



Occupational Health of

Workers in

Pre-primary Education Institutions



safety at work



Occupational Safety and Health Branch
Labour Department

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Occupational Health of Workers in Pre-primary Education Institutions

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1. Introduction

The day-to-day work of teachers and staff at pre-primary education institutions, including kindergartens and child care centres, is very heavy. Employers of such institutions should adopt appropriate precautionary measures to prevent health hazards at work among employees. This booklet is intended to provide practical guidance to employers and employees of pre-primary education institutions to promote the occupational health standard at such institutions.

The safety and health of employees in pre-primary education institutions are protected by the Occupational Safety and Health Ordinance and its subsidiary regulations. Employers have the responsibility to ensure, so far as reasonably practicable, the safety and health of all their employees at work. Employees should cooperate with their employers to protect their own safety and health and those of any other persons who may be affected.

2. Common Occupational Health Problems

Common occupational health problems of teachers in pre-primary education institutions mainly include:

- Frequent use of children desks and chairs for work.
- Use of children computer facilities or other improper computer workstations.
- Repetitive stooping and squatting when taking care of school children.
- Prolonged standing.
- Carrying bulky furniture or objects.
- Over-use of vocal cords.
- Work stress.

The above can cause muscle aches, musculoskeletal disorders and fatigue. The following parts of this booklet illustrate these situations in more detail and introduce precautionary measures.

3. Furniture and Working Posture

Avoid using desks and chairs for school children

Desks and chairs for school children are markedly different from those for adults. Teachers using desks and chairs for school children may adopt awkward postures, which easily cause back pain or lower limb discomfort.



Teachers using desks and chairs for school children tend to tilt body forward. A lack of back support will increase the load on the back and waist.



With limited legroom under the desk, the legs cannot adopt a comfortable position or cannot be stretched at ease. The back also lacks support.

Adopt proper sitting posture

Institutions should provide teachers and staff with suitable desks and chairs for adults so that they can adopt natural, comfortable sitting postures in doing their daily desk work, e.g. marking exercises and preparing teaching materials. Proper sitting postures will keep the body at ease:

- Relax the shoulders and keep the back straight.
- Position the elbows at almost the same height as the desk surface.
- Give adequate support to the arms.
- Give adequate support to the back.
- Rest the thighs horizontally and keep lower legs almost vertical.
- Leave some space between the knee back and the edge of the seat pad so that the thighs will not feel compressed.
- Leave adequate legroom under the desk.
- Place the feet flat on the floor (use a footrest if necessary).



Provide suitable classroom furniture

Teachers may suffer from fatigue and musculoskeletal problems in case of prolonged standing when teaching. The institutions should provide them with suitable chairs for adults in classrooms for sitting down from time to time to relieve the strain on their body and lower limbs when standing.



A chair with adjustable seat height for teachers.



A chair provided for use by teachers in a classroom.



A workstation suitable for adults.

4. Computer Work

Common health problems

Prolonged use of computers in unnatural postures by teachers and staff may result in discomfort and aches in the wrists, arms, shoulders and neck. If the situation persists, soft tissues may be seriously damaged over time. These problems are partly due to keeping a static neck posture for a prolonged period, and improper hand and wrist positions, etc.

Pre-primary education institution teachers should avoid using computer facilities for school children as far as possible. These computer desks and chairs are too low, with limited legroom under the desks. Teachers operating these computers may bend their head to look at the monitors, thus straining their neck muscles, depriving the lower back of support and the legs of room for stretching.

Adults using computer facilities for school children easily adopt poor work postures and suffer from musculoskeletal discomfort.



Provide suitable computer workstations

The institutions should provide teachers and staff with suitable computer workstations for adults to enable them to work with natural postures. The proper postures for computer work are similar to the **natural, comfortable sitting postures** mentioned above. The following is recommended in respect of monitors and input devices:

- Place the monitor directly in front, with the first line of display at or slightly below the eye level.

- The comfortable viewing distance for text of normal size is 35-60 cm.
- The forearm should be roughly at a right angle with the upper arm.
- Avoid bending the wrists, and keep them straight as far as possible when using the keyboard or mouse.

Besides, there should be adequate lighting at the workplace to meet work requirements. For example, while lighting in the classroom may be dimmed during the naptime of school children, reading or using computers in such an environment will easily cause eye fatigue. The situation could be improved by adding a desk lamp at the workstation.

For the health advice on working with other types of computers, please refer to another publication produced by the Labour Department, namely "A Health Guide on Working with Display Screen Equipment".



Computer workstations for adults can be provided inside a classroom for teachers' use.



