

# Neck Sprain

The seven bones of the spinal column in your neck (cervical vertebrae) are connected to each other by ligaments and muscles—strong bands of tissue that act like thick rubber bands. A sprain (stretch) or tear can occur in one or more of these soft tissues when a sudden movement, such as a motor vehicle collision or a hard fall, causes the neck to bend to an extreme position.

## Symptoms

A person with a neck sprain may experience a wide range of possible symptoms, including:

- Pain, especially in the back of the neck, that worsens with movement
- Pain that peaks a day or so after the injury, instead of immediately
- Muscle spasms and pain in the upper shoulder
- Headache in the back of the head
- Increased irritability, fatigue, difficulty sleeping, and difficulty concentrating
- Numbness in the arm or hand
- Neck stiffness or decreased range of motion (side to side, up and down, circular)
- Tingling or weakness in the arms

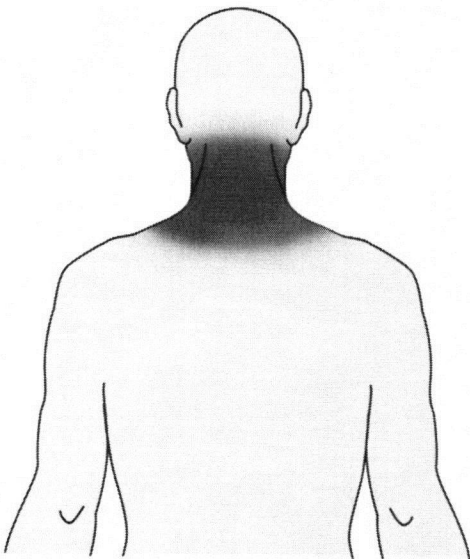


Illustration shows the typical area of pain from a neck sprain.

*Reproduced and adapted from AD Armstrong, MC Hubbard (eds.): Essentials of Musculoskeletal Care, ed. 5. Rosemont, IL, American Academy of Orthopaedic Surgeons, 2016, p. 965.*

## Warning Signs

Some symptoms may indicate a more serious neck injury. You should seek immediate medical attention if you have neck pain that is:

- Consistent and persistent
- Severe
- Accompanied by pain that radiates down the arms and legs
- Accompanied by a headache and numbness, tingling, or weakness in the arms and legs

## **Doctor Examination**

### ***Physical Examination***

To diagnose a neck sprain, your doctor will perform a comprehensive physical examination. During the examination, your doctor will ask you how the injury occurred, measure the range of motion of your neck, and check for any point tenderness.

### ***Imaging Studies***

**X-rays.** X-rays provide images of dense structures, such as bone. A neck sprain cannot be seen on x-ray since it involves soft tissues (muscles and ligaments), but your doctor may order one to help rule out other, more serious, sources of neck pain—such as a spinal fracture, dislocation, or arthritis.

**Other imaging studies.** In certain cases, a computerized tomography (CT) scan or a magnetic resonance imaging (MRI) scan may be ordered to provide your doctor with more information about your injury.

## **Treatment**

All sprains or strains, no matter where they are located in the body, are treated in a similar manner. Neck sprains, like other sprains, will usually heal gradually, given time and appropriate treatment. You may have to wear a soft collar around your neck to help support the head and relieve pressure on the ligaments so they have time to heal.

Pain relievers such as aspirin or ibuprofen can help reduce the pain and any swelling. Muscle relaxants can help ease spasms. You can apply an ice pack for 15 to 30 minutes at a time, several times a day for the first 2 or 3 days after the injury. This will help reduce inflammation and discomfort. Although heat, particularly moist heat, can help loosen cramped muscles, it should not be applied too quickly.

Other treatments may be helpful as your injury starts to improve. These treatments should not be started, however, without the supervision of your doctor. They include:

- Massaging the tender area

- Ultrasound therapy
- Cervical (neck) traction
- Aerobic and isometric exercise

Most symptoms of neck sprain will go away in 4 to 6 weeks. However, severe injuries may take longer to heal completely.

**Last Reviewed**

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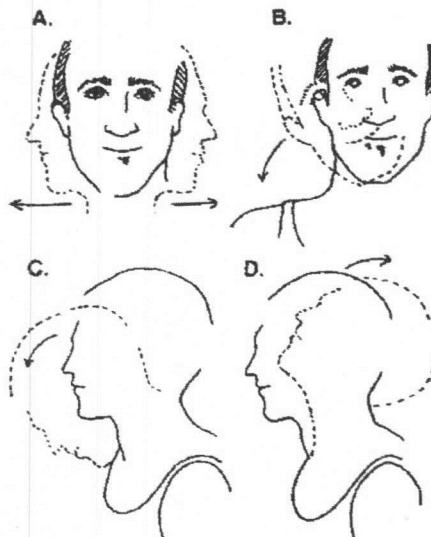
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Do these exercises only if you do not have pain or numbness running down your arm or into your hand. Exercises 1 through 4 are meant to help your neck remain flexible. Exercise 5 will help you maintain or regain your range of motion.

