

# A Simple Guide to Health Risk Assessment

## Office Environment Series OE 5/2003

# Office

# Workstation Design



Occupational Safety and Health Branch  
Labour Department



Occupational Safety and Health Council



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## Introduction

This guide is intended to help employers and employees assess the health risks associated with office workstations. By following this guide, you may identify hazards, the degree of risk and the solutions to problems encountered in an office environment.

## Office Workstation Design

Office workers spend most of their time in various activities such as reading, writing and typing at a workstation. The design of workstations is vital to providing a healthy and comfortable working environment for staff. Failure to take note of ergonomic considerations can be very costly to employers and painful to employees who have to work long hours in an uncomfortable environment.



## Risk Assessment

The following checklist is designed to help you assess the health risks in your workplace. Please ask yourself the following questions to see if you are facing the potential hazards. Then go through the guidance materials presented in the following sections and apply suitable solutions to eliminate or reduce the health hazards.

The checklist may not cover all the situations in your workplace. You are free to add more questions or modify them to suit your specific needs.

### Answers indicating potential hazards

#### Furniture

- |  |     |
|--|-----|
| 1. Is the desk so low that the user needs to strain his/her back or so high that the viewing distance is too close ? | Yes |
| 2. Can the height of the chair be adjusted conveniently?   | No  |

#### Use of Workstation

- |  |     |
|--|-----|
| 3. Is there enough space on the desk for carrying out normal work activities after accommodating necessary stationery and equipment? | No  |
| 4. Is there any frequently used item which is often placed so far away that the user needs to stretch his/her body to reach it?      | Yes |
| 5. Is there sufficient room under the desk to accommodate the legs?  | No  |
| 6. Does the workstation have sufficient space for the user to move the chair and change posture from time to time?                   | No  |
| 7. Is a document holder used and placed next to the computer or typewriter during typing?  | No  |

#### Maintenance and Repair

- |   |    |
|---|----|
| 8. Can the drawers of the desk be pulled out and pushed in without excessive effort?                      | No |
| 9. Is the workstation furniture well maintained? Does it have freely movable castors and cabinet drawers? | No |

#### Environment

- |  |     |
|--|-----|
| 10. Is the workstation provided with sufficient lighting and free from glare?                  | No  |
| 11. If a workstation is near a busy passageway, are panels or dividers provided?               | No  |
| 12. Does the workstation user complain of draught over his/her head or direct on the face?     | Yes |
| 13. Does the user have any complaint concerning the design and environment of the workstation? | Yes |

#### Information and Training

- |   |    |
|---|----|
| 14. Is the user of the workstation provided with information and training in the use of the workstation and the equipment associated with it? | No |
|---|----|



## Problems & Solutions

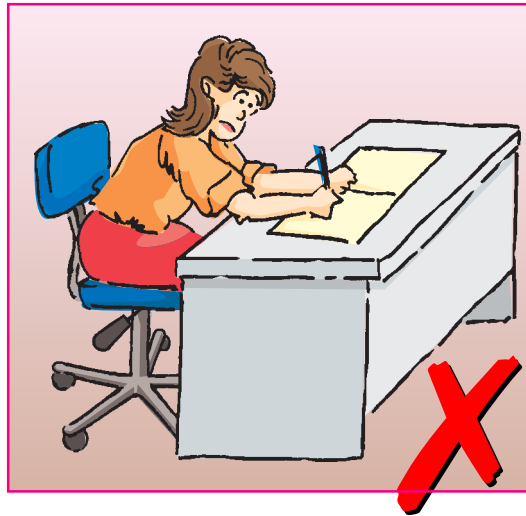
Here are some observations and possible solutions to the problems identified in the assessment.

### Furniture

1. The desk height should suit the height of the user. Too low a desk surface will force the user to strain his back, resulting in back pain. A high desk surface may cause eyestrain and pains in the shoulders and arms. Only exceptionally demanding work requires a close viewing distance.

#### Solutions

- Adjust the working height to elbow level for normal desk work. Slightly tilt the desk surface toward the worker when the work demands much visual effort.
- If the deviation of the desk height from the suitable working height is not great, try to adjust the seat height.



