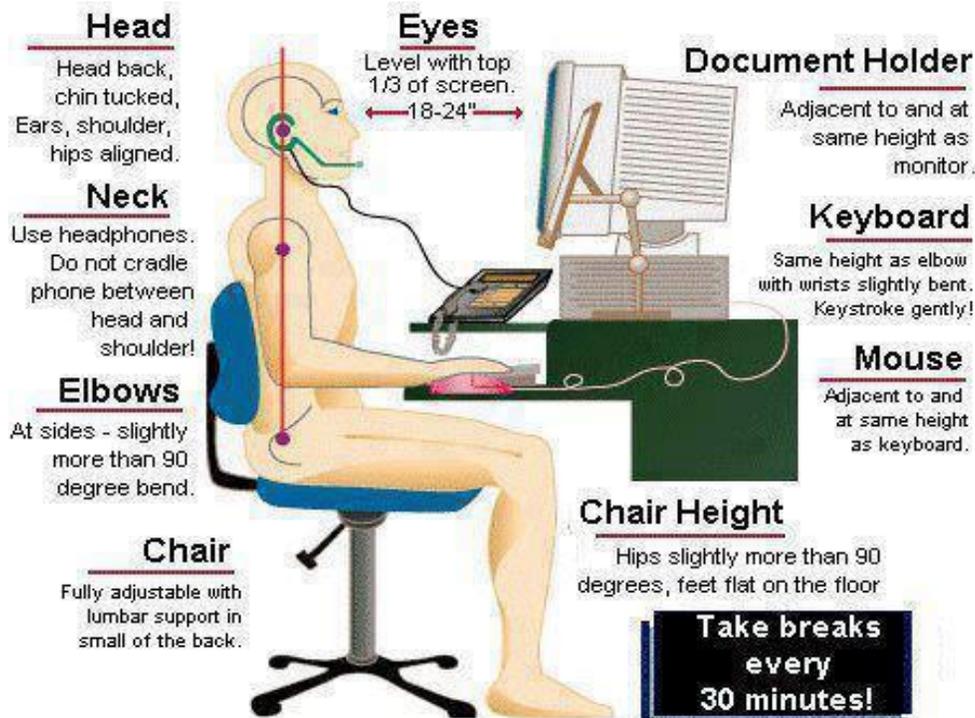




THE REPUBLIC OF UGANDA

MINISTRY OF GENDER LABOUR AND SOCIAL DEVELOPMENT

OCCUPATIONAL SAFETY AND HEALTH GUIDELINES FOR OFFICE WORK ENVIRONMENT



April 2021

Foreword

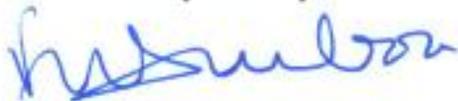
The health and productivity of a worker is determined by, among other factors, the immediate environment in which s/he works. The Occupational Safety and Health Act of 2006, which is the principal legislation on matters of safety and health at the workplace in Uganda defines a workplace as 'all places of work and all sites and areas where work is carried out'. Indeed, there are different types of workplaces and each of them poses unique risks to the workers there. By their nature and the obvious high risk exposure, workplaces such as construction sites, factories and mines are conscious about these risks and manage them proactively.

The office work environment, on the other hand, is deemed as 'safe and healthy'. Less effort is taken to proactively manage the health hazards that lie hidden therein. Moreover, the effects of these hazards take time to manifest and in many cases irreversible damage to workers' health has already been done. Through inspection, research and consultations, my Ministry has come up with these guidelines to help office managers and workers to appreciate that there are serious risks to health in the office environment and that appropriate measures are needed when planning office space and doing procurement of furniture and equipment in order to mitigate these risks and provide safe and healthy work environment.

Other than physical and chemical hazards in the office work environment, there are socio-psychological risks that come as a result of interpersonal relationships, drug and substance abuse, stress and fatigue at work. These hazards need to be controlled and managed through, inter alia, sensitization, open discussions and rehabilitation when necessary.

These guidelines have been developed in participatory manner involving representatives from government, employers and workers. It is my hope that it will go a long way in improving the working environment in both public and private office work environment; and lead to better productivity and health for office workers.

For God and my Country



Frank K. Tumwebaze, MP
MINISTER

Acknowledgement

Acknowledgement

On behalf of the Ministry of Gender Labour and Social Development, I would like to congratulate and thank the following officers for the special efforts they put in developing these guidelines:

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Introduction

The primary objective of occupational safety and health (OSH) management is to prevent or reduce injury and disease burden to a worker and employer as a result of work. Maintaining a healthy labour force is essential for economic production, productivity and sustainability leading to poverty reduction at the household level. It is the mandate of the OSH department under Ministry of Gender, Labour and Social to promote health and safety and reduce the high prevalence of injuries and illnesses at work. One of the strategies adopted in implementing this mandate is through development and dissemination of guidelines to assist duty holders to comply with the requirements of the OSH Act and related policies, laws and regulations.

These guidelines promote safety and health in the office and are designed as a resource for managers, supervisors, procurement officers and everyone involved in office work. It brings together a range of information based on a risk management approach to identify hazards, assess risks and control them as far as possible through appropriate mitigation measures. This approach should be adopted in the design and management of offices, work carried out in them, and the selection and use of furniture and equipment.

The guidelines are divided into two main parts namely Health and Welfare; and Safety in offices. The two are separated for the purpose of reading and understanding but in practice go together. The Health and Welfare section is further subdivided into physical and social factors. Physical factors can be felt physically while social factors touch the emotive feelings of workers.

Background

The OSH Act, 2006 operationalizes Articles 40(1) (a) of the Constitution by making provision for health, safety and welfare of persons at work. The Ministry of Gender ,Labour and Social Development through the Department of Occupational Safety and Health is mandated to evaluate and control physical, chemical, biological, technical and psychosocial factors that affect a person at work and the working environment. This is achieved through the OSH Act which localizes principles of the International Labour Organization (ILO) Convention 155 on Occupational Safety and Health and ILO Convention 187 on Promotional Framework for Occupational Safety and Health. In addition, the Act is in line with Regional and International agendas for the promotion

of decent work. The OSH Act also supports realization of the strategic objective (i) within the social development sector plan ((SDSP) 2015/16 -2019/20), on promoting decent employment opportunities and labour productivity and it is in line with the National Development Plan that recognizes the importance of enhancing human capital development and enhancing the availability and quality of gainful employment as a contribution to the achievement of Uganda's Vision 2040. The OSH Act 2006 defines 'workplace' as all places of work and all sites and areas where work is carried out including not only the permanent, indoor, stationary places of work, such as factories, offices and shops but also temporary places of work such as civil engineering sites, open-air places such as fields, forests, roads, oil refineries and mobile places of work (cabs of trucks, seats of tractors and excavators, ships, galleys, freight decks of aircraft, and without exception; places where workers are found as a consequence of their work (including canteens and living quarters onboard ships). It is evident that workplaces differ greatly from one another and consequently the range of hazards associated with each work place also differs. It is, therefore, inappropriate to generalize workplace environment when considering occupational safety and health. The Occupational Safety and Health guidelines elaborated below are intended for an office set up. The factors of workplace environment give an immense impact to the employees' safety, health, productivity and overall performance at work. Over the last decades, the factors of work environment of the office workers have changed due to the changes in several factors such as the social environment, information technology and the flexible ways of organizing work processes. Some of these factors have contributed to risk reduction at work while others have escalated the risk or introduced new ones.

