

### 3. Tools or equipment

Ensure that the equipment (including keyboards) and tools in use are safe and able to meet operational needs

#### Hand tools

Ensure that hand tools are used in a safe and effective manner. When selecting a hand tool, consider:

- Usual practice and their wrist positions for using a tool – ensure that the employee is not using the tool with an improper posture
- grip types and the required strength for operation – ensure that the employee is not using the tool with excessive strength
- tool size and shape – ensure that the tool fits the employee's hand
- triggers – ensure that minimal strength is used to operate the triggers
- shock and vibration – ensure that vibration and impact force transmission is minimal



### 4. Maintenance

Enhancement of maintenance may reduce the risk of injury. Regular maintenance of equipment according to specification requirements may reduce the strength required to activate the equipment, thereby reducing the risk of injury.



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### 5. Provision of Training

Task-specific training should be provided for employees to acquire relevant knowledge and skills for work safety.



#### ▶ Review and Evaluation

Regular review on the effectiveness of control measures is necessary for prevention of accidents.

### Enquiries

If you wish to enquire about this leaflet or require advice on occupational safety and health matters, please contact the Occupational Safety and Health Branch of the Labour Department through:

Telephone : 2559 2297  
(auto-recording service available outside office hours)

Fax : 2915 1410

E-mail : enquiry@labour.gov.hk

Information on the services offered by the Labour Department and on major labour legislation is also available on our website at <http://www.labour.gov.hk>.

For details on the services offered by the Occupational Safety and Health Council, please call 2739 9000.

### Complaints

If you have any complaints about unsafe workplaces and work practice, please call the Labour Department's occupational safety and health complaint hotline at 2542 2172. All complaints will be treated in the strictest confidence.

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# An Employer's Guide to Work Involving Repetitive Movements or Manual Work



## Why is work involving repetitive movements or manual work hazardous?

Work that probably involves prolonged repetitive movements or much physical exertion will increase vulnerability to injuries. Most of the strain injuries so caused are not the result of a one-off event or a single accident, but have developed gradually over time. Symptoms are often ignored until they become chronic diseases or conditions worsen.

## What are the factors that will increase the potential risks of such work?

### Working environment layout

- a too low or too high working surface induces employees to adopt prolonged improper posture at work
- inappropriate workplace layout results in the frequent or prolonged body bending, twisting or overstretching

### Working posture

- body frequently bending or twisting to one side or overstretching,
- persisting with a particular posture, e.g. prolonged sitting or standing
- maintaining a fixed posture without support, e.g. sitting without back support
- using poorly designed tools

### Use of physical strength

Frequently repeat or persistently use of physical strength to move, press or grasp an object is likely to cause muscle strain. Generally speaking, employees should not be required to use excessive strength that may cause discomfort.

### Duration and frequency of work

Repetitive use of the same group of muscles or maintaining a particular posture for a period of time will lead to muscle fatigue which will increase the risk of injury. Various tasks should, therefore, be arranged whenever possible for employees on duty to use different groups of muscles so that the fatigued muscles can recover.

### Work system

Tight deadlines and peak periods will increase work stress and the risk of injury.

### Individual factors

Capabilities of individual employees should be taken into account or else the risk of injury will increase.

## What kinds of work are more likely to cause strain injuries?

- processing
- sorting
- cleaning
- hand-tool operating
- packaging
- machine operating
- keyboarding



## How to control the hazards?

### 1. Job design

To address potential safety and health hazards, the following factors should normally be considered in the job design:

- duration and frequency  
What is the duration and frequency of the tasks that require repetitive movements?
- work pace  
Can employees cope with the work pace?
- machine pacing  
Is the machine pacing set within employees' capacity?
- work demand at peak periods  
Is the workload at peak periods properly planned?
- rest breaks  
Are the rest breaks sufficient for employees to recover strength?
- work arrangements  
Is there restriction on prolonged repetitive movements or manual work to minimise fatigue?



## 2. Improve workplace layout

The working environment layout should match the job nature and meet the needs of employees. Consider the following:

- working environment layout – help employees maintain a forward-facing and upright posture
- displays and controlling devices – putting displays and controlling devices in a proper position can help reduce visual and postural strains
- computer equipment – decide the position of computer screen, keyboard and document holder according to operational needs and the requirements by the Occupational Safety and Health (Display Screen Equipment) Regulation
- design of chairs – use ergonomically designed chairs
- level of working position – determine the level of working position having regard to the types of work, visual ranges and reach distances required for the tasks, as well as the force and pace of body movements at work
- tool arrangements – routine work should be carried out where there is sufficient room for workers' movements. Devices which are frequently used or those requiring rapid activation should be placed within easy reach of workers

