

Effect of IASTM Combined Thrower's Ten Exercise Protocol on Snapping Scapula Syndrome in Badminton Player: A Case Report

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ABSTRACT

Objectives: The primary objective was to see whether the utilization of advanced therapeutic tool like IASTM along with athletic rehab alternative like Thrower's Ten protocol would have any effect on the pain scores, pain tolerance, AROM and quality of life (QOL) in Snapping Scapula Syndrome.

Materials & Methods: A 25 year old female badminton player presented with chief complaint of pain at the medial border of right scapula accompanied by a "popping" or "snapping" sound, while attempting flexion and abduction of the right glenohumeral joint since 4-5 months. AROM of flexion and abduction was 100° and 50° respectively, which was severely compromised since the onset of the symptoms. The pre-intervention values for various outcome measures like pain score, pain pressure threshold, AROM and Quality of Life (QOL) were taken prior to the commencement of a 6-weeks IASTM and Thrower's Ten exercise protocol. Post intervention data for the same outcome measures were recorded.

Result: There was a significant reduction in VAS score, increased pain pressure threshold, improved AROM scores and better QOL score post intervention.

Conclusion: IASTM combined with Thrower's Ten exercise protocol led to a significant reduction in pain intensity, increased pain tolerance, improved AROM as well as better Quality of Life scores in Snapping Scapula Syndrome. Thus, it is strongly recommended to utilize the above combination of myo-fascial release & exercises for strengthening the various muscles in Snapping Scapula Syndrome Patients.

Key words: Scapula, snapping, IASTM, Thrower's Ten, QOL

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INTRODUCTION

Instrument Assisted Soft Tissue Mobilisation (IASTM) is a unique approach to treat myo-fascial restrictions secondary to various acute as well as chronic soft-tissue injuries. Various devices like M2T blade, Graston's IASTM devices, Rockblade are commercially available devices used to render IASTM [1-2].

Snapping scapula syndrome

Snapping scapula syndrome is defined as an audible or palpable clicking of the scapula during movements of the scapulo thoracic joint. It typically affects young, active patients, who often report a history of pain, resulting from overuse, during rapid shoulder movements or during sports activities. These symptoms can have insidious onset, can occur after a change in the pattern of physical activity, or can be associated with trauma [3-5].

SYMPTOMS

What symptoms does snapping scapula cause?

Pain/aches in the shoulder area.

Grinding, grating, and snapping sensation in the shoulder blade.

A potential lump from a bone growth on the scapula.

Tissue in the affected area often feels thick.

Swelling in the shoulder area.

Shoulder instability.

Tenderness or stiffness [6].

THROWER'S TEN PROTOCOL

Thrower's Ten Exercise protocol is designed to exercise major muscles required for throwing. It consists of the following set of exercises (Table 1) [7].

Need for the study

No physiotherapy treatment approach has been known to show improvements in Snapping Scapula Syndrome case. Treatment focus was only on the scapulo- thoracic joint previously. So, this case report was an attempt to advocate intervening peripheral associated structures as well.

CASE DESCRIPTION

A 29 year old female badminton player presented with chief complaint of pain at the medial border of right scapula accompanied by a “popping” or “snapping” sound, while attempting flexion and abduction of the right gleno-humeral joint since 4-5 months. AROM of flexion and abduction was 130 degree and 164 degree respectively, which was severely compromised since the onset of the symptoms.

Thrower’s Ten Exercise protocol was given following Myo-fascial release of the muscles with the conventional physiotherapy treatments for 6 weeks. Sports Activity Dependant Antagonist Muscle Strengthening (SADAMS) was used to strengthen Biceps, triceps and forearm flexors. Post interventions data for various outcome measures like pain, AROM and Rate of Perceived Exertion was recorded.

Outcome measures

Visual Analogue Scale.

Active Range of Motion.

Borg Scale for Rate of Perceived exertion.

Table 1: Thrower’s ten protocol.

S. No	Exercise
1	Diagonal Pattern extension.
	Diagonal pattern flexion.
2	External rotation at waist.
	Internal rotation at waist.
3	External rotation at shoulder level.
	Internal rotation at shoulder level.
4	Shoulder Abduction to shoulder level.
	(Scaption) Scapular Plane raises.
6	Sidelying External rotation.
	Prone Horizontal Abduction (neutral).
7	Prone Horizontal Abduction (Full ER, 100 ABD).
	Prone rowing.
8	Prone rowing into external rotation.
	Press ups.
9	Pushups.
	Elbow flexion (Bicep curl).
10	Elbow extension (Triceps press).
	Wrist extension.
11	Wrist Flexion.
	Wrist supination.
12	Wrist pronation.

