



Movement System Impairment Approach - Based Evaluation and Treatment of Elbow Extension Syndrome: A Case Report of Posterior Elbow Pain and Overuse

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ABSTRACT:

Introduction: In non-athletic occupational groups, posterior elbow discomfort is rare and often goes unrecognized, especially if the symptoms are caused by kinetic chain dysfunction and recurrent end-range extension rather than tissue failure. Tailors and textile workers are at risk of extension-based overuse injuries because they frequently execute thousands of repeated sewing and fabric-handling operations each day. The Movement System Impairment (MSI) model has never been adequately articulated for treating posterior elbow discomfort, particularly in non-athletic, vocational clients. This case provides a beginning description of how to apply an MSI-based diagnostic paradigm to identify the movement defects that are producing significant elbow discomfort in a sewing industry worker.

Materials and Methodology: Over a span of six months, a 47-year-old right-handed female tailor had increasingly significant right posterior elbow discomfort. An MSI-guided examination indicated bothersome elbow extension, triceps overuse, biceps weakness (3+/5), decreased scapular upward rotation, and abnormal movement patterns. Despite three months off work and medication, her problems did not improve. She was diagnosed with Elbow Extension Syndrome as an MSI and began a 6-week intervention program focused on pain treatment, muscle rebalancing, movement correction, and job adaptations.

Results: At the beginning of the treatment, the patient reported a NPRS pain score of 6/10, limited functional ability, PREE-Q - reduced functional score and uncomfortable full extension. After 6 weeks of MSI-based therapy, pain was reduced to 1/10, PREE-Q improved to high and near normal function, and biceps strength increased to 4+/5. Full, painless elbow range of motion was restored. The patient recovered to no restriction on sewing and fabric handling and resumed work without symptoms.

Conclusions: The follow-up time was short, making it hard to determine long-term recovery. Advanced imaging procedures such as ultrasonography or MRI were not judged to be required, but they may have provided information about tendon health. Furthermore, the lack of electromyographic examination limits the capacity to objectively analyse muscle activation and detect mobility deficits associated with musculoskeletal injuries. Nevertheless, the instance demonstrates that movement-based rehabilitation is an effective treatment for persistent posterior elbow discomfort in repetitive-use occupations.



Introduction

Posterior elbow pain is more commonly reported in athletic populations, especially in overhead throwing sports, where repetitive valgus loading and terminal extension produce high mechanical stress on the posteromedial olecranon and distal triceps. This pattern, known as valgus–extension overload (VEO), leads to posterior compartment irritation, synovitis, and tendinopathic changes due to repeated impaction between the olecranon and olecranon fossa (4). Educational resources further describe how end-range extension combined with valgus forces increases shear stress on posterior structures, predisposing individuals to overuse symptoms (6). Although VEO is classically associated with pitchers, similar biomechanical overload patterns can occur in nonathletic workers exposed to repetitive elbow extension tasks.

Occupational exposure is increasingly recognized as a major risk factor for elbow tendinopathy. A recent study found a strong link between repeated upper limb loading, forceful grabbing, and constrained postures with the development of elbow tendinopathy in diverse manual labor positions. Tailors, garment workers, and sewing machine operators, in particular, perform a variety of repetitive duties, such as handling, cutting, and stitching textiles while holding the elbow extended. This repeated extension can damage the distal triceps tendon and posterior elbow capsule, especially when the action requires asymmetry or lacks sufficient proximal muscle support.

Although less common than lateral epicondylalgia, triceps tendinopathy and posterior elbow discomfort remain clinically significant yet remain untreated in some workgroups. Triceps pathology is frequently due to repeated stress on the extensor muscles, Kheiran et al.,(3). Symptoms include microtrauma, discomfort during resisted extension, and difficulties with activities that require elbow stability. The study highlights that both tissue strain and biomechanical stress contributing to the onset of tendinopathies.

