Imperial College London

Health and Safety Matters

OCCUPATIONAL HEALTH & SAFETY NEWSLETTER

Issue 12
June 2008

*i*Care
Control the situation
Assess the hazards
Reduce the risk
Educate staff & students

Inside this issue:

Emergency Response Procedures Under the Spotlight

A Working Group has been formed with the remit of examining and improving the College emergency response procedures. This will initially focus on procedures for restricted and highly restricted areas such as biological Containment Level 3 laboratories, CBS facilities, irradiator rooms, bulk chemical stores and plant rooms. The Working Group comprises members of the Safety Department, Security, Fire, Facilities Management and CBS.

The Working Group will strive to devise a generic template for emergency response that is applicable to any room or area within the College. A basic template has been proposed and this will be further refined in due course. Existing procedures will be examined and elements that are effective will be retained and incorporated into the new process. The essential element of key staff contacts will be scrutinised and decisions made as to how contact lists will be updated and maintained and where this information should reside. The feasibility of a secure website will be pursued. The subject of emergency procedures ties in closely with the new College Access Control scheme that has recently been launched. With respect to this, a *College Health and Safety Essentials* (CHASE) notice was issued on 23 April. To date, several hundred yellow 'limited access' signs have been distributed and the Safety Department have started to receive and approve license applications for 'restricted' and 'highly restricted' access areas. This information will be held on a central database within the Safety Department.

A timetable is currently being drawn up for training / briefing sessions on the Access Control scheme for the likes of Facilities Maintenance, Security, ICT etc. and a series of simple training leaflets have been devised that target the specific groups of people identified.

Rector's Award for Health and Safety 2008

The winners of the Rector's Award for Health and Safety received their recognition at the March meeting of the College Court. As is customary, the Rector's Award comprised the main award supported by two commendations. Winner of the Rector's Award was David Gentry, Faculty of Natural Sciences Safety Manager based in the Department of Physics, for his system that ensures the incorporation of health and safety into the management processes within that department.

Stefan Hoyle, also one of the team of Faculty of Natural Sciences Safety Managers, received a commendation award for his work in transforming safety practices and procedures in the Department of Life Sciences.

The second commendation award was presented to the Imperial College Union Underwater Club for it's consideration of health and safety issues in relation to diving trips that it organises in both the UK and abroad. The award was received on the day by Natural Sciences undergraduate Emma Keller.

Access this Newsletter in electronic format at:
http://www3.imperial.ac.uk/safety/otheresources/newsletter

TRAVELLING OVERSEAS FOR WORK OR STUDY RELATED ACTIVITIES

The Occupational Health Service (OHS) at South Kensington Campus offers a comprehensive travel service. We are a one-stop-shop for your work related travel vaccines (which are provided free of charge) and we are also able to issue prescriptions for malaria prophylaxis where necessary. We usually have most of the routine travel vaccines in stock and we are also a registered Yellow Fever Vaccination centre.

In order to avail of this service, we require evidence that your travel is part of your work or directly related to your course of study - a letter from your manager or group leader / academic supervisor will usually suffice. If you are going to an unusual destination and think you will need something in particular, we recommend you make contact in advance of your appointment so we discuss and make arrangements to have the appropriate vaccine in stock. We also need advance notice to cater for larger groups.

We run a busy clinic, so we recommend you arrange your appointment early to avoid disappointment and at least two weeks before you travel, to allow your body time to respond to the vaccines. Please bring your vaccination record with you as it may save you getting unnecessary vaccinations. The initial appointment takes 30 minutes - we discuss travel health and administer vaccinations. If required, follow up appointments take 10 minutes.

When assessing your vaccination requirements, we follow the recommendations from Travax (www.fitfortravel.nhs.uk) and consider individual factors including vaccination history, type of activity to be undertaken, length of the trip, the time of year and remoteness of destination, as some vaccines are only indicated in particular circumstances.

Selecting the appropriate malaria prevention medicines requires careful consideration. It is dependent on destination, length of trip, prevalence of different types of malaria, past medical history and details of any medicines you are taking (reducing the risk of drug interactions & side effects). To ensure we give the best advice, you will need to know your itinerary. We follow published guidelines from the Health Protection Agencies Expert Advisory Panel. Your recommended malaria prophylaxis may be available as an “over the counter medicine” or “prescription only medicine” this does not mean one type is more or less effective - it may be the most suitable depending on your individual circumstances.

