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The Separated Shoulder and Collar Bone Fractures

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Separated shoulders (acromioclavicular sprains) and collar bone (clavicle) fractures occur frequently in high energy contact sports such as football and hockey. The mechanism of injury is usually a direct blow to the lateral shoulder. In hockey, this may occur when a player strikes the boards, or falls to the ice with their shoulder pulled next to their side.

In football this can occur from a tackle or when an athlete hits the ground landing on their side.

Separated Shoulder (Acromioclavicular Sprain)

The medical term for a separated shoulder is an acromioclavicular (AC) joint sprain. The AC joint is the point on the outer shoulder where the clavicle (collar bone) meets the acromial process of the scapula (shoulder blade). There are strong ligaments that normally hold these two bones together. When a force is applied to the lateral shoulder, these ligaments can rupture, allowing the clavicle to float upward. (1A)

Mild AC joint injuries cause very little displacement of the clavicle, and are manifested as some local swelling in the region, and pain with palpation of the AC joint. More severe injuries are easily noticed by a huge bulge on the end of the clavicle. In very high energy injuries, the clavicle can even be displaced backwards, tearing through the trapezius or other muscles.

Treatment of most mild AC joint separations are with a sling for comfort for a week or two, anti-inflammatories, ice, and gentle range of motion. The ligaments usually heal in several weeks. An athlete's pain level dictates how quickly they may return to sports.

They should have near full range of motion and strength prior to return to full contact. Every injury is different and there is no agreed upon timing for return. Infrequently, an AC joint injection of long-acting anesthetic can be used to improve pain in acute injuries. Although most people can return to sport at their previous level, a recent study showed that 52% of patients with mild AC injuries had some significant discomfort or disability long-term.

Treatment of more severe injuries can include surgical options to place the clavicle in a more anatomic position, and to reconstruct the torn structures. Full recovery for surgical intervention can take 6 months. Some patients initially treated without surgery have poor results, and these patients may decide to have surgery in the future to place the clavicle back into a more functional and anatomic position. (1B)

Clavicle Fractures

Clavicle fractures account for 5% of all fractures. An athlete presents with pain over the clavicle, swelling and bruising, and inability to use the affected extremity normally. It is important to check closely for associated injuries. (2A)

Most clavicle fractures will heal without surgical intervention. Treatment is with either a simple sling or a figure-of-eight sling for several weeks. After pain subsides, and radiographs show some evidence of early healing, the sling can be discontinued and range of motion can be started. This is usually between 3 and 6 weeks for healthy patients. Full contact may be started in 3-6 months if healing is uneventful.

There are several situations in which clavicle fractures should be fixed with surgery. Injuries in which the bone comes through the skin (open fractures), or nearly comes through the skin, should be fixed. (2B)

Injuries in which the bone fragments are widely displaced, have little bony contact, or are overlapped, may do better with surgery. In these bad injuries strength, healing rates, rate of return to sports, and patient satisfaction may be better with surgical fixation. Treatment options should be thoroughly discussed with the treating orthopaedic surgeon.

Summary

Injuries to the clavicle and AC joint commonly occur in contact sports, usually when a direct blow to the lateral shoulder occurs when the athlete's arm is at his or her side.

Most of these injuries can be managed with sling immobilization, ice and gradual return to sports under the direction of a physician. There are some instances of severe injury which are best managed with surgical fixation.

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