The applications of computer technology and the accompanying use of video display terminals (VDTs) are revolutionizing many workplaces in the world, and their use will continue to grow in the future.

Along with this expanding use of VDTs have come reports about adverse health effects for VDT operators. In an effort to inform employees at HKUST, this article briefly examines the potential hazards and interventions employers can use to prevent or reduce the potential harmful effects of working with VDTs.

**VDT Components**

VDTs, comprised of a display screen, a keyboard, and a central processing unit, have rapidly replaced the use of typewriters and other office machines.

The VDT operates at high voltages, but the power supplies generating these voltages produce very little current. All data processing equipment, including VDTs, must meet stringent international safety standards in this regard.

**Health Effects**

In the wake of the expanding use of VDTs, concerns have been expressed about their potential health effects. Complaints include excessive fatigue, eye strain and irritation, blurred vision, headaches, stress, and neck, back, arm, and muscle pain. Other concerns include general physical discomfort, cumulative trauma disorders, and potential exposure to electromagnetic fields. Research has shown that these symptoms can result from problems with the equipment, work stations, office environment or job design, or from a combination of these. Some of the most common stressors, their related health effects, and their means of prevention are discussed briefly in the following sections.

**Eyestrain**

Visual problems such as eyestrain and irritation are among the most frequently reported complaints by VDT operators. These visual symptoms can result from improper lighting, glare from the screen, poor positioning of the screen itself, or copy material that is difficult to read. These problems usually can be corrected by adjusting the physical and environmental setting where the VDT users work. For example, work stations and lighting can and should be arranged to avoid direct and reflected glare anywhere in the field of sight, from the display screen, or surrounding surfaces.

VDT operators also can reduce eyestrain by taking vision breaks, which may include exercises to relax eye muscles after each hour or so of operating a VDT. Changing focus is another way to give eye muscles a chance to relax. The employee needs only to glance across the room or out the window from time to time and look at an object at least 20 feet away. Other eye exercises may include rolling or blinking the eyes, or closing them tightly for a few seconds.

**Fatigue and Musculoskeletal Problems**

Work performed at VDTs may require sitting still for considerable time and usually involves small frequent movements of the eyes, head, arms, and fingers. Retaining a fixed posture over long periods of time requires a significant static holding force, which causes fatigue.

Proper work station design is very important in eliminating these types of problems. An individual work station should provide the operator with a comfortable sitting position sufficiently flexible to reach, use, and observe the display screen, keyboard, and document. Some general considerations to minimize fatigue include posture support (back, arms, legs and feet), and adjustable display screens and keyboards. VDT tables or desks should be vertically adjustable to allow for operator adjustment of the screen and keyboard. Proper chair height and support to the lower region of the back are critical factors in reducing fatigue and related...
Areas Affected by Carpal Tunnel Syndrome

The Carpal Tunnel

Interventions

There are a variety of interventions that employers can implement to reduce or prevent harmful effects associated with VDT use. Some of these are briefly identified in the following paragraphs.

Lighting

Light should be directed so that it does not shine into the operator's eyes when the operator is looking at the screen. Further, lighting should be adequate for the operator to see the text and the screen, but not so bright as to cause glare or discomfort (see Figure 3).

There are four basic lighting factors that must be controlled to provide suitable office illumination and avoid eyestrain: quantity, contrast, and direct and reflected glare.

Quantity. In most offices, light fixtures and daylight provide illumination for work surfaces (e.g., 50-100 foot-candles). High illumination "washes out" images on the display screen; therefore, if possible, where VDTs are used, illumination levels should be somewhat lower (i.e., 28-50 foot-candles are often satisfactory).

Contrast. Contrast is the difference in luminance or brightness between two areas. To prevent the visual load caused by alternate light and dark areas, the difference in illuminance between the VDT display screen, horizontal work surface, and surrounding areas should be minimized.

Most of the tasks associated with VDTs do not require precise visual acuity, and diffuse (indirect) lighting is appropriate. The advantages of diffuse lighting are twofold: there tend to be fewer hot spots, or glare sources, in the visual field; and the contrasts created by the shape of objects tend to be "softer". The result, in terms of luminous intensities, is a more uniform visual field. Where indirect lighting is not used, parabolic louvres on overhead lights are probably the next best way to ensure that light is diffused.