Problem Statement

There is an increasing number of cases of ill health, accidents and injuries as a result of work in offices. Unfortunately, neither the victims nor their supervisors are equipped with information to identify office occupational safety and health hazards and means of mitigation. This scenario has led to workers getting injuries and ill health at work and not associating these with the work they do. The vicious circle has continued resulting to permanent injuries and sometimes death which could be avoided. According to the Bureau of Labor Statistics (BLS) of the UK, about 76,000 office workers nationwide receive disabling injuries every year

(<https://www.bls.gov/iif/oshsum.htm>). In Uganda, there is paucity in the data available on such accidents and injuries, therefore providing need for a fact sheet.

The causes of these injuries and ill health are many but include lack of awareness, poor workplace design, poor sitting posture at the desk, long sedentary lifestyle, unsuitable work environment, lack of training in the safe use of office tools and equipment, anti-social behaviours, poor housekeeping and lack of innovation to improve the work environment.

Safety and health issues that arise in the office set-up subsequently impact on the general well-being of these workers causing increased number of days off work due to ill health and reduced productivity and performance of workplaces.

Situational Analysis

Due to the seemingly tame environment in an office, it is quite easy to think that office workers are not exposed to any potential safety and health hazards. Unfortunately, workers in the office set-up like other work places also suffer from ill health, accidents and injuries. Everyone in an office environment including employers, employees and third parties, are prone to accidents and injuries by virtue of the nature of work they do or where they may find themselves in the course of undertaking work. Office workers are exposed to hazards such as noise, trips, falls, musculoskeletal injuries, heat, fumes, stress, sexual harassment, bullying, violence and many others. These could lead to injuries and ill health such as soft tissue injuries, sleep/anxiety disorders/stress, deafness, paralysis, blindness, infections to mention but a few.

Workplace inspection reports conducted by the Ministry show that almost every workplace has an office where work is done. The reports also show that there is lack of awareness about the dangers of poor office work environment to the safety and health of a worker and lack of information on how to overcome these challenges. Office workers do not know how to set up their work stations for comfort and safety. There are also challenges in how to safely use, maintain and dispose office equipment and tools such as PC, printers, shredders, etc. Negative habits such as violence, sexual harassment, bullying, smoking and abuse of drugs, though not easily disclosed, were apparent. Many office workers were not conscious of the effect of the environmental factors such as temperature, humidity, lighting and ventilation on their performance and health. Workplaces with

air conditioning felt superior to others without it but the reality is the opposite if the AC system is not well maintained.

Justification

It is the mandate of the Ministry to provide policies, laws, regulations and guidelines related to occupational safety and health as one strategy in the prevention and reduction of occupational ill health, accident and injury. Office workers are prone to a number of hazards at their workplaces that could lead to injury and ill health with the latter manifesting after a long time from exposure date. It is therefore, necessary to put in place preventive mechanisms so that such risks are curtailed and reduced in time. Awareness of safety and health measures among office workers and their supervisors has been found to be lacking. These Guidelines on Occupational Safety and Health for Office Work Environment will give information and empower office workers to manage their own safety and health in order to reduce ill health, accident and injury.

Scope

These guidelines are applicable to all workers in an office set-up who perform sedentary and other duties with or without the use of computers and other electronic and non-electronic office equipment.

Purpose

This document aims at raising awareness among office workers and their clients about the risks associated with the nature of their work and how these can be mitigated. It is intended to give practical guidance on minimum safety and health provisions. Workplaces may go over and above the recommended minimum requirements.

Implementation

It is important that every workplace has an occupational safety and health policy, formulated in consultation and participation of employees and other stakeholders, to guide the overall management of safety and health in the workplace. The policy statement should indicate, in clear and simple terms, the workplace safety and health policy objectives and the arrangements to achieve those objectives, including management commitment, the allocation of functions and

responsibilities. It should be signed and dated by the director, or equivalent, of the organization and publicized to all workers. A copy of the policy document should be displayed in a prominent place for employees to view.

It is expected that the employer will assist the workers under their jurisdiction to understand and apply these guidelines. In applying these guidelines, innovations that lead to continual improvement should be promoted. In addition, the employer is expected to put in place all necessary provisions to support implementation of the Guidelines and the OSH Act. In turn, the workers will follow the guidelines and advise the employer on challenges met. The Ministry shall produce and distribute copies of the Guidelines to all workplaces. The Ministry reserves the right to publish and review these Guidelines as necessary.

The Ministry will publicize the guidelines through production and distribution of hard and soft copies. The guidelines shall be accessible through the official website and social media platforms of the Ministry. Awareness about the Guidelines shall be promoted during workplace inspection tours, meetings and workshops.

Guidelines

The set of guidelines below is not exhaustive of the hazards in an office set up. The guidelines are only the key and common ones in a typical office set up. These guidelines shall be regularly reviewed to address emerging issues in order to keep in pace with the ever changing global trends, environmental issues and technological advancements. The guidelines are divided into two parts:- Health and Welfare and Safety.

Health and Welfare in the Office Environment

In order to have a working environment where workers are comfortable, more efficient, productive and do not feel exhausted and stressed, there is need to have a conducive office working environment. This can be achieved through a number of physical and social interventions such as ergonomics¹, work organization, stress management, management style, etc. Below are some of the key issues that need to be addressed in an office workplace.

¹ The sciences of designing a workplace while keeping in mind the capabilities and limitations of the worker.

Physical Factors

Office workers spend a lot of time inside a building where the physical environments influence their well-being and directly influence their work performance and productivity. The physical environment includes office design as well as that of the immediate environment – hallways, stairs and escape routes. Lighting, temperature, air quality, and noise conditions in the office have a significant effect on behaviour, perceptions and productivity of workers and affect the work concentration and productivity.

