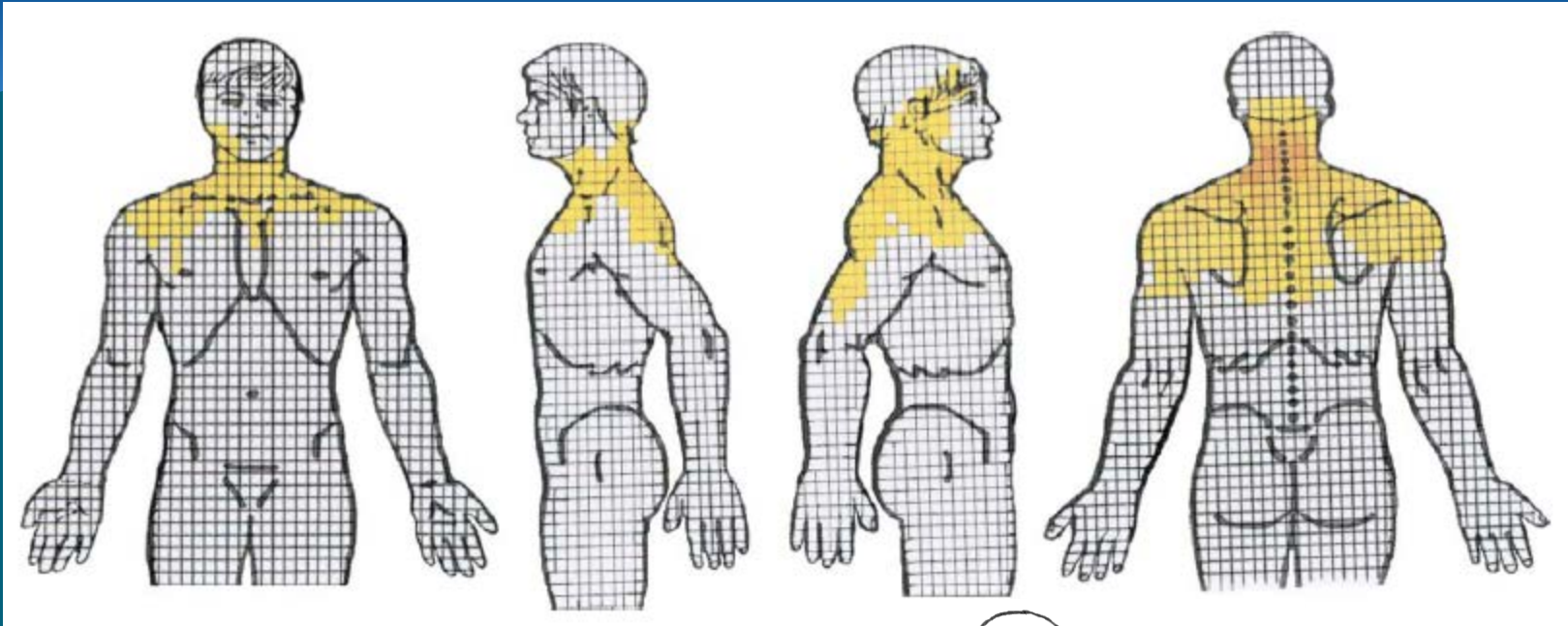


Cervical/Shoulder Differentiation in Throwers

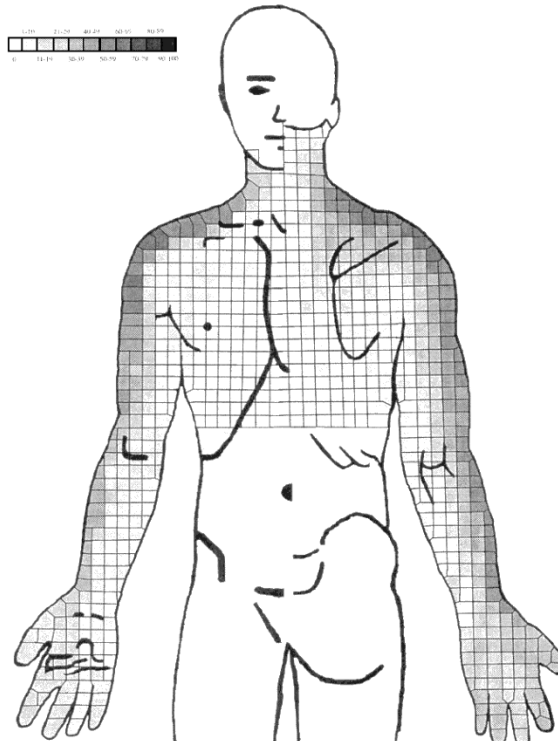
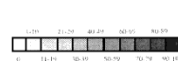
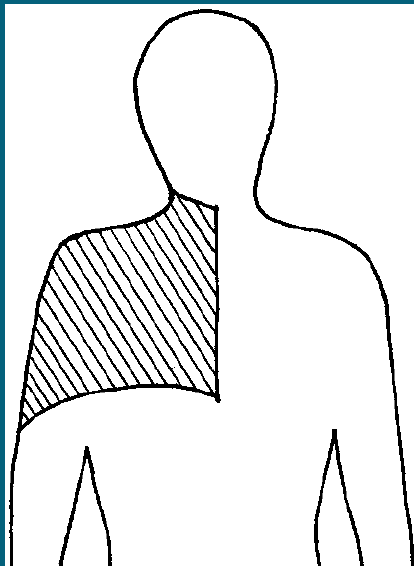
**Stephania Bell, PT, OCS, CSCS
ESPN Sr Writer, Injury Analyst**

Cx/Shoulder Differentiation

- * Significant potential for overlap
- * Rarely exclusively one or the other
- * More common for each area to influence the other in subtle ways
- * The obvious dx are easy (RTC tear, Cx radiculopathy), more of them aren't (shoulder impingement, Cx disc)
- * Critical to assess Cx (through U/Th) spine as a potential contributing factor



