FROZEN SHOULDER

ADHESIVE CAPSULITIS

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Definition: There is a debate amongst clinicians and researchers about the correct term for frozen shoulder and the aetiology (how and why it occurs). Put simply, frozen shoulder describes a condition in which one suffers from their shoulder becoming stiff and painful, where the shoulder capsule becomes inflamed and fibrous (thickened) which can be extremely debilitating.

This condition may be referred to with various names, with some mentioned below:

- frozen shoulder (syndrome)
- adhesive capsulitis
- capsular contraction

It is unclear why the shoulder becomes frozen, but there are certain things that increase your risk, or likelihood of developing it such as a history of Diabetes or Dupuytren’s contracture in the hand. Frozen shoulder can also follow from a minor accident or injury, a fracture or an operation. The injury or operation does not have to be directly to the shoulder and either shoulder can be affected. It affects between 1-3% of adults in the UK and most commonly occurs in people aged between 40 and 60 years.
A physiotherapist or your GP will be able to diagnose whether you have this problem or not by asking you questions and through further examination of your shoulder. You may need other tests e.g. x-ray, but this is not always necessary as it is considered that frozen shoulder can be clinically diagnosed following assessment.

The shoulder provides a large range of movement which allows us to perform our daily tasks. Your shoulder is made up of three bones: upper arm bone (humerus); shoulder blade (scapula), and collarbone (clavicle) which together form a ball and socket joint. The ball is the upper part of your arm bone (head of the humerus) and the socket (glenoid) is part of your shoulder blade. Surrounding the shoulder (glenohumeral joint) is a capsule which you can imagine to be like a sleeve enveloping the whole joint.

FROZEN SHOULDER HAS THREE STAGES OF PROGRESSION:

Stage 1 (Freezing) - Pain begins in the shoulder region and progressively worsens over a period of a few weeks to several months. The pain may radiate down the arm. The pain is typically worse at night and when lying on the affected side. Shoulder movements may become quite stiff.

Stage 2 (Frozen) - Pain gradually eases and becomes more intermittent. Stiffness and limited movements remain. This stage may last 3 to 12 months.

Stage 3 (Thawing or Recovery Stage) - Stiffness slowly reduces, pain reduces and function returns. This stage may take 3 to 24 months. In a minority of people stiffness and intermittent pain may be experienced for several years.
EXERCISES:
These are some examples of exercises to stretch your shoulder. Do exercises regularly 1–2 times a day. You may find them easier to do after a hot shower or bath. It is normal for you to feel aching or stretching sensations when doing these exercises. However, if the pain becomes severe and lasting (e.g. more than 30 minutes) it is recommended to stop these exercises for some time. Reduce the exercises by doing them less often or less forcefully. If the pain is still severe discontinue the exercises and see the physiotherapist or a GP.

EARLY EXERCISES: PENDULUM EXERCISE

VERSION 1
- Stand and bend at the waist, holding a table with the unaffected arm, leaving the affected arm hanging.
- Initiate the movement with the body and slowly rotate your arm in a circular motion, progressively getting bigger, as comfort allows.
- Repeat in the other direction.

VERSION 2
- Stand with your affected arm resting on a gym ball.
- Letting the weight of your arm rest on the ball, use your body to move the shoulder in circles, clockwise and counter clockwise.
ARM SHOULDER EXTERNAL ROTATION
VERSION 1
- Lie on your back.
- Position your affected arm next to you, in a slight angle from your body (abducted 30 degrees).
- Bend your elbow 90 degrees and externally rotate the arm to bring the back of the wrist down toward the floor, helping yourself with the other arm.

VERSION 2
- Stand next to a table and sit or kneel to be the appropriate height. The elbow should rest on the table with the upper arm at about 45 degrees from the body.
- Holding a stick or cane, use the good hand to push the affected hand out so the arm is rotated externally.
- Hold the position when you feel a comfortable stretch in your shoulder.

ARM OVERHEAD (SUPPORTED STRETCH WITH OTHER ARM)
- Lay down on your back
- Grasp your affected arm at the wrist, keeping your affected hand in a neutral position (thumb up)
- Begin with your elbow slightly bent, and then gradually progress into shoulder flexion with greater elbow extension with eventually going over the head.
- Hold the end range for 5 seconds.
**AAROM SHOULDER ABDUCTION**

**VERSION 1**

- Lie on your back
- Position your affected arm next to you
- Bend your elbow 90 degrees and move your arm away from your body by sliding it on table (abduction) as far as possible or until the elbow is in line with your shoulder.
- Assist the movement with the other arm.