Posture and Repetitive Motion

Posture is the position adopted by a worker to do a particular piece of work. Many times this position is not appropriate for the task being performed leading to ergonomic² risks of musculoskeletal injuries³ that are either acute or cumulative. Improper chair height and back support are critical factors contributing to worker musculoskeletal complaints. Many workers are exposed to unreasonable postural loads due to poorly designed chairs and tables. In some cases, a chair may be so high it cannot be adjusted low enough causing the operator's feet to dangle. This condition may lead to a compression of blood vessels and nerves at the bottom of the thighs and cause additional pain. Regularly slouching⁴ in the chair leads to long-term health complaints such as cervicgia⁵. The back rest of the chair should provide for support of the lower, middle, and upper portions of the back and allow for adequate relaxing of muscle tension while the operator temporarily leans back in the chair.

To avoid or minimize injuries the following measures are recommended for both a basic table and chair workstation and a computer workstation:

- i. Workstations should be comfortable with safe and suitable chairs and sufficient space. A good rule of thumb for personal space is to allocate 6.25 square meters per individual workstation, including furniture and fitting, but excluding passageways and amenities.
- ii. Tables or desks should be of sufficient size to allow work and other tasks to be performed without excessive twisting, turning, or stretching of the trunk, shoulders, neck, or arms.

² Relating to or designed for efficiency and comfort in the working environment

³ Injuries that affect the muscles, ligaments, tendons and bones

⁴ The action or fact of standing, moving, or sitting in a lazy, drooping way

⁵ A term used to describe pain or significant discomfort in the neck, especially at the back and/or sides

- iii. The surface of the table should be large enough to allow for all necessary equipment and work materials.
- iv. There should be adequate space under the table to allow room for the worker's thighs and knees and the ability to vary the position of the legs.
- v. Ideally, back rests of chairs should be independent from the main portion of the seat.
- vi. The seat surface should be 16-18 inches deep and 15-17 inches wide and should be moderately contoured with the front edge well-rounded to avoid pressure on the underside of the thighs.
- vii. Seat controls should be easy to use or they may not be used at all.
- viii. Seats should be covered with cloth or mesh materials that allow air circulation.
- ix. Armrests should be designed to provide appropriate support for the arms.
- x. Footrests should be provided to workers whose feet dangle to allow them obtain the necessary support.

For workers who use computers, additional health symptoms have been associated with the use of computers. The major risk factors at a computer workstation in addition to inappropriate posture mentioned above include repetitive motions. Repetitive motion illness involves the body's musculoskeletal system having to perform rapid repetitive work. Repetitive motion health symptoms and illnesses are primarily caused by the speed and the type of work. In addition, poor work organization procedures and poorly designed computer and workstation equipment may also contribute to the onset of health symptoms. Computer workplace related repetition illnesses usually involve the fingers, wrists, hands, elbows, arms, and/or shoulders and will most often be identified as pain, swelling, and/or numbness in or around the affected muscles and tendons. Initially, the pain, swelling, or numbness may occur only while performing the repetitive work. During the early stages when the pain is slight, if immediate action is taken, no permanent damage will result. Conversely, if nothing is done and the member continues the repetitive work, then permanent damage may result. An example of this is the carpal tunnel syndrome (CTS); a disorder that causes pain and weakness in the hand and wrist. Early in the disorder, the process is reversible. Over time, however, permanent nerve damage may develop. Proper computer design is crucial to the prevention of repetitive motion illnesses. Issues of concern include the computer, adjustability of the screen angle, and reflection quality of the screen.

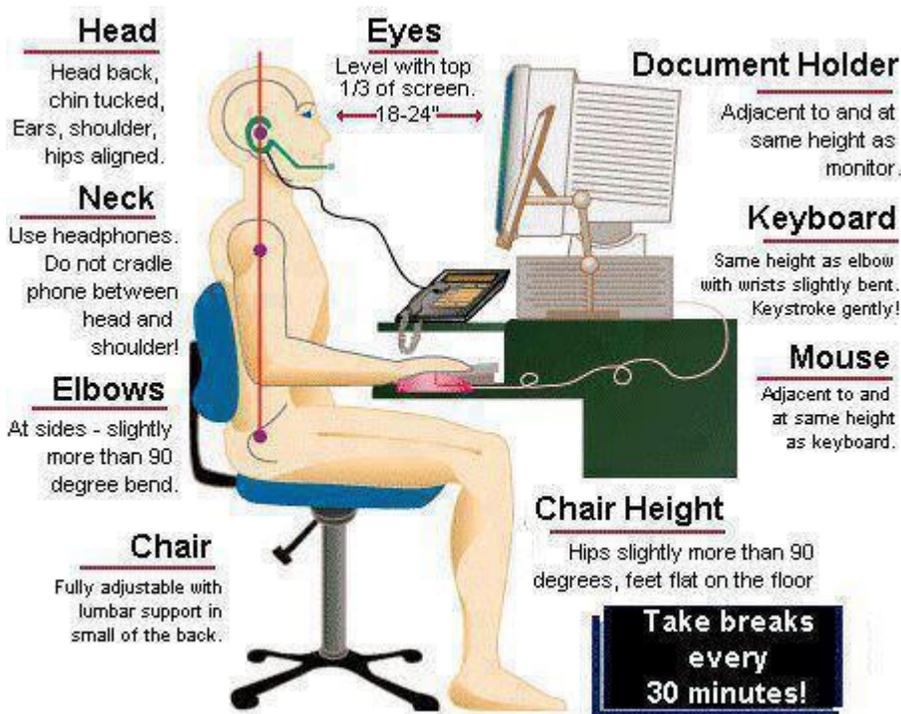


Figure 1: An example of commonly recommended computer work station

Repetitive motion illness can be prevented through the following measures:

- i. Computers should be equipped with separate or separable keyboard and screen units.
- ii. Keyboards should be thin and the angle should be designed to be between 5 to 15 degrees measured from the horizontal and preferably adjustable using the props under the keyboard.
- iii. Key surfaces should be concave⁶ for finger comfort and have a finish that reduces reflections.
- iv. Key force should not feel either too stiff or too soft and keys should have tactile (snap-action) or auditory (sound) feedback.
- v. The keyboard layout known as QWERTY⁷ is recommended.
- vi. When numeric data entry is required, a separate numeric key pad provided on the right side of the keyboard should be used.
- vii. Special function keys should be color-coded, distinctively shaped, or grouped together.

