

# EFFECTIVENESS OF COMBINATION THERAPY AND SHOULDER GLIDES ON FROZEN SHOULDER: A CASE REPORT



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## ABSTRACT

Frozen shoulder is the gradual loss of movement in the shoulder (glenohumeral) joint. When the shoulder is frozen, the joint has become stiff and its movement is limited. It is also called adhesive capsulitis and commonly treated by manual therapy and exercise, usually delivered together as components of a physical therapy intervention. The differential diagnosis includes biceps tendinopathy, glenohumeral osteoarthritis, neoplasm, rotator cuff tendinopathy or tear (with or without impingement), and subacromial and subdeltoid. The case report is based on use of combination therapy and shoulder glides to reduce the pain and improve the Range of motion of the joint. Combination therapy comprises of transcutaneous electrical nerve stimulation and ultrasonic therapy at different intensities according to different musculoskeletal conditions. Outcome measure used were Numerical Pain Rating Scale for pain and universal goniometer for measuring range of motion. In conclusion, the study supports the use of combination therapy and shoulder glides are beneficial in reducing pain and improve shoulder Range of motion in patients with case of Frozen shoulder.

**Keywords:** Frozen shoulder, transcutaneous electrical nerve stimulation, ultrasonic therapy, range of motion, numerical pain rating scale, pain.

## INTRODUCTION

Frozen shoulder is a known disorder that causes pain, stiffness, and loss of normal range of motion in the shoulder leads to disability that can be serious, and the condition tends to get worse with time if it's not treated<sup>1</sup>. It affects mainly people ages 40 to 60, and women more often than men. Sometimes freezing occurs because the shoulder has been immobilized for a long time by injury, surgery, or illness<sup>2</sup>. The shoulder has greatest mobility and range of motion than any other joint in the body. It is ball and socket variety of joint, in which head of humerus attached to the glenoid cavity also called glenohumeral joint<sup>3</sup>. The questions of when and how to treat the frozen shoulder can present challenges. Most treatments are conservative; however, indications for surgery do exist<sup>4</sup>. The British Elbow and Shoulder Society/British Orthopedic Association (BESS/BOA) has published recommendations in a patient care pathway for frozen shoulder, with a step-up approach in terms of

invasiveness advised<sup>5</sup>. Combination therapy is effective as seen in many researches<sup>6</sup>. Evidence of moderate quality shows that a combination of manual therapy and exercise for six weeks probably results in less improvement at seven weeks but a similar number of adverse events compared with glucocorticoid injection<sup>7</sup>. When used alone, manual therapy has limited efficacy in the management of frozen shoulder. conservative treatments such as injections and physiotherapy are ineffective for a small group of patients<sup>8</sup>. It would be fascinating to see if these patients with a protracted and resistant course of disease might be recognized sooner rather than later.

## PATIENT DESCRIPTION

### HISTORY

On Jan 5, 2023, a 50-year-old female patient who was housewife presented with a complaint of right shoulder pain and unable to lift her right hand for 2 months, una-

ble to comb her hairs and squeezing the towel. Symptoms were reported as continuous pain in movement of hand and aggravated when she tried to do some activities in abduction and internal rotation shoulder movement. The NPRS was 8/10. She had history of fall on outstretch hand 5 years back. Earlier, she had taken 3 dose of corticosteroid injections through which she got some relief in pain.

#### EXAMINATION FINDINGS

| SHOULDER MOVEMENTS | ACTIVE ROM<br>(Right Hand) | ACTIVE ROM<br>(Left Hand) |
|--------------------|----------------------------|---------------------------|
| Flexion            | 150                        | 180                       |
| Extension          | 40                         | 60                        |
| Abduction          | 90                         | 180                       |
| Int. Rotation      | 40                         | 70                        |
| Ext. Rotation      | 60                         | 90                        |

#### SPECIAL TEST

Apley scratch test: Positive

NPRS Scale: 8/10

Diagnosis: Right Side Frozen Shoulder

#### PHYSIOTHERAPY TREATMENT PLAN

For treatment, it was planned to give Hot fomentation, Combination therapy, shoulder glides anterior, posterior, inferior glide) along with home exercise program.

#### PROCEDURE

The patient was asked to take 12 physiotherapy sessions, thrice in a week for four weeks. The patient was asked to lie in a supine position and hot pack was given for 10 minutes, after that 5 repetitions of shoulder glides (anterior, posterior and inferior). The patient was asked to Codman's pendulum exercises(10 times in each direction) and lastly combination therapy of transcutaneous electrical nerve stimulation and ultrasonic therapy was given to patient in which US works as active electrode and TENS channel used as passive electrode was given for 7 minutes duration, having ultrasonic intensity of 1.5 W/cm<sup>2</sup> and Tens frequency 200MHz.

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#### HOME EXERCISE PROGRAM

1. Towel stretch (10-15 reps)
2. Pendulum exercises (10 reps)
3. Finger ladder exercises in abduction and flexion (10 reps)

## RESULTS

**Outcome measures** were collected at baseline and NPRS score found 1/10 after 12 session and patient was able to do her daily activities. Table 1 and Table 2 shows the Pre and Post NPRS and Rom.

**Table 1:** Shows the Pre and Post ROM of shoulder joint

| SHOULDER MOVEMENTS | ACTIVE ROM<br>(Right Hand) | ACTIVE ROM<br>(Left Hand) |
|--------------------|----------------------------|---------------------------|
| Flexion            | 150                        | 180                       |
| Extension          | 40                         | 60                        |
| Abduction          | 90                         | 170                       |
| Int. Rotation      | 40                         | 70                        |
| Ext. Rotation      | 60                         | 90                        |

**Table B:** Pre and Post Numerical Pain Rating Score

| Pre NPRS Score | Post NPRS Score |
|----------------|-----------------|
| 08             | 01              |

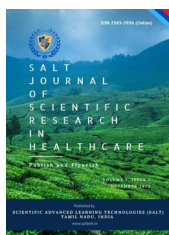
## CONCLUSION

The effectiveness of combination therapy and shoulder glides are seems to be beneficial in patient to eliminate pain and improving ROM in Frozen shoulder patients.

## LIMITATIONS

- It can be done on large sample size to find out the effectiveness.
- Other parameters can also be used.

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