2. Different chairs are designed for various purposes. Good sitting posture helps to prevent muscle pains in the neck, the back, the shoulders and arms, etc., and avoid fatigue. Seats for different people should be easily adjustable to suit individual needs.

#### Solutions

- Height of chairs should be conveniently adjustable to suit individual body size, especially when they are shared among staff.
- Footrests may be used so that the feet can rest comfortably on a firm surface; they are especially useful for shorter people.
- Provide high stools for jobs requiring prolonged standing. A suitable footrest may be required in this case.

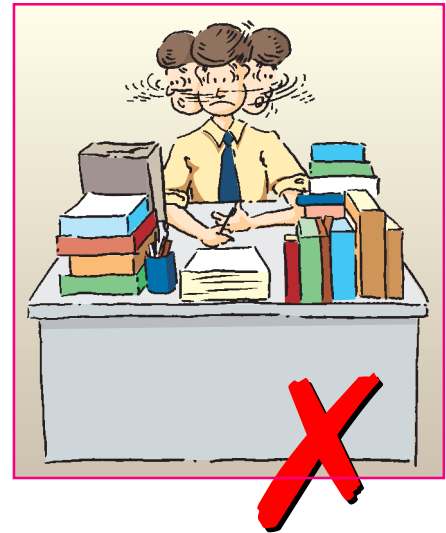


## Use of Workstation

3. A congested desk surface creates stress. The user may need to assume an awkward posture to do his/her job.

### Solution

- If it is not possible to change to a larger desk, try to reorganize the equipment and sundries on the desk and put away those items which are seldomly used.



4. A well-organized desk makes your work more effective and helps avoid bad working posture.



### Solutions

- Maintain a natural posture when reaching for objects and machine controls.
- Put those items which are used more often close to and in front of you, e.g. stationery and telephone, in order to avoid stretching or twisting your body frequently.
- Displays and instructions need not be placed on the desk. This will give you more working space.

5. There should be enough leg room under the desk, especially for bigger or taller people, so that the user can assume a natural sitting posture.

### Solution

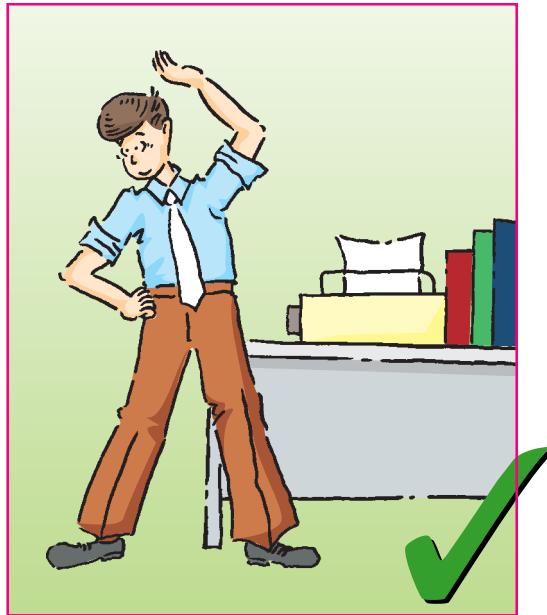
- Do not store items under the desk. There should be enough space above the thigh and in front of the feet to allow occasional leg movement.



- Maintaining a fixed posture for a long time will make you feel tired.

**Solutions**

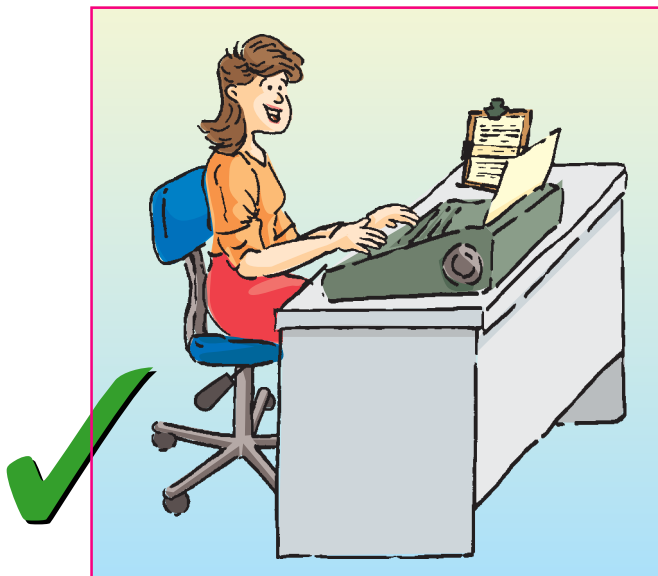
- Change activities or take short breaks regularly, and do some light exercises. They help relax your body and mind, and improve productivity.
- The workstation should have sufficient space for the user to occasionally move the chair, stand up or change posture.