**VERSION 2**

- Stand next to a gym ball which is on a table or plinth.
- Place the affected hand on the gym ball.
- Push the ball out to the side and do a slight side bend with your body.
- Hold as recommended and then return to your starting position.
PROGRESSION EXERCISES: BACKWARD OVERHEAD STRETCH

- Sit on your chair with your back on a backrest.
- Place your hands on the top and behind your head with your fingers interlaced and elbows opened.
- Raise the hands overhead, slightly backward, not in front.
- Both hands should pull equally, regardless of the affected side.
- Think about the hands pulling your arms up, not the arms pushing the hands up.

ANTERIOR WALL SLIDE

- Stand facing a wall and place the side of your hands in front of you on the wall.
- Slowly slide your hands up the wall.
- Keep your shoulder blades back and down.
- Lower to the starting position and repeat.
STRETCHES HAND BEHIND BACK (INTERNAL ROTATION PROM)

- Start in standing with a cane held behind your back with the palms facing away.
- Use your uninvolved arm to move your involved arm up and across your back.
- Hold the position for the recommended time and repeat.

STRETCHING SHOULDER CAPSULE

VERSION 1

- Lie on your stomach and rest up onto the elbows with your chin tucked in.
- Let the weight of your upper body go down between your shoulders.
- Maintain the position.

VERSION 2

- Stand up next to a wall and place your hand on a towel on the wall.
- Using only your arm, slide up the wall with your hand directly next to you and inline with your shoulder, then come back down.
- Repeat.
PAIN MANAGEMENT:
During the painful phase the emphasis is on pain-relief. Therefore pain-killing tablets and anti-inflammatory tablets may be prescribed.

**Joint Injection:** Injection into the shoulder may also be offered by your physiotherapist (ESP) or a GP for pain relief if the pain continues. Injections are not for everyone and may not be suitable for those with certain medical conditions, which can be discussed further with a specialist physiotherapist. You can try using a TENS machine (transcutaneous nerve stimulation) which some people find helpful or try alternative therapies such as acupuncture.

**Heat/Cold:** Using heat, such as a hot water bottle, or cold, such as an ice pack, is another alternative for pain management of your shoulder.

**Staying active:** Activity modification does not mean you should stop moving or using your shoulder altogether. Although it sounds straightforward, avoiding activities over your head or behind your back can help to reduce the irritation of your shoulder at the initial stage.

PROGNOSIS
Frozen shoulder is a condition that resolves over an 18 to 24 month period in most cases. 60% to 80% of frozen shoulder patients will respond favourably to non-surgical treatment. Many patients continue to experience some symptoms of pain or stiffness despite conservative therapy. However, functional disability is rare.

FURTHER MANAGEMENT OPTIONS - SURGERY
Shoulder surgery may be considered where there is insufficient recovery after an appropriate physiotherapy program. During the “late frozen or thawing” phases your shoulder surgeon may consider an arthroscopic release in combination with a manipulation under anaesthetic, plus some intensive post-operative physiotherapy to maintain your newly gained range.
of motion. This combination of treatment can improve your stiffness by up to 80% in most cases. Post-capsular release surgery can see most patients return to work within 6 to 12 weeks.

**RESEARCH INVOLVED**

It is important to note that evidence to support the effectiveness of conservative treatment, surgical treatment or the potential benefit of one over the other remains limited. Until such evidence becomes available, clinical and shared decision-making on accessing available interventions based on the level of symptoms and functional restriction is recommended.

Oral corticosteroids, opioid analgesics and paracetamol: - Unknown effectiveness

Topical drug treatment NSAIDs (topical): - Unknown effectiveness

Local injections: Likely to be beneficial Intra-articular corticosteroid.

Hyaluronic acid injections: - Unknown effectiveness.

Nondrug treatment: Likely to be beneficial - Physiotherapy: Manual treatment stretches and exercises.

Acupuncture, Electrical stimulation: - Unknown effectiveness.

Surgery: - Likely to be beneficial

**TOP TIPS:**

Sitting and standing in a good posture with your shoulders back will help your movement as well as prevent the tendons in your shoulder catching. Also try not to slouch and lean through your shoulders and elbows. This squashes all the structures in your shoulder against the ridge above the joint, causing pain and irritation.

Your shoulder movements can be hugely affected by your posture. If you slouch, your ability to lift your arm above your head reduces by approximately 30 per cent.
REFERENCES / RECOMMENDED READING

BESS/BOA Patient Care Pathways Frozen Shoulder

www.nhs.uk/Conditions/Frozen-shoulder/Pages/Introduction.aspx

Shah, K et al. (2014) Upper extremity impairments, pain and disability in patients with diabetes mellitus

Shoulder pain - Arthritis Research UK
www.arthritisresearchuk.org/~media/Files/.../Shoulder-pain-pamphlet.ashx

ShoulderDoc by Prof. Lennard Funk - Shoulder Symptoms, Treatment
www.shoulderdoc.co.uk