

Efficacy of Spencer Technique and Scapular Mobilization in the Management of Adhesive Capsulitis: A Narrative Review



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ABSTRACT

Adhesive capsulitis is characterized by the thickening and tightening of shoulder capsule, resulting in its sticking to the humeral head. It is described by a sudden occurrence of pain and discomfort with gradual loss in the active and passive shoulder movements resulting from long-term inflammation of the synovial membrane, which leads to increasing hardening and tightening of the GH joint capsule. This article provides an overview of existing evidence on the effects of Spencer technique and scapular mobilization in adhesive capsulitis patients. An extensive review of databases such as PubMed, Pedro and Google Scholar identified 16 articles regarding the impact of the Spencer Technique and Scapular Mobilization on individuals diagnosed with adhesive capsulitis released between 2021 and 2025. Both techniques demonstrate significant benefits in managing Adhesive Capsulitis. The findings of study will help the healthcare practitioners to integrate evidence-based approaches into rehabilitation regimes in order to improve quality of life. This review is limited by small sample size and heterogeneous study designs. By integrating these techniques into care strategies, healthcare professionals will be able to speed up recovery and enhance quality of life. This research critically evaluates the recent evidence, identify the gaps in literature and highlights the benefits of both techniques in rehabilitation of patients with Adhesive Capsulitis. The Spencer technique along with scapular mobilization appear to be effective treatment methods for adhesive capsulitis, in terms of increase in range of motion and function.

Keywords: Adhesive Capsulitis, Frozen Shoulder, Scapular mobilization, Spencer Technique, Range of Motion, Mobilization Techniques.

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INTRODUCTION

The shoulder joint is the most versatile ball-and-socket joint in the human body. Adhesive Capsulitis (AC) or the frozen shoulder is the common condition that can affect this joint¹. It is characterized by the thickening and tightening of the shoulder capsule, resulting in its sticking to the humeral head.² It is described by a sudden occurrence of pain and discomfort with increasing loss of active and passive shoulder motion resulting from long-term inflammation of the synovial membrane, which leads to increasing hardening and tightening of the GH joint capsule.³ Pain and stiffness are the most prevalent symptoms in the early stages, usually found on the anterior and lateral aspect of the shoulder, the anterior side of the upper arm, and occasionally on the inner surface of the forearm. Pain may be more noticeable at night.⁴ The occurrence of AC in the overall population ranges from 2% to 5%, with the condition primarily impacting women aged 40 to 60 years.⁵ Bilateral shoulder involvement can occur in 10% to 40% of cases. Frozen shoulder has two categories primary and secondary. Primary AC refers to cases with gradual onset and unknown causes, whereas secondary AC has an underlying cause or

related condition.⁶ Frozen shoulder is divided into three stages. The first is the 'Freezing phase' that lasts from 2 to 9 months; second the 'Frozen phase' that lasts from 4 to 12 months, and third the 'Resolution phase' spans about 12 to 24 months.⁷ There is no standard method of diagnosing AC. It is solely based on history and physical examination. Reduced muscle strength and range of motion in the deltoid and supraspinatus muscles, as well as a decrease angle between the scapula and the humerus, are physical indicators of AC.⁴ Medical Conditions like diabetes, rotator cuff tendinopathy, Parkinson disease, heart problems and other neurological and autoimmune diseases can increase the occurrence of AC. The risk factors includes obesity and female gender.⁸ AC can be treated both conservatively and through surgical procedures. Medication, intra-articular injections, physiotherapy techniques, and exercise programs are examples of conservative treatment. Thermotherapy, Musculoskeletal ultrasound, and transcutaneous electrical nerve stimulation (TENS) are some examples of interventions used in physiotherapy management. Exercise programs consists of Range of Motion (ROM), joint mobilization, capsular stretching exercises, strengthening exercises, and Proprioceptive Neuromuscular Facilitation (PNF) techniques.⁹ All these approaches aim to reduce pain, break contractures and improve shoulder joint mechanics.

In 1916 Spencer, D.O. created the Spencer technique. This technique is being in use from 1916 till present in an effort to identify the elements involved in the manipulative approaches. This is a unique technique in which the initial effort is exerted by the patient and therapist supports the

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patient throughout the process. Spencer technique is a standardized set of movements that are applied for the diagnosis, treatment and prognosis of AC. It is an articular method that aims to address the limitations in AC.⁵ Spencer approach is a mobilization technique consists of steps designed to enhance mobility and lessen joint stiffness. There are seven steps in Spencer's technique i.e. 1. Shoulder extension with elbow flexion, 2. Shoulder flexion with elbow extension, 3. Circumduction under mild compression, 4. Circumduction along with distraction, 5. Shoulder abduction, internal rotation with elbow flexion, 7. Shoulder adduction, external rotation with elbow flexion, 7. Stretching of tissues plus pumping of fluids while arm stays in extension.¹⁰ This technique utilizes the passive movements, smooth and rhythmic in nature. Spencer's approach enhances pain-free mobility by elongating the shoulder capsule and tight soft tissues, restoring targeted joint movement and alleviating discomfort by altering the circulation of pain-related biomarkers. This approach boosts lymphatic drainage from the treatment site. This technique will also promote blood circulation. Additionally, this method regains the range of motion of shoulder joint and reestablishes reflexes of neural system.¹¹

The involvement of scapula is necessary for proper function of shoulder. The majority of shoulder movements are achieved by coordination of scapular motion with arm motion.¹² Scapular mobilization, a manual therapy technique serves as an important component in addressing the dysfunctions and injuries related to shoulder joint. This technique helps in the improvement of shoulder mechanics, which is essential for the stability and performance of shoulder joint and scapula. It also relieves scapular pain. There are many techniques like scapular clocks which promote the scapular control and awareness. This approach also helps in restoration of normal movement patterns. In this technique, sustained mobilization is applied on the scapulo-thoracic joint in four directions.¹³ According to Kazuhiro Endo, frozen shoulder significantly impairs depression of scapula, posterior tilt, downward and external rotation.¹⁴ Mobilizing the scapula can enhance the flexibility of the shoulder capsule and elongate tight soft tissues, which helps alleviate pain and improve the shoulder's ROM and functionality. Scapula mobilization can help release the muscles in that area, thereby enhancing shoulder movement. Improved shoulder mobility can also lead to greater movement of the scapula.¹⁵ Scapular mobilization focuses on moving joints or creating distractions, which helps increase the distance between the scapula and thorax, allowing the muscles to be stretched.¹⁶ Multiple studies have investigated the impact of scapular mobilization and the Spencer technique on individuals with AC. However, there remains significant ambiguity regarding the efficacy of scapular mobilization and the Spencer technique in achieving the restoration of full range of motion in these patients. This narrative review consolidates recent observational and experimental studies to provide an overview of existing evidence about the benefits of Spencer technique and scapular mobilization in frozen shoulder patients help the healthcare practitioners to integrate evidence-based approaches into rehabilitation regimes in order to improve quality of life.

METHODOLOGY

We conducted a narrative review to provide an overview of existing evidence on the effects of Spencer technique and scapular mobilization in adhesive capsulitis patients. A database search using keywords like "Spencer Technique", "Scapular Mobilization", "Adhesive Capsulitis", "Frozen Shoulder", "Range of Motion" and "Mobilization Techniques" was conducted. The databases used were PubMed, PEDro, Google scholar and Research Gate. Our search was limited to articles published in English from 2021 to 2025, without limitation of the type of publication. Excluding the articles with incomplete content, the results included a total of 16 articles about the effect of spencer technique and scapular mobilization in patients with frozen shoulder. All the articles included in this study are critically appraised to ensure the quality of evidence.

DISCUSSION

This narrative review analyzed multiple studies, including Randomized clinical trials, a pilot study, a case report, a pragmatic trial, a case study, a quasi-experimental study, and a systematic review, emphasizing the efficacy of both techniques in treating adhesive capsulitis. Both therapies were consistently linked to notable enhancement in functional ability, range of motion (ROM), and pain reduction. Studies looking into the Spencer approach reported promising results in terms of lowering pain and increasing joint mobility. Current research supports the efficacy of the Spencer approach and other manual therapies in improving shoulder motion. A study conducted by Aisha Siddiqua showed that the Spencer approach is as effective as isotonic exercise. The findings highlight the importance of personalized treatment plans, allowing healthcare providers to choose interventions on the basis of patient preferences, available resources, and practical implementation.⁷ Spencer muscle energy technique (SMET) has better outcomes as compared to conventional and proprioceptive Neuromuscular Facilitation (PNF) techniques. Both treatment groups showed significant improvements in pain and functional capacity.¹⁷ Same has been confirmed by Maarouf that Spencer is an effective technique for managing the symptoms and enhancing shoulder mobility. Improvements in DASH, SPDAI and NPRS confirms its effectiveness.¹⁴ The ability of spencer technique to stretch the shoulder capsule, enhance joint mobility, and alter circulatory pain biomarkers played a significant role in its efficacy. This technique showed improvement in the management of frozen shoulder, ensuring both short-term and long-lasting benefits. In AC the glycosaminoglycan are reduced which results in the formation of cross linkages in the ligaments and the capsule of glenohumeral joint. These cross linkages cause stiffness and tightness of shoulder. Mobilizations are used to break the cross linkages and to improve the range of motion of shoulder.¹¹ A study conducted by Alam F, demonstrated that a supervised treatment approach that integrates Maitland's mobilization and Muscle Energy Technique along with shoulder exercises resulted in significantly better outcomes in pain reduction and range of motion compared to a self-guided home exercise program. Proprioceptive Neuromuscular Facilitation PNF stretching techniques like

"hold-relax" and "contract-relax" provide flexibility in treating the functional restrictions in patients with Adhesive Capsulitis.¹⁸ The technique's efficacy was confirmed by improvement on Shoulder Pain and Disability Index (SPADI), ROM, and in Visual Analog Scale (VAS). The benefits were consistent over time, indicating its long-term efficacy.¹

Spencer muscle energy technique is a better treatment option for AC than other traditional methods. Periaqueductal grey (PAG) is a region in midbrain which modulates the descending pain. It is activated by isometric contractions used in Muscle Energy Technique. These systems work together to reduce pain. Activation of Golgi tendon organ suppresses the activity of motor neuron and increases the relaxation of muscles. This mechanism is responsible for decreasing pain in patients treated with Spencer Muscle Energy Technique (SMET). It also works by activating mechanoreceptors of low-threshold and stimulating descending modulation channels. Stretching and intermittent contractions are produced by the stimulation of Golgi Tendon Organs which results in muscle relaxation, enhance blood flow of the joints. It also reduces the inflammation of nerves that causes pain.¹⁹ A study conducted by Bhattacharya indicates that both Spencer technique and Muscle Energy Technique (MET) both improve shoulder ROM and Shoulder disability index score (SPDAI) in patients with AC. However, the Spencer technique showed greater improvements as compared to MET. Muscle Energy Technique (MET) work by decreasing the discomfort and enhanced range of motion. Muscle Energy Technique (MET) improves muscular strength and stiffness. It decreases discomfort and increased range of motion; however, it has less effect on joint movement. On the other hand, the Spencer technique has more significant increase in range of motion and functional performance by mobilizing the joint capsule and surrounding muscles.²⁰ A variety of mobilization approaches, such as scapular and glenohumeral interventions, showed promise in increasing flexion, abduction, extension, adduction, and external rotation ROM.²¹ Scapular mobilization may function by stimulating mechanoreceptors in muscular structures.¹⁵ SMET showed better results in terms of pain management and is more effective than the PNF when evaluated using the SPADI.²² The studies indicates that these exercises enhance scapulohumeral rhythm, reduces muscle tension, and boost the flexibility of both contractile and non-contractile tissues, ultimately resulting in improved joint mobility and functional performance.¹³ Previous research indicates that the combination of scapular mobilization with ROM exercises leads to better shoulder movement, reduced pain, and improved functional outcomes compared to ROM exercises alone.² In effort to perform the limited shoulder joint movement, many patients perform scapular dyskinesia, which consists of excessive rotation of joint upward with diminished posterior tilt.

Scapular mobilization enhances the restricted range of motion through gildings and improves muscle guarding and stiffness of soft tissues in order to restore normal movement. Scapular mobilization is an effective treatment for frozen shoulder, and physiotherapists can customize this approach based on the specific needs of each patient, highlighting the significance of ergonomics in daily

activities.²³ Additionally, there is significant increases in ROM, strength, functional ability and reduction in pain. The mobilization of scapula improves the flexion and abduction of shoulder because it improves the scapular movement and decreases the muscle tension. Mobilization of scapula is effective than Mobilization with Movement (MWM) in terms of reducing pain, improve shoulder mechanics and range of motion. End range and scapular mobilizations are effective as compared to passive stretching in reducing pain, improving shoulder function and movements in patients with AC.²⁴ End-range and scapular mobilization are effective in accessory joint movements, stretching of the stiffened capsule and improvements of scapular patterns. Evidence suggests that the use of high-grade mobilizations and gliding techniques results in enhancement of tissue extensibility, reduction of adhesions, and restoration of normal shoulder movements.¹⁴ The impact of scapular mobilization and scapular PNF on individuals with adhesive capsulitis in conjunction with traditional physical treatment was examined. Both treatments decrease discomfort, enhance range of motion and shoulder mechanics but scapular mobilization has better effects in all assessed outcomes. The results reflect the neurophysiological and mechanical benefits of joint mobilization, including decreased nociception, enhanced collagen alignment, and fewer adhesions. In short term trials, scapular mobilization outperformed PNF.²⁵ Spencer Technique works on the shoulder joint capsule, while scapular mobilization aims to improve quality of movement, neuromuscular synchronization, and scapulothoracic rhythm.

This narrative review is unique since it focusses on two treatments for adhesive capsulitis that have been independently examined in the past i.e. scapular mobilization and the Spencer approach. This review evaluates the efficacy of both techniques side by side by providing insights into their combined use. By combining the two methods, a more individualized and focused method of managing frozen shoulder with physiotherapy. Spencer approach is beneficial for capsular stiffness, helps to improve arthrokinematics and reduces chronic discomfort. Conversely, scapular mobilization is beneficial for individuals with neuromuscular deficits and muscle imbalance. Joint restrictions and muscle coordination can be addressed simultaneously by combining the two techniques.

CONCLUSION

Spencer technique along with scapular mobilization appear to be effective treatment methods for addressing adhesive capsulitis, providing considerable advantages in alleviating pain, increasing range of motion, and enhancing functional capabilities. By integrating these manual therapy techniques into care strategies, healthcare professionals may be able to improve patient results, speed up recovery and enhance quality of life.

Conflict of Interest

None to declare

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Author's Contribution

All authors (NS, ER, SS, and RJ) contributed to the conception and design of the study. Data collection, analysis, and interpretation was performed by NS, ER, and SS. Manuscript drafting and critical revision were undertaken by all authors. All authors have read and approved the final manuscript.

REFERENCES

- Phansopkar P, Qureshi MI. Impact of Spencer Technique on Pain, Range of Motion, and Functional Disability in Patients With Frozen Shoulder: A Pilot Study. *Cureus*. 2024 Jan 30;16(1):e53263.
- Khandelwal P, Khan J, P. T. R, Khan U. Comparing The Efficacy Of Rom Exercises With and without Scapular Mobilization in Patients with Adhesive Capsulitis. *International Journal of Current Pharmaceutical Research*. 2023 Jul 15;85–8.
- Olguín-Huerta C, Araya-Quintanilla F, Moncada-Ramírez V, Estrella-Flores E, Cuyúl-Vásquez I, Gutiérrez-Espinoza H. Effectiveness of scapular mobilization in patients with primary adhesive capsulitis: A systematic review and meta-analysis. *Medicine*. 2023 Jun 2;102(22):e33929.
- Stella SM, Gualtierotti R, Ciampi B, Trentanni C, Sconfienza LM, Del Chiaro A, et al. Ultrasound Features of Adhesive Capsulitis. *Rheumatology and Therapy*. 2021 Dec 23;9(2):481–95.
- Jivani RR, Hingarajia DN. Effect of Spencer Muscle Energy Technique Versus Maitland's Mobilization Technique on Pain, ROM and Disability in Patients with Frozen Shoulder: A Comparative Study. *International Journal of Physiotherapy and Research*. 2021 Aug 11;9(4):3928–36.
- Vita F, Pederiva D, Tedeschi R, Spinnato P, Origlio F, Faldini C, et al. Adhesive capsulitis: the importance of early diagnosis and treatment. *Journal of Ultrasound*. 2024 Jun 6;27(3):579–87.
- Siddiqua A, Kiran Q, Khan F, Naseer A, Nazir S, Azfar H, et al. Comparison of Spencer Technique and Isotonic Exercises in Patients with Adhesive Capsulitis. *The Healer Journal of Physiotherapy and Rehabilitation Sciences*. 2025 Aug 23;5(2):7–11.
- Chen MH, Chen WS. A Narrative Review of Adhesive Capsulitis with Diabetes. *Journal of Clinical Medicine*. 2024 Sep 25;13(19):5696.
- Kahlaee AH, Ghamkhar L, Arab AM. The Association between Neck Pain and Pulmonary Function. *American Journal of Physical Medicine & Rehabilitation*. 2017 Mar;96(3):203–10.
- Amin A, Malik R, Memon SI, Awan ZZ, Almas F, Hussain RT, et al. Comparison of Spencer muscle energy technique and conventional physiotherapy on pain and disability in shoulder adhesive capsulitis: a quasi-experimental study. *Bulletin of Faculty of Physical Therapy*. 2025 Jun 10;30(1).
- Phansopkar P, Qureshi MI. An Integrated Physical Therapy Using Spencer's Technique in the Rehabilitation of a Patient with a Frozen Shoulder: A Case Report. *Cureus*. 2023 Jun 30; 15(6):e41233.
- Gutiérrez-Espinoza H, Pinto-Concha S, Sepúlveda-Osses O, Araya-Quintanilla F. Effectiveness of scapular mobilization in people with subacromial impingement syndrome: A randomized controlled trial. *Annals of Physical and Rehabilitation Medicine*. 2023 Jun;66(5):101744.
- Selviani I, Okilanda A, Resmana R, Arisman. The effectiveness of codman pendulum exercise and scapular mobilization to reduce pain in frozen shoulder conditions. *Halaman Olahraga Nusantara*. 2023;6(2):554-60.
- Maarouf SS, Elnaggar M, Kaddah MA. End-Range and Scapular Mobilization Technique versus Passive Stretching Exercises in Treatment of Shoulder Adhesive Capsulitis. *The Medical Journal of Cairo University*. 2021 Mar 1;89(3):91–8.
- Upadhyay VJ, Sutaria S. A Study to Compare the Effectiveness of Scapular Mobilization v/s Shoulder Mobilization in Patients with Frozen Shoulder. *International Journal of Health Sciences and Research*. 2022 Dec 8;12(12):42–5.
- Ashrifah A, Perdana SS, Kingkinnarti. Scapula manipulation on frozen shoulder condition: a case study. *Physical Therapy Journal of Indonesia*. 2023 Aug 13;4(2):214–8.
- Ghaffar T, Fatima M, Zahra C, Yousaf A, Wahid I, Ghafoor A. Comparative Effectiveness of Proprioceptive Neuromuscular Facilitation Stretch Vs Spencer Muscle Energy Technique on Pain and Disability in Patients with Adhesive Capsulitis. *American Journal of Health, Medicine and Nursing Practice*. 2023 Oct 30;9(4):60–8.
- Alam MdF, Azharuddin M, Zaki S. Effectiveness of shoulder mobilization combined with muscle energy technique in the management of adhesive capsulitis: A randomized control trial. *Saudi Journal of Sports Medicine*. 2024 Jan;24(1):35–42.
- Gasibat Q, Rafieda AE, Alajnaf RB, Elgallai AA, Elzidani HA, Sowaid EM. Spencer Muscle Energy Technique Versus Conventional Treatment in Frozen Shoulder: A Randomized Controlled Trial. *International Journal of Kinesiology and Sports Science*. 2022 Jul 31;10(3):28–36.
- Bhattacharya B, Bhattacharya U, Das C, Bhattacharya U. Efficacy between “Spencer Technique” and “Muscle Energy Technique” in Treatment of “Adhesive Capsulitis.” *Asian Pacific Journal of Health Sciences*. 2022 Jun 30;9(4):59–62.
- Shahzad A, Azhar M, Zafar H, Khan MA, Shakir S. Therapeutic effects of mobilization in alleviating pain and improving shoulder mobility in adhesive capsulitis – A systematic review. *Journal of Musculoskeletal Surgery and Research*. 2024 Apr 23;8:97–107.
- Deepika B, Jagatheesan A, Buvanesh A, Anandbabu R. Effect of Spencer Muscle Energy Technique and Proprioceptive Neuromuscular Facilitation in Adhesive Capsulitis. *Indian Journal of Physiotherapy & Occupational Therapy - An International Journal*. 2024 Jan 21;18:447–52.
- Nugraha FM, Pristianto A, Zakaria RF. Scapula Mobilization For Improving Functional Ability In Frozen Shoulder Conditions: Case Study. *FISIO MU: Physiotherapy Evidences*. 2023; 4(2):215-17
- Zaghloul HMS, Ali HA, Mohamed MT. Scapular mobilization Vs. Mobilization with Movement with Low Grade Mobilization in the treatment of Phase II Adhesive Capsulitis. *NeuroQuantology*. 2022;20(16):3250-4.
- Gohel BP, Kamalakannan R, Purushothaman VK. Effect of Scapular Proprioceptive Neuromuscular Facilitation Versus Scapular Mobilization on Pain and Function in Adhesive Capsulitis – A Pragmatic Randomized Clinical Trial. *INTI Journal*. 2023 Nov;2023(1).