Glare. Glare is usually defined as a harsh, uncomfortably bright, light. Glare is dependent upon the intensity, size, angle of incidence, luminance, and proximity of the source to the line of sight. Glare may be the result of direct light sources in the visual field (e.g., windows), or reflected light from polished surface (e.g., keyboards,) or from more diffuse reflections which may reduce contrast (e.g., improper task lighting). Glare may cause annoyance, discomfort, or loss in visual performance and visibility.

In many cases, the reorientation of work stations may be all that is necessary to move sources of glare out of the line of sight. The proper "treatment" for window glare includes baffles, venetian blinds, draperies, shades, or filters. The face of the display screen should be at right angles to windows and light sources. Care should be taken, particularly when terminals are installed within 20 feet of windows, to ensure that there is some method of blocking the sun's light, such as blinds or curtains.

Radiation

Another issue of concern for the VDT operator is whether the emission of radiation, such as X-ray or electromagnetic fields in the radiofrequency and extreme low frequency ranges, poses a health risk. Some workers, including pregnant women, are concerned that their health could be affected by electromagnetic fields emitted from VDTs. The threat from X-ray exposures is largely discounted because of the very low emission levels. The radiofrequency and extreme low frequency electromagnetic fields are still at issue despite the low emission levels. To date, however, there is no conclusive evidence that the low levels of radiation emitted from VDTs pose a health risk to VDT operators. Some workplace designs, however, have incorporated changes - such as increasing the distance between the operator and the terminal and between work stations - to reduce potential exposures to electromagnetic fields. Since the possible effects of radiation from VDTs continue to concern operators, the issue is still being researched and studied.
To limit reflection from walls and work surfaces visible around the screen, these areas should be painted a medium colour and have a nonreflective finish. Work stations and lighting should be arranged to avoid reflected glare on the display screen or surrounding surfaces.

Antiglare filters that attach directly to the surface of a VDT screen can help reduce glare. Two types of filters are available: natural density filters, which scatter and diffuse some of the light reflected off the glass display screen, and micromesh filters, which not only scatter the light but also absorb most of the light reflected from the surface of the screen by means of an imbedded interwoven grid of dyed nylon fibres. Newer model keyboards tend to have antiglare matte finishes. Further, lighting should be adequate to enable the operator to see the text and the screen, but not so bright as to cause glare. Where used, work station lighting should be easily adjustable and directed at source documents and not at the display screen surface.

**Work Station Compatibility and Design**

In the office environment, the work station consists primarily of a work surface of some type, a chair, VDT equipment, and other related items (See Figure 4).

The employee must have adequate work space to perform each of the tasks required by the job. Individual body size must be considered and will influence the design of the chair, the height of the work surface, and access to various elements of the work station, including the display screen.

A height-adjustable work surface is an advantage. In general, a good VDT work surface will provide as many adjustable features as possible. Also, adequate legroom should be provided for the employee to stretch out and relieve some of the static load that results from sitting with the legs in a fixed position for long periods.

**Chairs.** The chair can be a crucial factor in preventing adverse health effects as well as in improving employee performance in office work. As the majority of office workers spend most of their time sitting, proper back and shoulder support helps to reduce fatigue. If the chair does not fit the worker properly, there can be serious physical effects, as well as effects on performance. Consequently, the appropriate types of ergonomic chairs should be made available to accommodate various worker needs.

**Chair Height.** When an employee must spend from 6 to 8 hours in the chair, the height of the chair and the work surface are critical. The human body dimension that provides a starting point for determining correct chair height is the "popliteal" height. This is height from the floor to the point at the crease behind the knee. The chair height is correct when the entire sole of the foot can rest on the floor or footrest and the back of the knee is slightly higher than the seat of the chair. This allows the blood to circulate freely in the legs and feet.

**Seatpan Design.** Size and shape are two factors to consider in the design of the seatpan of the chair. The seatpan can be slightly concave with a rounded, or "waterfall" edge. This will help distribute the weight and may also prevent sliding forward in the chair. The angle of the seatpan should also be considered. Some options include a seatpan that slopes slightly down at the back or one that has a forward tilt that produces less stress on the lower region.