Grubb
2000

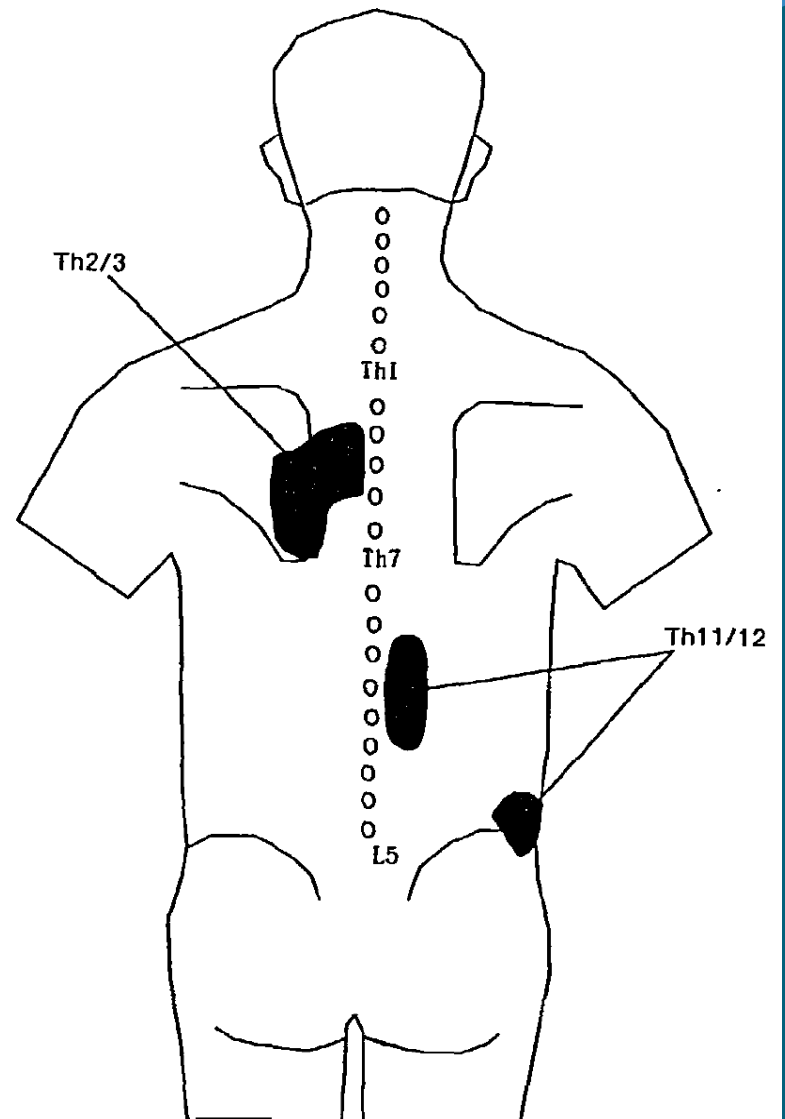
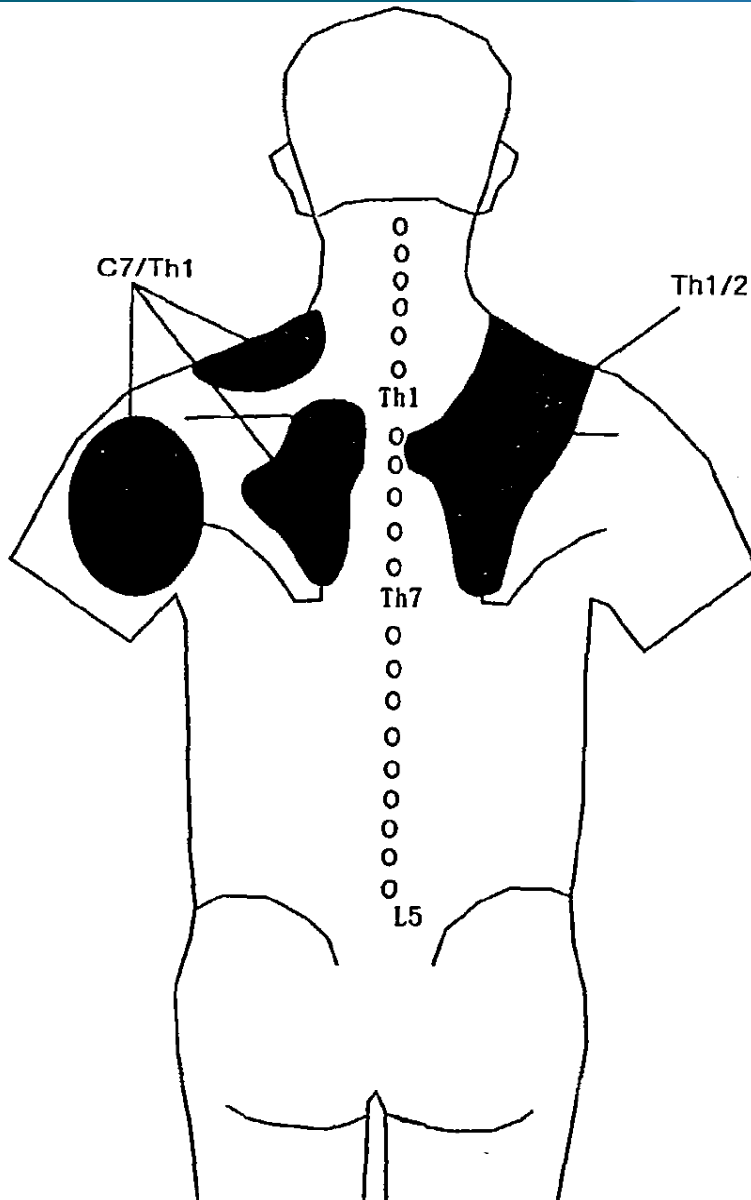


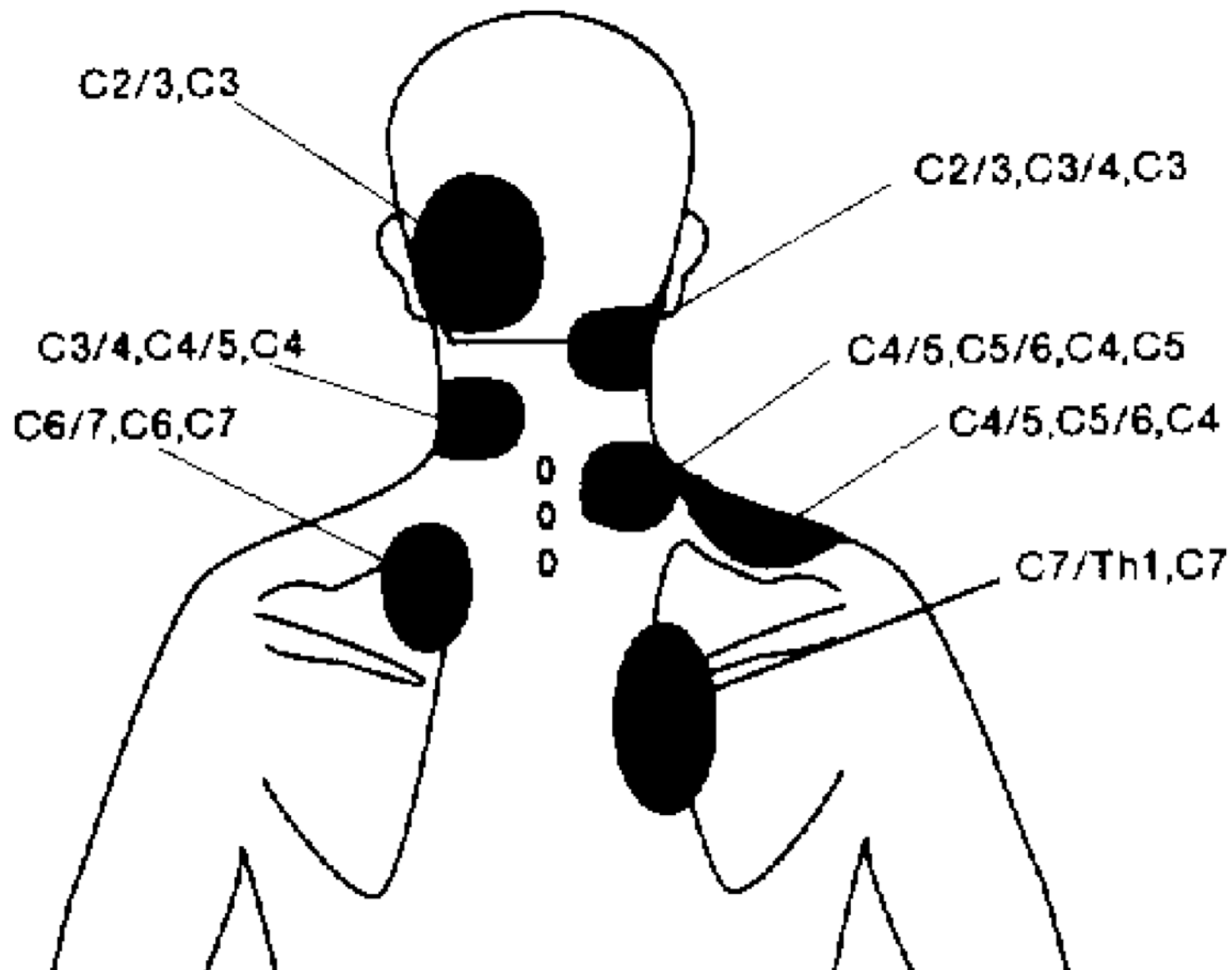
C5/6 disc
C6 nerve
root

Slipman
1998 &
2005

Facet Pain Pattern

Fukui 1997





Facets &
Dorsal
Rami
 Fukui
 1996
 N= 61

NITIN KALRA, PT, MS¹ • AMEE L. SEITZ, PT, PhD, OCS² • N. DOUGLAS BOARDMAN III, MD³ • LORI A. MICHENER, PT, PhD, ATC, SCS⁴

Effect of Posture on Acromiohumeral Distance With Arm Elevation in Subjects With and Without Rotator Cuff Disease Using Ultrasonography

J Orthop Sports Phys Ther 2010;40(10):633-640



FIGURE 2. Ultrasound probe positioning on the acromion.

