

Shoulder Impingement in an X-Ray Technician

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A 50-year-old female x-ray technician presents with weakness on shoulder flexion and pain in her right A-C joint on 90 degrees flexion. After taking a complete history, you determine that this shoulder problem is of insidious onset.

On evaluation, you quickly rule out any serious problems indicated by red flags and diagnoses that simply must not be missed: radiculopathy of various etiologies, tumor, A-C tears, etc.

Resisted isometric muscle strength testing of the rotator cuff muscles show that she appears to be slightly weak only in the position of scaption, or the “empty can” test,¹ suggesting that her supraspinatus muscle is weak. Active and passive range-of-motion demonstrate limitation in external rotation (tested with the arm abducted to 90 degrees, elbow flexed to 90 degrees and palm facing anteriorly), as well as pain at 90 degrees of forward flexion (also known as vertical or horizontal flexion).

You ask her to demonstrate some of her activities of daily living, whereupon she shows you how she reaches over her head and pulls and pushes the horizontal x-ray bucky while at work. The shoulder position moves from 160 degrees flexion with the elbow extended, to 90 degrees of abduction with the elbow bent at 90 degrees, in a position of external rotation—with her hand over her head and shoulder while she is pulling on a

heavy apparatus. She explains that the machine weighs over 100 lbs. and is resistant to movement due to faulty lubrication and old metal parts. This demonstration of her daily movements makes it obvious to you that she is exacerbating her problem with this motion.

Your diagnosis is impingement syndrome of insidious onset with restricted shoulder movement in both forward flexion and external rotation. For the treatment of shoulder restrictions, the primary—if not exclusive—method many of us learned for adjusting the shoulder involved thrusting through the arm, from the elbow to the shoulder, by bracing the posterior aspect of the patient’s shoulder against the doctor’s chest or shoulder. If the fixation was in external rotation, then the patient’s arm was to be in external rotation during this adjustment procedure. Although there is certainly a time and a place for this procedure, I do not feel it appropriate to use it as something of a “one-size-fits-all” maneuver.

Impingement syndrome was once only thought to be a frictional irritation of the structures as they passed through the subacromial outlet. Current literature suggests that there is a tension overload in the shoulder joint that causes fatigue, injury, and weakness of the rotator cuff muscles. This, in turn, causes instability and an impingement by the humeral head

against the roof of the glenohumeral joint. The above-described adjustive procedure can increase the symptoms of impingement.

The alternative chiropractic adjustive procedure that I have begun using with great success on this type of shoulder diagnosis is to apply a force that decreases the superior position of the humerus in the glenohumeral joint, while addressing any other restrictions. The treatment approach begins with putting the arm in 90 degrees of flexion with the elbow bent, so that the patient’s hand almost rests on her shoulder. I also place her arm in a position of external rotation in order to decrease her external rotation restrictions. I then put one hand under



Figure 1. Adjusting a shoulder with an external rotation fixation

