

## Automated External Defibrillators Coming

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The U.S. Occupational Safety and Health Administration (OSHA) estimates that 300,000 to 400,000 people die each year in the U.S. from sudden cardiac arrest (SCA). Many of these deaths result from chaotic contractions of the heart known as ventricular fibrillation (VF). For every minute a victim remains in VF, it is estimated that chances of survival are reduced by 7% to 10%. Rapid intervention to restore normal heart rhythm through defibrillation has been shown to be a victim's best chance for survival.

Based on a recommendation from the University Standing Committee on Safety and Security, the University is purchasing several automated external defibrillators (AEDs) which will give trained responders a virtually foolproof method to assess SCA victims and administer, if needed, a life-saving electrical shock.

One AED will be placed in Student Health Services; most of the remaining units will be placed in Police Services for rapid deployment to the scene of a SCA incident. Many thanks to Brad Frewin, Industrial Safety Specialist in Physical Plant, for initiating AED discussions in committee.



As always, we will present an updated, improved seminar. Even the cookies, coffee, and door prizes will be updated!

Faculty, staff, and graduate students are invited. Please register through your department by Aug. 27. Pre-registering will help ensure that we have sufficient refreshments and door prizes.

*Come learn about lab safety, have some free food, and maybe win a door prize.*

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### Fume Hood Briefing Available

If you have been to the Laboratory Health and Safety Seminar within the past 3 years and need an annual lab safety refresher, ask your department chair to schedule our fume hood information and training program. Lasting only 30 to 40 minutes, this program will provide information on how the new VAV fume hood systems work, how to work safely in them, and more.

*Don't be "baffled" by the "exhausting" subject of laboratory ventilation.*

## Hazardous Waste = Big Bucks

Over 6,000 lb. of hazardous waste was shipped from academic departments last year. Wow! The costs associated with generating this quantity of waste were over \$100,600. Most of this waste was the result of decommissioning laboratories as faculty retired or accepted positions at other universities.

As old chemicals and their hazards are removed from campus, EH&S encourages everyone to manage chemical inventories wisely - if you don't acquire more than you can use in a few days or weeks, there is little waste generated due to unwanted chemicals. At a time when enforcement of environmental regulations is increasing and budgets are tight, here are some recommendations for waste minimization:

- Centralize waste collection within buildings
- Centralize hazardous materials purchases within units
- Order only what is needed now
- Maintain an up-to-date inventory, and check for in-house availability before ordering new materials
- Use materials on a first-in, first-out basis
- Reduce the scale of laboratory processes
- Substitute less-hazardous materials
- Use waste from one process as the raw material for another process
- Reduce the hazardous properties of waste as the final step in experiments
- Return unused gas cylinders to the vendor
- Teach personnel waste reduction methods

**EPA believes ... employees failed to determine if wastes were hazardous ..., improperly stored and disposed of hazardous wastes, and failed to routinely inspect waste storage areas.**

## What are You Doing with Printer Cartridges?

Are you trashing your old laser printer toner cartridges? If you use HP cartridges, please remember that each box contains a shipping label that allows you to return the cartridge to HP for recycling. UPS will ship the boxed cartridge at no cost to the University. It only takes a few seconds to pop that empty cartridge in the box, seal it, and slap on the label.

## Environmental Violations Elicit EPA Fines

Federal and state regulators are continuing to vigorously enforce environmental laws and regulations. After reading examples noted below, we hope that you will be even more alert to the need for compliance with these requirements.

The U.S. Environmental Protection Agency (EPA) has proposed to fine the Pratt Institute in New York City \$301,000 as a result of alleged regulatory violations related to handling and disposal of hazardous materials.

The Pratt Institute, known for its schools of art and architecture, is alleged to have violated regulations associated with management of old chemicals, computer monitors, and fluorescent bulbs. EPA believes that Pratt employees failed to determine if wastes were hazardous prior to disposal, improperly stored and disposed of hazardous wastes, and failed to routinely

inspect waste storage areas.

The EPA also alleges that Manhattan College failed to determine

whether certain wastes were hazardous wastes, stored hazardous waste without a permit, and failed to respond to two information requests from EPA. Among the items covered by the allegations were mercury, arsenic, spent solvents and paint, used fluorescent bulbs, used computer monitors, and other wastes generated in the print shop, labs, and maintenance facilities. The proposed fine is \$111,199.

*If your lab uses hazardous chemicals, EH&S can provide you with a briefing to outline the legal requirements for disposal of chemical wastes.*

## EH&S at Hazardous Waste Conference

Frank Williams, Environmental Protection Specialist in EH&S, represented The U of M at the 20<sup>th</sup> Annual College and University Hazardous Waste Conference in Ames, Iowa.

## Thermal Loading Reduces Hood Protection

In an article published in the July, 2002, *Applied Occupational and Environmental Hygiene*, Saul J. Chessin and James D. Johnston of the Idaho National Engineering and Environmental Laboratory discuss thermal loading as a factor in reducing effectiveness of laboratory fume hoods. Their research revealed that equipment capable of generating 12,000 Btu/hr or more can cause leakage of chemical fumes in excess of commonly accepted criteria. Chessin and Johnston indicate that the 12,000 Btu/hr can be exceeded by operating the following equipment in a hood: one blast burner, or two Meeker burners, or one 3600 watt hot plate, or three 1300 watt heaters for water baths.