**Backrest.** A proper backrest should support the entire back including the lower region. The seat and backrest of the chair should support a comfortable posture that permits frequent variations in the sitting position. The backrest angle and chair height should be easily adjustable. A foot rest may be necessary for shorter individuals.
VDT Design

Display Screen. Most new VDTs have separate, adjustable keyboards and display screens that allow both the keyboard and display screen to be positioned appropriately for the employee. This is important because VDT operators may spend a considerable amount of time looking at the display. The height of the display screen surface must be determined in relation to the task and the operator's height. In addition, screens that swivel horizontally and tilt or elevate vertically enable the operator to select the optimum viewing angle.

The topmost line of the display should not be higher than the user's eyes. The screen and document holder should be the same distance from the eye (to avoid constant changes in focus) and close enough together so the operator can look from one to the other without excessive movement of the neck or back. The incline of the document holder should be adjustable.

The preferred viewing distance for VDTs ranges between 18 and 24 inches. To this distance must be added the depth of the display itself. Some displays are as much as 20 inches deep. The best way to deal with this, other than increasing table depth, is to install a keyboard extension on the front of the desk.

Legibility is also a primary consideration in selecting a display screen. Legibility factors to be considered include symbol size and design contrast, and sharpness.

Keyboard. The keyboard should be detachable and adjustable to ensure proper position, angle, and comfort for the operator. A lower than normal work surface may be required to keep the operator's arms in a comfortable position. The thickness and the slope of the keyboard are critical in determining the preferred height. The keyboard and table, therefore, have to be selected in relation to each other, or the surface must be adjustable. Options for keyboard placement also should be considered in choosing the size and adjustability of the work surface.

The preferred working position for most keyboard operators is with the forearms parallel to the floor and elbows at the sides, which allows the hands to move easily over the keyboard. The wrist should be in line with the forearm. A padded and detachable wrist rest for the keyboard can help keep the operator's wrists and hands in a straight position while key stroking.

Operating a VDT, like any form of sustained physical or mental work, will lead eventually to fatigue. It may take the form of visual fatigue, muscular fatigue, general body fatigue, or mental and psychological fatigue. Rest pauses to alleviate or delay the onset of fatigue may be necessary.

Workstation Exercises

The following exercises should help to relieve some of the physical complaints/discomfort associated with sedentary work:

Visual exercises can help reduce eye strain. Try the following:

- At least every 15 to 20 minutes change your focus away from the terminal for a few seconds, and look at something at least 20 feet away.
- Try palming at the same time. Form shallow cups with the palms of your hands and place them over your closed eyes for a few seconds.
- Blink often. But slowly, to allow your eyes to moisten.

And when you take a break, opt for non-visual demanding diversions. Keep in mind that reading your favourite novel or doing close work may contribute to eye fatigue, so try to "rest" your eyes on your time off.

While working when you can't walk away from your terminal, there are exercises you can do in place. For the most benefit you should do these exercises frequently throughout the day. Try each of the following several times:

- Begin with deep breathing and shoulder shrugs. Bring your shoulders up, breathe in, release.
- Stretch your chin forward towards the screen and bring it back. Then tuck your chin down, and slowly drop your head to stretch the back of your neck. Come up slowly. Gently roll your head from side to side.
- Do shoulder rolls. Raise your shoulders up towards your ears and rotate them back, then rotate forward.
- Do elbow squeezes. Squeeze your elbows together behind your back, release.
- Do arm stretches. Stretch your right arm up, left arm down, stretch and hold. Reverse, left arm up, right arm down, stretch and hold.
- Stretch your legs forward and flex your feet up and down. Move your legs like you're walking in place.
- If you can stand by your workstation, put your hands at the small of your back and slowly arch back. Don't do a gymnastic back bend, just a small stretch.

(This information has been compiled from references published by the US OSHA and Pacific Bell Corporate Safety).
An Explosion at HKU

The Accident

An explosion occurred in the Organic Research Laboratory at HKU. The experiment involved a post-graduate student who was performing an organic synthesis procedure which generated an organic azide as an intermediate. The work was done on a bench top. While the cause of the explosion is unknown at the moment, it was thought to be the result of the sudden liberation of a large volume of nitrogen gas which formed during the decomposition of the organic azide. Three students were injured, one required hospitalization. Most of the injuries involved cuts to the face and hands by glass fragments. Fortunately, the student was wearing safety glasses which prevented her eyes from injury.

