



ENVIRONMENTAL HEALTH & SAFETY NEWS



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EH&S MISSION STATEMENT

The Medical College of Georgia Environmental Health and Safety Division (EH&S) provides environmental safety services to staff, patients, students, and visitors.

The six sections of EH&S, Administration, Environmental Health & Occupational Safety, Biological Safety, Chemical Safety, Fire Safety, and Radiation Safety ensure full compliance with all local, state and federal laws.

We strive to continually improve the level and quality of services provided through creativity, teamwork and innovation.

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From the Director:

In the Fall issue of the Environmental Health and Safety News, I updated you on the potential impacts of the Patriot Act and the Public Health Security and Bio-terrorism Preparedness Response Act to MCG. Since that time, MCG has appointed a Patriot Act Committee and the Board of Regents has established a Homeland Security Committee to address some of these issues.



The MCG Patriot Act Committee was appointed by the President and charged with reviewing the requirements of the Patriot Act and making recommendations regarding steps that MCG may need to take to ensure compliance with the Act. The Committee appointed sub-committees for the following areas: biological safety requirements, student related requirements, SEVIS and international employees, electronic surveillance and monitoring, institutional policy impacts, physical and personnel security.

Each sub-committee is reviewing the impact of the Patriot Act in their respective areas and will be recommending changes to institutional policies and procedures. Numerous steps have already been taken to include registration of MCG with the CDC, the completion of a vulnerability analysis to assess "sensitive" campus areas, and security improvements in several areas of campus. Additionally, the President has appointed Mr. Jim Horne, Biological/Chemical Safety Officer, to the position of Responsible Official for compliance with the select agents/toxins portion of the Patriot Act.

The Board of Regents (BOR) Homeland Security Committee has taken a similar approach and established sub-committees for the following areas: biosafety/biosecurity, information technology and library issues, international affairs, human resources, student affairs and public safety.

(Continued on page 2)

What is a Dirty Nuke?

We hear a lot of talk about “dirty bombs” or “dirty nukes” in the discussion of terrorism these days. Is this discussion relevant to our interests here at the Medical College of Georgia? Let’s look first at what a dirty nuke actually is.

Dirty nukes are what one would choose to build if they were unable to create a real nuclear bomb, i.e. one whose explosion is based on a nuclear reaction. The assumption has been that terrorists who would build a dirty nuke would do so because it's far, far easier than to build a nuclear bomb.

A dirty bomb is a conventional explosive salted with radioactive isotopes in order to spread that nuclear material and contaminate a wide area. The military usefulness of such devices has always been in dispute. In fact, the high explosive in such a bomb may still be more dangerous than the nuclear material. Its destructive power would really depend on the size of the conventional bomb, and the volume and nature of the nuclear material.

The main effect of a dirty bomb would probably be economic. It is anticipated that a dirty bomb would cause panic among civilian populations. This would occur even if the actual biological hazard were not significant. It's unlikely to kill a significant number of people, but any bomb that contained radioactive material and set off Geiger counters would terrify an entire city. It's ultimately a pure terror weapon. The cost of cleaning up after a dirty bomb would be astronomical because of the conservative precautions that would be required.

On the other hand, the terrorists could perhaps obtain a significantly energetic isotope in relatively large amounts and spread contamination that would be a significant biological threat.

Large medical and research centers usually have radioactive materials of great variety and in large amounts. For this reason, we at the Medical College of Georgia must be extremely careful with the security of our sources in order not to provide the opportunity for a terrorist organization to exploit a situation of lax security.

Many precautions are being taken on our campus to “tighten up” our security. You can help with this effort by reporting anything suspicious or out of the ordinary - such as unidentified people in the laboratories, unusually large orders for radioactive material, stockpiling of material, persons questioning the location of sources on campus, and/or unusual phone calls, e-mails, or letters asking for any information of this type. Please report any activities of this type to Public Safety (721-2911) and also the Radiation Safety Office (721-9837).

Our vigilance could divert an incident of this type.

Submitted by Douglas Watson, Asst. Director, EH&S

Hazardous Material and Infectious Substances Shipping Training

On February 14, 2003 new federal regulations (42 CFR Part 72) went into effect that govern shipment of hazardous materials to include infectious substances. These new regulations were developed by the U.S. Department of Transportation (DoT) to bring U.S. shipping regulations into line with international shipping requirements established by the International Air Transport Association. Under these regulations persons who ship hazardous materials are required to be trained for packaging, marking, manifesting, spill response and hazards of the materials. A certificate of training is required to be kept on hand and provided to the shipping company or DoT on request. Training is required every 3 years. EH&S has training CD's and manuals available that meet DoT training requirements. To receive the training material please contact Pat Walker at 1-2663. For additional information contact Jim Horne at 1-2591 or visit <http://hazmat.dot.gov/> or <http://www.saftpak.com/>.