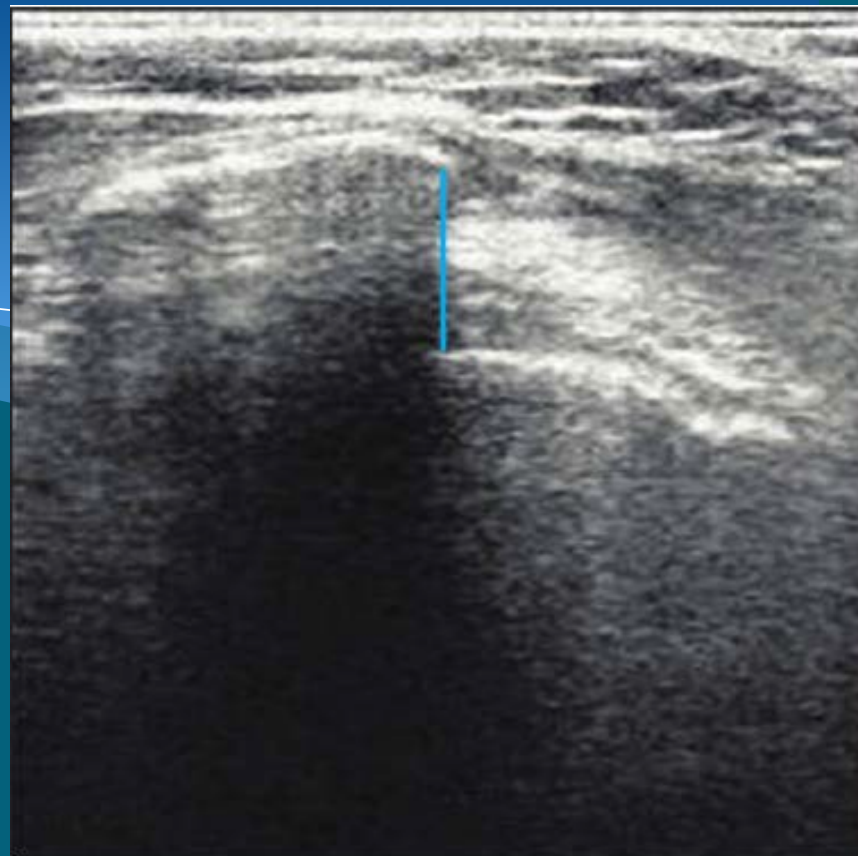


FIGURE 1. The line represents the acromiohumeral distance (AHD).

- Acromialhumeral distance measured at 2 positions in 3 postures
- Increased space in upright posture at 45 deg abduction

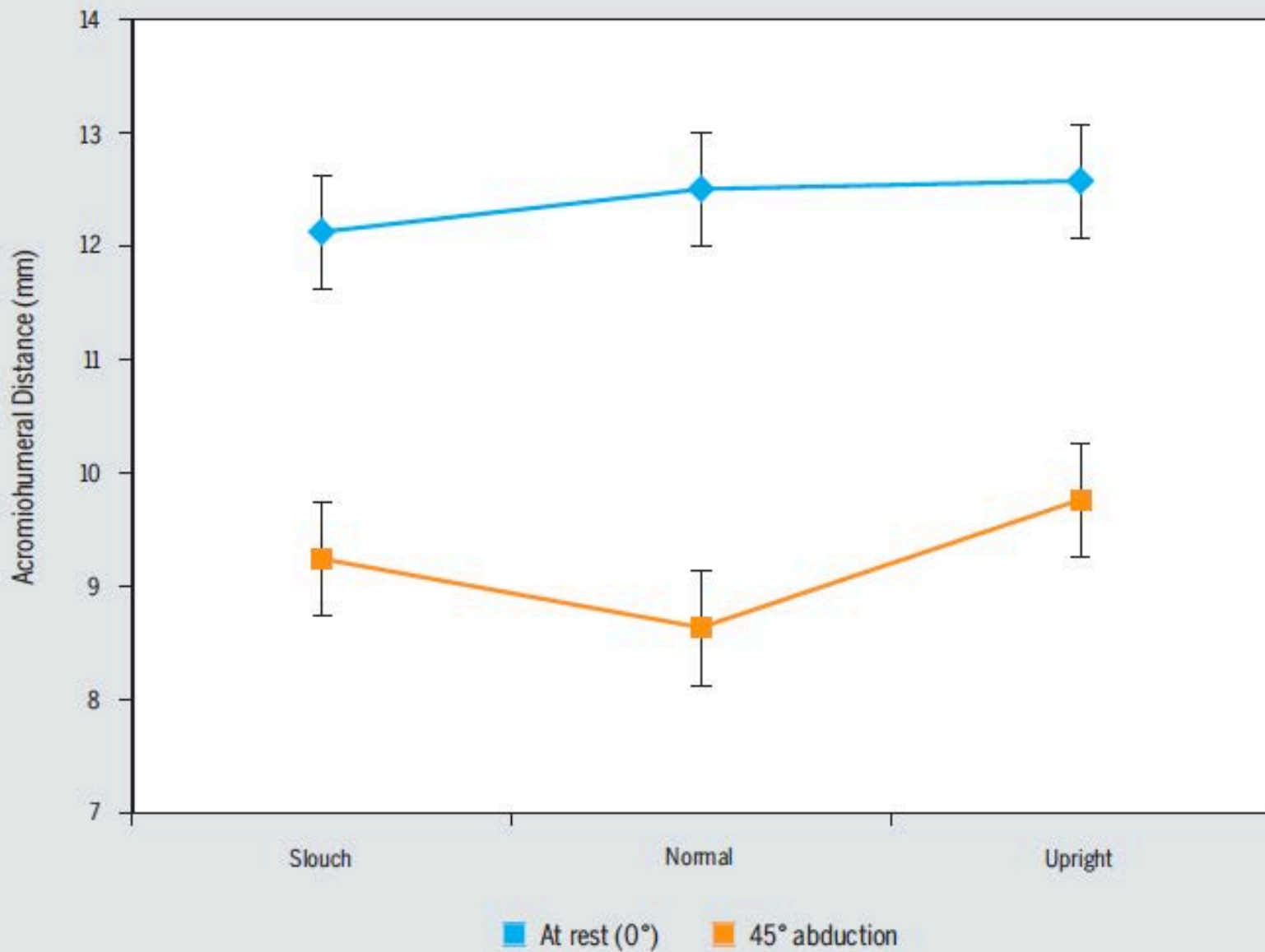


FIGURE 5. Acromiohumeral distance in millimeters for 3 postures and for 2 arm positions (at rest and 45° abduction). Data represent combined results for the control and patients with rotator cuff disease. Vertical bars represent 95% confidence intervals.

Thoracic Position Effect on Shoulder Range of Motion, Strength, and Three-Dimensional Scapular Kinematics

Maikutlo Kebaetse, MS, PT, Philip McClure, PhD, PT, OCS, Neal A. Pratt, PhD, PT

Arch Phys Med Rehabil 1999;80:945-50

- * Slouched posture:
 - * Decreased shoulder abduction ROM
 - * Scapula had decreased posterior tilting 90°-maximum abduction
 - * Similar to Culham and Peat, 1994; Ludewig and Cook, 1996
 - Increased ant tilt
 - * 16.2% decrease in muscle force at 90° of abduction