We have a supply of the College Travel Insurance Policy details and offer emergency medical kits for sale at £10.

As part of the Off Site Working Procedures, we process Fieldwork Health Clearance forms, if indicated as part of the Hazard Identification for Fieldwork Activities. Not everybody involved in travel on college business requires this level of clearance - the risk assessment process will indicate when it is necessary. It is largely dependent on destination, length of stay, type of work being undertaken and any pre existing medical problems.

The OHS does not offer vaccinations for activities or expeditions organised by Student Union Clubs and Societies or for special interest groups for which travel is useful but not an essential part of the course of study.

Claire O’Brien
Senior Occupational Health Adviser

Fieldwork risk assessment .....the story so far

Ian Hackford and John Luke take a look at some emerging trends observed whilst reviewing fieldwork risk assessments

It is now well over a year since the formal launch of the College Off Site Working Policy and an opportune time to look at how the risk assessment tools are being utilised and what we have observed during the process of reviewing dozens of risk assessments during this time, particularly in relation to some of the higher risk fieldwork types. We have seen some excellent assessments, but here are some specific areas of concern and some common weaknesses:

Timeliness: There has been much evidence of assessments being completed and submitted too close to the start of the project, leaving precious little time for review and action. This is not uncommon with any form of risk assessment, but is particularly worrying where fieldwork is concerned since a significant degree of preparation may be required before travelling.

Responsibilities: There has been some confusion over who should take on the role of Fieldwork Coordinator and whether the Principal Investigator is, by default, the Person in Charge (the PI could be the Person in Charge and in many cases will be, but does not have to be—this role could be delegated).

FCO advice: Nearly all assessors consult the Foreign & Commonwealth Office website before travel abroad and cut-and-paste the advice into the risk assessment. However, there is some evidence that the advice may not be acted upon. For example, if the FCO advise that anyone staying in a particular country for over two weeks should register with the local consulate, we would expect to see some comment which confirms that this will be done. It is also advisable to check the advice at regular intervals right up to the point of travel, since we have also seen examples of the situation in particular areas changing i.e. deteriorating.

Road traffic risks: Undoubtedly, one of the areas of greatest risk—we have received numerous reports of road traffic accidents, sometimes involving fatalities, though fortunately not College staff. Consequently, we would expect this matter to receive consideration in some detail in the assessment, particularly if off-road driving is envisaged—vehicle selection; driver training / experience; loading / unloading; maintenance; breakdown procedures; rest breaks; insurance cover etc. In some exotic places, forms of road travel can be somewhat improvised—tuk-tuk, hubble-hubble, motor cycle taxis etc. Some of these forms of transport have a poor safety record and it is perhaps prudent to avoid them if possible.

Work on or near water: We have seen plenty of assessments that mention this type of work, yet the precautions indicated are surprisingly sparse—often there is no mention of whether the individuals can even swim. Where boats are used, availability of buoyancy aids, training in the use of equipment and rescue techniques should all be considered.

Communications: There is often a heavy reliance on mobile 'phones - but will there be a signal in the region that is being visited? Are there spare batteries and plenty of call time? If VHF radios are employed, are the people fully trained in their use?

Fire risks: Something that is easy to overlook with regard to accommodation. Fire safety standards in some foreign parts may be significantly weaker than what we are familiar with in the UK. In unfamiliar buildings where you will be working or sleeping, check the fire escape routes. If you are unhappy about the situation raise it with management, change location if possible or at least ensure that you know the way out and any limitations that may be faced.

Camping: Often, the bulk of a trip may be accommodated in buildings but there may be trips further afield that involve sleeping under canvass. In which case, there are numerous things to consider, including landowner consent, provision of sufficient drinking water; field hygiene facilities; controlling camp fires; protection against biting insects and risks from other wildlife.

