

Office Ergonomics: Neck and Shoulder Hazards

Potential Hazard

Office injuries usually develop gradually and often are not given attention until there is significant discomfort. The single largest factor in office injuries is poor working postures. While improper posture may not result in an injury after a week, a month or even a year, prolonged exposure to improper posture will increase the risk of developing an injury. This bulletin provides tips for preventing neck and shoulder injuries in an office environment.

How to control the hazard

Your risk for injury is low in a **neutral posture** because your blood flow and muscle length are normal. You are in a neutral posture when:

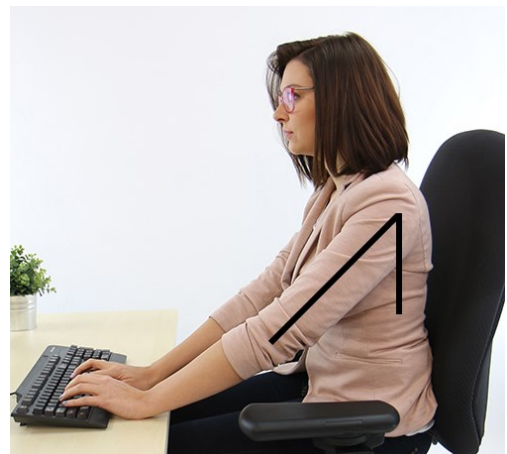
- your head is facing forward
- your chin is parallel with the floor
- your elbows and arms are at the side of your body
- your shoulders are back slightly.



Improper posture may increase the risk of injury. The following are some common hazards involving the neck and shoulders, and potential solutions for correcting your posture.

Hazard: Shoulder flexion (reaching arms in front of the body)

Holding this posture for long periods of time can disrupt blood flow to the muscles in your upper back, shoulders, arms and hands. This position can lead to rounded shoulders because the weight of the arms and position of the muscles pull the shoulders forward.



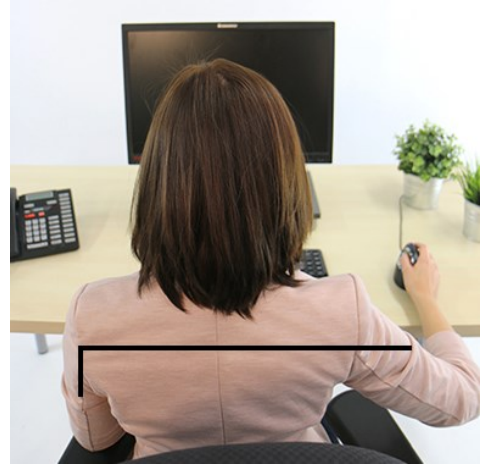
- Potential sources: Reaching forward to use a keyboard or a mouse.
- Potential solutions: Move your keyboard and mouse closer to you. Lower the height of your chair and move it closer to your desk.

(see over)

**Hazard: Shoulder abduction (moving elbow out to the side of the body)**

Holding this posture increases stress on your shoulders' soft tissues.

- Potential sources: Reaching for your mouse or other regularly used objects and materials, placing the mouse or keyboard too high, or the keyboard is too wide or not placed correctly.
- Potential solutions: Adjust your work's height or your chair's height. Use an alternative keyboard that allows you to place your mouse closer to you and keep frequently used items close to you.

**Hazard: Rounded shoulders**

This posture can cause imbalances in your chest, upper back and neck muscles, which may negatively affect the blood and nerve supply to the muscles in your shoulders, arms, forearms and hands.

- Potential sources: Using a keyboard, mouse or monitor that is placed too low or too far away. Working on a desk surface or a keyboard tray that is placed too low. Sitting on a chair that is too far away or not adjusted properly.
- Potential solutions: Adjust your monitor's height and distance. Move your keyboard and mouse closer and check that they are at elbow height (your elbow should be bent at approximately 90 degrees). Adjust your arm rests to support your forearms. Move your chair closer and adjust the settings.

**Hazard: Internal shoulder rotation (rotation at the shoulder with the hand moving in front of the body)**

This position increases pressure in the shoulder joint, and can affect the nerves and muscles in the shoulder area. Holding your muscles in this position can contribute to rounded shoulders.

- Potential sources: Using a keyboard that is too narrow for the user's shoulders, or using the pointing device on a laptop.
- Potential solutions: Use an external keyboard, an external mouse or an alternative keyboard design.



(see over)



Hazard: Neck extension (moving the chin away from the chest)

This posture places your cervical vertebrae in a non-neutral position. Holding your neck muscles in this posture can lead to muscle imbalances.

- Potential sources: Using a monitor that is placed too high or a chair that is positioned too low. Using bifocals while seated at the computer.
- Potential solutions: Position your monitor and chair at an appropriate height for you. Note that this height is different for bifocal versus non-bifocal users.



Hazard: Neck flexion (moving the chin towards the chest)

This posture places your cervical vertebrae in a non-neutral posture. Holding your neck and upper back muscles in this posture can lead to muscle imbalances.

- Potential sources: Using a monitor that is placed too low. Working on a laptop or tablet. Looking at documents that are placed on the working surface or at a document holder that is too low.
- Potential solutions: Position your monitor higher. Use an external keyboard and monitor for prolonged laptop use. Raise the height of your document holder.



Hazard: Neck rotation

This posture places your cervical vertebrae in a non-neutral position. Holding your neck muscles in this posture can lead to muscle imbalances.

- Potential sources: Using a monitor that is not placed directly in front of you. Looking at documents that are placed on the working surface or at a document holder that is improperly placed.
- Potential solutions: Place your monitor directly in front of you. Place your document holder into a proper position.



(see over)

**Hazard: Neck abduction (tilting the head to one side)**

This posture places your cervical vertebrae in a non-neutral position. Holding your neck and upper back muscles in this posture can lead to muscle imbalances.

- Potential sources: Using the telephone and both hands at the same time.
- Potential solutions: Maintain one hand on the phone at all times. Use a hands-free system (e.g., a speakerphone or a headset).

**Reference to legal requirements under workplace safety and health legislation:**

- Musculoskeletal Injuries: Manitoba Regulation 217/2006 Part 8

Additional workplace safety and health information available at safemanitoba.com

- SAFE Work Bulletin 233: Ergonomics: Hazards of the Seated Posture
- SAFE Work Bulletin 235: Office Ergonomics: Arm, Hand and Wrist Hazards
- SAFE Work Bulletin 264: Ergonomics: Adjusting Office Chairs and Workstations

Canadian Centre for Occupational Health and Safety:
www.ccohs.ca/oshanswers/ergonomics/office/**Revised: March 2018****Last Reviewed/Revised: November 2010**

SAFE Work Manitoba contact information:

Winnipeg: 204-957-SAFE (7233)

Toll-Free: 1-855-957-SAFE (7233)

Publications and resources available at: safemanitoba.com