Greetings from the Biosafety Office! We hope that you had an enjoyable summer and that you are easing into the fall semester. New semesters often bring about changes in personnel and projects. To help ensure that your IBC protocols are up to date and accurate, the biosafety office sends out a protocol questionnaire for each IBC protocol. Please take a moment to let us know if your protocol remains the same, if there are changes to your protocol, or if you would like to close your protocol. We appreciate your cooperation and assistance!

As I mentioned in the last edition of the Biozone, a printed version of the 5th Edition is of the BMBL is now available. Please make sure that you are using the December 2009 version of the 5th Edition, which can be found at http://www.cdc.gov/biosafety/publications/bmbl5/index.htm.

HOW TO WASH YOUR HANDS PROPERLY

With International Clean Hands Week (September 19-25, 2010) just around the corner, I thought this would be an appropriate topic for this issue of the Biozone. Keeping your hands clean is the number one thing you can do to prevent the spread of pathogens. This is helpful to remember not only to keep the common cold at bay, but also when exiting the laboratory. Gloves do not protect your hands 100% of the time. Undetected holes in gloves can allow pathogens to come in contact with your skin. Detergents and disinfectants can enhance penetration of the glove barrier and can cause the gloves to deteriorate. The removal of contaminated gloves, if not done properly,
can also be a source of hand contamination. This is why all lab personnel are required to wash their hands after handling viable material, removing gloves, or leaving the laboratory. The American Society for Microbiology conducted a study in 2003 which found that as many as 30% of travelers don’t wash their hands after using public restrooms at airports. I know we can do a much better job in our labs, so let’s strive for 100%!

It is important to not only wash your hands, but to make sure you are using the proper technique to remove any contaminants and to prevent re-contaminating your hands. You may be thinking “of course I know how to wash my hands” but do you really wash your hands long enough to disinfect them? See the procedures listed below, which are taken from the Centers for Disease Control and Prevention webpage (www.cdc.gov/features/handwashing/) to see if you are washing your hands properly:

When washing hands with soap and water:
- Wet your hands with clean running water and apply soap. Use warm water if it is available.
- Rub hands together to make a lather and scrub all surfaces.
- Rinse hands well under running water.
- Dry your hands using a paper towel or air dryer. If possible, use your paper towel to turn off the faucet.
- Always use soap and water if your hands are visibly dirty.

If soap and clean water are not available, use an alcohol-based hand rub to clean your hands. Alcohol-based hand rubs significantly reduce the number of germs on skin and are fast-acting.

When using an alcohol-based hand sanitizer:
- Apply product to the palm of one hand.
- Rub hands together.
- Rub the product over all surfaces of hands and fingers until hands are dry.
BSL-2 ACCESS POLICY

For the past 5 years, a policy has been in place that requires custodial services personnel to be escorted in BSL-2 laboratories. This policy was recently updated to include all non-laboratory personnel. Please make sure that you are escorting all non-laboratory personnel if you work in a BSL-2 laboratory.

<table>
<thead>
<tr>
<th>Oklahoma State University Institutional Biosafety Committee</th>
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<tbody>
<tr>
<td><strong>Biosafety Level 2 (BSL-2) Laboratories &amp; Non-laboratory Personnel</strong></td>
<td><strong>Policy #</strong></td>
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<tr>
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<td>GA 110</td>
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<td><strong>IBC Approval Date:</strong></td>
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1. POLICY

The Oklahoma State University Institutional Biosafety Committee (IBC) recognizes that all University employees have the right to know and the need to know the properties and potential safety and health problems of substances to which they may be exposed. As such, all OSU research laboratories falling within the purview of the IBC must adhere to the pertinent requirements of OSU Policy # 3-0535 - Hazard Communication Program, which requires the following:

A. A comprehensive Chemical Inventory List (CIL) on file with the Master Record Keeper.
B. Implementation of a training and education program designed to inform employees of appropriate work practices, protective measures, and emergency measures regarding hazardous materials in the workplace.
C. Employees to be provided with the chemical names of all hazardous substances.
D. Material Safety Data Sheets (MSDS) readily provided to employees.
E. A legible manufacturer’s label or an HMIS label on containers of hazardous substances.
F. A written chemical hygiene plan, a copy of which must be on file with the Master Record Keeper.

