



# Stinger or Burner Injury (Brachial Plexus Injury)

The spinal cord extends from the base of the brain down the neck; large nerves branch off the spinal cord along its course. The terms “stinger” and “burner” are two terms used to describe the same condition. They refer to a stretch or a pinch to one or more of the nerves branching off the spinal cord. This mild injury to the nerves causes tingling and numbness in the arms and fingers; some athletes notice weakness in their arm as well.

## Causes

A stinger can occur by one of two mechanisms. Either the head is pulled away from the shoulder which stretches the nerves or the head is forced towards the shoulder which pinches the nerves. A common scenario is that an athlete's head is forced to the opposite side while going in to make a tackle or block during football. These injuries are fairly common especially in football players, wrestlers and divers. Up to 70% of college football players have experienced a stinger by the end of their college careers.

## Signs & Symptoms

Athletes with a stinger often describe a sensation of ‘electricity,’ warmth, discomfort and/or numbness. They may often report arm weakness. Symptoms tend to be brief, lasting seconds to minutes. With more significant injuries symptoms can last hours or even days and weeks.

## Diagnosis

Your doctor will usually be able to make the diagnosis based on a description of the way the injury occurred and your symptoms. A physical exam helps evaluate the extent of injury. Stingers do not cause significant neck pain or involvement of both arms so if you are experiencing these symptoms, your doctor will likely recommend additional testing to determine the cause. Doctors often recommend tests such as x-rays, nerve studies and/or MRI scans for patients who have multiple stingers.

## Treatment

Most patients who experience a stinger will feel fine by the time after a few minutes. In patients with symptoms lasting more than a few hours, rest and anti-inflammatory medications, such as ibuprofen or naproxen, are the main interventions until the symptoms resolve on their own. Patients with prolonged symptoms need to be re-evaluated by a physician. Patients with frequent stingers may need further evaluation to rule out the possibility of underlying spinal column narrowing which could make returning to contact sports unsafe.

## Returning to Sports & Activities

No athlete should return to activity until the initial symptoms have resolved and arm strength has returned. If symptoms are very brief and arm strength is normal, athletes can often return to competition very quickly. However, if symptoms persist, as they do in 5-10% of cases, the athlete will need further evaluation prior to returning to their sports. Football players with recurrent stingers may benefit from the use of high shoulder pads or a ‘cowboy collar’ which prevents the nerves from being stretched.



### **Prevention**

Proper equipment, use of good technique and neck strengthening exercises can make an athlete less likely to get stingers. For football players, spearing (attempting to make a tackle while leading with the crown of the head) and poor form tackling should be avoided. Shoulder pads must be fitted properly. As noted above, additional equipment such as a soft neck roll or 'cowboy collar' may help prevent stingers. Finally, players with recurrent stingers may benefit from physical therapy focusing on neck, shoulder and back stretching and strengthening.