Examining tissue pathology and movement patterns is necessary to determine the underlying reasons for posterior elbow pain. An organized method for determining directional sensitivity and maladaptive movement patterns is the Sahrmann Movement System Impairment (MSI) model. The repetitive nature of

movement patterns and the limited ability of muscles contribute to mechanical stress (wear and tear) on the body (1). Due to repetitive action and prolonged use of the elbow during extension, this leads to irritation of the tissues and chronic pain.

To assess posterior elbow discomfort, therapists will use the Movement System Impairment (MSI) method. Assessing the scapula and its function through the kinetic chain is a priority. A movement-based assessment provides value if traditional structural diagnostic methods cannot resolve the issue(s). Inadequate upward rotation of the scapula and/or lack of adequate biceps activity create additional tension on the triceps and elbow.

It is common for individuals with posterior elbow pain to have difficulty receiving an accurate diagnosis and appropriate treatment for their symptoms. This was the basis for a case study of a 47-year-old male tailor who experienced persistent pain and loss of mobility. A tailored treatment plan was developed using the Movement System Impairment (MSI) approach. The individual made a full recovery, thus demonstrating that MSI is beneficial in the treatment of elbow extension syndrome, a condition that is frequently overlooked in professional environments.

Case description

Patient History

A 47-year-old right-handed female tailor with over 20 years of expertise in sewing and cutting garments. At a small tailoring factory, she performed bulk stitching for up to six or eight hours every day while sitting on a low stool with minimal back support. She denied fever, numbness in her upper limbs, or any previous illness or injuries. She approached the Physiotherapy Outpatient Department at Sri Ramachandra Medical College and Hospital, Chennai, India. All personal identifiable information was deleted to maintain confidentiality.

The patient had right posterior elbow discomfort for six months, with a high score of 6/10 on the Numeric Pain Rating Scale. It began as occasional discomfort and has now developed into a constant ache during daily activities. Significant functional restrictions, such as difficulty in performing the above-mentioned jobs and holding fabric for cutting, result from the discomfort being exacerbated by elbow extension and elevation. The



Patient-Rated Elbow Examination Questionnaire was used to further evaluate her functional mobility. She quit her profession as a tailor three months before her examination and treatment, due to increasing discomfort.

The patient denied any previous history of connective tissue disorders and had no notable history of upper limb injuries, joint disease, or systemic illnesses. Although she feels weak and in pain, she is very desirous of returning to work soon, despite having been out of work for three months. In the past, both oral analgesics and ultrasound therapy had been tried, but they were of little help in reducing pain. Radiographs showed no fractures, so it was suggested that there was a problem with the mobility mechanism rather than a structural flaw.

Clinical Findings

Postural alignment

On examination, the patient was found to have thoracic kyphosis with a slight forward shoulder posture, which was still in the developmental stage. On the right side, both internal humeral rotation and scapular downward rotation were frequently observed. Due to the minor protraction and reduced upward rotation, the right scapula may have experienced proximal stability and altered upper limb load distribution. Additionally, the patient's forearm frequently remained at terminal elbow extension while sitting, performing stitching simulations, and completing table-based chores, further indicating a reliance on passive structural support across the entire range of motion.

Movement Analysis

The examination revealed that, during various actions, such as reaching and simulated stitching, the individual extended his elbow too soon and excessively. Compared to the biceps and scapular stabilizers, basic reaching requires stronger engagement of the triceps. Weight was often shifted to the right arm during tasks such as folding linen, which led to posterior elbow compression. Scapular movements showed delayed upward rotation and insufficient posterior tilt during arm elevation, indicating loss of proximal control. Corrective methods to improve elbow posture and scapular upward rotation alleviated the discomfort.

Pain and Symptom Behaviour

The patient experienced posterior elbow pain worsened by terminal extension, raising fabric, stabilizing cloth while cutting, and repetitive stitching, with a pain intensity of 6/10 during activity and 3/10 at rest. Pain alleviated with elbow flexion or improved proximal control during guided motions. No radicular symptoms, night pain, or neurological problems were reported.