Infectious disease: Infectious disease, in particular malaria transmission in the rural setting, is sometimes overlooked. While towns and cities may be safe it may be a different matter in the countryside. Assessors should consider the availability of the necessary prophylaxis particularly if the trip is an extended one. Always try to take enough of what you need with you.

Personal safety and criminal activity: Sometimes neglected and could be addressed under other significant hazards. The FCO website is often a good source of information but local knowledge can be invaluable with regard to specific locations and many College trips have the advantage of collaboration with other organisations who have individuals in the region that possess such knowledge. One College group travelling under the control of another organisation met with misfortune when the organisation missed out on some local knowledge concerning a warlord in an African state who routinely set up road blocks to extract his 'taxes' from travellers. As a result, they were parted from their laptops and cash.

Emergency procedures: Arrangements for evacuation need to be stated in some detail and should include the use of helicopters or boats where required. But they must be verified and reflect what exists in reality—do not simply state that they will be used if they are not available to you.

The College Off Site Working Policy and risk assessment tools are scheduled for routine review in July.

Meditation.....a way to relaxation
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Meditation...a way to relaxation

More and more, as we try to keep up with the ever-increasing pace of life and its complexities, we are realizing the need to relax. It is now widely acknowledged that meditation can help and is by far one of the deepest and most direct routes to relaxation.

The thoughts which you create at each moment directly influence your emotional and physical wellbeing. Imagine yourself eating a lemon and you will begin to salivate, picture yourself fall from a cliff edge and you will generate the feeling of falling and experiencing anxiety, possibly terror.

Creative meditation is the purposeful use of the mind to create peaceful and positive mental images, therefore invoking and awakening feelings of inner peace. As we begin to experience our inner peace, we are released from the negativity of our mind and tension begins to melt away.

Meditation gives you an enhanced sense of well-being, an ability to face challenges and to express positive feelings, therefore restoring tranquillity into your life. And all it takes is a few moments to focus your mind.

You can learn creative meditation at College. Occupational Health, in conjunction with the Inner Space meditation centre, run a gentle, half-hour, group meditation session with commentary and background music. The meditation sessions are held at the Whiteley Suite, Royal College of Science, just off Imperial College Road, South Kensington, every Thursday lunchtime between 13.15 and 13.45.

The group is suitable for both beginners and those who are more experienced in meditation. It's free – are you?

For more information, please visit:
(http://www3.imperial.ac.uk/OCCHEALTH/guidanceandadvice/meditationclasses)
or contact Celine Jaquet, College OH Service.

Safety Department and Occupational Health Service News

Safety Department Reporting Line

On 1 March, the Safety and Risk Management functions became part of the larger functional grouping of Occupational Health and Human Resources (College Notice 07/08 19).

Radiation Protection Team

David Searl has joined the Safety Department as Trainee Radiation Protection Officer to cover for Amanda Jones who is on maternity leave. David is on a one-year contract and will be in place until Amanda returns in February 2009.

Occupational Health

Dougie Mason, Audit and Information Officer, left the College in May. Dougie also fulfilled the role of joint editor of *Health and Safety Matters*. We would like to thank him for his services and wish him well in the future.

ORANGE CLINICAL WASTE BAGS

Orange clinical waste bags are now available to order from *Thermofisher*. They are UN approved for 12Kg and are printed with text that indicates the contents may be disposed via permitted treatment or incineration. A preferential purchase rate has been negotiated. The College will be looking to replace the familiar yellow bags with the new orange ones for clinical waste that can be disposed by alternative treatment methods. Many of the NHS Trusts that the College shares premises with have already started going over to the orange type. For a full description of waste types and ordering details for the bags, visit the College Healthcare Waste pages at:
http://www3.imperial.ac.uk/safety/guidanceandadvice/biosafety/healthcarewaste

Why a Material Safety Data Sheet is not a Risk Assessment

John Luke, Safety Adviser

An article in the March edition of *Health and Safety Matters* examined the issue of lone working with hazardous substances. This time around, we continue the hazardous substances theme by considering the differences between a Material Safety Data Sheet (MSDS) and a risk assessment.