***If you perform experiments requiring generation of 12,000 or more Btu/hr, plan your experiments carefully. If you need assistance, call EH&S.***

## Fume Hood Update

Phases I and II of the fume hood upgrade project are nearing completion. New hoods are being tested by an outside contractor to ensure that they meet design specifications. Phase III, funded at \$2,700,000, is now in the planning stage.

To all of you who have endured disruption, dirt, and frustration, your patience will be rewarded with a safer, more healthful work environment. And don't forget to use those new cabinets for your flammables and corrosives!

## U. Conn. Student Faces Terrorism Charges

A graduate student at the University of Connecticut was recently charged under the USA Patriot Act with possessing a biological agent. The student allegedly failed to destroy old samples of anthrax-infected tissue, preserving them for future investigation. Although the charge could have resulted in imprisonment for up to 10 years, the U.S. Attorney will apparently allow the student to participate in a pretrial diversion program.

## EH&S Among Elite Fume Hood Testers

The U of M is among a small number of university EH&S departments capable of testing fume hood performance using quantitative methods. Recent acquisition of an ASHRAE Test Cart, allows EH&S personnel to introduce a tracer gas (SF<sub>6</sub>) into fume hoods and measure the quantity of gas which escapes into occupied spaces; the system is capable of measuring tracer gas concentration to the nearest 0.01 ppm.

In addition to a leak detector, tracer gas, velocity probes, a computer, and other equipment, the test cart is equipped with a manikin to simulate a researcher using the hood. If you see us in your lab, say hello to the manikin, Rene de Cart (don't confuse him with Descartes).

EH&S will soon begin using the new equipment on a regular cycle to quantify containment and ensure conformity to the ASHRAE 110 standard.

## Photo Labs Get Improved Ventilation

Photography labs in the Meeman Journalism Building are receiving extensive ventilation system improvements. The improvements, costing more than \$200,000, will reduce chemical odors in the building and promote a more pleasant, healthful work environment.

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### Sources of Assistance

Manager of EH&S . . . . .	678-4672
Radiation Safety Officer . . . . .	678-4672
Chemical Hygiene Officer . . . . .	678-4672
Environmental Protection Specialist .	678-2044
Laboratory Safety Specialist . . . . .	678-2740
Fax . . . . .	678-4673
Emergency (Fire, Police, Ambulance, after hours Chemical/Radiological)	678-4357
EH&S Home Page . . . . .	
. . . . .	<a href="http://www.people.memphis.edu/~ehas/">http://www.people.memphis.edu/~ehas/</a>

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## More Anti-terrorism Regulations for Labs

Additional anti-terrorism laws and regulations have been implemented over the past few months. The latest is Public Law 107-188, known as the "Public Health Security and Bioterrorism Preparedness and Response Act of 2002." P.L. 107-188 requires facilities to report possession of select agents, high consequence livestock pathogens, and toxins to the U.S. Department of Health and Human Services. This requirement is in addition to registration with various federal agencies. Fines for violating requirements of the new laws/regulations can reach \$500,000 and/or five years imprisonment for each violation.

*If you plan to acquire biological agents, including toxins, call EH&S to discuss legal requirements.*

## New on the EH&S Web Page

Several new items have been added to the EH&S web page at <http://www.people.memphis.edu/~ehas/>. Some of these include:

- Hazardous Waste Satellite Accumulation Area Guide - Go to "Downloads"
- Radioisotope Protocol Preparation Guide - Go to "Downloads"
- "State Regulations for Protection Against Radiation" - Go to "Radiation Safety" and look under the links
- Nuclear Regulatory Commission "Regulatory Guides" - Go to "Radiation Safety" and look under the links
- "Public Health Security and Bioterrorism Preparedness and Response Act" - Go to "Biosafety" and look under the links
- "Guidelines for Recombinant DNA Research" - Go to "Biosafety" and look under the links
- Laboratory fume hood users guide (Mott hoods) - Go to "Laboratory Safety" and click on "Fume Hoods"
- "Less is Better" an ACS guide to waste management - Go to "Chemical Safety," Click on "Waste Management" and scroll down

## Decommissioning Reminder

If you are planning to vacate a lab, please remember that it is your responsibility to decommission the lab. Making arrangements to transfer or dispose of chemicals, sharps, potentially infectious materials, and radioactive materials is a necessity when decommissioning.

See the "Laboratory Chemical Hygiene Plan" and "Radiation Safety Manual" to learn more about decommissioning requirements.

*If you need help planning or executing the decommissioning of a laboratory, please call EH&S.*

## Radiation Safety Training

If you plan to use radioisotopes or x-ray machines during 2002-2003, you must complete the Radiation Worker Course before going to work. Have your laboratory supervisor contact Al Simpson at 4672 (e-mail [asimpson@memphis.edu](mailto:asimpson@memphis.edu)) as soon as possible so that you are placed on the class roster.

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## Environmental Health & Safety Staff

Alton Simpson, Manager of EH&S  
Ronald W. MacDonald, Laboratory Safety Specialist  
Frank Williams, Environmental Protection Specialist

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Environmental Health and Safety  
216 Browning Hall  
Memphis, TN 38152-3340