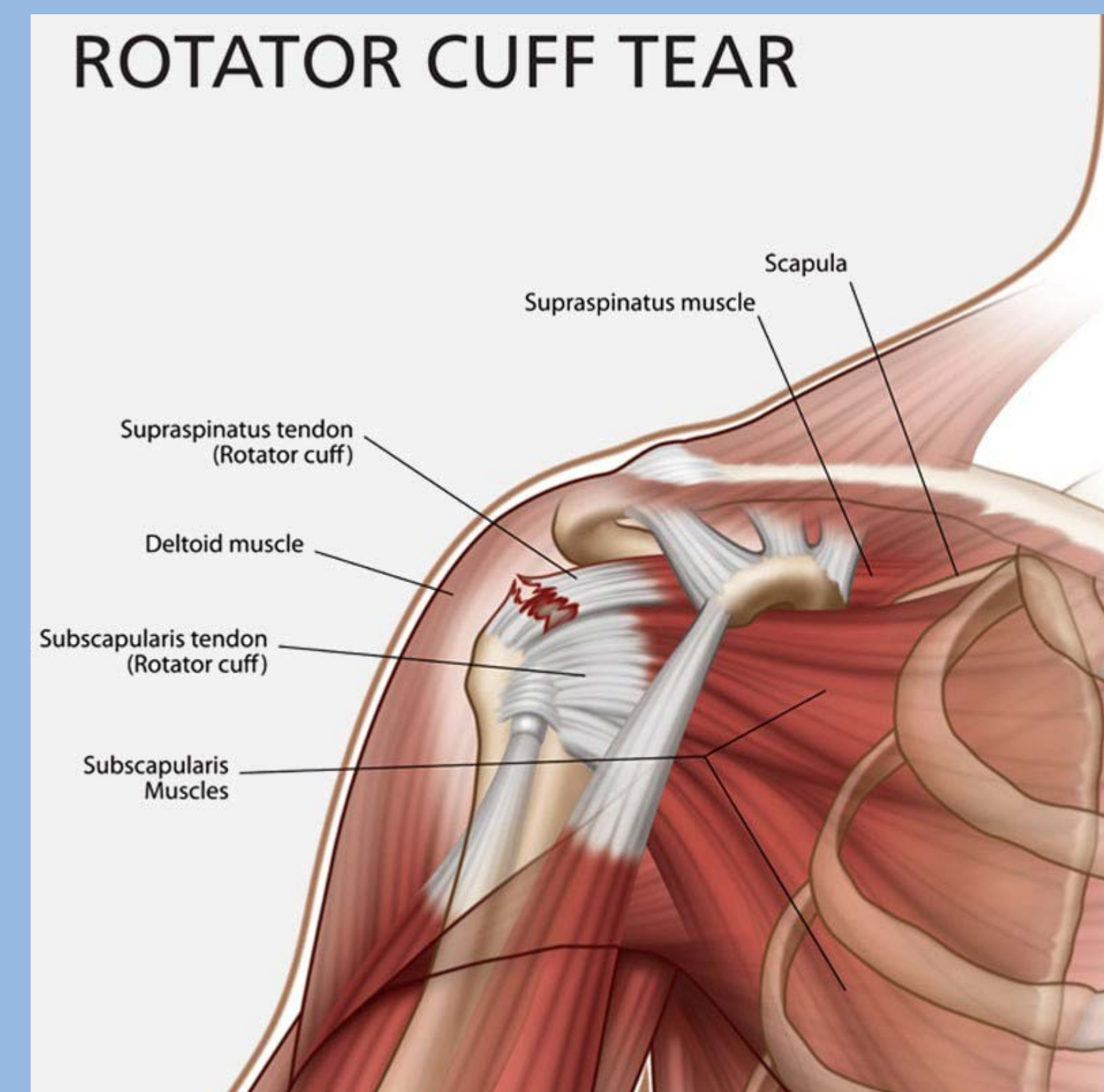


# Application of Manual Therapy Utilizing Maitland Principles in the Rehabilitation of a Patient Following Rotator Cuff Repair

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## Unique

In the United States, more than 500,000 rotator cuff repairs and shoulder arthroscopies are performed annually.<sup>1</sup>



**Figure 1.** Rotator cuff tear  
<http://backinmotionfl.com/shoulder-pain-beating/>

Following surgery, physical therapy (PT) often utilizes various manual therapy (MT) and therapeutic exercise (TE) interventions.

