

# BRACHIAL PLEXUS INJURY (STINGER/BURNER)

## What is a stinger?

A stinger or burner is an injury to the nerves that travel from your neck and down your arm.

There are seven bones in your neck called vertebrae. The vertebrae are held together by ligaments. Your spinal cord goes from the bottom of your brain through a canal in your vertebrae down to your lower back. Nerves come off the spinal cord that make your limbs and body move and have sensation. These are called peripheral nerves. A group of peripheral nerves called the brachial plexus leaves the spinal cord and travels between the vertebrae and into the shoulder, giving your arm its ability to function. These are the nerves that are injured when you have a stinger.

## How does it occur?

A stinger is almost always seen in contact sports when the head and neck are forcibly moved or hit to one side, stretching the brachial plexus on the opposite side. Sometimes when the head and neck are forcibly pushed to one side there is compression of the nerves in the brachial plexus on the same side. The nerves become irritated as a result of being stretched or compressed.

## What are the symptoms?

A stinger usually causes intense pain from the neck down to the arm. You may feel like your arm is on fire. You may have a “pins and needles” sensation. Your arm or hand may be weak. It is possible that you may not have any symptoms after a period of rest following your injury.

## How is it diagnosed?

Your healthcare provider will ask about your symptoms and examine your head, neck, shoulder, arm, and hand. You may have a sensation of burning or tingling if he or she pushes down on your head or pushes your head to the side.

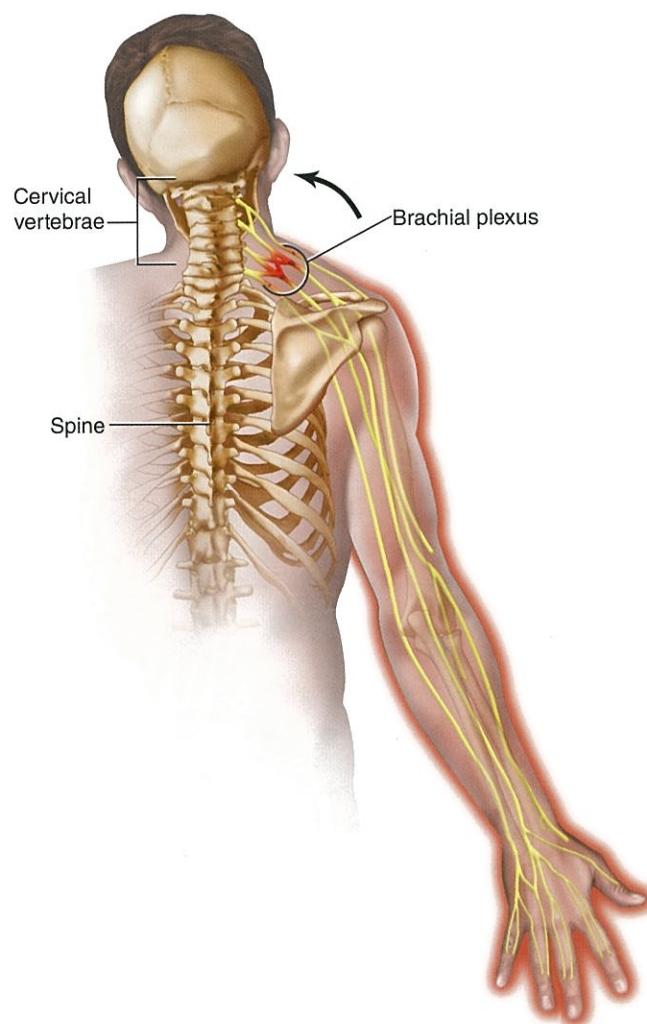
Your provider may do neck X-rays to be sure there is no damage to the vertebrae. If the injury is serious, he or she may do a CT (computerized tomography) scan or MRI (magnetic resonance imaging). Your provider may send you to a specialist for tests such as an electromyogram (EMG) or nerve conduction studies (NCS).

## How is it treated?

Treatment may include:

- resting your neck and arms until the pain and symptoms are gone
- putting an ice pack on your neck and shoulders for 20 to 30 minutes every 3 to 4 hours for 2 to 3 days or until the pain goes away
- taking an anti-inflammatory medication
- doing exercises to strengthen your neck
- chronic stiff neck muscles may be treated with heat, massage, or muscle stimulation

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## When can I return to my sport or activity?