⁶ Having an outline or surface that curves inwards like the interior of a circle or sphere

⁷ Derived from the first 6 alpha keys at top left hand side of the keyboard

- viii. It is recommended that the mouse unit should be detachable and moveable so that it can be positioned to best suit the posture and work requirements of the individual operator.
- ix. The mouse should be designed to fit comfortably into the hand and positioned with the click buttons level with the keyboard.
- x. The mouse should be located at the same height and angle as the keyboard and situated next to the keyboard.
- xi. The work surface upon which the mouse is used should be large enough to allow for the proper and intended operation.
- xii. When using a mouse, it should be held loosely with the wrist in a neutral position and operated by moving the entire arm and shoulder.
- xiii. A light touch should be used when clicking the mouse buttons.
- xiv. Computers should be equipped with adjustable angle (tiltable) screen controls. Availability of adjustable angle controls will allow operators to position the computer to fit their particular physical characteristics.
- xv. Computer tables or desks should be vertically adjustable to allow for operator adjustment. This is especially important for short and tall workers to maintain comfortable postures. Operators are encouraged to alternate sitting and standing working postures where possible.
- xvi. Proper design should allow for different arrangements of computers as the task requires.
- xvii. Depending upon the design of the computer, it may be necessary to provide some means of adjusting the height of the screen itself. While adjustable tables that provide this option are available, in some cases the need may be satisfied by providing stands for displays.
- xviii. Adjustable screen height becomes particularly important when different workers must share the same workstation such as in directory assistance, customer service and reservation agent jobs.
- xix. Document holders should be provided at computer workstations involving data input or where hard copy is used. A document holder allows the operator to position and view material without straining her/his eyes or neck, shoulder, and back muscles.
- xx. Ideally, the document holder should be adjustable both in angle and height to allow for repositioning of work or use by a different worker.

Lighting

Adequate lighting must be provided in offices. Where possible, offices should have natural lighting. When artificial lighting is used it should be sufficient but avoid visual fatigue and prevent glare or reflection into the worker's eyes. The basic requirement for adequate lighting is that the work must be easy to see and the light comfortable to the eyes. When artificial lighting is provided, it must be remembered that fittings deteriorate with age and accumulate dirt over the surface leading to poor lighting. Colours determine the level of reflection; white reflects 75% or more of light, light colours reflect 50% - 75%, medium colours reflect 20% - 50% while dark colours reflect 20% or less.

The following measures need to be taken to ensure proper lighting in the office:

- i. It is advisable that light fittings are cleaned regularly, at least every 6-12 months.
- ii. Flickering or dim fluorescent lights should be replaced immediately.
- iii. White or off-white is recommended for ceiling; however, walls should have light or medium colours with a gloss or semi-gloss finish.
- iv. Walls near windows should be light in colour whereas those away from windows should be medium coloured below eye level.
- v. Floor should reflect less than 20% of light and therefore should be dark coloured.
- vi. The use of colorful posters and pictures relieves the monotony of the surroundings and also provides relief from eye strain.

For computer use, special care needs to be taken to ensure that lighting is adequate and does not cause undue strain to the eyes of users. The following measures are recommended:

- i. Operators should view the screen at an angle of 10 to 30 degrees below horizontal as illustrated in Figure 1.
- ii. For computers whose screens are not equipped with adjustment mechanism, adjustable stands should be provided.
- iii. Cathode ray tube computer screens should be equipped with anti-reflection coatings. Such coatings cause a change in the way light is reflected from the screen, reducing the luminance of reflected images. However, modern screens such as Liquid Crystal Display

(LCD), Light Emitting Diodes (LED) and Plasma are non-reflecting and may not need such coatings.

- iv. Computer tables should have a non-reflective surface.
- v. Screens should be positioned perpendicular to windows.
- vi. In turn, operators' line of sight should be parallel to windows and light fixtures.
- vii. In cases where computer equipment cannot be properly positioned to reduce/eliminate glare, room dividers, partitions, or screens may be placed behind the computer screen to reduce glare.
- viii. Computer work environments require less illumination than traditional office settings, between 50 to 70 percent lower than traditional offices.
- ix. When workplace illumination is decreased and operators must work with hard copy, supplementary or task lighting should be provided. Such lighting should be adjustable and fitted with glare control equipment.

Noise

Normal conversation between two people generates about 60 decibels⁸ (dB) of sound, a lawn mower is about 90 dB, and a loud concert is about 120 dB. In general, sounds above 85 dB are harmful to humans, depending on how long and how often one is exposed to them and whether hearing protection, such as earplugs or earmuffs are used. Excessive noise of above 80 dB may be experienced in office environment including prolonged use of printers, and photocopiers. Printers and photocopiers in frequent use and close to a workstation can impair concentration. Other obstructive sources of noise include music players, television, vehicles and headphones. Using headphones at high volumes or wearing them for long period can have adverse effects on one's health. Some harmful effects of overusing headphones include loss of hearing, congesting air passage making ears vulnerable to infection, tinnitus⁹, and numbness in ears, ear pain and problems in the brain in the long run. Overusing earphones also makes one lose connection with the reality on the ground and face adverse consequences like accidents.

To avoid these adverse consequences, the following precautions need to be taken:

- i. Locate printers and photocopiers that are used for long periods away from other offices.

⁸ Unit used to measure the intensity of sound

⁹ Buzzing in the ear when there is actually no sound

- ii. Use noise dampers to reduce obstructive noise from printers and photocopiers and silencers in internal combustion vehicles and power generators.
- iii. Have courtesy for neighbours when playing music or using the television.
- iv. Printers and photocopiers should be used in accordance with suppliers instructions and should be kept in good condition at all times, be repaired or serviced by qualified persons and any defects reported to the office manager.
- v. Always use headphones with breaks in between and listen to music at a moderate volume (less than 90 decibels). Follow the 60:60 rules¹⁰.
- vi. It is advisable not to share headphones with anybody else or ensure that headphones are sanitized after using them.
- vii. Do not use headphones that come in direct touch with ear canals. The big ones, though heavy, are preferable because they remain outside ears.
- viii. For a regular user of headphones, make sure to change its rubber cover every month.
- ix. Be very careful while using headphones outside to avoid accidents. Ensure that it does not become the last time you are going outside.
- x. In instances of power failure, generators that are release low fume levels and are quiet; emitting noise levels of less than 65dB and 55dB during the daytime and at night respectively should be used in commercial areas.

Temperature, Humidity and Air Quality

According to a study done by Indoor Environment Group in 2016, a worker's performance increases with temperature up to 21-22 °C, and then decreases with temperature above 23-24 °C. For example, at the temperature of 30°C the performance is only 91.1% of the maximum i.e. the reduction in performance is 8.9%.

When the moisture content of the air in an office building is too high, workers will feel clammy, warm, drowsy and sluggish. Indoor humidity should fall between 30 and 50 percent. Humidity higher than 50 percent makes the air feel heavy and moist. Low moisture levels may cause itchy skin, rashes, sore throat, coughing, and a stuffy nose.

¹⁰ Set up the volume at 60 percent of the maximum volume and play it for not more than 60 minutes at one go

Poor indoor air quality may trigger allergies and asthma, irritates eyes, nose and throat, or can result in fatigue, nausea or illness. The health effects of these symptoms can affect the well-being, and lead to poor work performance and productivity. In the long-term, these symptoms could also lead to sickness, missed work and loss of income.