'Can I see your risk assessment for this activity?' A phrase that can strike fear into a laboratory worker. Upon such a request, it has not been unknown for the person to produce the MSDS from a file in the mistaken assumption that this meets the requirements for a COSHH risk assessment. Lets look in some further detail as to why this is not the case. There are of course, some commonalities between a MSDS and a risk assessment, but there are some gaping holes that an MSDS alone does not address:

Intrinsic hazards and Workplace Exposure Limits: These are obviously to be found on a MSDS and we would expect them to be recorded in a risk assessment.

Physical and chemical properties of the substance: This information is also recorded on a MSDS but there is no means of further quantifying these properties to gauge how they may contribute to the level of risk presented. For example, if a MSDS advises that a liquid has a boiling point of 61^{o}C, is that good or bad? Whereabouts on the volatility scale is it likely to be and how easily do the vapours become airborne? A risk assessment matrix can apply a score to give some sort of quantative measure to this.

Quantities handled: Not considered on a MSDS but has a major bearing on risk and should be factored into a risk assessment.

Process risks: The MSDS will not take account of how the substance is to be used. Heating, mixing, spraying, use of sharps etc. are all procedures that may increase the risk of exposure and should be considered in the risk assessment.

Those at risk: The MSDS is concerned with the intrinsic hazards associated with the substance and the general precautions required. It will take no account of what local scenarios are likely to arise and who may possibly come into contact with the material—cleaners, maintenance workers etc. These scenarios should be covered in the risk assessment.

Elimination and substitution: This is the first step in a COSHH assessment—to consider whether a hazardous substance can be eliminated or substituted with a safer alternative. The MSDS only contains information on the substance to which it refers—it takes no consideration of what else may be out there on the market.

Containment and ventilation: The MSDS will contain some basic information but will not consider for example, whether local exhaust ventilation is available and suitable or what the local arrangements are for maintenance under *COSHH*—these factors should be recorded in a risk assessment.

Handling and storage: Basic information contained in the MSDS but is likely to require consideration in a little more detail in the risk assessment.

Transportation: This section of a MSDS is of more concern to the supplier and may appear as gobbledegook to the end user. It concerns dangerous goods information that is relevant to transport off-site and will probably require a Dangerous Goods Safety Adviser to interpret. Takes no account of precautions required for internal transport around the site.

Personal protective equipment (PPE) The MSDS will contain some basic information on PPE. It may well make reference to some non-UK standards. Because a MSDS takes no consideration of quantities used, nor the characteristics of the operation, it should be treated with caution where respiratory protection is advised. The risk assessment should take a more informed consideration of PPE.

Waste disposal: It is not uncommon to find this section cut and pasted from the MSDS into the risk assessment. Unfortunately, it often makes little sense since it only refers to the final method of disposal and will not shed any light on what local procedures are in place within the College to ensure that it receives appropriate final disposal. The local procedure should be defined in the risk assessment.

Spillage procedures: Another section which needs interpreting with caution, since a MSDS normally conjures up an image of a drastic scenario with *'evacuate the area'* and *'wear self-contained breathing apparatus'* common statements. Of course, neither of these measures may be necessary if you have only spilt 5mls. Spillage response needs to be proportional to the extent and circumstances of the spillage. This should be considered and recorded in the risk assessment.

First aid: This section is usually clear and self-explanatory in a MSDS but obviously takes no account of what local first aid procedures are in place in any given workplace, particularly if further medical treatment is required. Local arrangements should be included in a risk assessment.

Firefighting measures: Some mention is given in the MSDS but local procedures need to be considered. College staff are not considered to be fire fighters and good emergency response is to know when a situation cannot be controlled locally and the emergency services need to be summoned.

This article is based upon the chemical safety guidance available on the Safety Department website: http://www3.imperial.ac.uk/safety/guidanceandadvice/chemicalsafety/hazardouschemicals

Accidents

Rohini Gowtham, Accident Investigation Officer

Kill the spill

Time to look at something that is relevant to many parts of the College—chemical spillage. Whatever precautions are taken to minimise the risk, it is inevitable that spillages will still occur from time to time and we receive such reports on a fairly regular basis. However, what is surprising and slightly concerning is that the users in volved in dealing with the spillage often seem unprepared for it, particularly in terms of what is available to soak it up. A popular course of actions seems to be the application of paper tissues or *kimwipe*. This may be sufficient for a spillage involving a few millilitres but will not cope very well with a large spillage. You are likely to end up with a wet mush that does not absorb the liquid properly and requires the addition of more and more paper and thus increases the length of time the person remains in the vicinity and hence the level of exposure.