Post-operatively, accessory joint mobilizations (AJM) help to prevent adhesions and may decrease excitability of central nociceptive pathways.<sup>2,3</sup>

However, there is no consensus about the most appropriate postoperative utilization and timing of MT following surgery.

Maitland describes a framework for clinical decision making that is patient-centric and focuses on frequent reassessment to guide the application of manual therapy.<sup>4</sup>

In this framework, comparable signs are identified at initial evaluation, and refer to any combination of pain, stiffness, and/or spasm during a specific movement.

An appropriate MT technique is selected and utilized to treat the comparable sign; the comparable sign is reassessed to monitor patient response, and determine the proper progression.

## Purpose

The purpose of this case report was to detail the assessment and clinical reasoning utilized during the treatment of a patient following arthroscopic rotator cuff repair (ARCR), with manual therapy intervention guided by the principles of the Maitland approach.

## Description

- 55 year-old male food preparer
- Chief Complaint: Gradual onset right shoulder pain and stiffness over the past 25 years.
- Medical Diagnosis: Arthroscopic Rotator Cuff Repair
- Musculoskeletal Impairments: Limited range of motion (ROM) in all planes, global shoulder girdle weakness, limited joint mobility in abduction, flexion, and external rotation, and pain.
- Comparable Signs: Shoulder abduction, flexion, and internal rotation

## Observations

Numeric Pain Rating Scale	Initial Examination		Discharge Results	
	Pain	3/10 Resting Pain 6/10 Worst Pain	0/10 Resting Pain 0/10 Worst Pain	
<b>Range of Motion</b>	<b>Right</b>	<b>Left</b>	<b>Right</b>	<b>Left</b>
Active Shoulder Flexion	53°	159°	150°	159°
Active Shoulder Abduction	55°	150°	150°	150°
Active Shoulder Internal Rotation	NT, due to pain	55°	35°	55°
Active Shoulder External Rotation	NT, due to pain	90°	83°	90°
Passive Shoulder Flexion	89°	162°	157°	162°
Passive Shoulder Abduction	59°	155°	155°	155°
Passive Shoulder Internal Rotation	NT, due to pain	57°	60°	57°
Passive Shoulder External Rotation	NT, due to pain	95°	90°	95°
<b>Manual Muscle Testing</b>				
Shoulder Flexion	3-/5	5/5	5/5	5/5
Shoulder Abduction	3-/5	5/5	5/5	5/5
Shoulder Internal Rotation	3-/5	5/5	5/5	5/5
Shoulder External Rotation	3-/5	5/5	5/5	5/5