The goal of rehabilitation is to return you to your sport or activity as soon as is safely possible. If you return too soon you may worsen your injury, which could lead to permanent damage. Everyone recovers from injury at a different rate. Return to your sport or activity will be determined by how soon your nerves recover, not by how many days or weeks it has been since your injury occurred. In general, the longer you have symptoms before you start treatment, the longer it will take to get better.

Before you return to competition in contact sports, it is important that your neck and shoulders be healed and strong. You must have full range of

motion of your neck. This means you must be able to turn your head fully to look over both shoulders, extend your head backward as far as possible, flex your neck forward until your chin touches your chest, and move your head in each direction so that your ear touches your shoulder. If any of these actions causes burning in your neck or shoulder, you are not yet able to return.

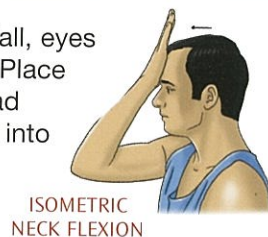
## How can I prevent a stinger?

A stinger is best prevented by keeping the muscles in your neck strong. It is important to use good technique in contact sports such as football and not to strike with your head when blocking or tackling.

# BRACHIAL PLEXUS INJURY (STINGER/BURNER) REHABILITATION EXERCISES

You can begin these exercises when moving your neck in all directions (up, down, right, left) does not cause numbness or tingling down your arm or into your hand.

**1. ISOMETRIC NECK FLEXION:** Sit tall, eyes straight ahead, and chin level. Place your palm against your forehead and gently push your forehead into your palm. Hold for 5 seconds and release. Do 3 sets of 5.



**2. ISOMETRIC NECK EXTENSION:** Sit tall, eyes straight ahead, and chin level. Clasp your hands together and place them behind your head. Press the back of your head into your palms. Hold 5 seconds and release. Do 3 sets of 5.

ISOMETRIC NECK EXTENSION

**3. ISOMETRIC NECK SIDE BEND:** Sit tall, eyes straight ahead, and chin level. Place the palm of your hand at the side of your temple and press your temple into the palm of your hand. Hold 5 seconds and release. Do 3 sets of 5 on each side.



ISOMETRIC NECK SIDE BEND

**4. HEAD LIFT: NECK CURL:** Lie on your back with your knees bent and your feet flat on the floor. Tuck your chin and lift your head toward your chest, keeping your shoulders on the floor. Hold for 5 seconds. Repeat 10 times.



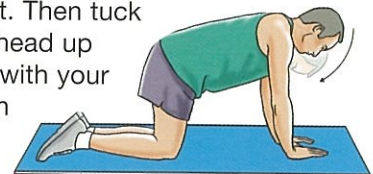
HEAD LIFT: NECK CURL

**5. HEAD LIFT: NECK SIDE BEND:** Lie on your right side with your right arm laying straight out. Rest your head on your arm, then lift your head slowly toward your left shoulder. Hold for 5 seconds. Repeat 10 times. Switch to your left side and repeat the exercise lifting your head toward your right shoulder.



HEAD LIFT: NECK SIDE BEND

**6. NECK EXTENSION ON HANDS AND KNEES:** Get on your hands and knees and look down at the floor. Keep your back straight and let your head slowly drop toward your chest. Then tuck your chin and lift your head up until your neck is level with your back. Hold this position for 5 seconds. Repeat 10 times.



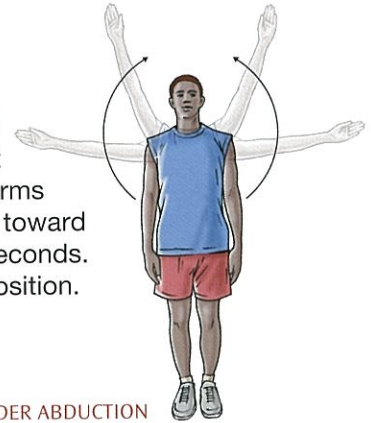
NECK EXTENSION ON HANDS AND KNEES



**7. SHOULDER SHRUG:** Stand with your head directly over your shoulders, with your spine straight. Shrug your shoulders up and then relax. Do 3 sets of 10.

SHOULDER SHRUG

**8. SHOULDER ABDUCTION:** Stand with your arms at your sides. Bring your arms up, out to the side, and toward the ceiling. Hold for 5 seconds. Return to the starting position. Repeat 10 times.



SHOULDER ABDUCTION