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NEW OEHS DSAs

WELCOME ABOARD BONNIE GRIFFITH & TARRAN RICHARDSON

BONNIE GRIFFITH

Prior to coming to UCSF, Bonnie was as an inspector with the State of California Department of Toxic Substances Control (DTSC) for the past 14 years. She holds a B.A. in Biology from San Francisco State University. Bonnie's responsibilities with DTSC included: responding to complaints regarding hazardous waste releases; liaison to Certified Unified Program Agencies; policy making; and corrective actions and environmental assessments. Hobbies: Growing roses and tomatoes and cooking.

Welcome Bonnie, to your DSA position.

TARRAN RICHARDSON

Although not new to OEHS, we welcome Tarran to his new DSA position. Tarran has worked within the University of California for the past 8 years. Five of those years were at UC Davis and the latter 3 years at UCSF OEHS as a senior technician in areas of radiation, chemical, and bio-waste. Tarran holds a B.S. in Biology from Jackson State University. Hobbies: Coaching junior league basketball, officiating high school football, and keeping up on environmental issues.

Congratulations Tarran in your DSA position.

SAFETY UPDATE NEWSLETTER

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO
OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY

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PRINCIPAL INVESTIGATOR RESPONSIBILITIES REGARDING THE BLOODBORNE PATHOGEN STANDARD

According to Appendix H: Bloodborne Pathogens Standard of the UCSF Biological Safety Manual, the PI must ensure that all employees with the potential for occupational exposure to materials that potentially harbor bloodborne pathogens participate in a training program provided by OEHS at no cost to the employee during working hours. Training must be given in accordance with the CAL-OSHA Bloodborne Pathogens Standard upon initial assignment and on an annual basis thereafter or whenever modification of an existing job description may affect the employee's potential for occupational exposure. HIV/ HBV/HCV research laboratories must ensure that their employees demonstrate proficiency in standard microbiological procedures prior to being allowed to work in the laboratory.

Training is provided by OEHS as follows:

Bloodborne Pathogens Initial Training is every 1st, 2nd & 4th Wednesday of the month from 2:30 p.m. to 3:30 p.m.

Bloodborne Pathogens Refresher Training (annual requirement subsequent to initial training) is every 3rd Wednesday of the month from 2:30 p.m. to 3:15 p.m. Attending another Initial Training will also fulfill the requirement.

Both sessions are held at OEHS Office, 50 Medical Center Way. Pre-registration is required and can be done by calling 476-1300.

Hepatitis B Vaccination

The Exposure Control Plan requires each PI to identify, in writing, all tasks, procedures and job classifications where occupational exposure to blood, other potentially infectious materials and/or human cell lines may occur and to document the methods of compliance which will minimize the potential of occupational exposure.

The Bloodborne Pathogens Standard requires that all personnel with potential exposure to bloodborne pathogens be offered immunization against hepatitis B virus.

Specific Prophylactic Requirements:

- HBV Vaccinations must be offered to an employee within 10 days of assignment.
- HBV vaccinations are available through Employee Health Service for all at-risk UCSF employees at all campuses except San Francisco General Hospital (SFGH).
- Eligible UCSF employees at SFGH may receive HBV vaccination through Employee Health Service, SFGH Ward 92.
- Personnel must indicate their acceptance or declination on the Hepatitis B Vaccine Compliance Form; the PI must retain this form on file for a period of the duration of the employee's employment plus thirty (30) years.
- An employee who declines hepatitis B vaccination may, at any time thereafter, change his or her mind and receive the vaccine. The acceptance

statement must be signed at that time. • The PI/Laboratory Supervisor must not make participation in a prescreening program a prerequisite for receiving the vaccination. The HBV vaccination is available at no cost to the employee.

If you need further assistance, please call your DSA. ♦

OEHS Department Safety Advisor (DSA)

The Campus OEHS program has assigned Department Safety Advisors (DSA) to each UCSF department. The DSA is the OEHS single point of contact for each department for environmental health and safety issues (consultations, inspections, monitoring, permits, biosafety, hazardous waste management, safety policies, etc.). DSA support is available to all departmental personnel (laboratory, administrative, supervisors and managers, etc.).