## Interventions



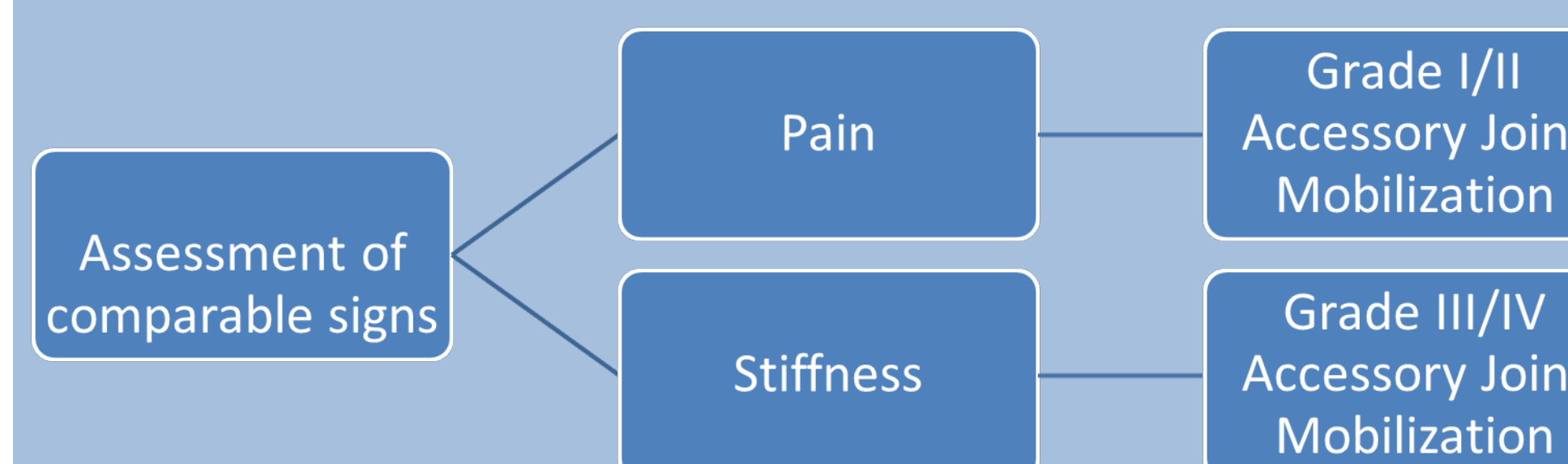
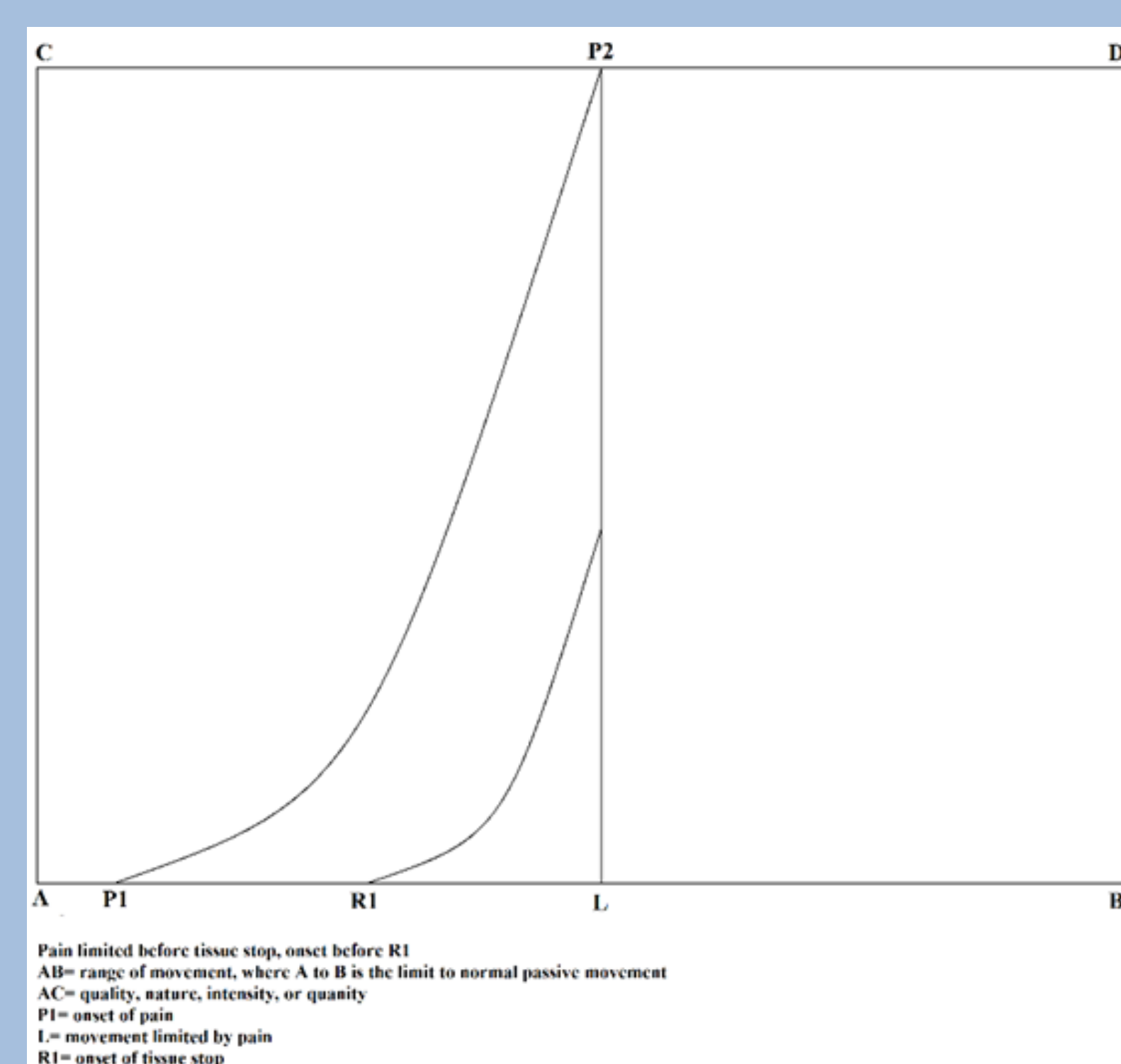
**Figure 2.** Shoulder Caudal Glide, Grade I/II to decrease pain and facilitate motion. Grade III/IV to increase accessory motion associated with shoulder abduction.