Recognizing the potential for high turnover in the ranks of non-laboratory personnel (Vendors performing equipment maintenance, Physical Plant, Custodial and Maintenance services, etc.) and the risks posed to these individuals in Biosafety Level 2 (BSL-2) laboratories, all non-laboratory personnel must not enter BSL-2 laboratories or facilities after normal business hours or without a laboratory manager or principal investigator (PI) present. Furthermore, the IBC recognizes the need for routine maintenance and service on equipment and general upkeep of laboratories and facilities such as window pane and light bulb replacement, floor waxing, equipment maintenance, etc. Still, the PI and/or laboratory/facility manager is responsible for continual supervision of all non-laboratory personnel while in BSL-2 spaces. Thus, non-laboratory personnel may not have unescorted access to BSL-2 laboratories and facilities. In the event of an emergency within an unattended BSL-2 laboratory, emergency contact information is posted on the door. At least one of the emergency contacts (Principle Investigator, lab manager) shall be contacted prior to entering the lab.
With this policy, the IBC intends to ensure the transmission of necessary information to non-laboratory personnel regarding hazardous substances in the workplace. A hazardous substance is defined as any substance that is a physical hazard or a health hazard (e.g., compressed gases; explosives; flammables; oxidizers; carcinogens; irritants; corrosives; biological agents, as defined by the OSU IBC policy; or toxins). Hazardous substances generally have a Material Safety Data Sheet (MSDS) available.

2. SCOPE

This policy applies to all BSL-2 laboratories and facilities falling within the purview of the Oklahoma State University (Stillwater) Institutional Biosafety Committee.

3. RESPONSIBILITY

Principal Investigators and Laboratory/ Facility Managers/Directors have a responsibility to adhere to this policy and to continually confirm that all laboratory personnel comply with this policy.

4. APPLICABLE REGULATIONS, GUIDELINES, & OSU POLICIES

- Title 40 Oklahoma Statues, Section 401-424
- Title 29 Code of Federal Regulations Part 1910.1450
- NIH Guidelines For Research Involving Recombinant DNA Molecules (see Appendix G-II-B-2-c)
- Biosafety in Microbiological and Biomedical Laboratories (BMBL)
- Policy # 3-0535, Hazard Communication Program, Business & Finance, April 1994
- Policy # 4-0301 Institutional Biosafety, May 2010

HOW TO KNOW AND WHAT TO DO IF YOU ARE IMMUNOCOMPROMISED

Risk group classifications are assigned to organisms based upon their ability to cause disease in healthy individuals. These risk group classifications are used, along with other parameters, to determine the appropriate biosafety level laboratory to work with an organism. Although risk group one (RG1) organisms cannot cause disease in healthy adults, they can pose a risk to those individuals who are immunocompromised. Plant associated microorganisms can even cause infections in individuals who have a weakened immune system. Therefore, even BSL-1 laboratories can be a health hazard to certain individuals.
The following may make individuals more susceptible to infection: disease, other medical conditions, or drugs that alter host defense; allergic hypersensitivity; inability to receive a specific vaccination; and reproductive issues. Skin diseases such as chronic dermatitis, eczema, and psoriasis can create breaks in the skin that will allow pathogens to penetrate. Antibiotic or antimicrobial treatment can change the composition of the natural microbial flora of your mucous membranes or digestive system, leaving you more susceptible to colonization by infectious microorganisms. Other conditions and treatments such as diabetes mellitus, cancer chemotherapy, steroid treatments, or HIV infection may also cause immunodeficiencies. Women who are pregnant are also considered to be immunocompromised. The mother's body has to lower its defenses to make sure that it does not reject the baby. This leaves pregnant women more susceptible to infections and some of these infections can be passed along to the fetus.

Being aware of your health status can reduce your risk of contracting a laboratory acquired infection (LAI). If you have any concerns regarding your immune system and the hazards you are exposed to in the workplace, please contact University Health Services or your own personal doctor for medical advice.

Thank you for taking the time to read our newsletter. I hope that you found the information helpful. We appreciate your interest in the biosafety program and we look forward to working with you in the future!

References: