

InfoSheet – Frozen Shoulder

David M. Klein, MD – Kennedy-White Orthopaedic Center

WHAT IS MEANT BY A FROZEN SHOULDER ?

"Frozen shoulder" is a term used to describe a painful shoulder condition called adhesive capsulitis. With this problem, shoulder range of motion is limited because the ligaments and tissue around the shoulder joint are stiff.

Frozen shoulder is present any time a person no longer has the complete range of motion of their shoulder. This can be for various reasons. Most frozen shoulders are considered "**secondary**" to another underlying problem. Often the person has had a fracture, arthritis, or a rotator cuff injury and, as time passes, they have lost the ability to move their shoulder through a complete range of motion.

The other type of frozen shoulder is known as "**primary**" adhesive capsulitis or **idiopathic** adhesive capsulitis. This is the term used for a frozen shoulder that occurs on its own, without another underlying shoulder problem. A typical case would be that of an otherwise healthy 52 year old woman with no past shoulder problems and no shoulder pain, who all of a sudden develops a very painful and restrictive process, causing both pain with motion as well as pain with rest. Individuals of all ages are affected by this condition. It is five times more common in people with diabetes mellitus than in the general population. Primary adhesive capsulitis also seems to be more common in those with thyroid disease.

SYMPTOMS

In people with a frozen shoulder, there comes a point in each direction of

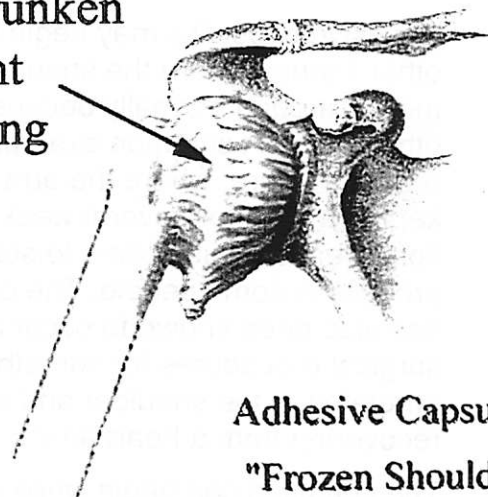
movement where the motion simply stops as if there is something blocking the movement. The shoulder usually hurts when movement reaches the limit of that range of motion. Additionally, pain can occur at rest, and the shoulder can be quite painful at night.

WHO GETS FROZEN SHOULDERS ?

As noted above, anybody that has had any type of injury to the shoulder may develop a frozen shoulder. In the case of primary adhesive capsulitis, it is more common with people with diabetes or with thyroid disease, but can be present in both men and women in their middle years of life. Often there is no clear cause noted.

ANATOMY

Shrunken
joint
lining



Adhesive Capsulitis
"Frozen Shoulder"

The shoulder is a ball-and-socket joint. The round ball-shaped part of your upper arm (humerus) sits in a shallow area on your shoulder blade (scapula). Connective tissue surrounds the joint forming the shoulder capsule. When you have a frozen shoulder, the connective tissue is taut and contracted. The result

is a very sore shoulder that is difficult to move.

CAUSES

The cause of this condition is largely a mystery. One *theory* is that the condition may be due to an **autoimmune reaction**. During an autoimmune reaction the body's defense system that normally protects it from infection, mistakenly begins to attack parts of the body itself. The body thinks that the tissue it is attacking is foreign material. This causes an intense inflammatory reaction to the tissue that is under attack. The shoulder actually "freezes up" due to the severe inflammation of the joint capsule. The loose tissue of the joint capsule that usually allows a great deal of motion at the shoulder sticks together, limiting the motion. Why this should occur all of a sudden is a mystery.

Adhesive capsulitis may begin following other injuries where the shoulder is not moved around normally because of the other injury. A common example is after a wrist fracture, where the arm may be kept in a sling for several weeks. For some reason, this seems to start the process in some people. The condition has also been known to occur after surgical procedures for something unrelated to the shoulder and even after recovering from a heart attack.

The condition can begin while other shoulder problems are present. Sometimes, problems such as bursitis, impingement syndrome, or a partial rotator cuff tear can lead to a frozen shoulder as well (so-called "secondary" adhesive capsulitis). The pain from the first condition may cause you to decrease the use of the shoulder, and the underlying condition itself may lead to chronic inflammation. These two

things combine to make a dangerous situation to develop adhesive capsulitis. Usually, the adhesive capsulitis must be treated first to regain motion in the shoulder before the underlying problem can be addressed.

HOW IS A FROZEN SHOULDER TREATED ?

Treatment of the frozen shoulder can be frustrating and slow. Most cases will eventually improve, but it may be a process that takes months. Initial treatment is directed at decreasing inflammation and increasing the range of motion of the shoulder with a stretching program.

Treatment consists of *two simultaneous approaches*. The first thing is to control the **pain**. The pain in the shoulder may be helped with anti-inflammatory medications by mouth as well as an injected Cortisone or synthetic variant of Cortisone into the shoulder. Additionally some people require other types of pain medication to help control the pain when it gets severe. Other ways to control the pain include the application of either heat or cold whichever one makes the person feel better. In severe settings, a sling may be worn during the day to help rest the arm and the shoulder.

The other tier to the treatment is to improve the **motion**. This done via physical therapy as well as a program of home exercises that can be taught by the therapist. The therapy and exercises consist of slow and gradual stretching of the shoulder aimed at release of the scar tissue and improving the range of motion of the shoulder which is often slow and make take many months.

For people that are lacking progress with physical therapy, another alternative to treatment of frozen shoulder is surgery. Surgical treatment may consist of an arthroscopic release of the shoulder capsule as well as a manipulation. During an arthroscopic release, an instrument is placed within the shoulder and used to cut scar tissue to allow more motion. With a manipulation, the shoulder is made to move through its full range of motion under anesthesia, breaking up scar tissue in the process.

Therapy following surgical treatment for a frozen shoulder is extremely important and may even start the very next day. It is expected that the therapy will be painful especially in the beginning, but preserving the motion that has been achieved during surgery is important, otherwise the stiffness will return as scar tissue reforms.