Azide compounds are dangerous

In academic institutions, azide compounds are commonly used in biochemical procedures and organic synthesis protocols. These compounds have a characteristic formula \( \text{R}(\text{N}_3)\_x \). \( \text{R} \) may be almost any metal, hydrogen or halogen atom; an organic radical or others. Hydrogen azide, most light metal azides, all heavy metal azides, and most organic azides are explosive. They should be handled with utmost care and be protected from light, shock and heat. Besides posing a hazard for the laboratory workers, they may also be hazardous to the waste handlers and sometimes, even plumbers. There have been reports of plumbers getting injured from explosion while fixing drain pipes in laboratories. When certain azide compounds are poured into the drain, they react with the lead and copper in the piping to form heavy metal azides which can explode when shaken. Another reason for not disposing hazardous materials into the drain!

Methods of Control

Administratively, students and employees should not be assigned to handle dangerous materials until they have been informed of the potential hazards and have been trained on the proper safety measures.

Engineering wise, controls should be employed to contain potentially dangerous operations. For example, experiments which involve the use of volatile materials should be performed in chemical fume cupboards. Potentially explosive experiments such as those involving azide compounds should be surrounded by blast screens.

The use of proper personal protective equipment such as eye protection, lab coats and gloves is essential when handling dangerous chemicals. Please note that regular prescription glasses cannot take the place of safety glasses or goggles. If the victim of the above-mentioned accident was wearing regular prescription glasses with glass lenses, they could have been shattered and inflicted injuries to the eyes!

Minimizing the Use of Toxic Chemicals

Many operations at HKUST involve the use of toxic chemicals. Some of these chemicals do not only pose a potential health hazard for those who come in contact with them, but will also become a burden in terms of waste management. Therefore the use of these chemicals should be eliminated or substituted whenever possible. Listed below are substitutes for some toxic materials:

<table>
<thead>
<tr>
<th>Original Material</th>
<th>Substitute</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetamide</td>
<td>Stearic acid</td>
<td>In phase change and freezing point depression</td>
</tr>
<tr>
<td>Benzene</td>
<td>Alcohols</td>
<td>Various laboratory procedures</td>
</tr>
<tr>
<td>Benzoyl peroxide</td>
<td>Lauryl peroxide</td>
<td>When used as a polymer catalyst</td>
</tr>
<tr>
<td>Chloroform</td>
<td>1,1,1-trichloroethane</td>
<td>Various laboratory procedures</td>
</tr>
<tr>
<td>Chromic acid</td>
<td>&quot;Nochromix&quot;</td>
<td>Cleaning of glassware</td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td>Cyclohexane</td>
<td>In test for halide ions</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>&quot;Formalternate&quot;</td>
<td>For storage of biological specimens</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>Ethanol</td>
<td>For storage of biological specimens</td>
</tr>
</tbody>
</table>
The Accident

On 13 August this year, a contract carpenter was seriously injured by a circular saw in a carpentry workshop at HKUST. An accident investigation revealed that the contractor was operating the machine without proper guarding. The injury required reconstructive surgery to provide limited function upon recovery.

The Facts

Last year, over 12% of the total number of industrial accidents were related to inappropriate operation of machineries.

Among these accidents, most of the injuries were caused by the improperly guarded, or unguarded dangerous mechanical parts of machineries. These accidents often involve amputation of fingers, a hand or an arm and thus causing permanent disability to the victim.

Proper guarding of the “dangerous parts” is essential in the safe operation of machineries. Some people may think that a machine does not need to be guarded when operated by a skilled operator. However, statistics show that even the most reliable and careful operator can make mistakes, especially in repetitive and familiar work. Therefore, a mere reliance on the operator’s training, skill or constant attention in substitution for effective guarding is dangerous. Proper guarding ensures safe operation at all times and provides confidence to operators.

There are many ways of guarding the “dangerous parts” of a machine. These include the use of fixed guards, interlocking guards, automatic guards, trip guards, or two-hand control devices.

The selection of the appropriate guarding methods depends on a number of factors such as the type of machines and the way in which they will be operated.

Some machines come with appropriate guards but others do not. Modification after a machine has been introduced may be technically difficult and/or impractical. Therefore, it is strongly advisable for machines users to specify the guarding requirements when ordering new machines.

