School of Dentistry
Environmental Health & Safety Newsletter

Volume 2, Issue 1 **April 2012**

Environmental

What's new in Dentistry?

Save 90 A Day!" Campaign

Did you know the average person wastes at least **90 glasses of water every day** by leaving the tap running while they brush their teeth?

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Health

What's going on in SOD…?

New Moodle Incident Reporting Course for the Entire SOD Community

If you have any incident at SOD you will now be required to complete the questionnaire on Moodle. This will help with internal reporting, OSHA requirements, training, and reducing exposures.

What Is An Incident?

-Percutaneous Injuries (e.g. Needle-sticks, Bur cuts, etc.)

-Chemical Exposure

-Slip/Fall

-Ergonomic Problems

-Other Injuries

-**Serious Injuries**- There are certain injuries that OSHA deems serious. These injuries NEED to be reported within 8 hours to Campus Environmental Health & Safety at **310-825-9797**. They include: amputation, death, concussion, crushing, fracture, burn, laceration that requires stitches, laceration with significant bleeding and hospitalization greater than 24 hours

Provide the necessary information when reporting a serious injury:

Employee name, title and department

Supervisor name and phone

Your name, title, department and contact information

Date, time and location of incident

Description of what happened

If employee recieved medical treatment and, if so, where

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You can self-enroll yourself into the course once you log in. https://ccle.ucla.edu/course/view/IR

This course is a work in progress and items will be added periodically. Also, this course is not en lieu of the current paperwork (UCLA Incident Report & Referral for Medical Treatment and UCLA Medical Center Confidential Report of Incident/Occurrence.)

Please, email lgambon@dentistry.ucla.edu if you have any questions, comments, or concerns in regards to Incident Reporting.

Any issues on your mind?
Send me an email:
Lauren Gambon- EH&S Specialist for SOD
lgambon@dentistry.ucla.edu

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SAFETY

It Could Have Been Prevented

Most accidents could have been prevented. If you are aware of your surroundings, take proper precautions and know the safety requirements then you can help to avoid injury and death. This section will highlight different accidents that could have been prevented.

Summary:

A Yale student was working alone inside the school's chemistry lab when her hair was pulled into a machine -shop equipment. She died from accidental asphyxia by neck compression from a fast-spinning lathe. The laboratory had limited access to students, faculty, and staff that had completed a shop course.

Instrument Involved:

A lathe is a machine used to shape wood, metal or other material by way of a rotating drive that turns the material being worked on against cutting tools.

OSHA reported problems:

- The "lead screw" of the high-speed metal lathe involved in the incident should have had a safeguard to protect the operator.
- It said such safeguards could include a physical guard piece, protective clothing and/or an emergency switch to kill power to the machine.
- Safety inspections and audits of the Student Mechanical Instrumentation Shop conducted by Yale did not address machine safeguarding.
- It also found that personal protective equipment assessments were not completed and rules for use of the shop were not posted, including warning signs.
- The lathe was manufactured in 1962 and had been in the university's possession since at least 2000.

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LABORATORY TOPIC

Biological Safety Cabinets

What is a Biological Safety Cabinet (BSC)?

- Are NOT Fume Hoods
- Are NOT a "Clean Bench"
- Are enclosed, ventilated workspaces for safety working with materials contaminated with (or potentially contaminated with) pathogens in a lab
- Are a type of engineering control for minimizing air contamination

What is a HEPA Filter?

High Efficiency Particulate Air

- Captures airborne particles and create a particle free work environment
- If the particle size is 0.3 micron then the filter efficiency is 99.97%
- Does NOT filter vapor gas

Different Classes of a BSC:

- Class I- Personnel and lab environment protection, no product protection
- Class II- Personnel, lab environment and product protection
- Class III- maximum personnel and lab environment protection, product protection (closed- system)

Biosafety Cabinets- Class I

- Provides personnel and environmental protection but no product protection
- Uses HEPA filters to remove airborne particles
- Does not provide a sterile work space
- Inward airflow can cause contamination of samples
- Inward airflow is maintained at a minimum of 75 ft./min

Biosafety Cabinets- Class II

- Provides personnel, lab environment and product protection
- Uses HEPA filters to remove airborne particles
- Uses a Laminar flow to reduce air turbulence and aids in capture of airborne contaminates
- There are four Types of Class II: A1, A2, B1, B2

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That means in the United States alone, they're literally pouring down the drain **27 Billion Glasses of clean, drinkable water every day**, just brushing their teeth.

Add your voice to the growing chorus of people around the world who are saving 90 glasses of water every day by committing to brushing their teeth twice a day and turning off the water every time.

It's easy to "Save 90 A Day!"

Click Here to Sign the Pledge!

Events in SOD and UCLA:

Earth Day April 22nd

Annual UCLA Earth Day Fair

Thursday, April 19, 2012
10:00 am - 2:00 pm, Intramural Field

HIV Testing Vehicle
Saturday, April 21, 2012
8:00 am - 8:00 pm, Wilson Plaza - Area

5K Bruin Run/Walk
Sunday, April 29, 2012
6:00 am - 12:00 pm, Court of Sciences - Area

Energy, Calm, Ease & Well-being
Sunday, April 15, 2012
10:00 am - 4:00 pm, Sunset Canyon Recreation Ctr. - Buenos Ayres Room

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Fun Facts:

If just 25% of U.S. families used 10 fewer plastic bags a month, we would save over 2.5 BILLION bags a year.

There is no limit to the amount of times an aluminum can may be recycled.

By weight, bone is five times stronger than steel.

There are more than 300,000 tons of grapes grown in California annually.