- Looking downward at documents for prolonged period during typing can cause neck pain.

**Solution**

- Use a document holder and adjust it to a suitable reading height and viewing distance.



## Maintenance and Repair

8. Using excessive effort to pull out or push in a drawer in a sitting position is stressful to your arm and back.

### Solutions

- Try to find out where the problem lies. Is it due to poor maintenance or poor design?
- If it is the former, fix it.
- If it is due to poor design, e.g. drawers without rails, you should consider replacing them with a better design.
- When you buy or replace office desks, choose ones with drawer rails.
- As an interim measure, you can take out frequently used objects and avoid putting heavy objects in the stiff drawers.



9. Office furniture should be properly maintained.

### Solution

- If you spot any problems such as unstable chairs and defective drawers, fix them as soon as possible.



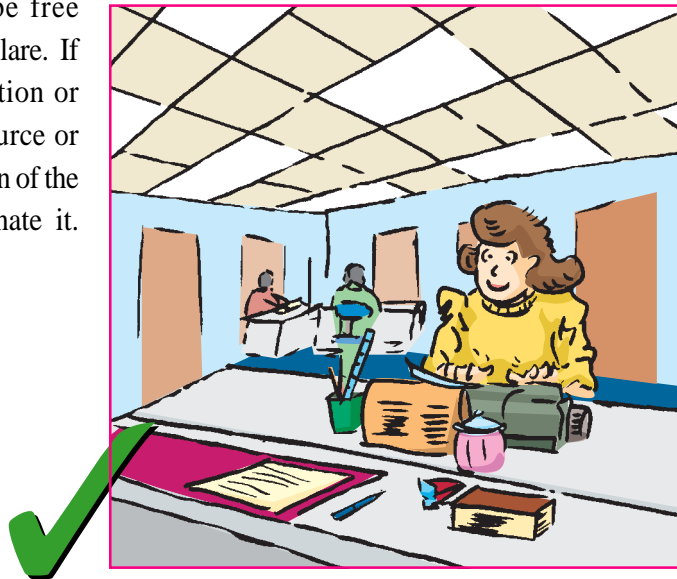


## Environment

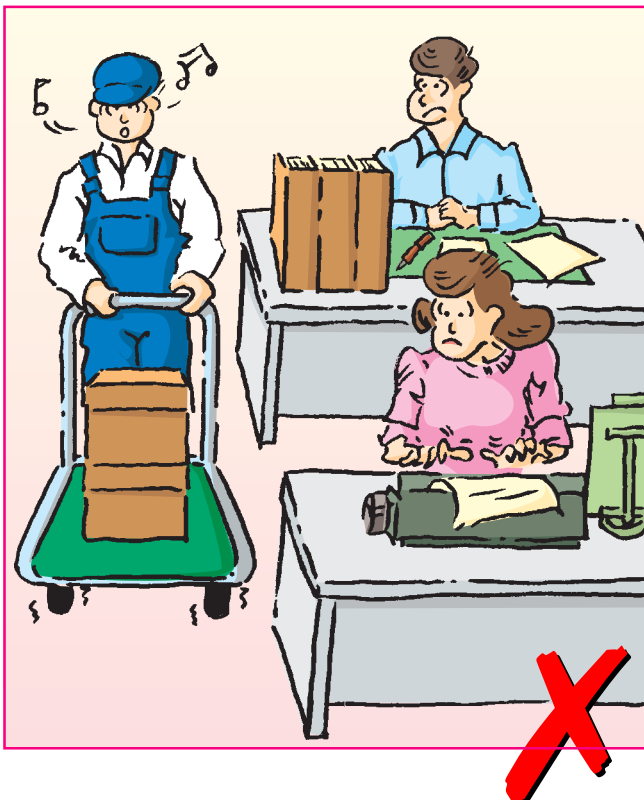
10. Adequate lighting at workstation is important. (See also “Lighting in Offices” of the series)