A good chair with adjustable seat height, and backrest height and tilt can provide better support for the body.

5. Manual Handling Operations

Teachers and staff sometimes may need to lift heavy objects, such as bulky teaching aids, student desks and chairs, as well as game facilities. Handling excessive loads could injure the waist and back easily, while improper work postures or lifting objects in repetitive motions may also increase the risk of injury.

There are many ways to reduce the risks of manual handling operations. The following measures can help protect the safety and health of teachers and staff:

- Conduct suitable risk assessments and avoid risky manual handling operations as far as possible.
- Provide and use suitable tools and aids.
- Provide a suitable working environment.
- Make proper work arrangements, e.g. allowing teachers and staff to alternate between jobs of different nature, scheduling appropriate breaks, and providing adequate manpower for team work on bulky loads.
- Consider the capabilities and health status of teachers and staff before assigning tasks to them.
- Provide suitable training, information, instruction and supervision for teachers and staff.
- Help teachers and staff understand the risks of manual handling operations and the correct handling techniques.
- Encourage teachers and staff to exercise regularly and maintain good physical conditions.

For manual handling operations inside the institutions, the following points should be noted:

❖ Avoid excessive stretching or twisting of the waist.



Excessive stretching of the upper limbs when reaching for objects at height.



Use a stable and suitable ladder or footstep, and adopt team handling.



Bad postures of excessive stooping or twisting of the waist.



Keep the waist and back straight as far as possible, and move lower limbs to facilitate turning of the body.

❖ Make good use of tools and aids.



- ❖ Adopt team lifting.



Handle bulky loads by team work.

For the legal requirements and further information on manual handling operations, please refer to the two publications produced by the Labour Department, namely "Guidance Notes on Manual Handling Operations" and "A Guide to Part VII of the Occupational Safety and Health Regulation (Manual Handling Operations)".

6. Other Factors Causing Musculoskeletal Problems

- While teaching and taking care of children, teachers should avoid prolonged standing and stooping as far as possible and should take a seat whenever possible. Appropriate breaks and stretching exercises can also help relieve fatigue.



Frequent stooping to take care of children is a common cause of back pain.



Sitting to teach instead of stooping.

Squatting instead of stooping.



- Prolonged and repetitive motions or unnatural postures at work can cause musculoskeletal problems. Employers should provide suitable working environment and tools for teachers and staff to work in comfortable and natural postures, and arrange work properly to protect them from exhaustion.



Staff may injure their shoulders and back when cleaning windows due to postural constraints, and should use suitable tools to clean the outside of the windows. Professional contractors may be hired instead to do the job.

7. Stretching Exercises

Apart from adopting a proper working posture and using appropriate supporting devices, teachers and staff should make good use of the time before work, rest breaks and lunch hours to do some stretching exercises to increase the strength of muscles and flexibility of joints. This could also prevent injuries, reduce muscle fatigue and relieve occupational stress. Some examples are as follows:

Neck Exercise



1. Gaze forward, and then turn head to the right. Hold for 5 seconds.
2. Return to starting position.
3. Repeat on the left side.
4. Repeat this exercise 5 times.

Upper Back and Shoulder Exercise



1. Roll shoulders backwards 10 times.
2. Roll shoulders forwards 10 times.

Back Exercise



1. Stand with feet apart at shoulder-width.
2. Raise right arm, place left hand at waist and bend body to the left. Hold for 5 seconds.
3. Return to starting position.
4. Repeat on the opposite side.
5. Repeat this exercise 5 times.

Upper Limb Exercise



1. Spread out and stretch fingers as much as possible for 5 to 10 seconds.
2. Slowly relax hands.
3. Clench fists tightly for 5 to 10 seconds.
4. Repeat this exercise 10 times.

Lower Limb Exercise



1. Sit upright. Raise one leg. Rotate foot anti-clockwise 10 times.
2. Rotate foot clockwise 10 times.
3. Repeat 10 times with the other leg.

8. Voice Care

Teachers have to use their voice frequently when teaching and taking caring of students. Improper care of voice may cause hoarseness, weak voice, dryness of throat or off-key and may, in severe cases, result in certain diseases such as:

- Vocal cord nodule: Prolonged friction causing tissue hardening commonly over the edge of both vocal cords, resulting in incomplete closure of vocal cords and hoarseness.
- Vocal cord polyp: Polyps usually appear on one of the vocal cords and are larger than nodules. As the tissue weight of vocal cords increases, the cords could not close completely and the voice turns hoarse.
- Chronic inflammation of vocal cord: Persistent or chronic inflammation of the vocal cords can result in cord thickening and hence poor voice quality.