In order to have a working environment where workers are comfortable, more efficient, productive and do not feel exhausted and stressed, there is need to have a conducive office working environment. This can be achieved through a number of physical interventions such as temperature, humidity¹¹, air quality. Very low humidity can cause dryness of the eyes, nose and throat and may also increase the frequency of static electric shocks. High humidity of more than 80% has reportedly been associated with fatigue and report of "stuffiness".

Photocopiers, laser printers and other electronic duplicating devices are office hazards which are a regular feature of the modern office environment, and some employees may be engaged in their operation for long periods of time. Excessive dry heat builds up if too many machines are placed in a small area, or where their use is frequent and ventilation insufficient. This causes discomfort to the eyes when the workplace becomes too dry and hot. In addition, studies show that spending a long time with a hot device such as a laptop on the lap lowers sperm count and quality in men.

Research has shown that laser printers emit nanoparticles¹² of substances which could increase the effects of exposure. Photocopiers produce small amounts of ozone (an unstable form of oxygen). If present in sufficient concentration, this odorous gas is irritating to the eyes, lungs, throat and nasal passages. Severe exposure results in lung damage. General discomfort or health effects may arise if machines are poorly sited, inadequately ventilated, poorly maintained or used by operators continuously for long periods.

Biochemical contaminants in the office include bacteria, viruses, mould spores and dust, solvent vapors, or chemicals generated or used in the building. Air conditioning units that do not provide adequate amounts of fresh air lead to high levels of carbon dioxide. Stale air due to poor ventilation and excessive heat build-up or humidity also contributes to air contamination. Re-circulated toxic air clogs the lungs.

¹¹ The amount of water vapour present in air

¹² Microscopic particles

Sick Building Syndrome (SBS)¹³ is caused by a combination of poorly adjusted ventilation, air-conditioning, temperature, humidity and lighting and psychological factors such as stress, management style and tedious work schedules. The incidence of SBS is significantly higher in some buildings than in others, but no single, specific cause has been found. The symptoms that characterize sick building syndrome are sore eye, running nose, headaches, mucous membrane irritation, dry skin, dizziness and nausea. Furthermore, the more pain one feels, the more likely one will sit for longer periods, which leads to a range of health problems on its own. SBS should not be confused with conditions leading to ill-health caused by other hazards in the office environment.

Each individual office environment and office occupant will have unique circumstances; hence the guidance offered herein should be applied accordingly.

- i. A comfortable temperature must be maintained. Most people work comfortably at temperature between 20 - 26 degree Celsius, and wherever air-conditioning system and sun screens are used to maintain the comfortable temperature, fair consideration must be given to occupants most affected, for example work stations located in direct sunlight or directly under an air-conditioning vent.
- ii. The amount of water vapor in the air that is considered for optimum comfort (relative humidity) ranges from 40-60 per cent. If relative humidity is consistently high or low in an air-conditioned room, the technical experts should be called in to review the installation.
- iii. The movement of the air and rate of fresh air input must be adequate, through natural (windows or doors) or artificial ventilation (mechanical ventilation or air-conditioning). Where artificial ventilation is provided, the system should be regularly checked, kept clean and well maintained to prevent a growth of legionella¹⁴ bacteria or other organisms.

¹³ Joshi SM: Indian journal of Occupational and Environmental Medicine. 2008 Aug;12(2):61.

¹⁴ Bacteria that causes a serious type of lung infection

- iv. Appropriate control measures for the reduction of air contamination include effective air filtration, ensuring that adequate amounts of fresh air enter the building, maintenance of air-conditioning units including regular cleaning.
- v. To keep ozone and dust containing carbon black levels within acceptable limits, the photocopiers and laser printers should be regularly serviced, fitted with an ozone filter and placed in a room with adequate ventilation. It is recommended that workers should not stand by the photocopier when doing long runs (more than 15 minutes). If it is necessary to stand by, then the distance should be at least 1 meter from the photocopier.
- vi. The toners of photocopiers and laser printers should not be shaken to avoid release of and exposure to carbon black by operators and bystanders.
- vii. Equipment used in the office should be used in accordance with suppliers instructions and should be kept in good condition at all times, be repaired or serviced by qualified persons and any defects reported to the office manager.
- viii. Sick Building Syndrome can be minimized by using a combination of the solutions to each individual aspect of the office environment offered in this guide for ventilation, air-conditioning, temperature, humidity and lighting and psychological factors such as stress, management style and tedious work schedules.

Social Factors

Social factors are circumstances/characteristics/aspects that influence and affect the way one lives and behaves. These factors may arise from individual behavior and affect the individual alone or may arise from interpersonal relationship and affect a number of workers. The relationships between individuals in an organization are influenced by many factors. Personalities, lifestyle, ways of working and cultural backgrounds all combine to create a workplace that can be vibrant and exciting or stressful and alienating, depending on how people cope with the challenges of working together. When relationships between workers in an organization are negative, a number of risky behaviours and manifestations will crop up. These include fatigue and stress, sexual harassment, workplace violence, drug and alcohol abuse.

Personal Hygiene and Lifestyle

Personal hygiene refers to maintaining cleanliness of one's body and clothing to preserve overall health and well-being. Lifestyle is expressed in both work and leisure behavior patterns and on an individual basis in activities, attitudes, interests, opinions, values, and allocation of income. It also reflects people's self-image or self-concept; the way they see themselves and believe they are seen by the others.

It has been found that when good personal hygiene and healthy lifestyles are not promoted at the workplace, incidence of both communicable and non-communicable diseases is a likely outcome. For example, it has been found that keyboards have up to five times as many bacteria as a bathroom, and can include dangerous ones like E. coli and coliforms -both commonly associated with food poisoning-and cause a range of infections. The keyboard is not the only bacteria farm in the office. Door and faucet knobs, handles, elevator and printer buttons, handshakes, and more are all hotspots for bacteria. Microbes are everywhere, and some can even kill.

Smoking, drug and alcohol abuse, singly or in combination, have been proven to affect office workers negatively in both health and social aspects. . Many individuals and families face a host of difficulties closely associated with problem drinking and drug use and these problems quite often spill over into the workplace. Environment tobacco smoke is a contaminant and there is growing recognition that non-smokers suffer adverse health effects through inhaling tobacco smoke. Organizations are increasingly expected to limit passive smoking risks in office in the interest of their employees and clients. In addition to health issues, drug and alcohol abuse may promote violence both at the workplace and home. Overall, these vices lead to unhealthy lifestyle that affects productivity of workers.

Wearing uncomfortable shoes and clothes can lead to spinal injuries, muscle spasms, and even chronic headaches and migraines.

Some workplace practices that stand out as basics for promoting good hygiene and healthy lifestyles include the following:

- i. Provide clean welfare facilities like eating facilities, sanitary facilities, washbasins etc.
- ii. Provide adequate facilities for boiling water and taking meals for office employees or ensure they have reasonable access to these facilities.

