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Frozen Shoulder

Jeff Horinek, MD

Symptoms

Frozen shoulder, also called adhesive capsulitis, causes pain and stiffness in the shoulder. The condition affects the glenohumeral joint (ball and socket joint) and occurs in about 2% of the population and most commonly affects mid-aged people. The hallmark is a normal joint with inability move the shoulder due to adhesions. Most people have a very painful shoulder and report constant pain, inability to sleep on the shoulder, and loss of motion, particularly with reaching behind and overhead.

Causes

The causes of frozen shoulder are not fully understood. There is no clear connection to arm dominance or occupation. Most cases occur without an injury. A few factors that may put you more at risk for developing frozen shoulder are:

Diabetes: Frozen shoulder occurs much more often in people with diabetes, affecting 10% to 20% of these individuals. The reason for this is not known.

Other Conditions: Some additional medical problems associated with frozen shoulder include hypothyroidism, hyperthyroidism, Parkinson's disease, and cardiac disease.

Injury: Frozen shoulder can sometimes develop after a shoulder injury such as a fall with or without a fracture.

Treatment

In the majority of cases (>80%) frozen shoulder resolves with conservative treatment. Without treatment it can take 1-2 years to resolve and while motion typically returns in some chronic cases permanent motion loss can occur. Once frozen shoulder resolves it typically does not come back. However, it can occur in the other shoulder and even occasionally affects both shoulders at the same time. In most cases the rotator cuff is intact. Because of this an MRI is rarely needed and is not ordered unless symptoms are not improving.

Treatment options include:

Medications: Anti-inflammatories such as ibuprofen (Motrin or Advil) and naproxen (Aleve) are used to reduce pain and inflammation. Occasionally, oral steroids such as prednisone can also be used. The max dose for ibuprofen is 800 mg three times per day. The max dose for naproxen is 500 mg twice daily. Prolonged usage should be avoided, and these should be taken with food since they can affect the stomach lining. If one experiences an upset stomach these should be stopped. Anti-inflammatories are contraindicated in patients taking blood thinners.

Injection: Studies show that injection of steroid (cortisone) into the glenohumeral joint shortens recovery and lead to a better outcome at 1 year compared to stretching alone. One of the keys is the location of the injection. Most non-orthopaedic providers place an injection into the subacromial space between the rotator cuff and acromion bone when they do an injection. However, the proper location of an injection for frozen shoulder is into the shoulder joint itself which lies beneath the rotator cuff. I perform glenohumeral joint injections with an ultrasound machine. This allows direct visualization of the joint and improved accuracy of the injection. Up to 3 injections are performed at monthly intervals, but often less than 3 are required.

Stretching: The mainstay of treatment is daily stretching. Consistency is the key with stretching 2 to 3 times per day. The most essential stretches are provided at the end of this document. You can see examples of these online under "Shoulder Stretches" at: www.KsShoulder.com/rehab.

Surgery: In the event that frozen shoulder does not resolve with conservative care, surgery is an option. This is typically considered if symptoms are not improving after 4 to 6 months of conservative treatment. I perform a direct release of the adhesions with a shoulder arthroscopy. This procedure requires general anesthesia, takes about 45 minutes to perform, and patients go home the same day. Two to three small incisions are made in the shoulder, a scope is inserted, and the adhesions are directly released. The long-term outcome of this procedure is very good, and the risk of complication is very low. While immediate gain in motion occurs, full recovery still takes 4 to 6 months. Physical therapy should be started immediately after the procedure, and I ask my patients to attend PT three times per week for three weeks in addition to daily stretching.

Some surgeons perform a "manipulation under anesthesia" alone. The problem with this approach is iatrogenic injury may occur such as fracture or rotator cuff tear. I believe it is safer to perform a direct release with a scope.