OEHS has recently added a feature on its web page to help you find your DSA. Go to the Office of Environmental Health and Safety web page at www.ehs.ucsf.edu and follow the links to:

- Programs
- Find Your DSA

You can also reach your DSA by calling the Office of Environmental Health and Safety main phone number at 476-1300. ♦



SAFE SHIPPING OF BIOLOGICAL MATERIALS TRAINING

Biological or biohazardous materials are constantly being transported both among UCSF campuses and between UCSF and other research facilities around the state, country and world. The process of shipping these materials (in legalese, a category of "dangerous goods") is regulated by a number of laws and regulations. These are designed to ensure the safety of the carrier and to ensure the safety of the receiving facility. Carriers are becoming much more careful about what they accept for shipment, and Customs agencies usually provide no care for perishable materials they hold while they wait for missing paperwork to arrive.

If you or others in your laboratory are responsible for the transport or movement of biological or biohazardous materials, at least one person from your lab should attend a training class entitled Safe Shipping of Biological Material.

Provided on the second Thursday of September, October and November in the OEH&S conference room (Room 202, 50 Medical Center Way), these sessions will cover local, state, federal, and international regulations regarding paperwork and shipping containers.

A certificate will be issued to all those who successfully complete the training. Unlike those which are merely "suitable for framing" these certificates are legally required if you need to ship by common carrier, and are being demanded by these carriers before they will accept "dangerous goods".

Additional classes will be offered in the Spring and Fall of 2002. Please contact OEH&S at 476-1300 to enroll in a class.

For more information, contact the Biosafety Officer, Brynte Johnson, at 476-2097 or bjohnson@ehs.ucsf.edu. ♦

MOVING TO MISSION BAY?

Sometime in the next year or two, the new buildings at Mission Bay will be ready for occupancy. Many research laboratories will be packing up and preparing to move themselves into their new spaces. Moving one's home is one thing but moving a laboratory is something else entirely. Among many other issues is the one of hazardous materials - moving them, giving them away, or disposing of them. The last few weeks before a lab move are too late to start addressing this issue.



Radioisotopes, biological hazards and chemicals must all be dealt with but chemicals are on top of the list because of the quantity and variety that a lab may possess and the costs of disposing of them. *We strongly recommend that if you have chemical inventory of any size and you know may be moving to Mission Bay (or anywhere else) that you start making decisions about it as soon as possible and contact your DSA to arrange for disposal, recycling, or exchange. You can use the OEH&S web site to post unwanted or needed items.*

Future newsletters will cover the process of laboratory clearance and how to move hazardous materials. ♦

LABORATORY ERGONOMICS: THE WAKE-UP CALL

Repetitive Stress Injuries (RSIs), also known as Cumulative Trauma Disorders (CTDs) are a largest single category of injury in the workplace. What can be done to minimize and prevent injuries?

First we need to understand what ergonomics is and how an ergonomically correct set up can help prevent RSIs and other related injuries. The purpose of ergonomics is to find the tools and positions that minimize stress and strain on your muscles while working at the bench, performing various tasks such as computer work, pipetting and prolonged work at biosafety cabinets.

For example, when working with a pipette to aspirate and/or dispense liquid, you are performing constant motions and may repeatedly raise your arm above the shoulder. With each movement a certain force is exerted on the plunger to aspirate or dispense the liquid. Improper tools, body position and technique can contribute to muscle stress and strain which can cause muscle injury or trauma.

The application of ergonomic principles and low-cost changes to tools and equipment can reduce RSI injuries and

decrease the overall costs associated with disability claims from RSIs.

Posture and Position

Previous studies have shown that poor posture and incorrect body positioning while pipetting, working at the biosafety cabinet and with microscopes, may cause widespread problems. These tasks require the head and arms to be held in a forward position with shoulders rounded forward. This position can compromise vascular circulation, compress nerves in the arms, and increase stress and strain to those muscles. Strain is further exaggerated when feet are placed on the round footrest common to many lab stools. To prevent this awkward posture and potential muscle trauma it is important that we retrain ourselves to use proper body posture and mechanics to obtain a "neutral" position, or the position that requires the least amount of muscle force. Ergonomically correct posture and body mechanics will allow for adequate blood circulation to your arms and legs. Use the guidelines in this article to obtain proper body posture and positioning while performing various activities in the laboratory.

