

Workplace Health and Safety Queensland

Safe use of laptops

The portability of laptops has forever changed the way people work and where work is carried out.

Things you should know

How the laptop is set up may increase awkward working postures for users. If poor postures are sustained for periods of time, there is potential for sprains and strains to develop, typically in the neck, back, shoulders, wrists and hands.

Laptops are not suitable for intensive or prolonged use on their own.

Design features and problems

Screen attached to keyboard:

- Poor keying and viewing posture.
- Screen cannot be positioned at a comfortable viewing distance.

Smaller keyboard with keys closer together:

- Constrained hand and finger postures.
- Potential for more keying errors.

Small pointing device (e.g. track pads, touch pad, mouse nib):

- Prolonged static posture of hand and fingers.
- More effort required for accuracy.

Smaller screen size:

- Reduced image clarity can result in visual fatigue and/or awkward postures in order to lean in closer to the screen.

Associated issues and problems

Transporting and handling laptop and case:

- The total weight of the case, laptop, other components and paperwork as well as using a case that is unsuitable for the distances carried can result in poor postures and increased muscular effort.

Placement of cables and electrical cords:

- Trip hazards can be associated with poor placement of the electrical cables and cords.

Heat generation:

- When a laptop is placed directly on the user's lap the vents may become blocked and result in increased heat generation. This can lead to thermal discomfort or skin irritation.

Things you can do

By making simple changes to the set up, use and transportation of the laptop, the risks of injury and discomfort may be reduced.

Workers and supervisors working together manage the risks, by:

- checking for any problems
- assessing the risk
- taking appropriate action to ensure that these problems are fixed
- following up to ensure that the actions are effective
- trialling new equipment prior to purchase (as much as possible).

It is important that workers are also provided with appropriate training about laptop use and supervision to ensure that workplace policies are followed. Correct set up and user posture are crucial factors in reducing the risk of injury from laptop use. The [Ergonomic guide to computer based workstations](#) provides more detailed information on preferred computer set up.

Solutions

External keyboard:

- Allows for a better keying posture and the independent adjustment of the screen.
- The larger keyboard reduces the rate of keying errors.
- Consider using a keyboard without a numeric keypad. This style of keyboard allows the external mouse to be positioned closer to the midline of the body as well as reducing the weight and size of the keyboard. This assists in reducing some of the transportation risks.

External mouse or other input device:

- An external and full sized input device (e.g. mouse or track pad) encourages more optimum wrist and hand postures and helps with user comfort and accuracy.

Docking station or laptop stand

- Allows the screen to be positioned at an appropriate height to improve viewing postures (reduced head and neck bending) and reduce visual strain.
- For an 'on the go' option, position the laptop on top of phone books to improve the screen height and position.
- In the office, docking stations eliminate the need to repeatedly connect the power source and other components each time you return to the office.

Larger monitor

- Useful if the laptop has reduced screen size and greater resolution is required for task or for visual comfort.

Surface height

- Avoid the use of low tables/surfaces, floors, or laps to support the laptop. Position the laptop on top of a standard table for improved keying position and to reduce overheating of laptop.

Improve visibility of screen

- Ensure that the lighting is appropriate and reflections and glare do not cause a visual disturbance on the equipment or documents.
- Check and adjust the settings and resolution of the screen, contrast or brightness, and size of the characters for more comfortable viewing.

Electrical cables and cords

- Position cables so they do not cause a trip hazard.

Transporting laptop

- Eliminate the need to carry a laptop by using alternatives such as portable media storage, virtual portal or email.
- Minimise the load of the laptop and accessories and other items (e.g. power supply, external drives, paper documents) to be transported.
- Use a wheeled bag or consider a backpack in preference to a single strap carry case.
- If hand held cases are preferred, use two lightweight smaller cases to distribute the weight between both arms.

The combined use of the above items allows the laptop to be set up similarly to a regular desktop computer system.

It is strongly recommended that any new equipment or furniture be trialled with users prior to purchase.

Consider the following when selecting a new laptop:

- Keep the weight of the laptop as light as possible and keep accessories as few and as light as possible.
- Choose a large and clear screen that can be used comfortably for the task needing to be done.

- Opt for a detachable or height adjustable screen for independent positioning of the screen and keyboard.
 - Choose a laptop that has the capability to be used with a docking station and/or external peripherals (e.g. keyboard, mouse, track pad).
 - Specify as long a battery life as possible. Whenever practical, provide an extra transformer/cable set at main work locations to avoid carrying them between locations.
 - Provide a wheeled case or light weight backpack or carry case with wide and comfortable handles or straps.
- If using a combination of computers, such as a desktop monitor and a laptop computer:
 - place the laptop on a docking station or stand so that the laptop display is at the same height as the desktop monitor
 - place the laptop and desktop monitors at an equal viewing distance particularly if the user is wearing reading spectacles.

Other helpful tips

- Taking regular breaks away from the computer is important. It provides a change of posture and a change in visual demands.
- Reduce the use of the mouse. This can be achieved by using hot keys as able.
- Check and adjust the settings of the input devices. This will make it easier to accurately point to areas on the screen.

For more information

More detailed information on preferred computer set up can be found in:

- [Ergonomics guide to computer workstations](#)
- [Sedentary work—sit less and move more in your work day](#) fact sheet
- [Office workstations](#) fact sheet

Visit www.worksafe.qld.gov.au or call the Workplace Health and Safety Infoline on 1300 369 915.

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