Palpation Findings

Palpation of the patient revealed characteristic pain around the distal triceps tendon, near its insertion at the olecranon, and across the posterior capsule. The distal triceps exhibited mild thickening, tautness, and hypertonicity in the triceps muscle belly. The olecranon and olecranon fossa showed moderate discomfort, but no tenderness, swelling, warmth, or crepitus were found in the medial or lateral epicondyles. Manual assessment of the scapular region revealed weakness and soft tissue tightness in the lower trapezius muscle.

Muscle Performance and Extensibility (MMT)

Manual Muscle Testing (MMT) revealed soreness during terminal extension, mild triceps overactivity (4+/5), and reduced biceps strength (3+/5). A likely reason for the strain further down could be tied to weak scapular muscles, such as the upper (4+/5), middle (3/5), and lower trapezius (3-/5) and serratus anterior (3+/5) muscles.

Range of Motion (ROM)

The following limitations in the elbow range of motion were documented. (Table 1)

Range of motion assessment revealed near-full elbow flexion on the affected side (0-140°) with mild end-range stiffness but no pain. Elbow extension was limited to (5-10°) and reproduced the patient's familiar posterior elbow pain during the terminal range. Forearm pronation (0-80°) and supination (0-85°) were full and pain-free bilaterally. Pain at terminal elbow extension while maintaining forearm motion supports the diagnosis of posterior elbow involvement and suggests elbow extension syndrome rather than intra-articular or neurogenic problems.



| Table 1 Baseline Characteristics of the patient | | |
|--|--------------------|-----------------|
| Age (in years) / Gender | | 47 yrs / Female |
| Height (in cm) | | 164 cm |
| Weight (in kg/m2) | | 68 kg/m2 |
| BMI (kg/m2) | | 25.3 kg/m2 |
| Right Elbow Range of Motion (in degrees) | Active flexion | 0 -140° |
| | Passive flexion | 0 -145° |
| | Active extension | -5° (painful) |
| | Passive extension | -10° (painful) |
| Right Forearm Range of Motion (in degrees) | Active Pronation | 0-80° |
| | Passive Pronation | 0-80° |
| | Active Supination | 0-85° |
| | Passive Supination | 0-85° |

Functional Assessment

Physical performance tests and patient-reported outcome measures were used for functional evaluation. Significant functional limits in occupational tasks and significantly raised pain levels were shown by the Patient-Rated Elbow Evaluation Questionnaire (PREE-Q). Due to discomfort and decreased grip strength, the patient frequently required breaks and had difficulties completing jobs requiring strength and repetitive upper-limb motions, especially sewing and handling clothing.

Reduced grip strength on the affected side and early symptom provocation during a work-simulation stitching task were also seen during physical performance testing, indicating poor load tolerance. Furthermore, the patient also complained of discomfort when performing domestic tasks like picking things up from the floor and lifting objects, which highlights the extensive functional implications of elbow dysfunction.

Special Tests

In the resisted elbow extension test, posterior elbow discomfort could be a sign of problems with the posterior capsule or triceps tendon. Negative results from valgus stress, Posterolateral Rotatory Instability, Cozen's, Mills 'and Tinel's tests ruled out medial instability, lateral epicondylalgia, and ulnar neuropathy. The scapular Assistance test considerably lessened discomfort, demonstrating how proximal mechanics affect scapular loading.

Results of the MSI Diagnosis and Assessment

Elbow Extension Syndrome is characterised by weak scapular upward rotation, excessive elbow extension, weak biceps strength, and poor triceps control. Movement evaluation discomfort was reduced by scapular facilitation, indicating proximal control problems, and significant adaptation to stress, depending on extension and posterior compression, was observed.