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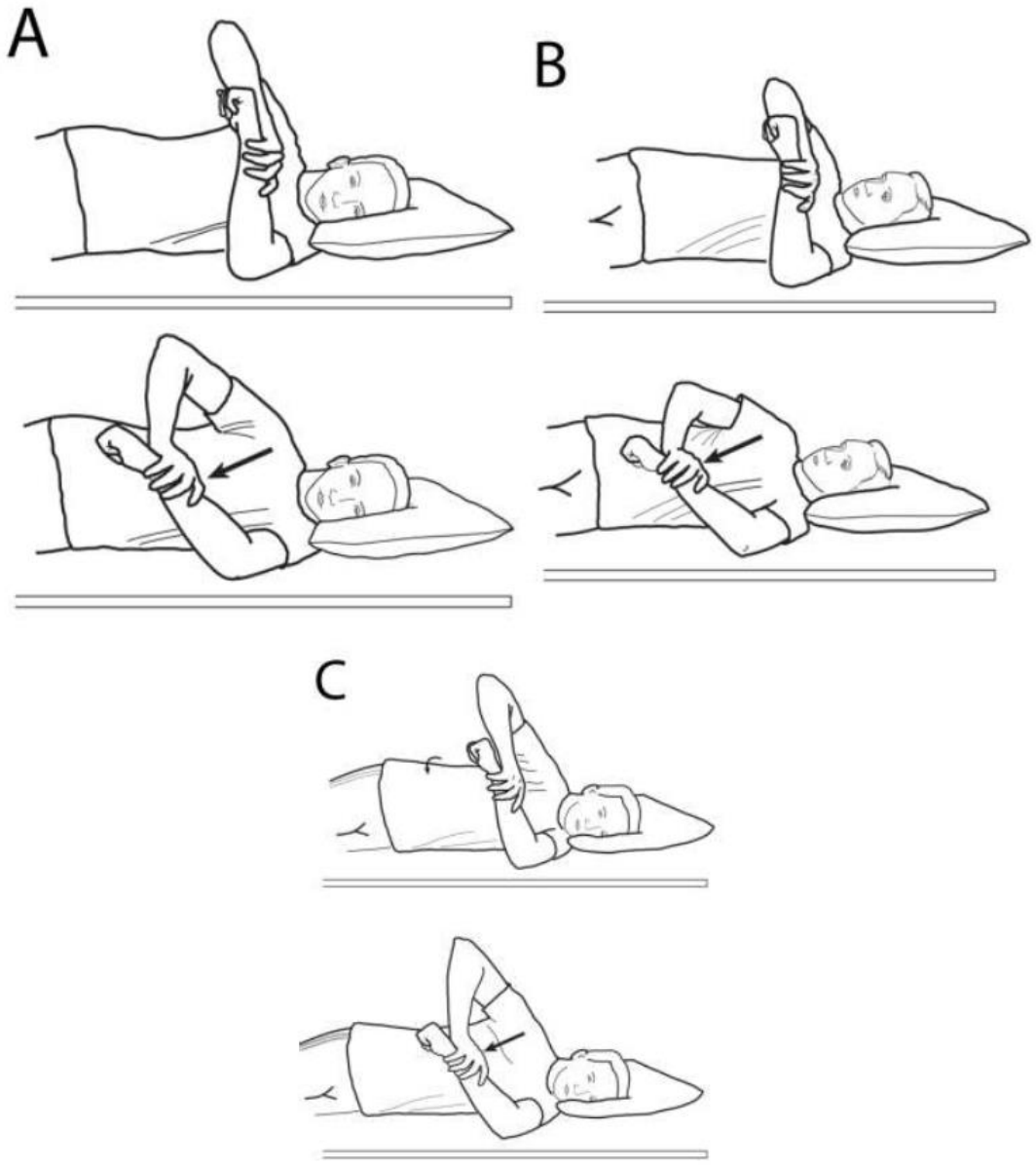
Stretching: Sleeper Stretches

Hold each stretch for 10 seconds,10 repetitions per set, 4 sets, twice daily



Sleeper stretches. These exercises stretch the posterior capsule and are performed with patient lying on the side and using the opposite arm to passive internally rotate the arm. The exercises are performed with the patient **(A)** lying directly on the side, **(B)** leaning back 30 degrees, and **(C)** leaning forward 30 degrees. The different orientations encourage stretching of different portions of the posterior capsule.

You can see examples of these online under "Shoulder Stretches" at: www.KsShoulder.com/rehab

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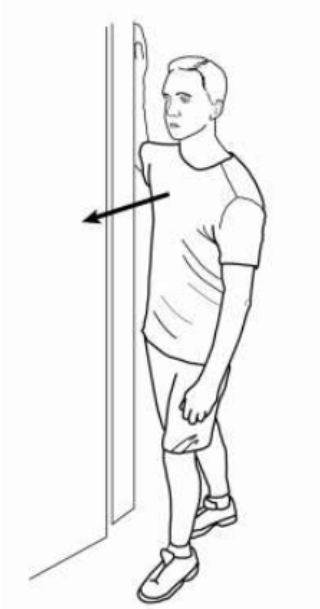
Stretching: Miscellaneous

Hold each stretch for 10 seconds, 10 repetitions per set, 4 sets, twice daily

Supine passive forward flexion is accomplished by using the opposite arm to stretch the involved shoulder.



The doorframe stretch is performed by placing an abducted arm against a doorframe and leaning the body forward to passive externally rotate and horizontally abduct the arm, so that the elbow passes posterior to the plane of the scapula. The stretch can be performed with the arm at varying degrees of abduction to stretch different portions of the anterior shoulder.

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