

ANATOMICAL EXPLANATION OF YOGASANA ON FROZEN SHOULDER

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ABSTRACT

Yogasana is a term which is described as a seated posture in yoga typically used for meditation .The word originated in the 19th century from the Sanskrit, *yoga*, meaning “union” and *asana*, meaning “seat,” “posture” or “pose”.The word *yoga* is derived from the Sanskrit root *yuj* meaning to bind, join, attach and to concentrates one’s attention on, to use and apply.it also means union or communication. The third limb of yoga is *asana* or posture. *Asana* brings steadiness, health and lightness of limbs. Frozen shoulder is a specific condition that has a natural history of spontaneous resolution and requires a management pathway that is completely different from such distinct shoulder conditions as a rotator cuff tear or Shoulder drop. The term “frozen shoulder” was first introduced by Codman in 1934. He described it as a painful shoulder condition of insidious onset that was associated with stiffness and difficulty in sleeping on the affected side. Codman also identified the marked reduction in forward elevation and external rotation that are the hallmarks of the disease. *Yoga asana* can be beneficial to open and release tension in the muscles not only in the shoulder area, but also in the chest and upper neck and back areas. *Yoga asana* like Gomukhasana, Adho mukha swanasana, Veer bhadrasana, Parvatasana are found to be beneficial in curing frozen shoulder and anatomical basis of these asana are explained in this article.

KEYWORDS- Yogasana Frozen shoulder,

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INTRODUCTION-

FROZEN SHOULDER- AN ANATOMICAL VIEW:-

A frozen shoulder is a condition when you experience stiffness and pain in your shoulders. Not only does it restrict your mobility, it can also interfere with your everyday routine. Adhesive fibrosis and scarring between the inflamed joint capsule of the glenohumeral joint , rotator cuff, subacromial bursa and deltoid usually cause adhesive capsulitis or Frozen shoulder , a condition seen in individuals 40-60 years of age. A person with this condition has difficulty abducting the arm and can obtain an apparent abduction of up to 45 degree by elevating and rotating the scapula. Because of the lack of movement of the gleno-humeral joint, strain is placed on the Acromio-clavicular joint, which may be painful during other movements. Injuries that may initiates acute capsulitis are glenohumeral dislocation, calcific supraspinatus tendinitis, partial tearing of the rotator cuff and bicipital tendinitis. The term “frozen shoulder” was first introduced by Codman in 1934.^{w1} He described a painful shoulder condition of insidious onset that was associated with stiffness and difficulty sleeping on the affected side. Codman also identified the marked reduction in forward elevation and external rotation that are the hallmarks of the disease. Long before Codman, in 1872, the same condition had already been labeled “peri-arthritis” by Duplay. In 1945; Naviesar coined the term “adhesive capsulitis.

Three phases of clinical presentation-

- ***Painful freezing phase-*** Duration 10-36 weeks.

Pain and stiffness around the shoulder without any history of injury. A nagging constant pain is worse at night, with little response to non-steroidal anti-inflammatory drugs

- ***Adhesive phase*** -Occurs at 4-12 months.

The pain gradually subsides but stiffness remains. Pain is apparent only at the extremes of movement. Gross reduction of glenohumeral movements, with near total obliteration of external rotation

- ***Resolution phase*** Takes 12-42 months.

Follows the adhesive phase with spontaneous improvement in the range of movement. Mean duration from onset of frozen shoulder to the greatest resolution is over 30 months.

Yoga is a natural healing process that can help to eliminate the stiffness, reduce tension in the area, ease pain and helps to regain mobility. Regular practice of yoga poses can reduce the discomfort and stiffness.

YOGA AND ASANA-

Yoga is one of the six orthodox systems of Indian philosophy. In the second aphorism of the first chapter of the *Yoga Sutra*, Patanjali describes *Yoga* as “*Chitta vritti nirodhah*”. The word *yoga* is derived from the Sanskrit root *yuj* meaning to bind, join, attach and to concentrates one’s attention on, to use and apply. It also means union or communication.

The third limb of *yoga* is *asana* or posture. *Asana* brings steadiness, health and lightness of limbs. A steady and pleasant posture produces mental equilibrium and prevents fickleness of mind. By practicing them one develops agility, balance, endurance and great vitality.

Asana have been practiced over the centuries so as to exercise every muscle, nerve, and gland in the body. They secure a fine physique, which is strong and elastic without being muscle-bound and they keep the body free from disease. They reduce fatigue and soothe the nerve.

Among the various *yoga* poses, following *asana* are found to be beneficial in relieving the pain of and stiffness of shoulder joint.

DISCUSSION-

ASANA FOR FROZEN SHOULDER- AN ANATOMICAL EXPLANATION

Asana like *Veer Bhadrasana*, *Halasana*, *Adho mukha swanasana*, *Parvatasana*, *Purvouttanasana*, *Marichyasana* and *gomukhasana* are found to be beneficial in reducing pain and stiffness of shoulder joint. These *asana* helps in relieving the restricted movement and external rotation of shoulder joint. Anatomical explanation of following *asana* is to be made in this article which acts on frozen shoulder.