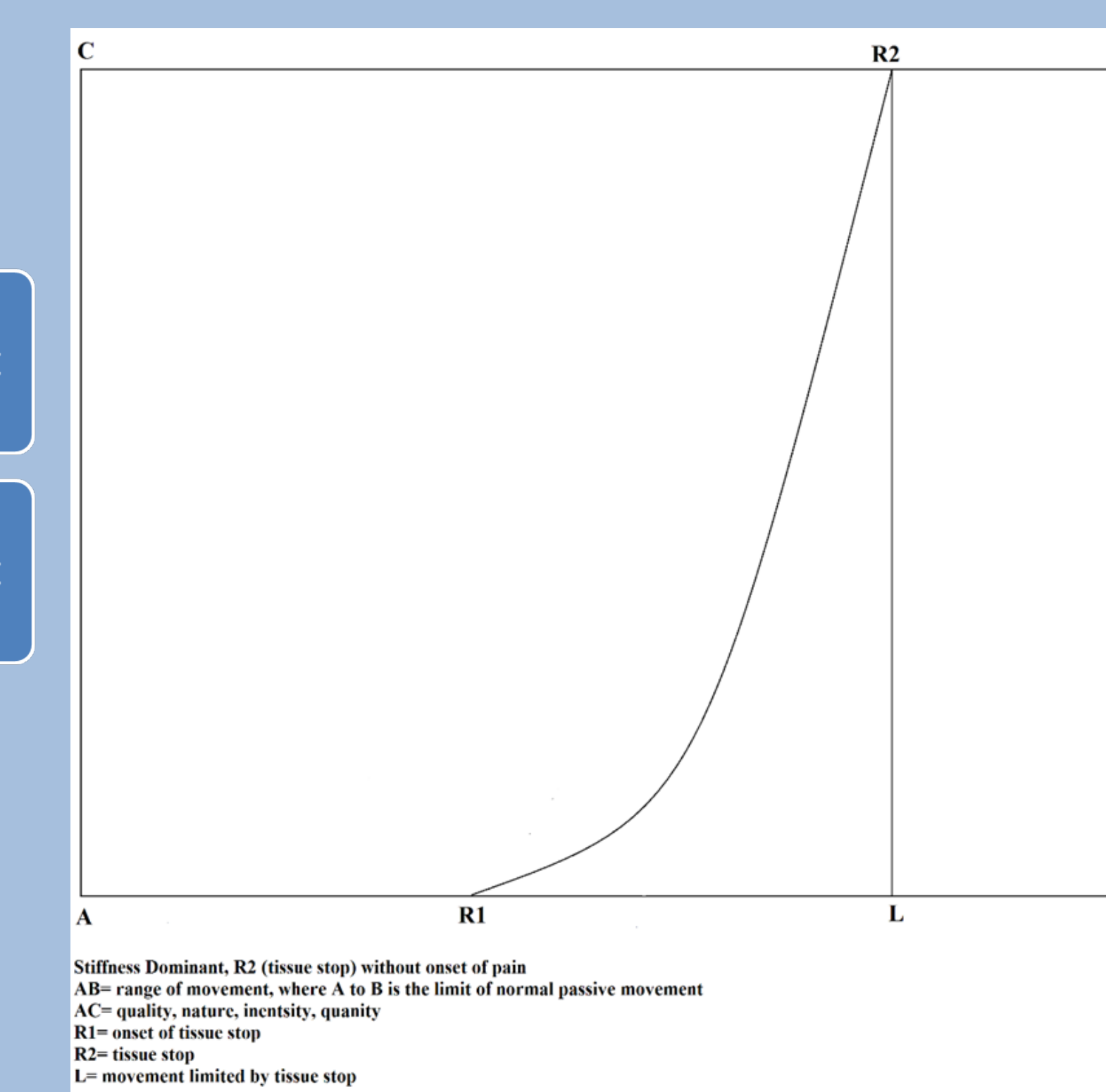
**Figure 3.** Shoulder Dorsal Glide, Grade I/II to decrease pain and facilitate motion. Grade III/IV to increase accessory motion associated with flexion.