Clinical Reasoning / Impression

Instead of isolated tissue pathology, the patient's symptoms were associated with motion-related discomfort caused by chronic posterior elbow compression. Contributing factors were repeated job-related extension, triceps overuse, biceps weakness, and proximal scapular dysfunction. Diagnostic imaging revealed no structural abnormalities, such as rupture or bursitis. The patient was diagnosed with MSI Extension Syndrome, and therapy focused on movement correction and kinetic chain improvement.



Table 3 - Movement System Impairment Diagnosis

| Diagnosis | Movement impairment | Posture | Muscle strength | Muscle length | Pain |
|--------------------------|---|---|--|---|--|
| Elbow Extension Syndrome | <ul style="list-style-type: none"> - Excessive / early elbow extension during tasks - Triceps-dominant movement pattern - Reduced biceps activation - Poor scapular upward rotation | <ul style="list-style-type: none"> - Forward head, rounded shoulders - Scapular downward rotation - Mild humeral IR - Habitual near-hyperextension of elbow | <ul style="list-style-type: none"> - Weak: Biceps, middle & lower trapezius, serratus anterior - Relatively strong but painful triceps | <ul style="list-style-type: none"> - Tight: Triceps long head - Tight pectoralis minor - Posterior elbow capsule stiffness | <ul style="list-style-type: none"> - Pain in last 5–10° of extension - Pain on resisted extension - Posterior elbow tenderness - NPRS 6/10 |

Differential diagnosis and Pathology

Elbow pain with distal triceps tendon issues causes posterior elbow discomfort, particularly in people who perform repeated extension motions. Although there was no significant tendon damage in this case, the main symptoms were pain during resisted extension and soreness at the tendon insertion site. Because injuries to

the triceps tendon are rare and usually result from trauma or systemic diseases, this patient was diagnosed with chronic overuse tendinopathy; negative test results and normal imaging ruled out other conditions such as olecranon bursitis and epicondylitis. This issue is related to Elbow Extension Syndrome and is mostly caused by overuse of the posterior elbow as a result of improper movement patterns.

Table 4 - Timeline of Clinical Events, Assessment, Intervention, and Outcomes

| Time Point | Findings | Interventions | Outcomes |
|---|---|---|---|
| Month 0 (Onset) | Gradual onset of right posterior elbow pain during stitching/fabric handling. | - | Mild discomfort; continued working. |
| Months 1–3 | Pain progressively worsened during repetitive stitching, lifting fabric bundles; difficulty completing full workdays. | Self- rest, home remedies. | Temporary relief; pain returned during work tasks. |
| Month 3 | Withdrew from work due to persistent pain. | Analgesics & topical medications prescribed by a physician. | Minimal improvement. |
| Month 4–5 | Pain persisted at rest intermittently; aggravation with elbow extension and functional use. | Six sessions of ultrasound therapy at a local clinic. | Short-term symptom relief; functional limitation unchanged. |
| Month 6 (Presentation at Sri Ramachandra Physiotherapy OPD) | NPRS: 6/10, painful terminal extension, PREE-Q showed moderate-to-severe functional limitation. Palpation tenderness | MSI-based diagnostic assessment performed. | Movement-system impairment identified as primary mechanism |



| | | | |
|--|--|--|-----------------------------|
| | at distal triceps & posterior capsule, decreased elbow extension range. MSI findings: excessive elbow extension, biceps weakness, scapular control deficits. X-ray normal. | | (Elbow Extension Syndrome). |
|--|--|--|-----------------------------|

Timeline Table Description

During 6 months, the patient experienced growing posterior elbow discomfort as a result of repetitive labour demands, which did not respond to medication or ultrasound therapy. Physiotherapy evaluation identified mobility flaws and control impairments as major concerns. Complete pain alleviation, improved elbow range of motion, increased strength, and full restoration of occupational function were attained throughout a 6-week rehabilitation program.