- iii. Keep sanitary facilities clean and well ventilated. They must not exit into a work-room except through the open air or intervening ventilated space. The facilities must be located as near as possible to the office.
- iv. Provide enough toilets (a minimum of 2 for 25 users) for workers to ensure that they can use the facilities without undue delay, and keep them clean and in good order.
- v. Promote regular hand washing using clean running water and soap and/or use of sanitizers.
- vi. Avoid the spread of infectious diseases by creating a procedure for cleaning and disinfecting common areas, including break rooms.
- vii. Provide a supply of wholesome drinking water with adequate vessels for drinking.
- viii. Clean interior walls, ceiling, windows and work surfaces at suitable intervals, so as to maintain an appropriate hygiene standard.
- ix. Give contract office cleaners the same health and safety protection as regular office workers.
- x. Clean floors and indoor traffic routes at least once per week.
- xi. Remove waste material that accumulates on a daily basis.
- xii. Provide support staff that are attached to office workers but may not be using office equipment adequate resting places taking into account relevant parameters spelt out above.
- xiii. Encourage and motivate employees to attend wellness programs that are designed to help employees eat better, maintain good health and weight and improve their overall physical and physiological, psychological/emotional, spiritual, intellectual, financial, social, occupational and health in gyms and clubs
- xiv. Create a healthy environment that has suitable working tools and encourage workers to take regular breaks – preferably, breaks that get them outside for a change of scenery and fresh air.
- xv. Encourage workers to dress not only for the job demand and fashion but also comfort.
- xvi. Encourage employees to talk with supervisors and each other about difficulties they experienced both at work and home.
- xvii. Encourage workers to frequently do medical checks including for non-communicable diseases such as cancer, hypertension and diabetes and communicable diseases such as HIV/AIDS and hepatitis.

- xviii. Carry out consultation and education programs for the development and implementation of an effective no-smoking policy.
- xix. Establish and promote programs focused on improving health
- xx. Encourage and support treatment of affected workers, provide for their rehabilitation and implement a return to work program/strategy
- xxi. Uphold the rights of workers undergoing rehabilitation through privacy and confidentiality of information.

Fatigue

There is nothing wrong with feeling tired at the office once every so often. When fatigue¹⁵ is the norm rather than the exception, then it may indicate a deeper problem worth investigating.

The following measures can address fatigue whose measures are not deep rooted medical conditions.

- i. Short but frequent breaks are critical for staving off fatigue. Breaks are good at interrupting any prolonged sitting positions. Breaks are also good for getting blood flowing and activating muscles. In addition, giving eyes a much-needed rest from the computer screen.
- ii. Get moving and become more alert. Get an under the desk leg exercise to provide you with seamless movement that does not pull you from your work. Alternatively, take short, brisk walks around the office or down the hall.
- iii. Change workstation design and stand where possible. Desks that can adjust to standing positions offer great options to get the benefits of added circulation.
- iv. Eat smarter and better and do not skip out meals, particularly breakfast. A good breakfast filled with fiber will hold you in good condition throughout the morning. Keep your lunch selections low on fat and non-fibrous foods. Resist the temptation to overeat. The WHO recommends that energy intake (calories) should be in balance with energy expenditure.
- v. Avoid over-consuming sugar; the burst that you get will be short-lived before the negative effects kick in. High energy snacks and fruits are far-wiser choices.
- vi. Select foods that are low in sugar, and eat free sugars sparingly, limiting the frequency of sugary drinks and sweets.

¹⁵ Extreme tiredness resulting from mental or physical exertion or illness

- vii. Drink more water and less caffeine. Mild dehydration is a common and often unnoticed cause of fatigue. It can reduce blood flow to body organs and slow down the brain. Keep lots of water at the desk and drink about eight glasses of water a day, which should include drinking when not thirsty. Caffeinated drinks, including coffee and soda give alertness but care is needed about how much caffeine is taken. Caffeine late in the day can cause insomnia.
- viii. Cultivate harmonious working relations with the boss, peers and subordinates.
- ix. Consult a doctor or medical professional when symptoms persist.

Workplace Stress

Work-related stress is the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope. It is of increasing concern in offices and is still poorly understood. While stress under control is a motivator to accomplish tasks, it can lead to both physical and psychological health issues when not managed. Some common workplace stressors are low salaries, poor interpersonal relationships, sexual harassment, excessive workloads, role conflicts, shift work, work discrimination, few opportunities for growth or advancement, work that is not engaging or challenging, lack of social support, not having enough control over job-related decisions, conflicting demands or unclear performance expectations. According to the WHO Fact Sheet for Healthy Lifestyle, working for more than 10 hours every day poses a greater risk of a multitude of cardiovascular problems, including heart attack. In addition, working for an unfair boss may contribute to a host of other complaints, including depression, sleep issues, high blood pressure, and being overweight. The longer one works for that person, the worse the problem seems to become.

Vulnerable workers need to be given special attention. This group includes new workers, new and expectant mothers, older persons and persons with disabilities. Because of their special needs, the work environment and interaction need to be improved to make a sense of inclusivity. In the short term, a stressful work environment can contribute to problems such as headache, stomachache, sleep disturbances, short temper and difficulty in concentration. Chronic stress can result in anxiety, insomnia¹⁶, high blood pressure and a weakened immune system. It can also contribute to health conditions such as depression, obesity and heart disease. Compounding the problem, people

¹⁶ Sleep disorder that is characterized by difficulty falling and/or staying asleep

who experience excessive stress often deal with it in unhealthy ways such as overeating, eating unhealthy foods, smoking cigarettes or abusing drugs and alcohol.

Some solutions to relieve stress include:

- i. Stressful situations should be identified in the office and safeguards implemented at organizational level to minimize the risk. This might mean making changes in the organization of work.
- ii. Talking to supervisor and friends and encouraging interactions at communal places such as cafeteria and team building events.
- iii. Effective induction of new workers in procedures, rules and regulations, job descriptions, performance targets and culture of the workplace.
- iv. Acknowledging good work, and showing appreciation for employees.
- v. Setting boundaries between work and other areas of your life.
- vi. Learning to relax, taking time to recharge through annual leaves and vacations.
- vii. Developing healthy responses through diet and exercise.
- viii. Good time management and work planning.
- ix. Provision of facilities for pregnant workers and new mothers to rest and breastfeed, respectively.
- x. Provision of comfortable access to buildings to People with Disabilities and older persons and convenient facilities within the office.
- xi. When symptoms persist, consult a doctor or medical professional.