The Industrial Safety Regulations of Hong Kong require that dangerous parts of machinery be guarded. Employers and supervisors who allow employees to work with unguarded machines may find themselves liable for criminal and/or civil offences.

Should you need any advice regarding the safe guarding of machineries in your area, please contact T S Li (ext. 6511).

Safe Guarding of Machineries

<table>
<thead>
<tr>
<th>Original Material</th>
<th>Substitute</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Halogenated solvents</td>
<td>Non-halogenated solvents</td>
<td>In parts washers or other solvent processes</td>
</tr>
<tr>
<td>Sodium dichromate</td>
<td>Hypochlorite</td>
<td>Various laboratory operations</td>
</tr>
<tr>
<td>Sulphide</td>
<td>Hydroxide ion</td>
<td>In analysis of heavy metals</td>
</tr>
<tr>
<td>Toluene</td>
<td>Simple alcohols and ketones</td>
<td>Various laboratory operations</td>
</tr>
<tr>
<td>Xylene</td>
<td>Simple alcohols and ketones, Citrus based solvents</td>
<td>Various laboratory operations</td>
</tr>
<tr>
<td>Xylene or toluene based liquid scintillation cocktails</td>
<td>Non-hazardous proprietary liquid scintillation cocktail</td>
<td>In radioactive tracer studies</td>
</tr>
</tbody>
</table>

If you have any questions or other good suggestions, please contact Al Clancy at extension 6509.

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Fire and Smoke Doors

The best fire protection is to prevent fires from happening. However, in a less than ideal world, fires do occur. The important thing is, should a fire break out, it needs to be restricted and quickly extinguished.

Most fires start from small sources that grow and develop rapidly. Vast quantities of smoke will be generated even at the early stage of a fire. If not effectively confined, the fire and smoke will quickly spread over the whole floor or even the whole building. The situation will become extremely hazardous if smoke and flame get into escape routes, such as common corridors and staircases, rendering it difficult or impossible for people inside the building to escape. Smoke can be even more hazardous than the flame itself. In fact, the majority of fatalities in the event of fire have been caused by smoke (people trapped or suffocated by smoke) instead of by actual burning.

A building is normally divided into “compartments” to limit the spread of smoke and flame during a fire incident. These “compartments” are enclosed by walls, doors, ceilings and floors with sufficient fire resistance. Any fire occurring in one compartment will be confined there for a sufficient length of time for occupants in other compartments inside the building to escape safely.

If properly built, the structural capability of the walls, floors and ceiling enclosing a “compartment”, poses little problem in providing proper fire protection. It is the doors (fire or smoke doors), that will create most of the problems. If fire or smoke doors are not closed properly or, worse still, are jammed open, the whole fire protection system will be defeated. When a fire occurs, the flame and smoke will spread freely from one compartment to another or to the escape routes through these open doors, jeopardizing the lives of the occupants.

You may have been aware of the number of doors you have to pass through before you can get to your office. You may also have experienced how annoying a door can be with a strong closer, particularly when carrying heavy goods. This is probably the major reason why many of these doors are wedged open. However, it is important to understand that these doors are there to protect our lives and to minimize our property loss in the event of fire. Sometimes, it may be necessary to keep a fire door open momentarily in the event of moving equipment or heavy objects, etc. It is, however, very important that these doors be closed immediately afterwards.

Although the University is equipped with advance fire protection equipment, their effectiveness relies very much upon our operating them properly. Next time when you see a fire and smoke door being wedged open, please un-wedge it and make sure that it is closed properly.

Health and Safety Courses

Over the last couple of months courses on Radiation Safety, Radiation Laboratory Operation, Chemical Safety and Biological Safety have been conducted by SEPO. The purpose of these courses has been to familiarize HKUST staff and students with the potential hazards and proper safety procedures when working with these agents. Regulatory and HKUST management requirements were also discussed during these courses. Each course lasts for approximately 2-3 hours. Other courses on Laser Safety, Non-ionizing Radiation, Hazardous Waste Management, etc. will also be offered.

Courses on Industrial Safety subjects, such as working at heights, confined space entry, machine shop safety, etc. are also available on request.

For further information or enrolment of these classes, please contact Kans Ho at ext. 6512.