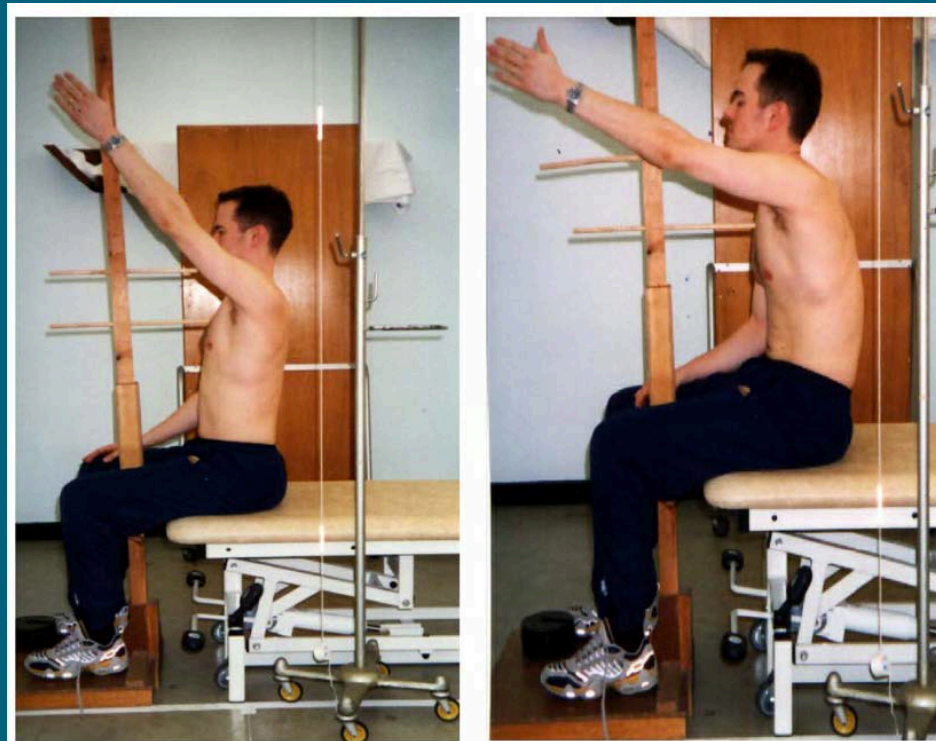


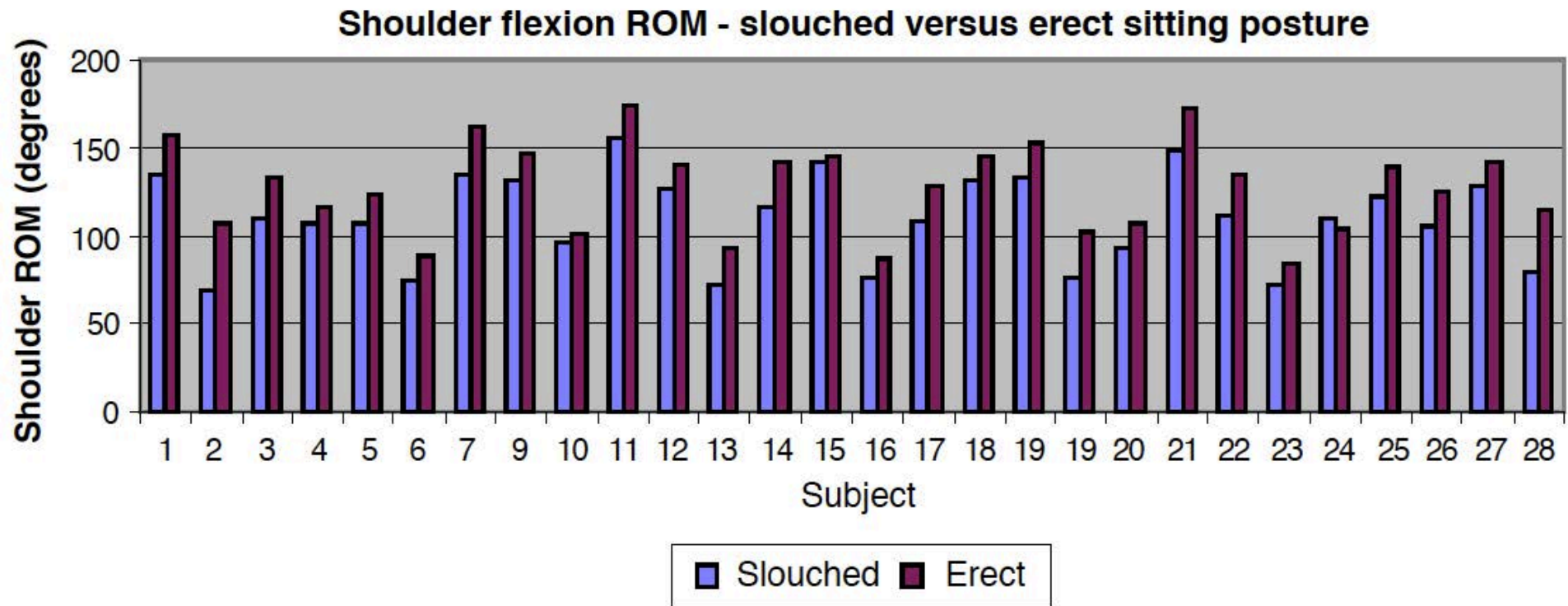
Shoulder impingement: the effect of sitting posture on shoulder pain and range of motion

Michael P. Bullock^{a,*}, Nadine E. Foster^b, Chris C. Wright^c

Manual Therapy 10 (2005) 28–37

**MANUAL
THERAPY**





26 of 28 subjects had decreased ROM in slouched position
 (17.7° mean difference $SD=9.2^\circ$)

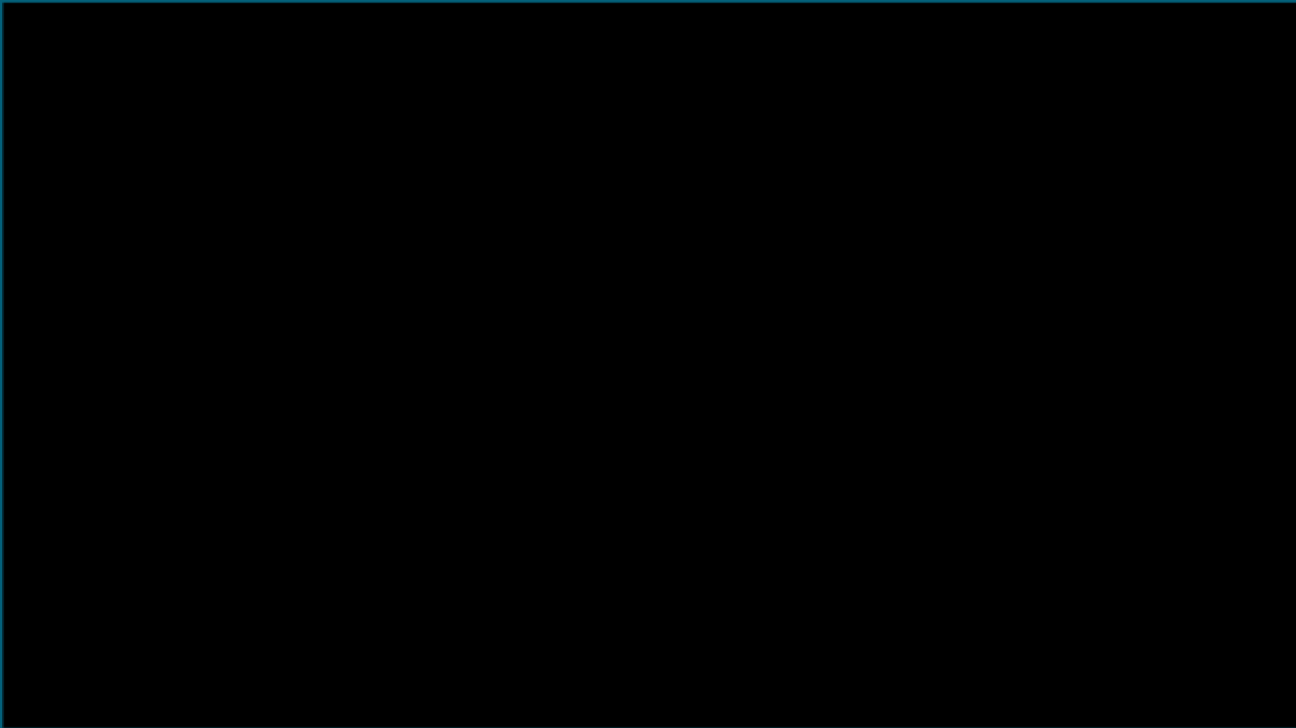
Cx/Shoulder Differentiation

- * Less obvious problems are the more interesting
 - * Small limitations/compensations
- * Treatment of the spine can improve shoulder function
- * There's an app that can be helpful with this: [PhysioU](#)