Detailed treatment protocol (week wise) (Figure 1)

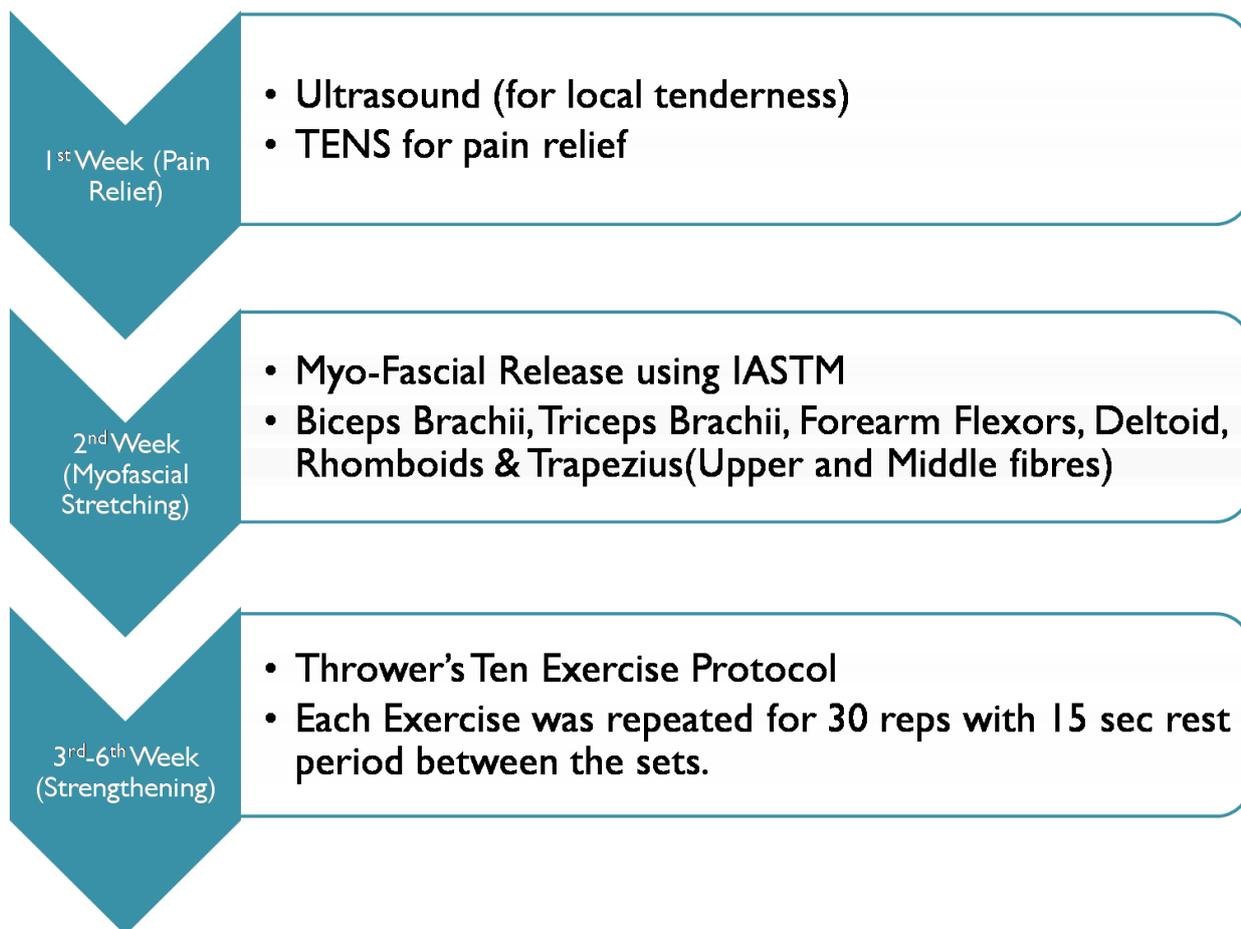


Figure 1: Treatment protocol.

RESULTS AND DISCUSSION

Reduced Pain scores- US and TENS
 Improved Active ROM
 Secondary to myo-fascial release with IASTM

Increased pain tolerance
 Borg's Scale- reduced RPE scores-Might be due to increased muscular endurance (Table 2).

Table 2: Pre and post scores.

	Pre-intervention scores	Post-intervention Scores	Percentage improvement
Pain			
Visual Analog Scale	At rest-5.2	At rest-1.6	At rest-36%
	On activity-8.9	On activity-4.3	On activity-46%
Active range of motion (AROM)			
Flexion	130°	150°	13.33%
Extension	35°	46°	19.56%
Abduction	164°	178°	7.86%
Adduction	30°	44°	31.81%
External Rotation	70°	82°	14.63%
Internal Rotation	60°	70°	14.28%
Rate of perceived exertion (Borg Scale)			
Borg Scale	7	5	20%

CONCLUSION

Thus, the present case study concludes that Instrument Assisted Soft Tissue Mobilisation along with Thrower's Ten Exercise Protocol following conventional physiotherapy (for pain relief) yielded clinically significant results in reducing pain & exertion levels as well as improved Active ROM in Snapping Scapula Syndrome.

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