There is an enormous range of commercially available spill kits. These range from the familiar spillage absorption granules to much more elaborate kits that come complete with absorbent pillows, booms, disposal bags & plastic drums and appropriate PPE—some of these are capable of dealing with spillages up to several hundred litres. In other words, there should be something out there suitable for every spillage scenario we are foreseeably likely to encounter in the College. All laboratories where significant quantities of liquid chemicals are used should have access to a spill kit within a reasonable distance.

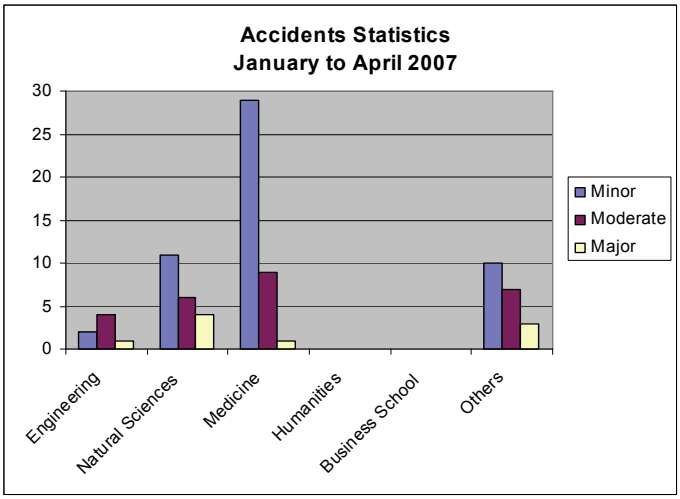
A wide range of chemical spill kits are commercially available from established College suppliers

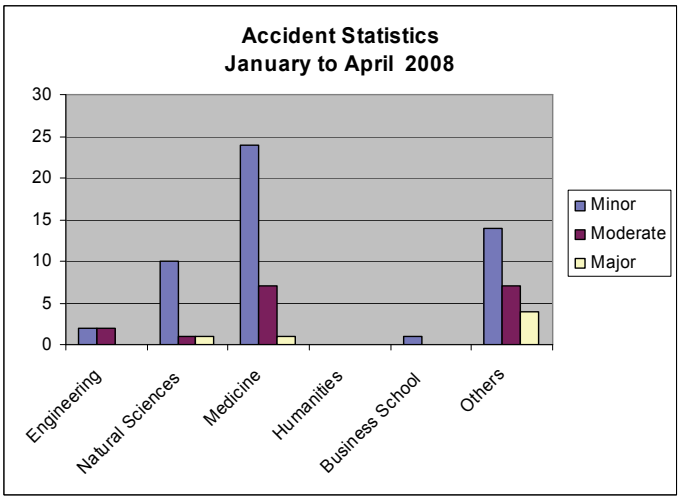
Mercury spillages are still occasionally reported. These are usually small i.e. the broken thermometer scenario but could feasibly be larger if a waste bottle goes over or there is a loss of containment from some other sort of apparatus that houses mercury. Again, spill kits come in different styles—sponge and tub; sulphur and calcium hydroxide powdered mixtures etc. These are usually suitable for small-scale spillages. For larger scale spillages, it is possible to purchase dedicated mercury vacuums fitted with HEPA and activated charcoal filters, such as those manufactured by *Nilfisk*, but these cost several thousand pounds to buy, so the outlay would need to be seriously justified. It should be noted that a normal domestic vacuum cleaner should never be used. The Safety Department used to own a mercury vacuum but this has now exceeded its lifespan. We do however, have a mercury detector available for loan which can be used in conjunction with any of the commercially available spill kits.

Accident Statistics

	Jan-April 2007	Jan-April 2008
Total accidents reported to the Safety Department	87	74
Total accidents reported to the Health and Safety Executive in accordance with *RIDDOR 1995*	4	2

Comparison Graphs
January to April 2007 vs. 2008





Accident rating:

Minor: No treatment required / First Aid.

