizontal adduction incriminates both passive (capsule) and contractile tissue (muscle), therefore active testing is used as a baseline to compare results of treatment in the future rather than derive information as to what type of tissue is involved.

The functional examination first stressed the passive tissue (capsule, ligaments, bursae) by a passive stress type examination. Almost all of the passive tests were positive, especially lateral rotation. The contractile tissues were stressed by resisted isometric testing. Almost all of the contractile tissues tested strong and "achy." There was no particular tendon or muscle that was remarkably involved (i.e., painful or weak). Interpretation of the above findings indicate that since the muscles tested strong there was no evidence of partial rupture. The generalized achiness on testing of all of the muscles made it difficult to incriminate a localized tendinitis. In a diagnostic comparison between passive and contractile tissue, the aggravation of both types of tissue on stress testing usually indicates an inflammatory process. If there had been involvement of only one or two related contractile areas, i.e., infraspinatus and/or supraspinatus on resisted testing, it would be more indicative of a tendinitis which may have been corroborated by passive stretching of only these muscles on the passive examination. But a combination of pain on both passive and contractile testing presents a confusing appearance which usually refers to an inflammatory situation. Due to the fact that the passive examination created a significantly greater amount of pain, especially lateral rotation, and the contractile testing was nonspecific, it is reasonable to assume that the capsule was primarily involved. The first movement to become limited in the shoulder in an adhesive capsulitis is lateral rotation, and if this

inflammatory process is allowed to continue the second and third stage capsulitis problem may eventually develop. Posterior shoulder pain and limitation on horizontal adduction and medial rotation incriminates the posterior capsule. Atrophy of the right infraspinatus may be due to disuse. Supraspinatus atrophy is often difficult to detect due to the overlying trapezius muscle.

Treatment would consist of diminishing the inflammation by the use of cryotherapy and modalities. As soon as tolerated, friction massage, passive stretching of the capsule (especially the posterior capsule by horizontal adduction stretch) and increasing lateral rotation stretching would have to be performed. Contract-relax technique to the associated anterior and posterior cuff muscles would also be appropriate. Eventually isometric and isotonic strengthening of the cuff and scapular muscles (rubber tubing) should be included.

This type of case is often diagnosed as a tendinitis type of problem, but due to the increased aggravation of positive findings during the passive examination over the contractile examination, and associated pain and shortening of the posterior capsule, a good working diagnosis would be a capsulitis. A possible chronic bursitis may also be associated.

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Editor's Note:

Dr. Hammer will conduct his next soft tissue seminar on March 14-15, 1992, in Las Vegas, Nevada. You may call 1-800-327-2289 to register.

Dr. Hammer's new book, Functional Soft Tissue Examination and Treatment by Manual Methods: The Extremities, is now available. Please see the Preferred Reading and Viewing list on page xx, Parts #T126 to order your copy.

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