If teachers have the above symptoms persistently, they should seek medical treatment promptly.

Common Causes of Voice Problems:

(I) Work Factors:

- ❖ Frequent speaking at work.
- ❖ Speaking loudly in a noisy or open working environment.



(II) Personal Factors: Speaking Habits

- ❖ Speaking in a raised or lowered voice.
- ❖ Speaking too fast or in a hurry, without pausing.



Uncoordinated Breathing and Voicing

- ❖ Insufficient air in the lungs due to shallow breathing.
- ❖ Breathing out before speaking.

Daily Living Habits

- ❖ Eating spicy food.
- ❖ Inadequate sleep.
- ❖ Side-effects of some medications.
- ❖ Smoking and alcohol drinking.



Tips for Voice Care

(I) Voice Habits

- ❖ Relax muscles over head, neck and throat and avoid head tilting when speaking.
- ❖ Speak with mouth open widely for a clear, loud voice.
- ❖ Speak in an appropriate pace, with suitable pauses in between sentences to allow breathing.
- ❖ Use body language appropriately.
- ❖ Use supporting equipment such as microphone.



(II) Coordination of Breathing and Voicing

- ❖ Take a deep breath before talking to allow sufficient air to vibrate the vocal cords.
- ❖ Avoid breathing out before talking.

(III) Daily Living Habits

DO :

- ❖ Drink plenty of warm water to keep the throat and vocal cords moist and also to soothe throat itchiness.
- ❖ Rest the throat or use supporting equipment while speaking when suffering from common cold.
- ❖ Have adequate rest and sleep.



DON'T :

- ❖ Clear throat frequently or cough habitually. Try to swallow or take a sip of warm water.
- ❖ Eat spicy food.
- ❖ Take dinner late at night or midnight supper to avoid regurgitation of the gastric contents to the esophagus and throat to cause hoarseness of voice.
- ❖ Take bactericidal lozenges unnecessarily. This will reduce the normal flora inside the mouth and cause vocal cord inflammation easily.

(IV) Relaxation Exercises for Neck and Shoulders

The relaxation exercises recommended above for the neck and shoulders can help relax the muscles and vocal cords and control the voice. Regular practice of these exercises is recommended.

9. Management of Occupational Stress

Teachers have to face different occupational stress. To manage the work stress properly, understanding the sources of stress and then taking proper solutions is of paramount importance. Some positive and active strategies for managing occupational stress are listed below for reference.

- Take a short break from the source of stress, e.g. drinking a glass of warm water, washing the face, practising deep breathing or muscle relaxation exercises.



- Understand yourself.
- Practise positive thinking and memorize happy events.
- Learn to relax.
- Speak to family members, friends and colleagues sincerely. Learn to appreciate, respect and care for each other.
- Enjoy work and foster some hobbies, enjoy the leisure time.
- Learn and self-improve continuously, e.g. learning effective communication skills.
- Seek professional assistance.



10. Further Information

- Occupational Safety and Health Ordinance and its subsidiary regulations
- Occupational Safety and Health in Schools
- A Health Guide on Working with Display Screen Equipment
- A Simple Guide to Health Risk Assessment – Office Workstation Design
- A Guide to Part VII of the Occupational Safety and Health Regulation (Manual Handling Operations)
- Guidance Notes on Manual Handling Operations
- More Exercise Smart Work (I) and (II)
- Work-related Neck and Back Pain
- Do You Know Tenosynovitis?
- Plantar Fasciitis
- Lower Limb Varicose Vein
- Osteoarthritis of Knee
- Work and Stress
- Labour Department Occupational Safety and Health Centre & Occupational Health Clinic
- More Exercise Smart Work (I) and (II) Educational DVD
- Setting Up Office Workstations Educational DVD

This booklet together with the above listed publications and references can be obtained free of charge from offices of the Occupational Safety and Health Branch of the Labour Department or downloaded from Labour Department's website:

<http://www.labour.gov.hk>

11. Enquiries

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

Address : 15/F., Harbour Building, 38 Pier Road, Central, Hong Kong

Telephone : 2852 4041

Fax : 2581 2049

E-mail : enquiry@labour.gov.hk

Information on the services provided by the Occupational Safety and Health Council can be obtained through its hotline 2739 9000 and website <http://www.oshc.org.hk>.

12. Complaints

If you have any complaint about unsafe workplaces and practices, please call the Labour Department's Occupational Safety and Health Complaint Hotline on 2542 2172. All complaints will be treated in the strictest confidence.

