



## Neck Pain

### Overview

Neck pain is a common problem in adults and is the most common musculoskeletal problem in people with sedentary jobs. It is also quite common in college students. Neck pain prevalence has been increasing during the past several years, ranking behind low back pain as the most common musculoskeletal disorder. Related facts include:

- more than 50% of adults have had neck pain during the past year,
- the incidence of neck pain is increasing in younger ages,
- females, people who sit at a desk all day, and smokers tend to suffer from neck pain proportionately more,
- people with chronic neck pain use the health system twice as much as the rest of the population.

Studies have shown an increase in neck pain with increased computer usage. College students therefore are susceptible to having neck and upper back pain because of many hours spent studying, reading, working on computers, and playing video games. They do these activities while sitting in a static position with the head bent forward, often in poorly designed chairs in classrooms, dorm rooms, or apartments. Using laptops can contribute to neck pain since the keyboard and monitor are close together, resulting in a slouched posture.

Neck pain from poor posture can be explained as follows: in an upright position the head is supported by the spinal vertebrae. Once the head is flexed forward, for instance while using a laptop, the vertebrae do not support the weight of the head as much. Muscles, tendons, and ligaments work harder to hold up the head, which is roughly the weight of a bowling ball. Over time the muscles and other soft tissues tighten up due to the excessive workload required to hold the head in position. The anterior neck muscles become weak from being stretched, and neural structures are kept in less than optimal positions. This chronic overload and tightening of soft tissues may eventually result in decreased blood flow and oxygen to the soft tissues, ultimately causing pain. Besides this, neck joints may be kept in abnormal positions which may eventually cause joint pain and muscle weakness. The manifestation of the above frequently is tension headaches and painful “knotty” spots in the neck and upper trapezius muscles (muscles that run from the neck to the shoulder blade). One may feel that just holding up the head is difficult, i.e., the head “feels so heavy.” Because of this heavy feeling, the person may maintain a slouched posture, which continues the pain cycle.

Of course, not all pain is postural related. Other reasons for neck pain include:

- joint stiffness from a variety of reasons, such as “sleeping on it funny,”
- muscle strains from playing sports, lifting, and sudden neck movements, and
- trauma from falls or accidents.

You should seek health care immediately if you also have a fever, headache, and extreme neck stiffness to rule out something more serious. Also, contact your health care provider if neck pain is not improving after 1-2 weeks or if numbness, tingling, pain are felt down your arm. The provider will rule out any serious conditions and may prescribe medication, offer advice, or refer you to another health care provider. For example, a physical therapist may provide exercise instruction, manual therapy, and education for improving posture and ergonomics.

### Tips To Reduce Neck Pain

The following suggestions are useful for someone with chronic, non-traumatic neck and upper scapular muscle pain, experienced, for example, after hours spent sitting at a desk or using a computer.

#### Posture and positions

1. Improve your posture. Using a low back support in your chair will automatically help to maintain better upper body and neck posture. Avoid poor prolonged studying positions. Examples include: sitting cross legged on the floor or in bed with books or computer in front of you, and sitting on a soft couch with your laptop in your lap and your feet propped up in front of you. For further postural tips, refer to the McKinley handout [Posture and Study Habits Guide](#), found on the McKinley website.
2. Change your laptop’s position. Elevate your laptop by putting it on a box or plastic crate so that the top of the laptop is at eye level. Then use an external keyboard and mouse at a level roughly the same height as your elbows.
3. Consider using a document holder for prolonged reading or computer work.

4. Keep your elbows/forearms supported on chair armrests or the desk to help relax the neck and shoulder muscles.
5. Avoid placing the computer keyboard too far forward. Your elbows should be close to your body.
6. Take a break every 30-45 minutes, even if it's for a minute or two.
7. Do some shoulder shrugs, squeezes, and rolls while studying to prevent the shoulders from creeping up.
8. If lying down to study or watch TV, do not lie flat on your back with your head flexed at an extreme angle. Use a wedge pillow under your upper body.
9. Avoid cradling the cell phone between the ear and shoulder or holding the cell phone up to the ear for too long, since this may overwork shoulder and neck muscles. Try a wireless headset instead.
10. Avoid prolonged time spent texting with your head looking down.
11. Avoid sleeping on your stomach which can strain the neck. Try sleeping on your side or your back with a supportive pillow (see #20 below).

### Backpacks

12. Reduce the weight of items carried.
13. Avoid carrying bags or packs on one shoulder.
14. If you carry heavy books, stand those books upright in the backpack, next to your back.
15. Consider a rolling bag.