Submitted by Jim Horne, Chemical/BioSafety Officer

Chemical/BioSafety Welcomes HazMat Officer

Tim Nelken has recently returned to MCG as Hazardous Materials Officer after a three year leave. He was the Hazardous Materials Officer from 1998-2000. Tim holds a BS from The Citadel and an AS in Chemical Engineering from Trident Technical College. He has over 17 years of hands-on experience in chemical manufacturing including 4 years in the laboratory. His most recent assignment was as Environmental Coordinator for EZGO Textron. Dedicated to safety in the work place, Tim believes the more aware people are of their environment the safer they are; or as he simply states: “Safety is training that eliminates accidents.” Tim's primary responsibilities are chemical management and disposal.



*Submitted by Jim Horne,
Chemical/BioSafety Officer*

From the Director *(continued from page 1)*

Additionally, the BOR hosted a conference on Homeland Security Issues in Macon in February. The BOR Homeland Security Committee and its sub-committees are currently developing checklists for University System institutions for Patriot Act compliance. They have also developed a Homeland Security website at http://www-test.rath.peachnet.edu/homelandsecurity/committees/security_comm.phtml and will be posting compliance checklists as they are developed.

As progress in this area continues, EH&S will keep the MCG community apprised of requirements and will work with the staff to implement requirements in a manner that enhances the security and safety of research, education, and clinical practice.

Submitted by James S. Davis, Ph.D., CHP, Director, EH&S

MELLOR LAB UNANIMOUSLY NAMED OUTSTANDING LAB OF THE FIRST QUARTER 2003

The Radiation Safety and Chemical/BioSafety Offices of Environmental Health and Safety Division unanimously announced that Dr. Andrew Mellor's laboratory is the recipient of the Outstanding Laboratory for the first quarter of 2003. Dr. Mellor is the Director of Molecular Immunology consisting of seven laboratories.



*From left to right
Brendan Marshall, Anita Wylds, Babak Baban, Anna Manlapat,
Phil Chandler, Erika Thompson, Anna Hansen, Doris McCool*

Dr. Mellor's laboratory personnel are diligent in meeting all radiation safety regulatory standards. In particular, they manage their radioactive material inventory efficiently by turning in their disposal sheets in a timely basis. The Mellor lab continues to do an outstanding job of addressing the details of an effective laboratory radiation safety program. The Chemical Safety Office points to this laboratory as exemplary and commends everyone in the Mellor Lab for their professionalism while addressing regulatory requirements. Dr. Mellor's lab is led by Anita Wylds, a consummate professional, who provides leadership, management and encouragement.

Anita Wylds, a 30-year veteran of MCG, took early retirement and then returned part time. However, part time for Anita translates into full time for most people. Anita demonstrates a concise efficiency in keeping a finger on the pulse of the laboratories. She uses her vast experience and knowledge along with Electronic Chemical Database to manage the chemical inventory of the laboratory, assist with chemical storage issues, locating chemicals in other inventories for the purpose of borrowing chemicals used only one time or needed on short notice. Many of her suggested changes to the database have been realized. She indicates that it is a tool that keeps getting better and should improve still further as more people use it. Anita also addressed a number of issues relative to managing radiation safety in multi-user laboratories.

In a totally independent appraisal of the qualities demonstrated by this technician and laboratory personnel, both Radiation Safety and Chemical/BioSafety Offices recognize the performance and management of the Mellor Laboratories for their excellence. As a token of appreciation each staff member of the Mellor Laboratory will receive a fountain pen.

*Submitted by Phil Maguire, Assistant Radiation Safety Officer
and Tim Nelken, HazMat Officer*

MERCURY AWARENESS

The Pollution Prevention Assistance Division (P²AD) in Georgia recently published information on mercury awareness regarding products typically containing mercury and the need to recycle them so they don't end up in the trash, resulting in mercury pollution of the environment.

Mercury vapor is not detected by the senses. Exposures of sufficient amounts over time can affect the brain, spinal cord, kidneys, and liver. It affects the ability to feel, see, taste, and move. Long-term exposure to mercury can result in symptoms that get progressively worse and lead to personality changes, stupor, and coma.

Inhalation exposure can occur while breathing mercury vapor, usually from spilled mercury. **Ingestion** exposure usually comes from eating fish, as some long-lived fish retain mercury in their tissues. Once in the body, bacteria transforms mercury into its most toxic form, methyl mercury. Mercury does not break down, it only accumulates in the tissues.

As a result, it is important to minimize the chance that mercury containing products will be thrown out and eventually contaminate landfills and underground water sources passing through them.

Some of the common items found in homes and business establishments that often contain mercury include: thermostats with silver bulbs; fluorescent, hi-intensity, neon and bug-zapper lamps; mercury and mercuric oxide batteries; electronic switches and relays in electronics, such as clothes irons, curling irons, computers, cellular and portable phones, sump pumps, appliance lighting switches, heating thermostats; pilot light flame sensors, barometers and blood pressure gauges; automotive HID and Xenon headlamps; hood/trunk lamp switches; entertainment systems; mercurochrome/merbromin (topical disinfectant); thimerosal (preservative found in some nasal sprays and older contact lens solutions); weight/counterweight in grandfather clocks; jewelry (usually glass ampules made in Mexico); some greeting cards that light up or make noise; toys, such as the Mercury Maze game; and some chemistry sets.