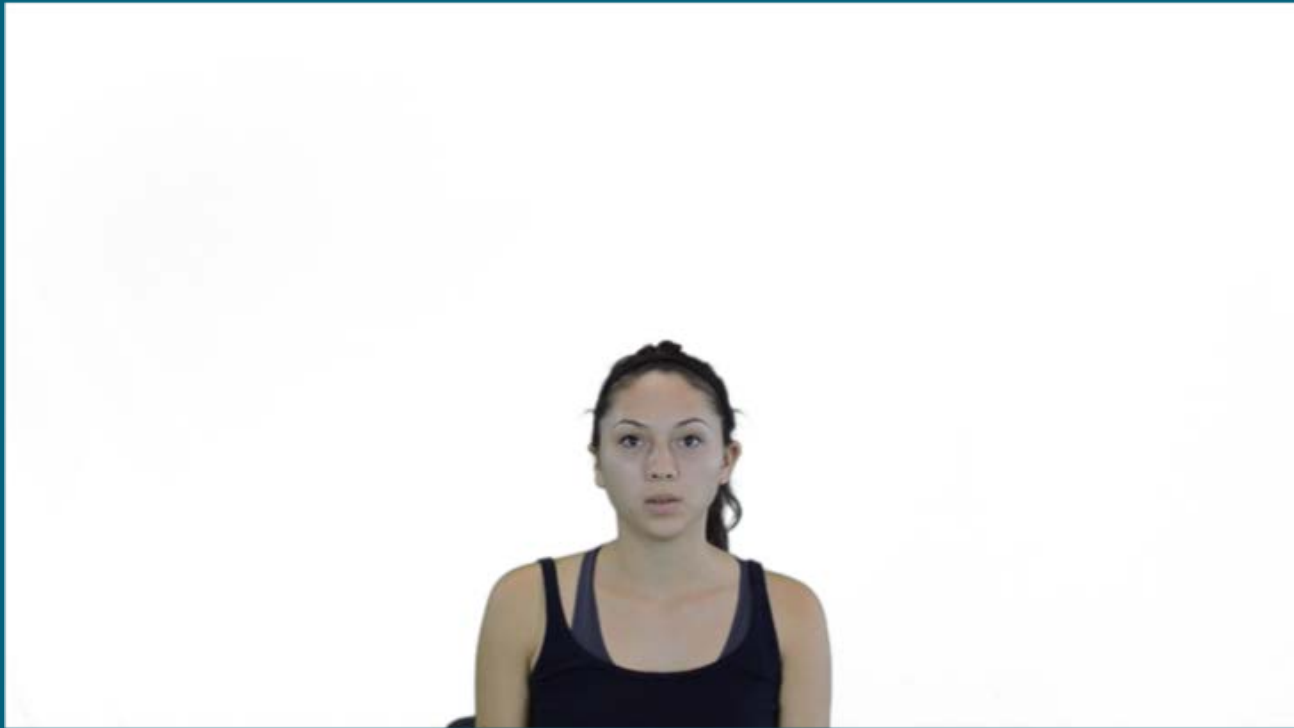
Active Movement

The image features a solid blue background with a gradient from a darker shade at the top to a lighter shade at the bottom. At the bottom, there is a dark blue, wavy shape that resembles a stylized horizon or a series of hills. Two thin, white, curved lines are overlaid on the lower portion of the image, crossing each other in a simple, abstract pattern.

