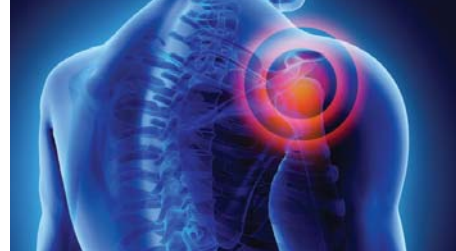


# Shoulder Instability



The shoulder is the most mobile joint in the body, with the greatest range of motion of any joint. The mobility of the shoulder is what allows you lift and rotate your arm and reach up over your head. However, because the joint is so mobile, it is also at risk for instability.

## Anatomy

The shoulder is made up of three bones: the upper arm bone (humerus), the shoulder blade (scapula), and the collarbone (clavicle). The head of the humerus, or ball, fits into a shallow socket, or glenoid, on the shoulder blade. Strong connective tissue, called the shoulder capsule, contains the ligaments of the shoulder joint that helps keep the humeral head centered on the glenoid. This tissue covers the shoulder joint and attaches the upper end of the humerus to the scapula. Covering the shoulder capsule is the rotator cuff, which are the tendons and muscles that also help to keep the shoulder stable. Shoulder stability depends on all of these structures working together to keep the larger humeral head balanced on the small glenoid, similar to a golf ball on a golf tee. Damage to any of these structures can result in shoulder instability.

## Causes of Shoulder Instability

Shoulder instability may occur from an injury or trauma to the shoulder (dislocation or subluxation), from repetitive strain, from generalized laxity or looseness of the ligaments that support the shoulder or from an inability of the muscles to provide adequate stability. It may also be caused by a combination of these causes.

### Shoulder Dislocation and Subluxation

A dislocation of the shoulder occurs when the head of the humerus is forced out of the socket of the shoulder. This most commonly occurs from an injury. The head of humerus most frequently comes out the front (anterior) but may also come out the back (posterior), downward (inferior) or some combination. A complete dislocation occurs when the ball comes entirely out of the socket, while a subluxation occurs when the shoulder only partially comes out of the socket. Dislocations and subluxations may go back into joint (reduce) on their own or may require a physician or other health care professional to assist in putting the shoulder back into the correct position (reduction). Once a shoulder is dislocated, it becomes vulnerable to further dislocations. When a shoulder slips easily out of position, this is referred to as shoulder instability. A dislocation or subluxation is the most common cause of shoulder instability.

### Dislocation Symptoms

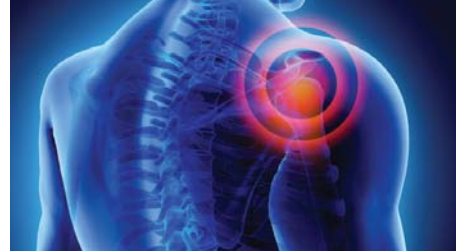
Symptoms of a shoulder dislocation may include:

- Pain
- Swelling
- Deformity
- Weakness
- Bruising
- Numbness

A dislocation may cause tearing of the ligaments or tendons in the shoulder, may occur together with a fracture of the ball or the socket, and may injure the nerves around the shoulder.



# Shoulder Instability



## **Repetitive Strain**

A much less common cause of shoulder instability is repetitive strain. This may result from overhead work or in overhead athletes such as throwers, tennis and volleyball players, or swimmers. The shoulder may become unbalanced from these activities or the ligaments may become loose over time. This type of shoulder instability may also occur in patients with looser ligaments. A complete dislocation is less common in these patients. This type of shoulder instability is more commonly associated with pain with activity.

## **Atraumatic Instability**

Also known as multidirectional instability, atraumatic instability occurs in patients who have looser ligaments and an inability of the muscles to provide adequate stability, but have not experienced a complete dislocation or repetitive strain. These patients are more commonly young and female, but this type of instability can occur in any patient. The instability can occur in more than one direction, which is why it is often called multidirectional instability. It can be associated with pain and is a much less common cause of shoulder instability.

## Shoulder Instability Symptoms

The common symptoms of shoulder instability include:

**Recurrent Dislocations or Subluxations** – patients often have repeated episodes of the shoulder completely or partially coming out of joint. The patient may be able to put the shoulder back in themselves or may require a health professional to help them put the shoulder back into place.

