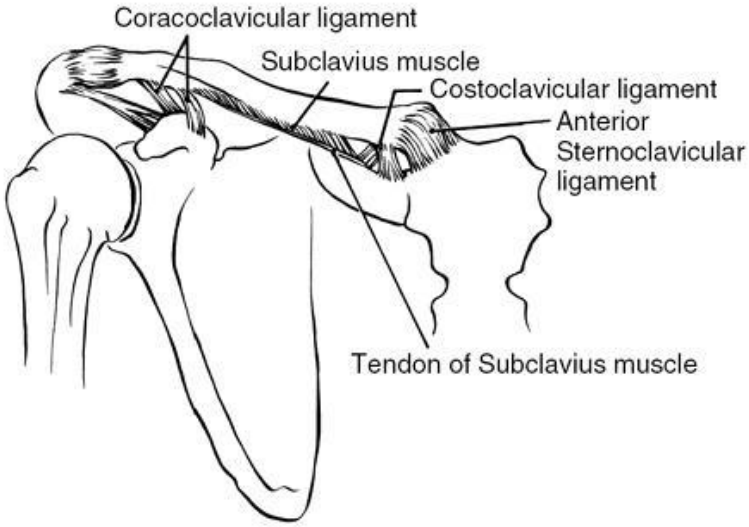
Sternoclavicular Separation

Sternoclavicular separation is an uncommon sprain of the ligaments of the sternoclavicular joint which is the junction between the sternum (breastbone) and the clavicle (collarbone). When a ligament is overstretched, it becomes taut and gives way at its weakest point, either where it attaches to the bone or within its midsubstance. The sprain may range from where the collarbone keeps its normal position with respect to the sternum (nondisplaced) to the collarbone losing contact with the sternum. The collarbone may move outward (anteriorly) to become more prominent, causing a bump on the chest, or backward, behind the sternum (posteriorly).



Frequent Signs and Symptoms

- Severe pain, tenderness, swelling, and bruising and occasionally a bony bump at the sternoclavicular joint
- Pain at the sternoclavicular joint when attempting to bring the affected arm across and in front of the body
- Hoarseness of voice, difficulty swallowing, difficulty breathing, neck fullness, choking sensation (all are rare, but if any occur, these are *emergency situations*)

Etiology (Causes)

- Stress on a ligament by a force temporarily moving the sternoclavicular joint out of its normal position, such as with direct trauma to the collarbone near its joint with the sternum or a violent force from the side, compressing the shoulder toward the sternum
- Fall on an outstretched hand (less common)

Risk Factors

- Contact sports such as football, soccer, boxing, and weightlifting
- Previous collarbone injury or sternal injury
- Poor physical conditioning (strength and flexibility)
- Inadequate protective equipment or fit

Prevention

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
  - Shoulder and arm flexibility
  - Muscle strength and endurance
- Wear proper protective equipment (chest and shoulder pads) and ensure correct fit.
- Use proper technique (including falling and landing) and have a coach correct improper technique.
- Taping, protective strapping, or an adhesive bandage may be recommended before practice or competition.

Outcomes

Usually symptoms are curable with appropriate treatment. It is important to allow adequate healing time before resuming activity. With proper rehabilitation, permanent disability can be avoided without surgical intervention. Healing time varies with the type of sport and the position played, the arm injured (dominant versus non-dominant), and the severity of the sprain.

Potential Complications

- Weakness and fatigue of the arm and shoulder (uncommon)
- Continued pain and inflammation of the sternoclavicular (SC) joint
- Prolonged healing time and susceptibility to recurrent injury if usual activities are resumed too soon
- Prolonged pain or disability occasionally
- Unstable or arthritic shoulder following repeated injury
- Death from posterior displacement of collarbone into airway or arteries, veins, or nerves of the neck

Treatment Considerations

Initial treatment consists of medication and ice to relieve pain, stretching to prevent shoulder stiffness, and modification of activities to allow the ligaments to heal. Nonsurgical treatment is usually successful with full return to activity and no loss of strength for most sprains of the SC joint. A sling or figure-of-eight brace may be prescribed for comfort. Return to sports activity is based on type of sport and the position played, the arm injured (dominant versus non-dominant), and the severity of the sprain.

Surgery is usually reserved for those with posterior displaced sprains (when the collarbone goes backward into the neck) and causes compression of the vital structures in the neck (airway, voice box, or blood vessels to the arms or head). This is usually an emergency. Rarely, surgery is needed for those with chronic pain who have not recovered after four to six months of conservative treatment.

Possible Medications

- Non-steroidal anti-inflammatory medications, such as aspirin and ibuprofen (**DO NOT** take within seven days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Topical ointments may be of benefit.
- Pain relievers may be prescribed as necessary by your physician. Use only as directed.
- Injections of corticosteroids may be given to reduce inflammation, although not usually for acute injuries.

Modalities (Heat and Cold)

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 15 to 20 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning /freezing your skin
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

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