Sexual Harassment

Sexual harassment is part of gender-based harassment¹⁷ and refers to unwelcome sexual advances or conduct of a sexual nature which unreasonably interferes with the performance of a person's job or creates an intimidating, hostile, or offensive work environment. It can range from persistent offensive sexual jokes to inappropriate touching and posting offensive material on a bulletin board. Sexual harassment at work is a serious problem and can happen to both women and men.

Strategies to stop sexual harassment include:

- i. Personally informing the harasser that his/her actions are offensive.

¹⁷ Gender-based harassment" means harassment directed at persons because of their sex or gender, or affecting persons of a particular sex or gender disproportionately

- ii. Involving human resource department and supervisors.
- iii. Documenting the harassment.
- iv. Referring to the Employment Act 2006 and the Code of Conduct and Ethics for Public Servants for legal redress.

Workplace Violence

There may be violence or the threat of violence against workers. Violence against workers by fellow-employees can occur outside the workplace. While office workers are not typically at the top of the higher risk category, violence in the office does exist and range from simple threats and verbal attacks to physical assaults and even homicide. The following recommendations help manage violence related to the workplace:

- i. Employers have a responsibility to take reasonable precautions to safety and health at work - providing a secure office through the provision of extra lighting, video surveillance, alternative methods of communication, and other security measures.
- ii. Workers need to be trained on how to take reasonable precautions to prevent violence in the office, identify suspect conduct, alert supervisors to dangerous situations, what to do if they witness or are victims of workplace violence, as well as how to protect themselves.
- iii. Supervisors must also be trained on what to do following an incident of workplace violence.
- iv. Zero-tolerance stance must be taken toward workplace violence, no matter how minimal the violence against workers seems.

Safety in the Office Environment

Office environments are generally considered low-risk workplaces, although they still contain safety hazards which need to be monitored and controlled. Common hazards in offices include manual handling hazards; slip, trip and fall hazards; electrical hazards, chemical hazards and fire.

Manual Handling

Manual handling is a term used to describe everyday type of activities such as carrying, stacking, pushing, pulling, rolling, sliding, lifting or lowering loads. For office workers this includes tasks such as moving boxes of stores, filing, setting equipment from cupboards and filling the photocopying machine with paper. A common office hazard is the manual movement of loads leading to back injuries and pain in hand, wrist and neck.

To reduce the likelihood of these types of accidents the following are recommended:

- i. Remove the need for manual handling that could be the cause of injury where possible.
- ii. Identify those tasks where manual handling cannot be avoided and assess the risk of injury.
- iii. Reduce the risk of injury by rearranging the work being done (e.g. have paper delivered to photocopier by hand truck rather than manually carrying it from stores, reduce weight to be lifted, etc.)
- iv. Provide manual handling training to workers who need it (messengers, service attendants etc.) and give them information on the weights being lifted and how to plan a lift.
- v. Do take particular precautions when cabinets, desks or other heavy office equipment have to be moved including providing hand truck or trollies and using team lifting.

Safe Manual Handling

It is important to adopt safe manual handling techniques as good practice and safe systems of work can reduce injuries. Back and hand injuries are commonly associated with manual handling operations. Some injuries can take a short time to recover from whilst others can affect operatives for the rest of their lives.





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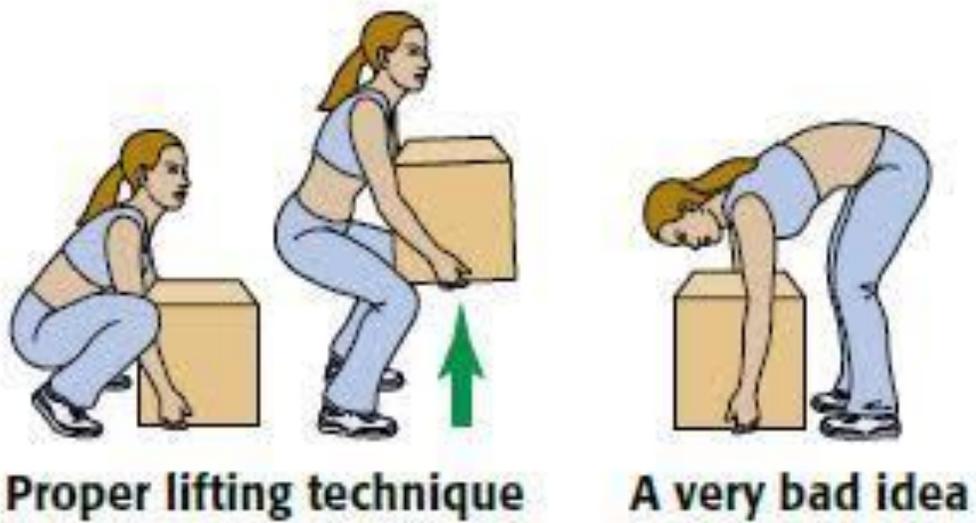


Figure 2: Good and Poor lifting postures and Equipment use

Slips, Trips and Falls

Slips, trips, and falls are one of the leading causes of injury in the office workplace. Most cases arise from protruding cabinet drawers, electrical cords, fallen objects, poorly designed staircase, inadequate lighting, poor housekeeping and wet slippery floors, spillages or grip-less shoes. Falls occur from ladders or from standing on chairs to reach an object. Many of these accidents can be avoided by simple planning and good housekeeping including the following measures:

- i. Traffic ways and aisles should be well lit and be kept clear of material, equipment, rubbish and electric leads.
- ii. Office workers must practice good housekeeping, use of signage for hazards and avoid careless use of mobile phones while moving on staircases or driving.



Figure 3: Poor Storage, Loading and Unloading practices

- iii. Floors should be level and the use of door mats is discouraged.
- iv. Spilled liquids and anything else dropped on the floor should be immediately picked up or cleaned.
- v. Free standing fittings should be completely stable or secured to the wall or floor.
- vi. Filing cabinets should be placed so that they do not open in to aisles and should never be left with cabinets drawers open.

- vii. For stability, load cabinets starting from the bottom and do not open more than one drawer at a time.
- viii. Equipment using hand-fed process such as electric staplers and paper guillotines should be safeguarded and staff trained in their proper use.
- ix. Ensure that the dangers of trailing cables, overloaded circuits, broken plugs and sockets of equipment that use electricity are rectified by qualified personnel.
- x. Ensure all contract maintenance staff using/operating office equipment is given the same safety and health protection as regular office workers.
- xi. Passenger lifts and all other office equipment and tools should be thoroughly examined and maintained on a regular basis by competent personnel.
- xii. Ensure walkways in car parks are suitably marked and lit and there is safe means for pedestrians and vehicles to move.
- xiii. Both driver and pedestrians must take extra precaution while on the road and in the parking areas to ensure their own personal safety as well as that of other road users.
- xiv. Employers are encouraged to take health insurance as a means of meeting treatment cost of workers who are injured. In addition, insurance against accidents helps meet compensation costs when there is need.