### Other

16. Use ice and/or heat. Ice can help decrease inflammation in sore muscles and joints, even beyond the acute phase. Heat will stimulate circulation and help relax stiff muscles.
17. Wear a scarf in cold weather. It may keep you from hunching your shoulders to keep your neck warm.
18. Ride a bicycle with higher handlebars or use handlebars with extensions to reduce the strain on the neck as you look ahead.
19. Wear bras with wider straps to help distribute weight more evenly.
20. Consider using a memory foam cervical pillow. To see if this will help, roll up a medium sized towel and insert it between the pillow and the bottom edge of your pillow case. This will help to maintain proper alignment of the head and neck with the thoracic spine and will feel supportive to the neck.
21. Consider a massage.
22. Consider relaxation techniques.

For a long time, studies have shown that specific muscle strength training can reduce neck and upper trapezius pain. Maintaining neck flexibility is also important. General flexibility and strengthening exercises are listed in the next section. If any of these aggravate the neck pain, or if you need further assistance, contact your physician for further treatment or recommendations.

## Stretching and Strengthening

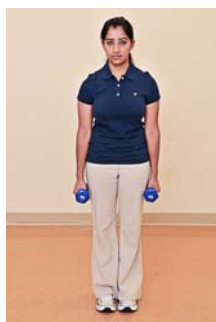
The following exercises target muscles used to maintain good posture and can help to decrease neck and scapular muscle pain. Progression of new exercises should be done slowly to avoid unnecessary soreness or increase in symptoms. If symptoms increase, stop the exercises and contact your health care provider for guidance.

### To Strengthen Neck, Upper Trapezius, and Shoulder Muscles:

- Beginning position-arms hanging straight down from shoulder with weight in hand.
- Use a weight that you can tolerate performing 3 sets of 10 reps.



**1. Bent Over Row:**  
(keep elbow close to body)



**Start position for 2 and 3**



**2. Lateral Raise**  
(raise only to shoulder height)



**3. Shoulder Shrug**  
(do not stick head forward)

**To Strengthen Anterior Neck Muscles:**

- While lying flat, nod and squeeze a rolled up washcloth under your chin.
- Keeping this position, slowly lift your head off the bed and hold 3-5 seconds, progressing to 5-10 reps.

**4. Chin Tuck and Lift**



Chin tuck and lift – start position



Chin tuck and lift – finish position

**To Strengthen Upper Back, Scapular, and Shoulder Muscles:**

- Beginning position- lie on stomach with arm straight hanging down, or to the floor.
- Progress to 3 sets of 10 reps as tolerated.



Start position for 5 and 6

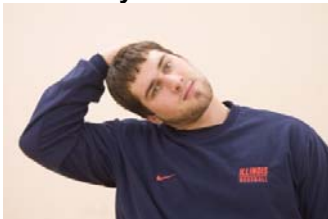


**5. Shoulder Extension**  
end position



**6. Shoulder Abduction**  
end position

**To Improve Flexibility:**



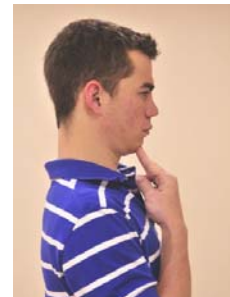
**7. Upper Trapezius Stretch:** Relax neck and pull to side. Hold initially for 10-15 seconds. Gradually increase to 30 seconds as tolerated.



**8. Levator Scapula Stretch:** Relax neck and pull diagonally at a 45 degree angle. Hold initially for 10-15 seconds. Gradually increase to 30 seconds as tolerated.



**9. Chest Stretch:** Relax shoulders and lean forward. Hold initially for 10-15 seconds. Gradually increase to 30 seconds as tolerated.



**10. Chin Tuck:** Move head straight backwards while looking straight ahead (make a double chin). Use your finger to guide you if necessary. Hold 3-5 seconds, 5-10 reps.

## References

Anderson, L. et al. "Muscle Activation during Selected Strength Exercises in Women with Chronic Neck Muscle Pain." *Physical Therapy* 88.6 (2008): 703-711.

Falla, D. et al. "Effect of Neck Exercise on Sitting Posture in Patients with Chronic Neck Pain." *Physical Therapy* 87.4 (2007): 408-417.

Green, B.N. "A Literature Review of Neck Pain Associated with Computer Use: Public health implications." *Journal of the Canadian Chiropractic Association* 52.3 (2008): 161-167.

Anderson, L. et al. "Effect of Physical Training on Function of Chronically Painful Muscles: A randomized controlled trial" *Journal of Applied Physiology* 105 (2008): 1796-1801.

If you are a registered University of Illinois student and you have questions or concerns, or need to make an appointment, please call: **Dial-A-Nurse at 333-2700**

If you are concerned about any difference in your treatment plan and the information in this handout, you are advised to contact your health care provider.

Visit the McKinley Health Center Web site at: <http://www.mckinley.illinois.edu>