### Solutions

- Normal office work requires light intensities of around 200-500 lux. A higher intensity may be required for precision work.
- The light should be free from flickering and glare. If glare exists, reposition or modify the light source or change the orientation of the workstation to eliminate it.



11. If workstation is near a busy passageway, the user may be disturbed frequently.



### Solutions

- Use partitions to separate workstation from the passageway.
- Increase clearance where possible to avoid unnecessary disturbance.

12. A small amount of air movement is required to provide a sense of freshness. However, too strong an air current in an air-conditioned office may make people feel draughty and uncomfortable.

**Solutions**

- If this happens, try to adjust the air current flow or add a diffuser to the air outlet.
- Adjust the ventilation system to make the air distribution more even and gentle throughout the office.



13. Health complaints from users of workstations are probably due to workstation design, workstation environment or the work itself.

**Solutions**

- Talk to the user; find out what the problem is and fix it.

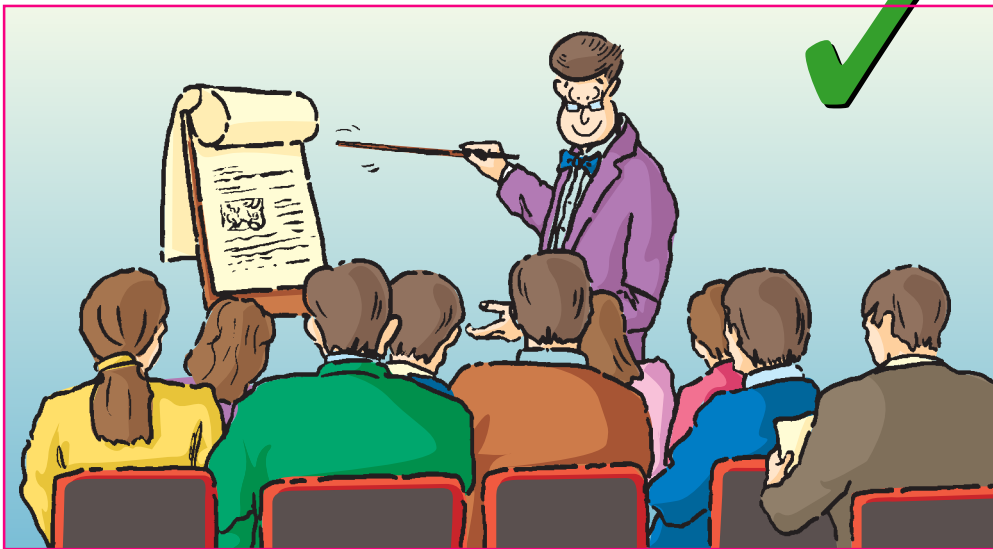


## Information and Training

14. Information and training are essential to ensure that a well-designed workstation is used in the right way. Employees should be advised of the correct use of adjustable chairs, document holders, and computer screens, etc.

### Solution

- Train your employees so that they can watch out for problems and early signs and symptoms of adverse health effects. It is more effective to fix a problem early.



## Further Information

For further assistance or information about the subject, you can contact

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15/F, Harbour Building  
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Home Page address : <http://www.labour.gov.hk>

E-mail address : [enquiry@labour.gov.hk](mailto:enquiry@labour.gov.hk)

Information on the services offered by the Occupational Safety and Health Council can be obtained through hotline 2739 9000.

### Other Titles in the Office Environment Series

1. Introduction and Housekeeping
2. Lighting in Offices
3. Photocopying
4. Ventilation
- 5. Office Workstation Design**
6. Use of Chemicals
7. Manual Handling