1. VEER BHADRASANA-

This *asana* involves shoulder flexion and spinal extension along with slight abduction of the scapula. Muscles like spinal extensors, serratus anterior, deltoids, teres minor, infraspinatus, rectus abdominis works eccentrically i.e. lengthening of these muscles occur during this act, Latissimus dorsi, rectus abdominis, pectoralis major and minor, anterior neck muscles are stretched.

In this pose, the chest is fully expanded and this helps in deep inspiration. It relieves stiffness in the shoulders joint and cures stiffness of neck and back muscles.

2. *ADHO MUKHA SWANASANA*-

During this pose, flexion of glenohumeral joint and external rotation occurs. Arms work against gravity. The serratus anterior rotates in upward direction and abducts the scapulae, while the infraspinatus, teres minor and posterior deltoids work to rotate the glenohumeral joints externally. Because the flexion of the glenohumeral joints is created by gravity, the anterior deltoids can relax.

To extend the elbow and resist collapse in the shoulder, the triceps are active.

The latissimus dorsi often tries to help this action, but they depress and internally rotate the shoulder, which creates impingement at the acromion process.

When one is exhausted, a longer stay in this pose removes fatigue and brings back the lost energy. Practice of this asana helps to eradicate stiffness in the region of the shoulder blades and arthritis of the shoulder joint is relieved.

3. *PARVATASANA* –

Parvata means a mountain. In this variation of *padmasana* the arms are stretched over the head with the fingers interlocked. This *asana* relieves the rheumatic fever and stiffness in the shoulder; it helps to draw free movement of joints and develops the muscles of chest.

4. *PURVOUTTANASANA*-

During this pose, muscles of arms like the teres major, posterior deltoids, and triceps works to extend the humerus, and the rhomboids and trapezius muscles are acting to maintain adduction of arm. The rotator cuff muscles (supraspinatus, infraspinatus, subscapularis, teres minor) act to keep the humerus in neutral alignment.

Lengthening of Serratus anterior, biceps, pectoralis major and minor, coracobrachialis, anterior deltoid subclavius occurs.

This posture strengthens the wrist and ankles and improves the movement of shoulder joint. It also expands the chest fully.

5. *HALASANA*-

In this pose, scapula is adducted with downward rotation. External rotation of glenohumeral joint occurs along with extension and adduction of arm.

In the arm, Infraspinatus and teres minor muscles rotate externally to rotate the head of the humerus; subscapularis and coracobrachialis muscles acts eccentrically, to protect the front of the shoulder joint from protraction. Long head of triceps and teres major extends the shoulder and adduct the arm; posterior deltoid acts to extend the arm and rotate it externally.

Cramps in the hands are cured by interlocking and stretching the palms and fingers. People suffering from stiff shoulders and elbows get relief by regular practice of this *asana*

6. *GOMUKHASANA*-

It is a type of intermediate hip and shoulder opener *asana*.

This pose involves two types of joint action of arms i.e. top arm action and bottom arm action. Top arm involves upward rotation, elevation, adduction of scapula, flexion and external rotation of glenohumeral joint, elbow flexion and forearm pronation. Where as in the Bottom arm scapula rotates downward having adduction, depression of it, glenohumeral joint internally rotated and extended, elbow flexion and forearm supination occurs.

Working of muscles of arm include-

Top arm muscle activity: - infraspinatus and teres minor for external rotation, serratus anterior acts to upwardly rotate scapula, then rhomboids to adduct, anterior deltoid to flex arm.

Bottom arm muscle activity includes:- subscapularis to internally rotate, teres major and latissimus dorsi for internal rotation and extension, long head of triceps and posterior deltoid to extend arm.

Restraining the lower abdomen during an inhalation directs the breath into the thoracic region, which intensifies the stretching in the shoulder structures.

CONCLUSION-

On the basis of above discussion, we can conclude that *yoga asanas* (poses) are very much beneficial in opening and releasing the tension in the muscles of not only in the shoulder area, but also in the chest and upper back and neck areas. *Yoga* should be used as a preventive measure, rather than a curative one. *Yoga asanas* can help strengthen or stretch your muscles in the shoulder, neck and upper back region. *Yoga* is a natural healing process that can help to eliminate the stiffness, reduce tension in the area, ease pain and help you regain mobility. Regular practice of these particular *yoga* pose will help in stretching the muscles of shoulders, neck and back and also helps to reduce the stiffness. Internal and External Rotation of the Arm helps to improve blood circulation around your shoulder and neck area. Shoulder Rotation will help to reduce stiffness and improve mobility in the shoulders and back.

In addition to yoga, we can also try the following to ease the pain and discomfort:

- Apply an ice pack in the morning and evening to the affected area.
- Regularly practice stretching exercises to improve blood circulation and ease stiffness.
- Avoid carrying weights as much as possible.
- If you are wearing a bag, place the strap on the shoulder that is not affected.

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