One acre of trees removes up to 2.6 tons of carbon dioxide each year.

Recycled paper produces 73% less air pollution than if it was made from raw materials.

Plastic bags and other plastic garbage thrown into the ocean kill as many as 1,000,000 sea creatures every year

OSHA Recommendations:

- Yale to establish specific hours of operation for the Student Mechanical Instrumentation Shop and establish a two-person rule, while also requiring that all operators complete formal training that meets industry standards.
- The university should post safe operating rules where the machinery is located and install adequate safeguarding to make certain all industrial machinery is in compliance with the latest OSHA standards
- Yale implement an inspection program to be conducted by a safety professional with experience in machine guarding; conduct protective equipment assessments throughout the campus and implement a personal protective equipment-training program.

OSHA Outcome:

Yale was not fined because the accident involved a student and not an employee.

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Airflow:

- Do not block the vents
- Do not use sweeping or rapid arm movements
- Minimize movement of materials in and out of the cabinet
- Disrupting the air curtain increases the risk for contaminant release into the lab
- Turn on the BSC at least 3 minutes for starting work in the BSC

BSC- Class II Type A1

- 70% of air is recirculated either back into the lab or outdoors
- No volatile toxic chemicals or volatile radionuclides
- Chemical vapors can build up in the cabinet and become a health and safety hazard

BSC- Class II Type A2

- All HEPA filtered exhaust can be discarded outside
- Intake minimum is 100 ft./min
- Minute quantities of volatile toxic chemicals or trace amounts of radionuclides if exhausted outside of building via canopy connection

BSC- Class II Type B1

- HEPA filtered down flow air composed largely of uncontaminated recirculated inflow
- 30% of air is recirculated
- Building exhaust system must pull air out of the BSC
- Must be hard-ducted
- Have all biologically contaminated ducts and plenums under negative pressure
- Can use minute quantities of volatile toxic chemicals and trace amounts of radionuclides

BSC- Class II Types B2

- Have HEPA filtered down flow air drawn from the laboratory or the outside
- No recirculation
- Must be hard-ducted to dedicated exhaust
- Can use volatile toxic chemicals and radionuclides

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BSC Location:

- Keep away from all other sources of airflow
  - Open doors and windows
  - Personnel traffic
  - Supply air diffuser
  - Other lab equipment
- Personal and Product protection are compromised as cross drafts approach air intake
- Must be seismically stabilized (i.e. bolted to the floor, anchored to the building, etc.)

BSC must be certified when:

- New (before first use)
- Every year
- If repaired
- If relocated (even if moved within the same room)

Guidelines for working in the BSC

- Never: eat, drink, chew gum, store food, or smoke nearby
- Schedule uninterrupted work times
- Store papers or pencils outside of the BSC
- One person working in a BSC at a time
- Have arm pits level with bottom of the window sash
- Use slow movements in BSC
- Minimize entering and exiting the BSC
- Do not block any of the grills
- Do not store equipment or supplies in or on the BSC
- Do not touch your iPods or other MP3 players while working in the BSC

BSC Cleanup

- When do you clean your BSC?
  - Before and after every procedure
- What do you use to clean your BSC?
  - Alcohol (70% solution)
  - Bleach (10% solution)
  - Approved Disinfectant Agent

  *Keep in mind bleach can be corrosive

1. Place all items that may have come in contact with the agent(s), such as the used pipettes, in an appropriate biohazard or other waste container

2. Disinfect surfaces of all equipment used

3. Remove all items from inside the BSC

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4. Disinfect all interior surfaces of the BSC

5. If possible leave the BSC running

Validation of Decontamination:

- Use RODAC plates to detect presence of microorganisms on surfaces
- Fill with media appropriate for agents you are using
- Incubate for 24 hours and check for growth

Training:

Every lab personnel working in a laboratory with a BSC needs to take an initial EH&S training and then follow-up:

- Biological Safety Cabinet (BSC) 3 Years
- Biosafety Level 2 A,B,C's (BSL2) 3 Years
- Biosafety Level 2 w/ Biosafety Level 3 practices (BSL2+) 3 Years
- Shipping Biological Materials (SBM) - *ONLINE+$95 FEE* 2 Years

E.Y.E.H.S.

Engaging in Your Environment, Health, & Safety

Since, SOD's faculty, staff, students, residents and preceptors are working with EH&S issues everyday it will be helpful to use your "eyes" to make SOD safer, healthier and more environmentally friendly. Do you have any suggestions, comments or ides in how to help in SOD's environment, health & safety? Please, submit your ideas to SOD's EH&S specialist; Lauren Gambon lgambon@dentistry.ucla.edu. You will get recognition for your thoughts and ideas. Submit the attached document.

Reminders:

CPR:

Is your CPR certification up to date? Please, make sure that if you are providing patient care within SOD that you have a current CPR certification.

Requirements for CPR certification are as follows: As of January 2010, the Dental Board of California requires licensees to take CPR from an instructor for either the American Heart Association or the American Red Cross. The course must be a classroom course.

Laboratory & Clinical Chemical Inventories:

An annual chemical inventory is an OSHA requirement under the Hazard Communication Standard. Each lab needs to submit their new or updated chemical inventory by June 1st, 2012. Each clinical area will be contacted about their chemical inventory.

Medical Waste Checklist:

California Department of Public Health will be doing their **annual medical waste inspection May 14th and 15th**. In preparation to this inspection any laboratory or clinical area that accumulates medical waste must complete the attached inspection checklist and turn it into my office by **May 7th 2012.**

*A folder will be located outside my office for the inspection forms