**Figure 4.** Shoulder Dorsal Glide, Grade I/II to decrease pain and facilitate motion. Grade III/IV to increase accessory motion associated with internal rotation.



**Figure 5.** Identification of comparable sign used to direct AJM application.



## Outcomes

- Frequent reassessment helped identify the patient's comparable signs, which were consistent with his chief complaints.
- Frequent reassessment identified a pain dominant disorder weeks 1 to 3 and a stiffness dominant disorder weeks 4 to 8.
- Identification of dominant disorders aided in the selection of appropriate manual therapy techniques and grades of motion.
- The use of Maitland clinical reasoning, in concert with guidelines based on physiologic healing, allowed for maximum progress without undue pain and stress for the patient, since all progressions were individualized based on response to treatment.
- After 18 treatment sessions, the patient demonstrated improvement in pain, A/PROM, and upper extremity strength. He was able to complete self care tasks and was able to return to work without restriction.

## Conclusion

This case report demonstrated the use of Maitland based clinical decision making in the assessment and identification of movement-related disorders following ARCR. Through careful clinical reasoning, anchored by the establishment and monitoring of comparable signs, appropriate MT techniques were selected and progressed, optimizing this patient's outcome. These findings suggest that further studies should be conducted to examine the rationale underlying rehabilitation progression, with an emphasis on applied clinical reasoning as an important adjunct to clinical protocols driven by physiologic tissue healing.

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## References

1. Yu H, Cote P, Shearer HM, et al. Effectiveness of passive physical modalities for shoulder pain: systematic review by the Ontario Protocol for Traffic Injury Management Collaboration. *Phys Ther.* 2015; 95:306-318.
2. Maitland GD. *Peripheral Manipulation*, 8th ed. London, UK: Churchill Livingstone; 2013
3. Shimo S, Sakamoto Y, Tokiyoshi A, et al. Early rehabilitation affects functional outcomes and activities of daily living after arthroscopic rotator cuff repair: a case report. *J Phys Ther Sci.* 2016; 28:714-7. doi: 10.1589/jpts.28.714
4. Courtney C, Steffen A, Chmell S, et al. Joint mobilization enhances mechanisms of conditioned pain modulation in individuals with osteoarthritis of the knee. *J Orthop Sports Phys Ther.* 2016; 46:168-76. doi: 10.2519/jospt.2016.6259