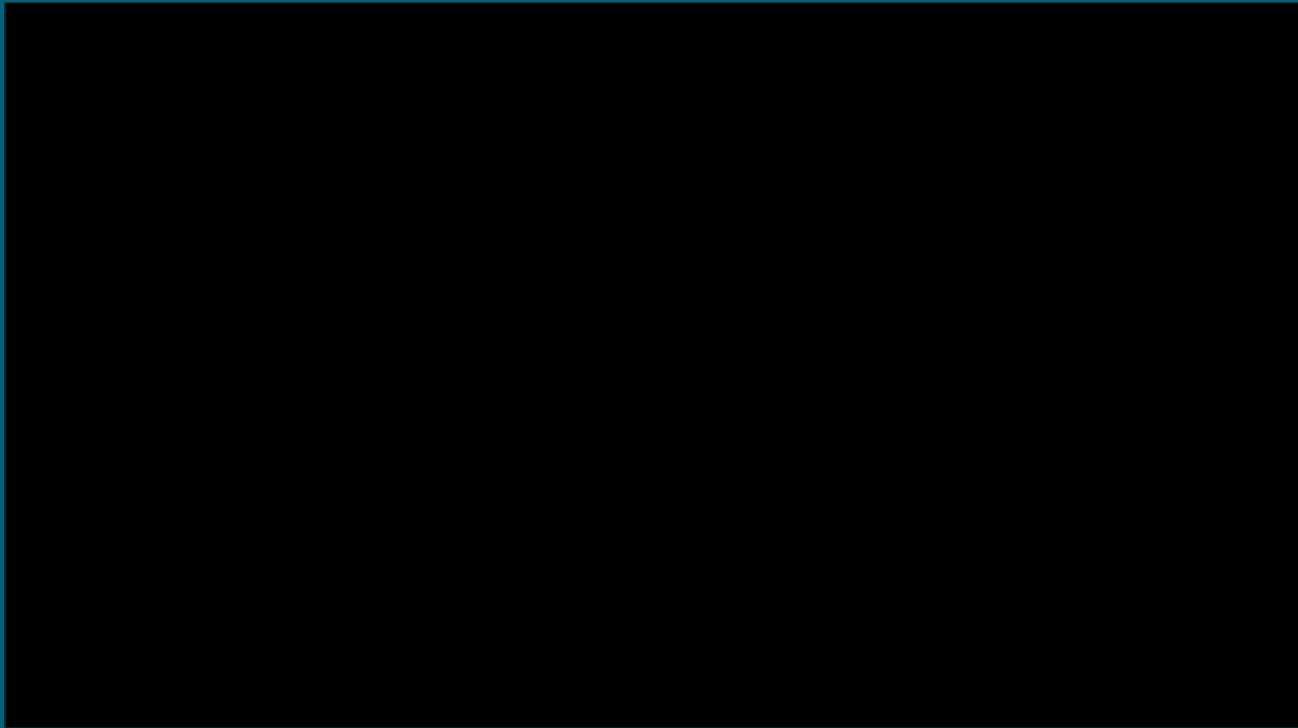
Cervical AROM



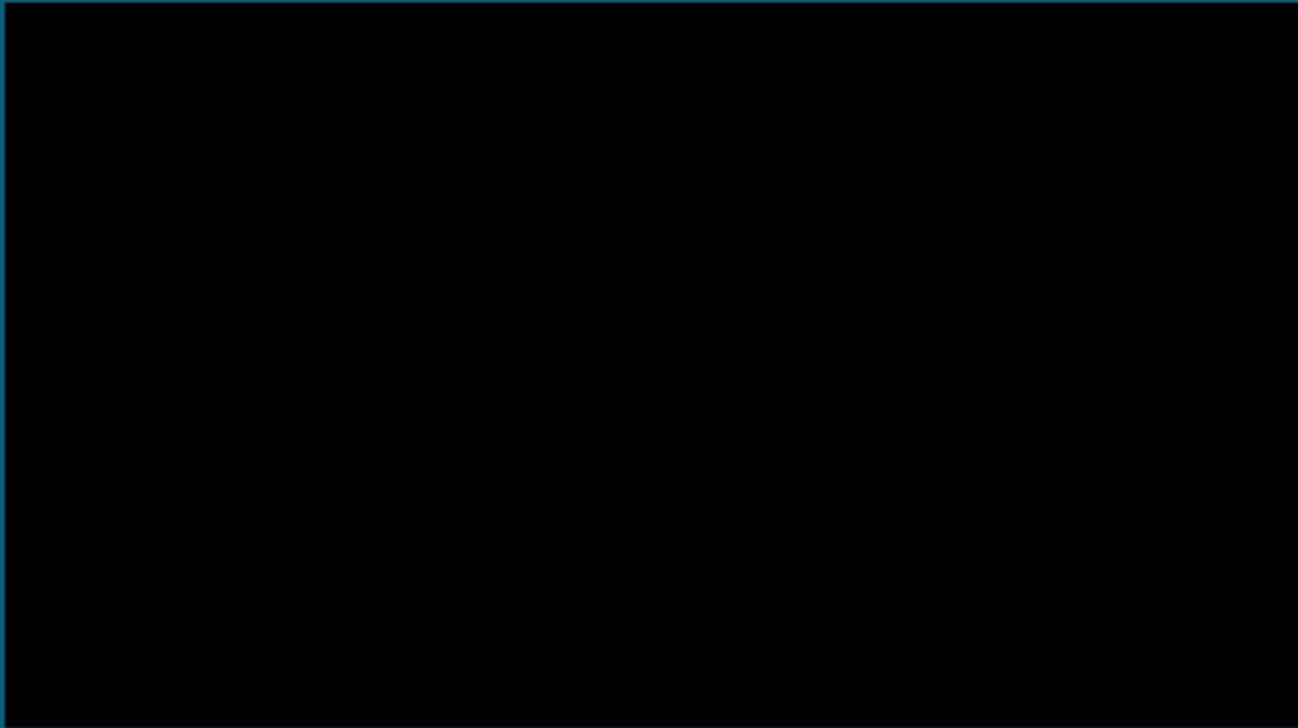
AROM Shoulder



Bilateral Shoulder AROM/kyphosis



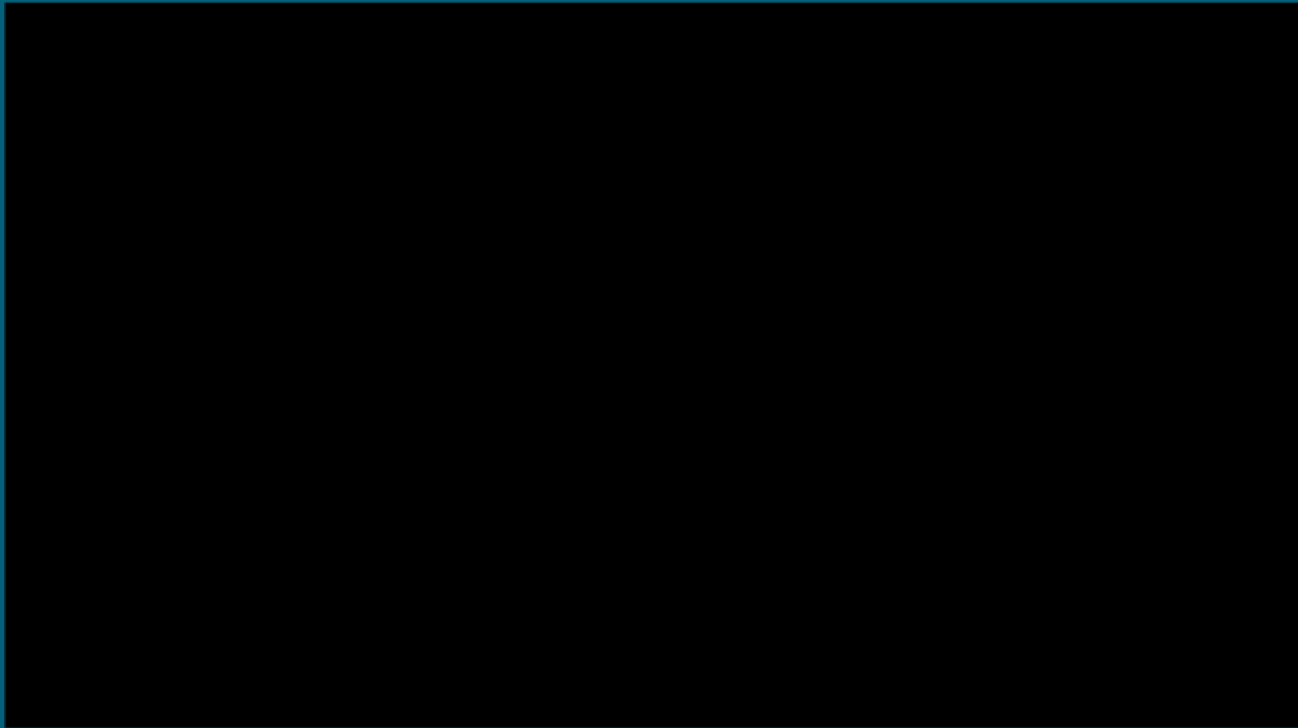
Shoulder F w/Cervical Motion



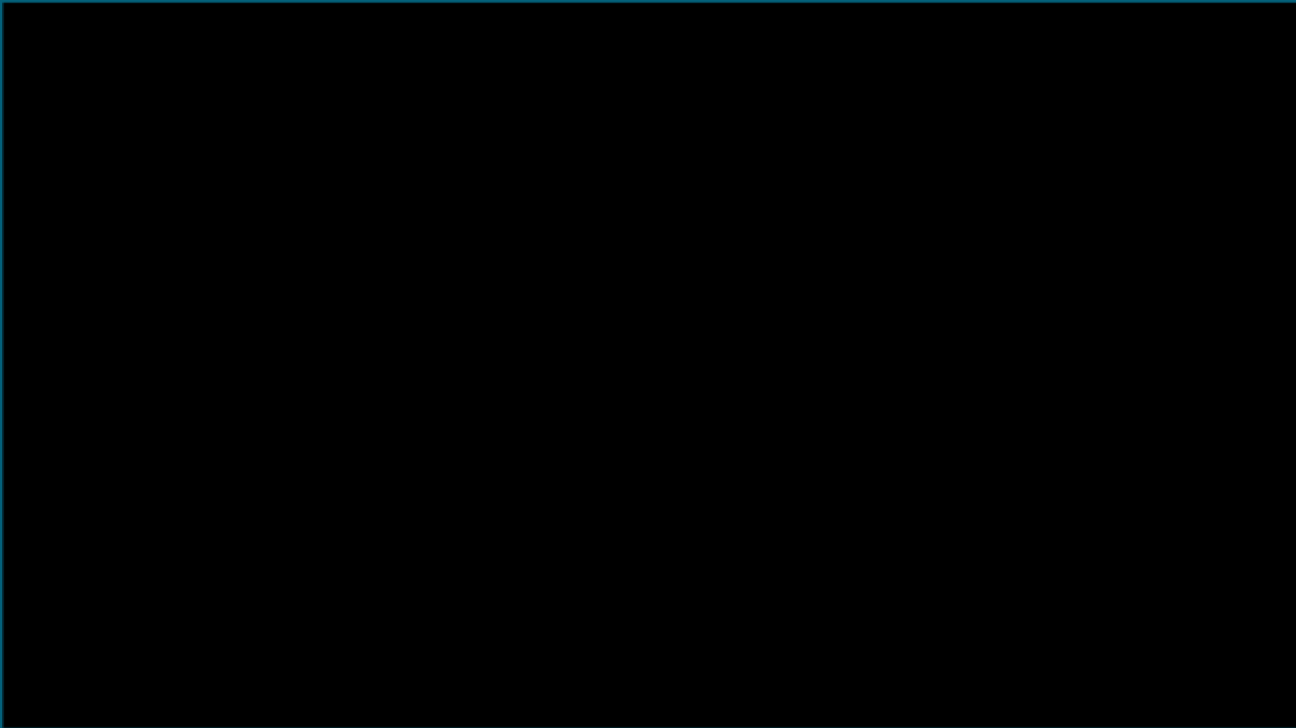
Accessory Movements

The slide features a dark blue background with a lighter blue gradient at the top. The title 'Accessory Movements' is centered in a white, sans-serif font. At the bottom, there are several overlapping, wavy lines in various shades of blue, creating a decorative border.