(Continued on page 3, see Ergo)

(Ergo continued) Work Bench Station

Please check the following components when positioning yourself at a workstation bench:

- Feet flat on the floor
- Ears must be over shoulders
- Shoulders must be aligned with hips
- Elbow must be at 90 degrees or more from the upper arms
- Wrists must be in a neutral position.

Solution

Adjustable Stools are helpful when trying to customize the workstation to fit your needs. It allows you to change the height of the stool so you can place your feet firmly in front of you on the floor to give a solid, three-base point of support. By doing so, it allows you to bend forward at the hips rather than rounding your neck, back and shoulders forward. An adjustable lab stool with lumbar support also provides good posture support. This lab stool allows for a natural forward position when working at the biosafety cabinet, while maintaining proper support in a resting position.

Microscope Station

Working with microscopes is another task that causes awkward back and neck positions that we must be aware of. When the microscope is positioned too far or too close, too high or too low, you must extend your arms and bend the neck and shoulders.

Solution

Various people often use microscopes during the day; some stand and others sit. The following recommendations are made to accommodate all users:

- Move the microscope close to the edge of the bench, for easy knob control
- When standing, raise the microscope by using commercially available adapters
- Keep the area under the bench clear for adequate foot space, otherwise lack of space will prevent getting closer to work surface

Biosafety Cabinet Ergonomics

Besides improper posture and positioning at the biosafety cabinet the "contact stress" is another solvable ergonomic issue. It is caused by frequently putting pressure on the arms when in contact with a hard surface (e.g. like leaning forward on your elbows).

Solution

Cleanable and removable elbow pads, or padded edge protectors on lab benches will relieve pressure on forearms and elbow resting on hard surface. Stools with adjustable armrests that can be placed in the forward position, appropriate to use at biosafety cabinets can be used to reduce "contact stress". If you do not have such stools, apply the guidelines already mentioned while working at a biosafety cabinet, to reduce "contact stress".

Pipetting

Pipetting is the most common task performed in the laboratory. Many RSIs are due to the heavy use of manual pipettes. A 1994 study in Sweden found pipetting more than 300 hours a year increases the risk of hand and shoulder ailments in laboratory workers. The risk factors involve force and repetitive motion during pipetting.

Solution

Mere choice of pipette can reduce the above-mentioned risk factors. This is an individual choice and must be carefully considered. Analysis and selection of instrument should be based on the characteristics of the employee and on the task's requirements. In assessing which pipette would be appropriate, consider the following:

- Hand size - A pipette that is held comfortably by someone with a large hand may be difficult to grasp for a person who has a smaller hand.
- Body positioning - A person with long arms perform movements and have varying space requirements that are different from a person with shorter arm span.
- Pipette Weight - The heavier the pi-

pette, the more force is required to hold it in an operating position

- Location of controls - In many pipettes, electronic or manual, the button is located on top of the pipette, which may require the thumb to repeatedly extend out of the neutral thumb position.
- Multi- versus one-finger controls - Multi-finger controls help to distribute the force among the other fingers instead of just one.
- Force - The amount of force that is required to operate the pipette's controls can make a difference. Controls sensitive to a lighter touch can be used to alleviate excess pressure on fingers and reduce the tendency for injury.
- Type of Mixing or Dispensing. These tasks require repetition; therefore the use of an electronic pipette with mixing functions is highly recommended.
- Volume Controls - When necessary use the adjustable volume dispenser to reduce hand movement.

Labeling Small Tubes & Mixing Tubes

Other ergonomic problems result from activities such as labeling small test tubes and vials, opening and closing flasks or jars, and cell counting. The risk factors associated with labeling are prolonged forceful pinch. The risk factor while mixing is the vibration generated from the mixer

Solution

- For Labeling use preprinted computer-generated labels
- For opening and closing jars and flasks, use various types of jar openers and select tubes with fewer threads.
- To decrease vibration, reduce the speed of the mixer, use elbow pads, use tight fitting caps to avoid finger hold, and install accessory holder to the equipment.
- During cell counting, use a small wrist rest and/or use an electronic cell counter, which is readily available in market.

OEH&S provides on site workstation evaluation. To request one or for more information contact you DSA. ♦