As these SEPO courses are intended to provide basic safety information and requirements, it is important for supervisors to provide “on-the-job” safety training to specifically address the hazards associated with the specific job assignment. SEPO is available to assist with the design and conduct of specific training requirements.
HKUST Drinking Water Quality

Drinking water samples from HKUST housing taps and drinking fountains have been collected and analysed as a part of SEPO’s on-going efforts to evaluate environmental safety and health on the campus. The analytical results for all of the drinking water samples collected were well below the levels recommended by the World Health Organisation (WHO) for both primary and secondary standards. Primary standards are health related and address contaminants such as lead and mercury which can pose serious health hazards when present at elevated levels. Secondary standards deal with aesthetic quality such as taste, odour and colour which are not health hazardous related. While secondary standard parameters in one or two of the samples were higher than in the others, results for all parameters for all samples indicate that the water is safe to drink. It is likely that the problem with aesthetic quality is transient, being associated with the new installation or system alteration and will disappear over time.

Fire Drills to be held on Campus

Fire safety regulations requires that periodic fire drills be held at academic institutions. While there is no “convenient time” to conduct this required exercise, our goal is to provide ample advance notice to all units to plan their activities accordingly in order to minimize any disruption. A drill has already been held at the student residence in early October to familiarize students with this emergency procedure. A campus-wide fire drill will be held in early December. The exact date is being finalized with the Fire Services Department.

Meetings will be held with all Departmental Safety Representatives to discuss details of the drill. This will be a joint exercise between HKUST and the Fire Services Department (FSD). The goal is to familiarize HKUST staff with procedures for minimizing injury and property loss during a fire on campus. Furthermore, FSD will drill its personnel and equipment to assure timely and swift response to emergencies on campus.

Your cooperation in following the instructions listed on the Fire Orders for your unit is needed. Familiarization with these procedures can mean life or death in the event of a real fire!

Further information on this exercise will be provided as soon as details are confirmed. For further questions on this exercise, please contact T.S. Li at extension 6511.

The SEPO Staff... Your Resources

Senior Staff

Dr Joseph Kwan, Manager (ext. 6451): Dr Kwan came to HKUST from the University of California, Lawrence Livermore National Laboratory where he managed the Environmental Health and Safety Team. He also previously worked at the Rocketdyne Space Shuttle Division of the Rockwell International Corporation, the Aircraft Division of the Northrop Corporation and at the University of California, San Francisco. At HKUST, besides managing SEPO, Dr kwan is also serving as the Radiation Protection Officer and is directing the environmental protection effort.

Mr Al Clancy, Occupational Hygienist (ext. 6509): Mr Clancy came to HKUST from private practice and previous employment at the University of California, Berkeley (where he also graduated), Stanford University and the California State Department of Health Services. He is a Certified Industrial Hygienist and a Certified Hazardous Material Manager. At HKUST he is responsible for the Chemical and Biological Safety programs.

Mr T S Li, Safety Engineer (ext. 6511): Mr Li joined HKUST from the Occupational Safety and Health Council where he worked as a consultant on safety engineering matters. His previous employers also include China Light & Power and various building contractors. Mr Li is a member of the Chartered Institute of Building and Hong Kong Institute of Engineers. At HKUST, Mr Li is responsible for the Safety Engineering program.

Technical Staff

Mr S W Chan, Senior Technician in Safety Engineering (ext. 6485) was a senior station officer with the Hong Kong Fire Services Department. Mr Percy To, Senior Technician in Occupational Hygiene (ext. 6507) was with the Biology Department at HKUST and had previously worked at the Hong Kong Environmental Protection Department. Mr Edmond Cheng, Technician in Environmental Protection (ext. 6456) and Ms Tammy Lo, Technician in Occupational Hygiene (ext. 6456) came from the Applied Biology and Chemical Technology Department of the Hong Kong Polytechnic. Mr Stephen Tsu, Technician in Radiation Safety (ext. 6507) came from the Physiology Department at CUHK.

Administrative Staff

Ms Kans Ho, EO (ext. 6512) came from the Baptist College and is the Coordinator for the Safety Courses and Medical Surveillance program. Ms Vivian Chan (ext. 6451) and Ms Doris Cheung (ext. 6508) are both PSs.