**Pain** – Patients often experience pain when the shoulder is dislocated or subluxed. The pain often improves once the shoulder is put back into place. Some patients may continue to experience pain after the shoulder is reduced which may be due to damage to bones, ligaments, or tendons.

**Giving Out or Looseness** – Patients may experience the feeling of the shoulder “giving out” with certain activities. They may also experience the sensation that the shoulder is moving around or feeling loose. Some patients describe the shoulder as just “hanging there” as a way of describing the instability.

## Physician or Health Professional Assessment

Your physician or health professional will ask you questions about your symptoms and previous injuries or trauma to the shoulder. You will also be asked questions about your medical and social history. Your shoulder will be examined looking for signs of instability and you may be examined looking for findings of looseness of your ligaments such as touching your thumb to your forearm or hyperextension of your elbows or knees.

## Imaging

The shoulder can be imaged in a number of different ways.

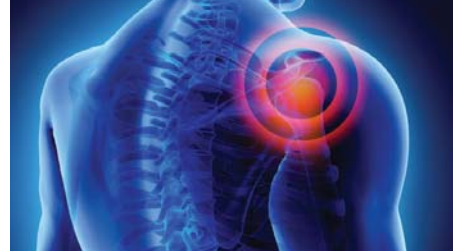
**X-rays** – X-rays of the shoulder provide a picture of the bones and joints that make up the shoulder girdle, but do not show any of the soft tissues around the shoulder. Common findings on x-rays of the shoulder in patients with shoulder instability include a Hill-Sachs lesion which is an impression fracture of the back of the humeral head, and a bony Bankart which is a fracture of the front lip of the socket.

**Computed Tomography (CT)** – Your physician may order a CT scan of the shoulder which is a 3D x-ray and better shows the size and location of the Hill-Sachs lesion and the bony Bankart and may help to plan the operation if surgery is required.

**Magnetic Resonance Imaging (MRI)** – an MRI is a special type of imaging study that shows the soft tissues of the shoulder better than an x-ray or CT scan. It may be performed with dye or contrast (arthrogram) that is injected into the shoulder prior to the scan being performed. It can assist your physician in confirming the diagnosis of shoulder instability and may help to plan the operation if surgery is required.



# Shoulder Instability



## Treatment

### Non-Surgical Treatment

Shoulder instability is often treated, particularly initially, with non-surgical options. These include:

**Physiotherapy** – Strengthening the muscles around the shoulder and working on shoulder control can improve the stability of the shoulder. Your physiotherapist will design an exercise program that can be done regularly at home to improve the strength and stability of the shoulder.

**Activity Modification** – Avoiding the shoulder positions and activities that cause the symptoms of instability can lessen the impact of shoulder instability on daily activities.

**Non-Steroidal Anti-Inflammatory Medications** – These medications can reduce the pain and swelling that may occur with shoulder instability.

Non-surgical treatment can take a number of months to be effective. Performing the exercises regularly is an important part of ensuring that the non-surgical treatment plan is successful.

### Surgical Treatment

If non-surgical treatment is not successful or if your physician feels that surgical treatment is the best course of treatment, an operation may be performed to repair the damaged structures that are contributing to the shoulder instability.

**Arthroscopy** – In many cases the damaged structures in the shoulder can be repaired using special instruments and a camera. The surgery is performed through a number of small incisions around the shoulder.

**Open Surgery** – Some patients require an open operation to repair the damaged structures. A larger incision is made and the damaged structures are repaired using direct visualization.



## Rehabilitation Following Surgery

Following surgery for shoulder instability the shoulder is commonly immobilized in a sling for up to six weeks. Your surgeon will provide you with instructions on rehabilitation which may start immediately after surgery or may be delayed. In most cases the rehabilitation is supervised by a physiotherapist. Exercises will be taught as part of the rehabilitation that commonly needs to be performed on a daily basis. In many cases recovery can take up to twelve months and it may take up to six months to return to sport or heavier activity. It is important to follow the instructions provided by your surgeon and physiotherapist to ensure that the shoulder heals following surgery and that the stability, range of motion, and strength of the shoulder is recovered.



**For more information:** The Canadian Orthopaedic Foundation provides a free booklet, *Shoulder Surgery – Planning For Your Best Results*, which outlines general preparations, complications monitoring, a diary of progress and more. Visit [www.movepainfree.org](http://www.movepainfree.org) to download your free copy.