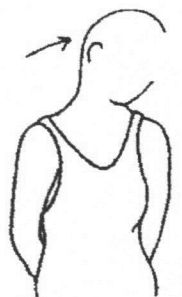
### 1. Neck range of motion exercises

- A. Neck rotation: Sit in a chair, keeping your neck, shoulders, and trunk straight. First, turn your head slowly to the right. Move it gently to the point of pain. Move it back to the forward position. Relax. Then move it to the left. Repeat 10 times.
- B. Neck side bend: Tilt your head so that your right ear moves toward your right shoulder. Move it to the point of pain. Then tilt your head so your left ear moves toward your left shoulder. Make sure you do not rotate your head while tilting or raise your shoulder toward your head. Repeat this exercise 10 times in each direction.
- C. Neck flexion: Bend your head forward, reaching your chin toward your chest. Hold for 5 seconds. Repeat 10 times.
- D. Neck extension: Bring your head back so that your chin is pointing toward the ceiling. Repeat 10 times.



Neck range of motion exercises

2. Upper trapezius stretch: The upper trapezius muscle connects your shoulder to your head. Sitting in an upright position, put your right arm behind your back and gently grasp the right side of your head with your left hand to help tilt your head toward the left. You will feel a gentle stretch on your right side. Hold for 20 seconds. Repeat 3 times on each side.

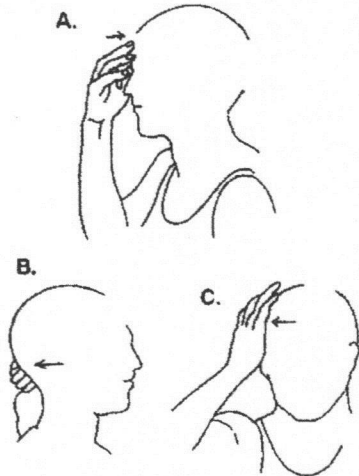


Scalene stretch

3. Scalene stretch: This stretches the neck muscles that attach to your ribs. Sitting in an upright position, clasp both hands behind your back, lower your left shoulder, and tilt your head toward the right. Hold this position for 20 seconds and then come back to the starting position. Lower your right shoulder and tilt your head toward the left until you feel a stretch. Hold for 20 seconds. Repeat 3 times on each side.



Upper trapezius stretch



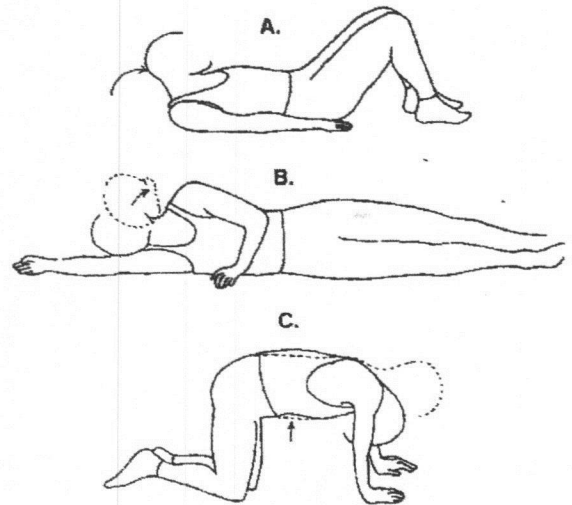
Neck isometric exercises

#### 4. Neck isometric exercises

- A. Neck flexion: Sit upright, look straight ahead, and keep your chin level. Apply light pressure with your fingertips to your forehead, resisting bending your head forward. Hold for 5 seconds. Repeat 5 times.
- B. Neck extension: Sitting upright, apply light pressure with your fingertips to the back of your head, resisting the bending backward of your head. Hold for 5 seconds. Repeat 5 times.
- C. Neck side bend: Sitting upright, place your right palm on the right side of your head and press your head into your palm. Hold this for 5 seconds and then relax. Repeat the same resistance using your left hand on the left side of your head. Repeat on each side 5 times.

#### 5. Head lifts

- A. 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.
- B. Neck side bend: Turn onto your right side. With your right forearm underneath your head, 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.
- C. Hands and knees neck extension: 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.



Head lifts