Chemicals

Chemicals used in an office environment such as cleaning agents, printing inks, photocopier toners and correction fluids have the potential to cause ill health with long term direct exposure through the skin or by inhalation of the fumes. For safe operations office workers and contractors need to follow this guidance:

- i. Office workers need to be made aware of these hazards.
- ii. All chemicals used in the office should be stored in a dry cool place.
- iii. It is important that these chemicals are properly labeled in legible writing with expiry dates and that information in the material safety data sheet is understood by users. Keep these sheets up-to-date and store them in a location where workers can consult them easily.
- iv. Users of these chemicals must use appropriate personal protective equipment such as gloves, overalls and goggles.
- v. There is need to put a system of waste segregation and care must be taken to ensure hazardous wastes including electronic waste are disposed in accordance with the law.

Fire Outbreak, Electrical Hazards and Emergencies

Fires in offices are very common occurrences which cause enormous damage to property and life of occupants. Therefore, it is very important to ensure that the correct fire safety measures are in place and that workers are trained to identify the hazards and know what to do if a fire breaks out. Whilst there are many causes of fires in the office workplace, the most common ones are electricity, materials, cooking and smoking.

Negligence, poor workmanship and substandard materials are the main enhancers of electrical fires in an office environment. Typically, faulty wiring as a result of not servicing or not taking general care of equipment is a common enhancer. Overloading an extension lead by plugging in appliances that together exceed the maximum current rating stated for the extension lead could cause a plug terminated in an electrical wall socket to overheat and cause a fire.

Considerable attention should be given to the safe storage and handling of flammable materials such as paper, flammable gases and liquids. Kitchens provided for staff are often the source of fires in offices.

There are four main types of injuries from electricity namely; electrocution (fatal), electric shock, burns and falls. Common tasks that put workers at risk include electrical installation and repairs, testing of fixtures and equipment and inspection and maintenance activities. However, people who are indirectly working with electricity like office workers are also exposed to electrical hazards. Use of electric kettle, microwaves, clearing paper jams in printers and other duplicating machinery will expose users to hot or moving parts, sharp edges, pinch points, or exposed electrical parts.

Emergencies that could occur in the offices include fainting, gas leaks, lift failure, lightning strike, earthquake etc. These emergencies could result into death, fires, explosion and structural failure of buildings.

The following measures need to be implemented to prevent, detect and fight fire and handle emergencies in offices:

- i. Sensitize workers and contractors on the safe use of electricity to avoid electric shocks, burns and electrocution.

- ii. Use only qualified and licensed electrical practitioners to wire and maintain electrical installations in the workplace.
- iii. Used approved materials for wiring office accommodation.
- iv. Do not overload an extension lead by plugging in appliances that together exceed the maximum current rating stated for the extension lead.
- v. Avoid keeping water close to electrical equipment or appliance.
- vi. Each machine must always be disconnected from the power supply before opening.
- vii. Use modern machines that have electric shock risks designed out by turning off automatically upon opening the machine.
- viii. Take precautions not to stack or cover electrical hardware that requires air to circulate around to avoid any risk of the equipment overheating and catching fire.
- ix. Always ensure that portable appliances are tested regularly as per the applicable safety regulations.
- x. Ensure user of appliances are trained in their use and risks posed by the appliances and how to prevent the risks.
- xi. Keep heat sources away from combustible materials such as paper.
- xii. Always follow the safety data sheet for instructions on material storage of all flammable liquids, glues and solvents as they are liable to combust unless stored and used properly.
- xiii. Always ensure that kitchen workers do not leave food unattended while it is cooking.
- xiv. It is important to fit kitchens or other cooking areas with fire blankets, fire extinguishers and automatic fire detection.
- xv. Enforce the prohibition of smoking in public places.
- xvi. Install a fire alarm together with fire extinguishers and sand buckets that are suitable for the kind of fire likely to be encountered in the office area.
- xvii. Carry out drills for continuous sensitization on emergency response.
- xviii. An emergency plan should be prepared and tested on a regular basis to ensure an orderly evacuation from the office and should cover fire drills/safe evacuation, first aid, how to shut off machines and leave the workplace safely, list of names and contacts of persons who are responsible for emergency response and evacuation, to call the emergency services, and detail the assembly areas.

- xix. Ensure gas cylinders and accessories are secure, leak-proof and are serviced regularly by authorized personnel whose telephone contacts are handy.
- xx. Service lifts regularly and conduct safety inspection by authorized personnel. Display functional emergency telephone contacts inside the lift.
- xxi. Sensitize all workers in an office setting on how to conduct first aid as it improves the outcome of the injured person prior to being seen by a doctor.
- xxii. A first aid box must be available and accessible.
- xxiii. A first aid room should be present to give first-aid needs as necessary and in accordance with regulations on first aid.
- xxiv. Consult an authorized first aid trainer/ practitioner to guide on training of first aiders and management of first aid.
- xxv. Install lightning arrestors in all strategic points of the office block.
- xxvi. Install earthquake detectors in areas prone to it.
- xxvii. Every office worker is encouraged to learn and understand safety signage through colour codes, shapes and other symbols for preventive and evacuation purposes. A sample of common signages is shown in Figure 4 below.

KNOW YOUR SAFETY SIGNS

Get to know what the symbols mean they are provided for your safety, There are 4 main categories, each has a different shape and colour.

	MEANING	SHAPE & COLOUR	SYMBOLS are put inside the safety shape. These are used in all EEC Countries		
PROHIBITION	You must not. Do not do. Stop.	 RED means STOP	 No admittance	 No smoking	 No dirty clothes
MANDATORY	You must do. Carry out the action given by the sign.	 BLUE means OBEY	 Keep clear	 Head protection must be worn	 Wear gloves
WARNING	Caution. Risk of danger. Hazard ahead.	 YELLOW means risk of DANGER	 Danger high voltage	 Danger mind your head	 Danger fork lifts in operation
SAFE CONDITION	The safe way. Where to go in an emergency	 GREEN means GO	 First aid station	 Emergency phone	 Emergency exit

MULTI-PURPOSE SIGNS To be used when the hazard requires more than one of the 4 types to convey the safety message.	 Acetylene	 Wear masks	 Warning Flammable liquid	 Protective garments must be worn
SUPPLEMENTARY TEXT If the safety sign needs additional information it may be added in words.	 Fire alarm call point	 DANGER Highly flammable	 Protective gloves must be worn	 Electrical gloves
FIRE EQUIPMENT SIGNS For indicating the location of fire fighting equipment and how they should be used.	 Fire alarm call point	 Fire hose reel	 Fire extinguisher	 Fire phone
WORKS TRAFFIC SIGNS Are the same design as public road signs.				
			DANGER IDENTIFICATION MARKING 	

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Figure 4: Commonly used international signs and colour coding

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