Therapeutic Description

The patient underwent a structured 6-week Movement System Impairment (MSI)-based rehabilitation program at the Physiotherapy Outpatient Department, Sri Ramachandra Institute of Higher Education and Research (SRIHER), three times a week.

The four primary goals of the therapy program were to reduce posterior elbow pain and inflammation to improve mobility; correct improper movement patterns that result in excessive elbow extension; reduce distal overload by improving proximal control through better scapular and shoulder stability; and restore the patient's strength, endurance, and ergonomic habits to enable safe and effective performance.

| Table 5 - Treatment | | | |
|----------------------------|--|--|---|
| Week | Findings | Interventions | Outcomes |
| Week 1 | Persistent pain during end-range extension; poor task mechanics. | Pain reduction: ice, taping, ergonomic advice. Initiated scapular activation & biceps facilitation exercises. | Pain reduced to 4/10; improved symptom control. |
| Week 2 | Improved tolerance during ADLs; reduced posterior tenderness. | Introduced eccentric triceps control, biceps strengthening (graded), scapular stabilization exercises. Modified stitching posture. | Better proximal control; pain reduced during functional movements. |
| Week 3 | Functional performance improving; ROM nearly pain-free. | Task retraining for stitching, fabric folding; avoidance of terminal extension. | PREE-Q scores improved; NPRS 3/10. |
| Week 4 | Increased upper-limb strength; no pain with daily light tasks. | Progressive resistance training; closed-chain scapular strengthening; controlled extension drills. | Pain only with heavy tasks; overall functional confidence improved. |



| | | | |
|---------------|---|---|--|
| Week 5 | Returned to simulated stitching tasks pain-free. | Advanced movement correction + endurance training for occupational tasks. | NPRS 1–2/10; able to perform repeated stitching for >30 mins without pain. |
| Week 6 | Full, pain-free elbow ROM; biceps MMT 4+/5; improved scapular control; no tenderness. PREE-Q: near-normal function. | Continued home exercise program + ergonomic modifications for long-term prevention. | Returned to work pain-free with restored occupational function. |

Week-to-week Intervention Protocol

Week 1:

The first intervention focused on easing posterior elbow soreness by promoting proximal activation and reducing elbow tension. Cold therapy was applied twice daily for 10–12 min, and kinesiotaping was used on the distal triceps and posterior capsule to relieve pain. The patient received joint protection education, focusing on the use of forearm supports and prevention of hyperextension. Scapular activation workouts and low-load biceps isometric activation were implemented to improve the stability of the elbow. Gentle mobility exercises, such as pectoralis minor stretching, were also included. By the end of the week, pain levels had decreased from 6/10 to 4/10, and the patient was more conscious of terminal elbow extension.

Week 2:

This second week emphasised muscle balance and regulated loading to alleviate movement limitation by strengthening the biceps, reducing triceps dominance, and improving proximal control. The biceps were toned using yellow-band theraband curls (3 sets of 12 repetitions) with an eccentric focus. Scapular stabilizer movements included prone middle trapezius retractions (3 x 10 reps) and serratus anterior punches (3 x 12 reps). Triceps control was achieved by slowly reducing from 90° to 30° elbow flexion (3x10). Retraining emphasised avoiding premature elbow extension when reaching and developing shoulder-based movement. Modifications included avoiding hard clothing tugging and stabilising using both hands. By the end of Week 2, the patient felt less discomfort and had better biceps activation and proximal engagement.

Week 3:

The third week focused on improving functional movement and increasing endurance to enhance kinetic chain control and reduce elbow compression. The exercises comprised closed-chain scapular motions such as wall slides and shoulder flexion, as well as shoulder motion during elbow-shoulder coordination tasks. Strengthening continued with the theraband rows and increasing biceps resistance. Soft-tissue therapies centred on myofascial release and posterior capsule mobilisation. By the end of the week, the patient had reported decreased discomfort (NPRS score of 3/10), practically pain-free elbow range of motion, and better scapular control and endurance.