Moderate: Visit to Occupational Health / GP / Health Centre or A&E.

Major: HSE reportable / Lost time (up to 3 days) / member of public taken to hospital for treatment.

FREQUENTLY ASKED QUESTION:

Why do I have to replace my gas regulators every five years?

The five year replacement 'rule' has been the subject of much discussion—and opposition—in the College recently.

The requirement is an industry standard and is enshrined within British Compressed Gases Association Codes of Practice—BCGA being the established trade association within the UK. It has been brought about by a number of factors:

- The *Provision and Use of Work Equipment Regulations* (PUWER) requires that all work equipment is suitably maintained, examined and tested at suitable frequencies in proportion to the risks associated with deterioration or failure.
- There is recorded evidence of age-related deterioration borne out by the experiences of medical gas users and the Department of Health—these concerns have translated to industrial / laboratory gas applications. Elastomeric deterioration and leakage of seals have been particular issues and parts may deteriorate irrespective of level of use.
- There has been a general trend over the years towards higher cylinder filling pressures. Older regulators may not cope.
- Other countries have similar guidelines in place.
- In laboratory applications, the regulator is often used as both a pressure control and a safety device.
- Since the recommendation has been adopted, it has been reported that there has been a decrease in incidents observed industry-wide.

So, in addition to annual maintenance and checking, there are numerous reasons for either total replacement or a return to a competent third-party for a in-depth strip down and replacement of critical parts.

There has, understandably, been some feeling that there is a conflict of interest associated with fixed-term replacement. BCGA is an association that includes the likes of BOC among its members—therefore the rules are being made by suppliers who profit by selling new gas regulators to customers. There is also usually resistance to anything that is new and has not been a requirement in the past and university departments will often have hundreds of regulators which makes the process of replacement costly. The flip side is, that we need suitable formalised procedures in place to manage risk—annual checking and five year replacement or refit seems a reasonable approach when viewed from this perspective. In the absence of such a system, the requirement for maintenance and the tracking of regulators can tend to drift and this is how we come to find twenty or thirty year old regulators still in use. These do not represent isolated cases—audits have uncovered dozens of regulators in single departments dating back, in some cases, to the 1980's and 1970's.

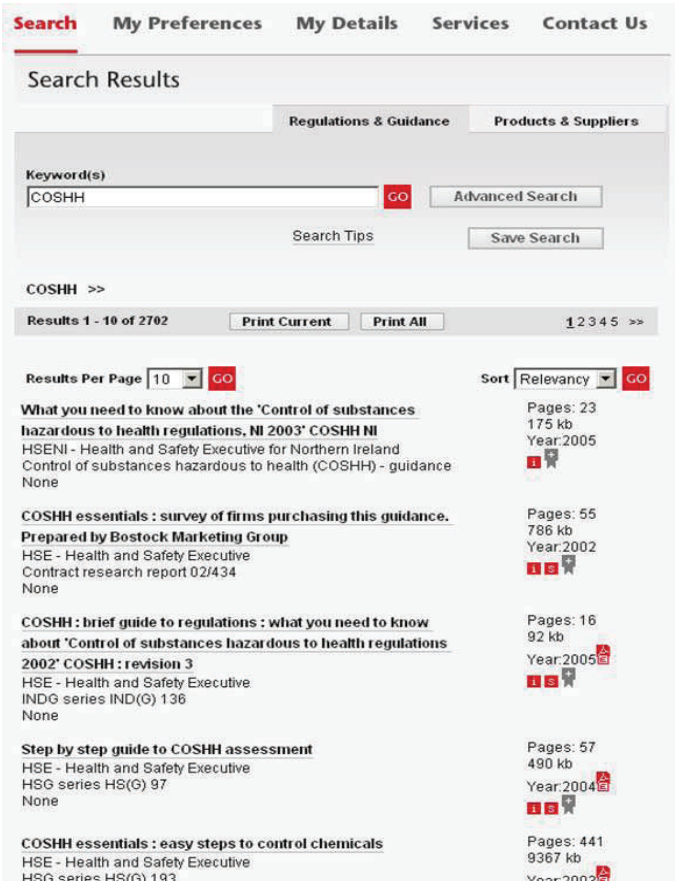
Given the cost of replacement and repair, it is a reasonable approach to put a programme in place that deals with the most serious cases as a priority. And of course, when purchasing new regulators from a supplier, do check that they are dated correctly and the length of service is what you would expect. The five years is normally calculated from date of manufacture and suppliers should account for this with their stock rotation policies.