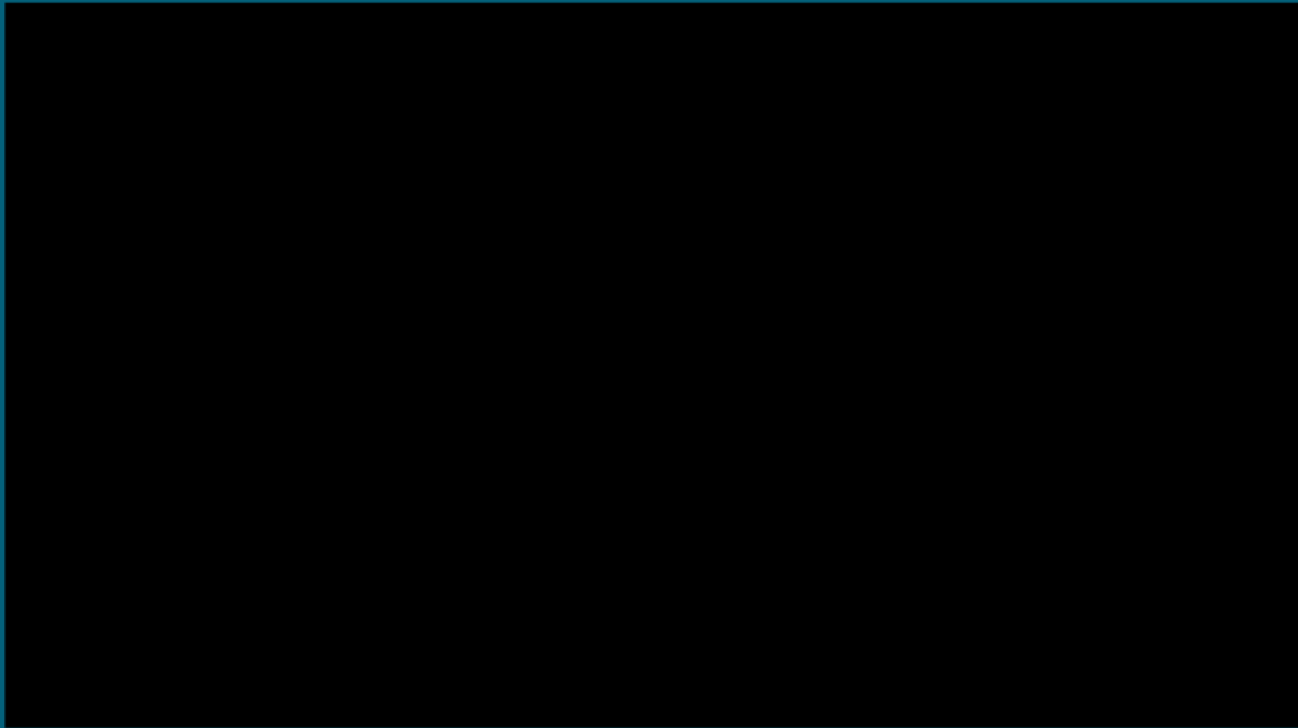
Cervical Unilateral P-A



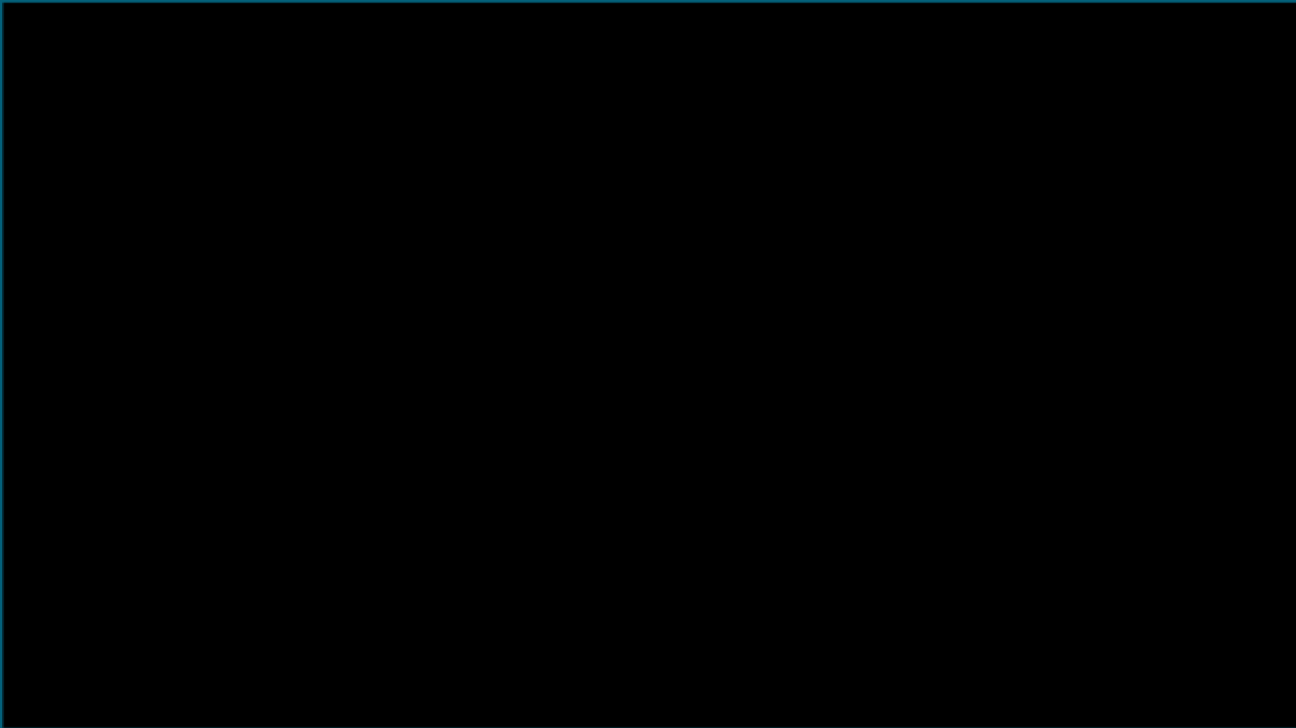
Cervical Sideglide



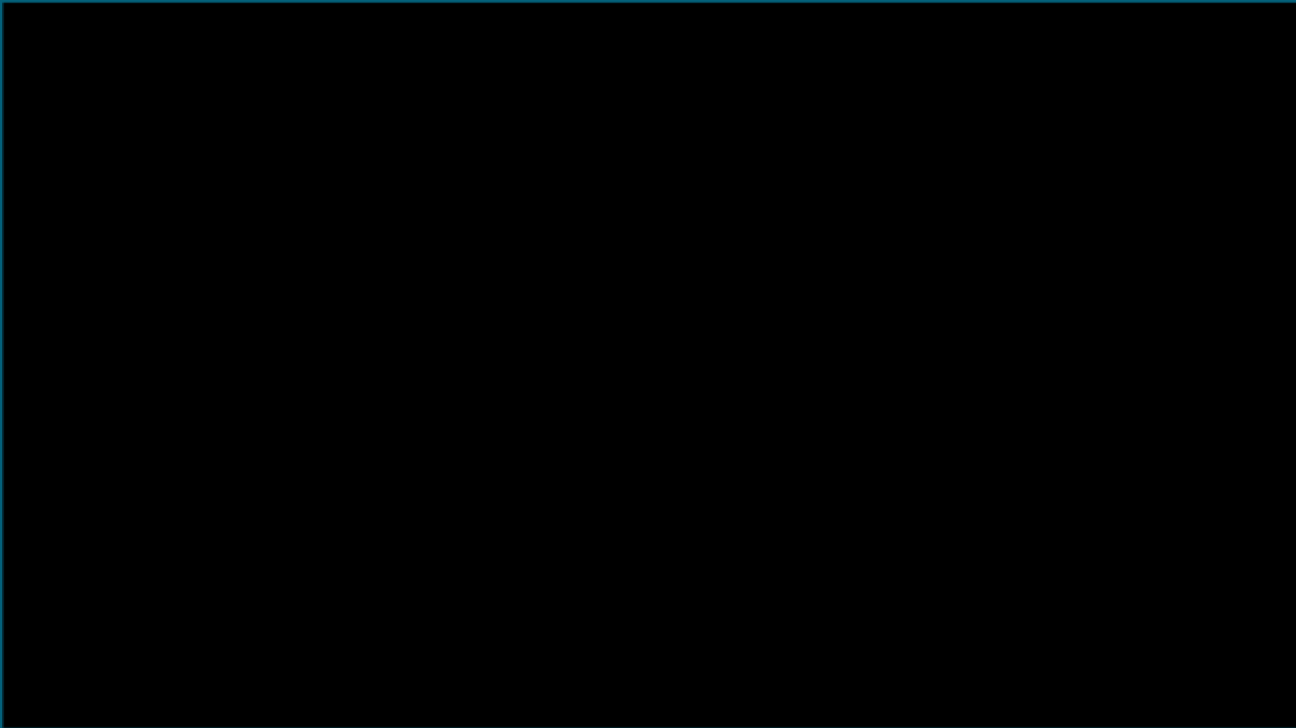
Cervical Sideglide w/Upglide



Thoracic Central PAIVM



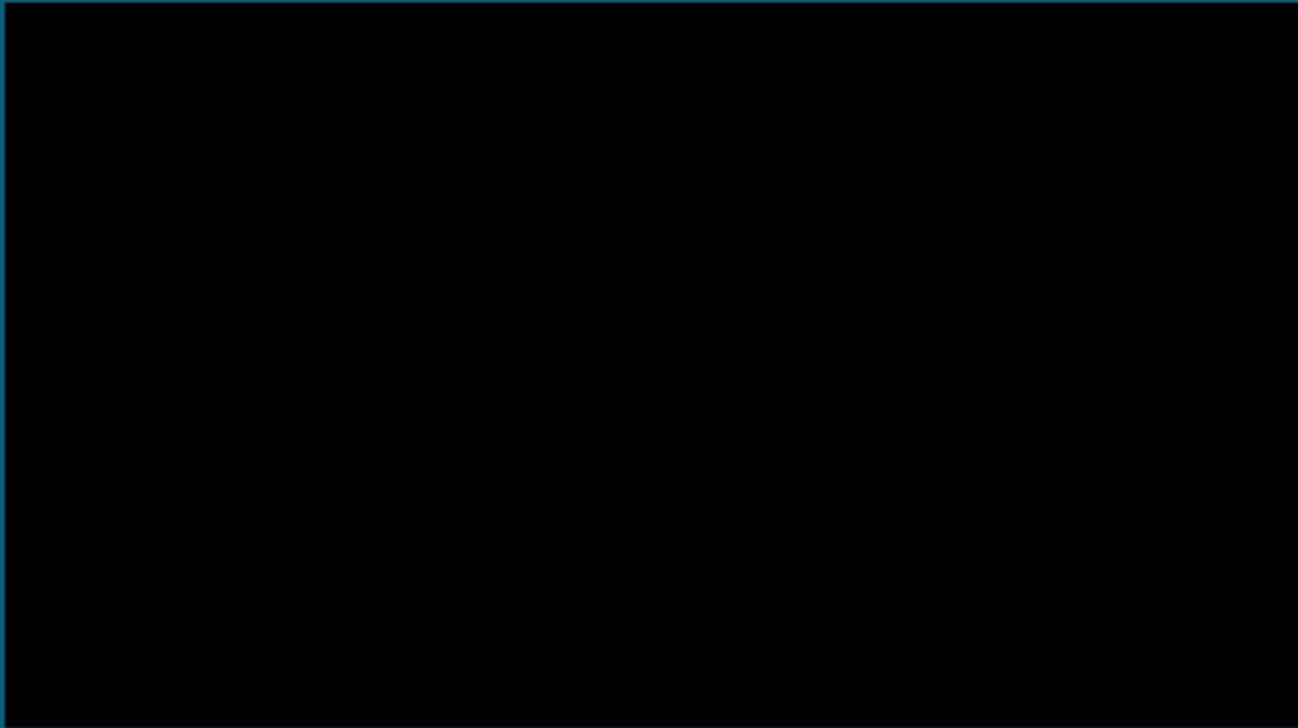
Thoracic Extension Prone Mob/Manip



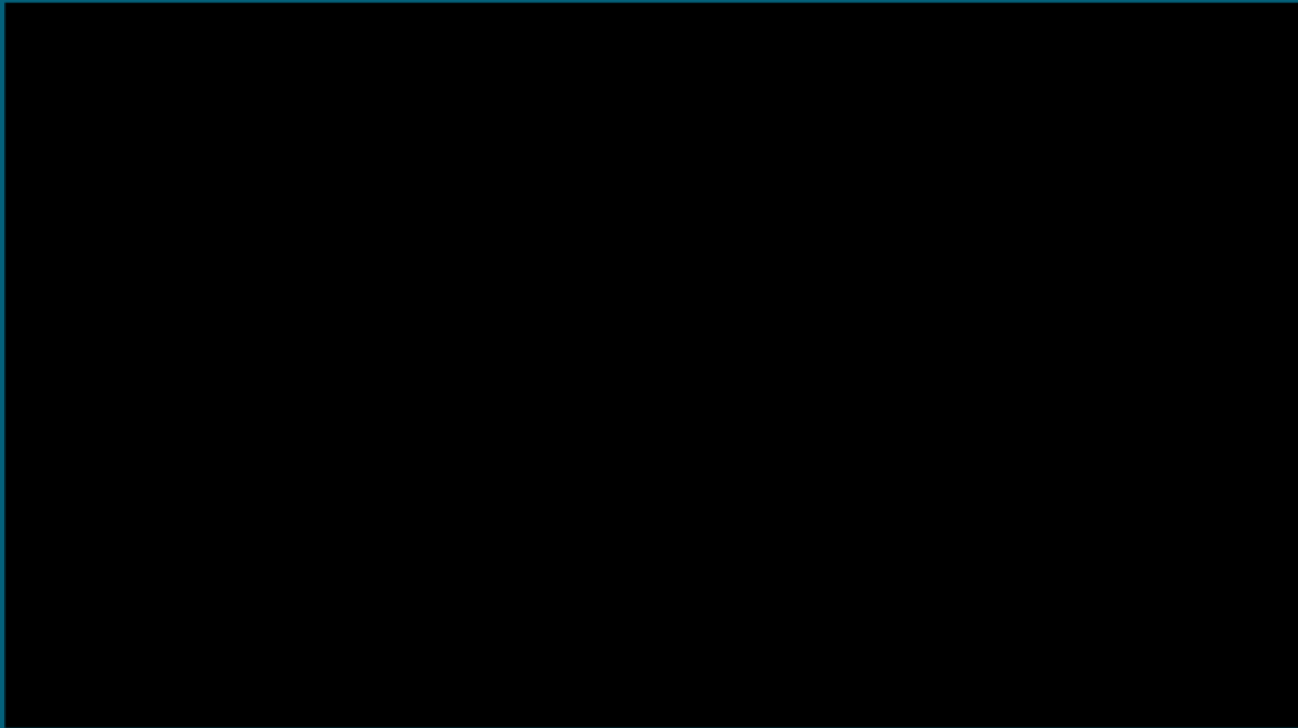
Exercise

The bottom of the slide features a decorative graphic consisting of several overlapping, wavy lines in various shades of blue and teal, creating a sense of depth and movement.

Thoracic Self-Mobilization



Tennis Ball Self-Mobilization



Case Study

- * MLB Pitcher
- * 30 years old
- * Sx complaints:
 - * Deep ache
 - * Posterior Cuff/U trap
 - * Periscapular tightness/discomfort rhomboid/mid trap), L>R
- * No Cx complaints
- * No burning, N/T
- * History
 - * Onset gradual
 - * Worse after a start, normalize through 5-day routine
 - * Shldr issues yr prior

Case Study

- * **Objective Exam**

- * Shldr ROM WNL
- * Cx ROM
 - * Provocative Ext>F
 - * Limited RR, RSB
- * Upper Th postural faults, limited RR
- * UQ screen nl
- * MMT all normal, incl RTC specific

- * **Functional compensations**

- * Increased C-spine motion with shoulder elevation

Case Study - Treatment

- * **Postural Re-ed**
 - * Basic
 - * Functional
- * **Cx Mobilization**
- * **Thoracic Mobilization**
- * **Observed Changes with Treatment**
 - * Improved Cx F, RR, RSB
 - * Improved Th extension
=> improved quality of movement with shldr elevation

Case Study -Treatment

- * **Observed Change with Treatment**

- * **Decreased compensatory movement in Upper Quadrant**

No strength changes (but not expecting any)

- * **Manual Therapy to shoulder**

- * **Dry Needling to posterior RTC, upper/middle trap**

- * **Improved Shldr Horz
ADD AROM**

- * **Exercise**

Case Study – Functional Relationship

- * **Pitching regular stance**

- * Improvement with rotation (looking towards home plate from mound)

- * **Pitching out of the stretch**

- * Improved ability to look towards 2B

Thank You

The image features a blue gradient background. The top portion is a lighter blue, while the bottom portion is a darker teal. A white wavy line separates the two sections, with a second white wavy line crossing it. The text "Thank You" is centered in the upper blue area.