Week 4:

Week 4 focused on strengthening, stabilisation, and controlled extension to improve strength balance and load tolerance. Scapular retraction exercises, which improved stability, and red theraband were used for the biceps curls as part of the strength training. They also focused on eccentric triceps loading, progressively advancing to full-range control with smaller weights, used ball-rolling activities in neuromuscular training to emphasise the value of proprioceptive skills and rhythmic stabilisation. Simulated stitching exercises improved general endurance and maintained elbow alignment. By the conclusion of the week, the patient found it easier to handle home duties and experienced less pain when performing basic sewing.

Week 5:

The fifth week was dedicated in developing work stamina through practical exercises, such as 30 to 45 minutes of simulated sewing and posture corrections. Sessions included scapular squeezes combined with green-



resistance band bicep curls to improve balance. To facilitate more fluid full-body action, they were paired with exercises aimed at the back-body chain. While lowering the chance of posterior shoulder impingement, exercises near joint limits helped form proper movement patterns. By the end of the week, the patient stated a pain level of 1-2/10 after participating in a lot of activity and also felt more confident performing household chores.

Week 6:

In the sixth week, the goal was to prepare the patient for release by developing a pain-free range of motion, strength, endurance, and independent task performance. To align motions and eliminate compensatory behaviours, strategies such as full-motion retraining with mirror feedback were implemented. The patient participated in a 60-minute stitching simulation that mimicked job activities. Biceps and scapular stabilisers are strengthened with focused moderate resistance workouts. Ergonomic counselling emphasised the need to maintain neutral elbow posture and employ forearm supports, while a home exercise program was developed to help with persistent symptoms.

Post-treatment status

At the conclusion of the evaluation, biceps strength improved from Grade 3+/5 to 4+/5, with no associated elbow pain. The patient showed excellent scapular control and performed activities in a coordinated manner. Tenderness in the posterior elbow decreased significantly, and the patient's PREE-Q scores indicated nearly normal function. Since returning to work, the patient has performed tasks faster and more efficiently, exhibiting greater confidence.

Follow-up and outcomes

(Table 6) After six weeks of physical therapy, the patient's condition significantly improved. During that time, the patient's level of pain decreased from 6/10 to 1/10 on the Patient-Rated Elbow Evaluation Questionnaire. The patient was pain-free and had complete elbow joint extension at six weeks. The patient's biceps strength improved from 3+ to 4+, enhancing dynamic stability and reducing reliance on the triceps. Clinical observations showed that the patient's posture, endurance, and scapular control improved during all activities, allowing her to return to tailoring work in a timely and safe manner.

Table 6 - Outcome Measures Over Time

| Measure | Baseline (Week 0) | Mid-Intervention (Week 3) | Post-Intervention (Week 6) |
|--|------------------------------------|---------------------------------------|--|
| NPRS (pain) | 6/10 | ~3/10 | ~1/10 |
| PREE-Q (Patient-Rated Elbow Evaluation) | Markedly reduced functional score | Moderate improvement | Near-normal / high functional score |
| Elbow Extension (ROM) | Pain at terminal 5–10° | Nearly full, minimal discomfort | Full, pain-free extension |
| Biceps strength (MMT) | 3+/5 | ~4/5 | 5/5 or equivalent functional strength |
| Scapular control (qualitative) | Poor (scapular instability) | Improved, more stable upward rotation | Good dynamic control during tasks |
| Occupational task tolerance (stitching, folding) | Unable to work; tasks provoke pain | Simulated tasks with mild discomfort | Full, pain-free work with sustained stitching and handling |

Comparison with Literature Review

The findings, which highlight the advantages of progressive loading over passive techniques in exercise-based therapy, are in accordance with previous studies on elbow rehabilitation. (15)

Over the course of eight weeks, progressive exercise regimens for lateral elbow tendinopathy show notable gains in function and decreases in discomfort. For tendon-related elbow problems, mild concentric and eccentric loading improves strength and reduces pain. (13).