If mercury is spilled, it should be cleaned up promptly, assuring plenty of fresh air to dilute the evaporation of mercury vapor during the clean-up process. Never use a vacuum cleaner or shop vac, as mercury vapor will quickly spread. If in beads or pools, you can scoop mercury together with paper or an index card, or use an eye dropper to suck it up and release it back into a small sealable container. Wipe up the spill area with a damp sponge afterward. If mercury spills on a carpet or upholstery, cut out the contaminated area, since mercury can fragment into thousands of tiny beads and go undetected. Collect mercury containing items in a sturdy, marked, sealable plastic container.

For mercury spills at MCG please call 1-2663. Outside MCG you can call **1-800-CLEANUP**. For known or suspect mercury exposures, you can call the Georgia Poison Center at 404 616-9000 or 800 282-5846. You can also go to www.cleanup.org to learn more about recycling hazardous waste materials and who will take these type wastes.

Submitted by Duane Perry – Environmental Safety Officer

Environmental Health & Safety News

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TIPS FOR ASSEMBLY GATHERINGS

Every day, millions of people go to work or school, and attend social events. But every so often the unexpected happens: a fire, chemical spill, act of terrorism or some other disaster. Each disaster can have lasting effects - people may be seriously injured or killed, and devastating and costly property damage can occur.

People entering any public assembly building need to be prepared in case of an emergency. **When you enter:**

Locate exits immediately. Look for all available exits. Are the exits clearly marked and well lit? Always be prepared to use the exit closest to you. (You may not be able to use the main exit.)

Check for clear exit paths. Make sure aisles are wide enough and not obstructed by chairs or furniture. Make sure the exit door is not blocked or chained. If there are not at least two clearly marked exits or exit paths are blocked, report the violation to management.

Do you feel safe? Does the building appear to be overcrowded? Are there fire sources such as candles burning or other heat sources that may make you feel unsafe? Are there safety systems in place such as alternative exits, sprinklers, and smoke alarms?

Have a plan. Know what the fire evacuation (Code 17) procedures are beforehand in case of emergency.

Plan a meeting place. Pick a place outside to gather that is a safe distance from the building in the event there is an emergency.

During an Emergency:

React immediately. If an alarm sounds, you see smoke or fire, or other unusual disturbances immediately exit the building in an orderly fashion. Use your closest exit - keep in mind that it may not be the main exit.

Get out, stay out! Once you have escaped, stay out. Under no circumstances should you ever go back into a burning building. Let emergency personnel take charge of the situation.

Modified by: Jimmy Murray, Source: NFPA Public Education Division

COMPUTER WORKSTATIONS: AN ERGONOMICS GUIDE

Today, more than half of employed adults in the United States use a computer on the job. To create an appropriate environment for using this equipment, it's important that both employers and computer operators learn to recognize and control potential ergonomic hazards. Computer-related discomfort and injury can be minimized by following some basic steps.

Employers

It's important for employers to take responsibility for purchasing and correctly installing task-appropriate equipment. These factors, paired with general and task-specific ergonomics training, can help improve the comfort and productivity of staff. Some critical components of a computer operator's workstation include:

Monitor: The monitor should be placed directly in front of the user at a preferred viewing distance of 18-24 inches. The top of the screen should be positioned no higher than the user's eyes. The screen should have the capability to swivel horizontally and elevate vertically to allow the user to select a comfortable viewing angle.

Mouse/keyboard: The keyboard should also be positioned directly in front of the user. The mouse should be placed at the user's side allowing the arm to remain close to the body, maintaining a straight line between hand and forearm. A height-adjustable keyboard/mouse tray system is ideal for properly organizing components.

Chair: Chairs should be height-adjustable, especially in work areas that are shared by a number of users. When seated, the user should be able to rest the soles of his feet on the floor or footrest. The back of the knees should be slightly higher than the seat of the chair to allow proper blood circulation to legs and feet. Armrests should also be adjustable to fit under work surfaces and allow for forearm support.

Lighting: Adequate lighting is a necessity. A combination of diffused overhead light and operator-adjustable task/desk lighting works best. Workstations should be orientated so light sources do not reflect on the computer screen and are not in the user's viewing field. Blinds or drapes should be available to block light from windows. Screen glare filters may also be considered.

Computer Operators

Many employees are not aware of the ergonomic risk factors faced on the job. The following are warning signs of potentially harmful working conditions:

Eyestrain and headaches: The computer screen may be too bright, not bright enough or positioned incorrectly. The glare or reflection on the monitor may be unknowingly distracting. It may also be time for new glasses or contacts.

Sore back: Slouching or inadequate chair support might be the cause. The strain may be eased by placing a rolled up towel in the small of the back.

Sore hands, wrists, arms and shoulders: Most likely caused by sitting improperly. Raise or lower the keyboard and make sure arms and wrists are supported.

Numbness In Legs And Feet: Blood circulation may be restricted. Try using a footrest or a chair with a downward-curving front edge.

Modified by: Jimmy Murray Source: National Safety Council