Laboratory safety programs routinely include chemical hygiene plans, standard operating procedures and emergency response plans. But they often overlook laboratory ergonomics.

One reason may be that scientists and laboratory technicians are so focused on their research that they’ll work with discomfort, or fail to recognize ergonomic exposures, until symptoms are unbearable. This results in the need for:

- Medical attention
- Time away from work
- A workers’ compensation claim

Laboratories present unique materials-handling and processing exposures that require specific controls. However, there are basic ergonomic principles and best practices for office and manufacturing operations that can be applied to the laboratory environment. Doing so can help to maintain employee comfort and minimize the potential for injury.

**Ergonomic best practices for the laboratory environment**

Use the following tips to promote a safer working environment in laboratories.

**Seated work at laboratory benches or microscopes**

- Maintain neutral and aligned postures
- Provide adequate leg and thigh clearance
- Use adjustable-height laboratory chairs with back rest and foot rest/ring
- Maintain upright supported posture
- Keep frequently used materials within close reach (18 inches)
- Keep shoulders relaxed, elbows close to sides, neutral and aligned wrist and arm postures
- Use adjustable microscope stands and eyepieces
- Take short breaks every 30 to 60 minutes

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**For our life science customers, 36% of work-related employee injuries are attributed to ergonomic exposures and account for 52% of the claims costs.**

Source: The Hartford’s Technology and Life Science Practice loss data for 2013
Computer use
• Follow standard computer work station arrangement
• Maintain neutral upper-body posture
• Monitor viewing should be 18 to 20 inches, with the top of screen at eye level
• Use document holders for regular data entry
• Take three- to five-minute breaks every 30 to 60 minutes

Laboratory hoods and safety cabinets
• Keep only necessary hood items in the hood
• Keep frequently used items close but at least six inches back from the hood’s face
• Improve reach with an approved turntable
• Rotate tasks to avoid static postures
• Make leg cutout sections a minimum of 24 inches
• Be sure sash openings are at least 30 inches wide and have antiglare glass

Pipetting
• Choose the right size pipette, shorter is better
• Use electronic pipettes when possible
• Keep supplies within reach
• Work at elbow height
• Alternate hands
• Use a relaxed grip
• Avoid wrist twisting
• Rotate tasks or take breaks every 20-30 minutes

Manual handling practices for chemical carboys, drums or gas cylinders
• Use carts and dollyes to eliminate carrying
• Store heavy items between shoulder and knee height
• Use lift tables and lift carts when and where possible

General laboratory activities
• Use cushioned mats or supportive footwear for prolonged standing
• Keep capping and uncapping tasks to 30 minutes
• Avoid sharp work surface edges by using padding
• Use foam-handled tools
• Use storage bins with tilt-down fronts to minimize wrist bending
• Keep sink faucet reach to 12 inches or less

Additional resource

Have a specific loss control need?
For additional information specific to your need, please contact your Hartford Loss Control consultant or visit thehartford.com/losscontrol.

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