Before returning to high-demand activities, rehabilitation criteria for VEO injuries require establishing a pain-free full range of motion, restoring dynamic stability, and improving joint loading mechanics.(14)

Adverse Events, Risks, and Compliance

The patient followed the specified exercise program and physiotherapy visits, experienced no adverse events during the intervention, and did not require any changes to the rehabilitation plan.

Discussion

In this particular case, end-range extension and occupational strain caused a non-athletic worker to have posterior elbow discomfort, which resulted in Elbow Extension Syndrome. Chronic triceps tendinopathy with distal triceps tendon tightness and terminal extension discomfort was brought on by years of customised sewing. Improvement resulted from the restoration of proximal scapular mechanics, supporting the Movement System Impairment concept. (11). The significance of a functional diagnosis is shown by the rapid recovery in the patient who is resistant to medicine and ultrasonography, which indicates that repetitive-use elbow discomfort is related to biomechanical rather than structural disease.

A movement strategy that reduced mechanical stress on the olecranon, helped to avoid terminal elbow extension, triceps overuse and poor proximal control was trained using an MSI-based rehabilitation approach. Proposed tendinopathy interventions included reducing the excessive amount of elbow extension and use of progressive loading, known to be a successful conservative treatment option in the literature. The intervention was delivered over 6 weeks and included progressive strengthening, kinetic chain retraining, endurance training and task-specific conditioning with substantial reductions in symptoms and significant functional improvements.

The study highlights gaps in the literature on non-athletic posterior elbow tendinopathy by targeting lateral epicondylalgia and athletic valgus-extension overload. It suggests that occupational activities could cause overload comparable to that seen in athletics. After six sessions, individuals exhibit little progress from treatments such as ultrasonography. Proactive methods for enhancing strength, movement patterns, and job-related retraining are encouraged by the review. In chronically overused

illnesses, it strengthens the case for multimodal rehabilitation as opposed to passive rehabilitation.

In this case, the key point was elbow extension limitation due to MSI in a tailor, with emphasis on restriction of movement rather than bone or joint asymmetry. In addition to the activity-centred evaluation, various instruments for measuring a change of status of an individual were applied: PREE-Q, NPRS and ROM. Recent expert opinions have been equivocal about the rehabilitation and minor changes in daily movements. (9)

The single-case nature of this investigation does not allow general ability to be generalised but answers the purpose, with the effect that the conclusion needs further data and research to validate. The lack of EMG testing made it difficult to record muscle activation and movement restrictions. It is indicative that a motion-oriented treatment approach may be effective in cases of chronic elbow pain to repetitive activities.

Conclusion

The Movement System Impairment approach can be considered helpful in treating workers with repetitive elbow pain or discomfort following repetitive motion injury. This intervention allows for injury-free movement through better control of the scapula, lessening the load on the triceps and reducing the amount of over-extended elbow. The intervention focuses on proper posture/position while performing work-related tasks as well as proper balance of muscle groups associated with the specific motion performed repetitively. Job-related body mechanics and body movement corrections play an important role in treating chronic/recurrent elbow pain experienced by individuals who perform repetitive work activities.

Patient Perspective

The patient was satisfied with the diagnosis and treatment given. Also acknowledges the therapist's findings regarding her pain associated with stitching posture and elbow extension. She appreciates the emphasis on improving everyday duties in addition to pain management, and she finds the exercises doable. After regaining her confidence in stitching and fabric handling, she felt ready to return to her tailoring profession, describing the experience as a relief after months of pain



and valuing the treatment for helping her return to normal life and work. Correcting abnormal movement patterns, restoring their normal pain-free range, and promoting general health and well-being are the major goals of the treatment.

Informed Consent

The patient provided written informed consent for the publication of this case report and any related clinical information. To maintain anonymity, all identifying information has been deleted, and the patient has approved and consented to submit the paper.

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