Barbour
www.barbour.info

The College has recently signed up to the Barbour Professional web service.

The Barbour Health & Safety service delivers quick and up-to-date information on Health & Safety legislation and best practice. The subscription permits access to full text documents from hundreds of publishers including national and EU legislation, HSE, British Standards, WHO, IOSH and Trade Unions.

The College has been issued a number of group passwords that will provide access for different sections of the College, including the Safety Department, Occupational Health, Support Services, the Faculties and selected senior management. The information can be accessed by visiting: www.Barbour.info and keying in the relevant company ID, user name and password. Any problems in accessing the service should be reported to the Safety Department.



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If you have any comments or suggestions for inclusion in future Newsletters please contact the editor:

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Training

Eric Miranda, Training and Competency Officer

At the SHRUG meeting in March 2008, the use of E-learning was mentioned as a method of enhancing the learning and teaching experience. There is a growing commitment to use emerging technologies in order to reach a wider audience who otherwise may slip the safety net.

We started tentatively in the current training programme with two stand-alone gas safety E-learning modules: *Using Liquid Nitrogen Safely within Universities* and *Using Gas Cylinders Safely within Universities*. These E-learning modules acted as a pre-requisite to the practical gas safety courses. Delegates have to complete all sections and successfully complete the online competency test before taking the practical gas safety courses in *Cryogenics / decanting* and *Connecting gas regulators.* The general feedback has been excellent and provided experience in blending E-learning, classroom contact and practical activity. However, there were disadvantages in terms of the admin footprint - issuing individual codes, ensuring completion of modules by sending out reminders and finally recording completion on our database Oracle Learning Management System (OLMS). There is also a cost element in terms of purchasing the codes from an external company which is prohibitive in terms of extending this system to other training courses.

Many areas of the College, such as Undergraduate Medicine and the Business School, are currently using WebCT / Blackboard Learning System (BLS) Virtual Learning Environment (VLE) as a communication tool to enhance interactivity and enable alternative training methods. The Safety Department is hoping to work with Tata Interactive Systems who have co-operated with the College in the past, to develop creative and effective health and safety E-learning content to place in WebCT / BLS. As a College-wide system, we hope to take advantage of ICT support, single username / password login and the experience of existing users and familiarity of learners. There will be economies in this collaboration in terms of cost, once the content is developed and purchased. It can then be reused without need for a licence and will be jointly owned by the College. We will also have access to the authoring template which will mean we can amend and update the content. The aim is for WebCT / BLS to be able to interface with our existing OLMS databse to provide a learning record of all health and safety training without the need to re-key the data.

The plan is to start with risk assessment and than roll it out to include other training courses with the help of an in-house Learning Technologist. The benefits will be greater accessibility, enhanced learning and flexibility for both the learner and trainer. E-learning may not be suitable for all of our training needs and there will be courses that will require face-to-face and practical hands-on contact but the aim is to create a blended learning experience.

training schedule & events

Below is a selection of forthcoming courses. The complete list for this term is too comprehensive to include here—please consult the training programme link for the entire range:

https://www3.imperial.ac.uk/safety/training/coursesindex.htm

June 2008		July 2008	
Computer Health & Safety for Users and Assessors (SK) *Occ. Health*	10th	Principles of Radiation Protection (SK)	2nd
Using Breathing Apparatus (SK)	11th	Gas Safety (SK)	2nd
Coordinator Updates (SK) *Safety / Occ. Health*	19th	CIEH Level 2 Award (SK)	3rd
Introduction to Laser Safety (SK)	25th	Safety induction (SK)	9th
First Aid at Work (SK)	16 / 17th 25 / 26th	First Aid Lifesavers (SK	10th

Next issue of Health and Safety Matters: September 2008