

Reducing the Risk of *Salmonella* Infections Associated with Laboratory Exposure

Attention: College and University Microbiology Laboratory Faculty, Staff, and Biosafety Officers

Federal and state public health officials are making a concerted effort to reinforce awareness among educators and students about the risk of *Salmonella* infection acquired in teaching and academic microbiology laboratories. Laboratory-acquired *Salmonella* infections particularly among college students and household contacts of students or laboratory employees are a recognized public health problem. As part of this awareness outreach, the Michigan Department of Community Health (MDCH) is sending this message and attached informational materials to colleges and universities in Michigan that offer microbiology laboratory courses.

Please widely distribute this message and attachments to all instructors, staff, and students involved in microbiology laboratory courses and biosafety training.

Since 2011, one hundred-fifty (150) confirmed illnesses with the same strain of *Salmonella* serotype Typhimurium have been reported from 38 states in the U.S., including Michigan. Most of the ill persons have been 21 years of age or younger and more than one-third of the most recent cases have required hospitalization. One death has been reported. The illness outbreak strain was found to be indistinguishable from a commercially available *Salmonella* Typhimurium strain often used in academic laboratory settings. Findings from these illness outbreak investigations have revealed several lapses and/or deficiencies with laboratory equipment, biosafety training, and laboratory behaviors that would increase the risk of acquiring *Salmonella* infection.

The Centers for Disease Control and Prevention (CDC) has provided the following recommendations for laboratory directors, managers, and faculty teaching in microbiology laboratories to reduce the risk of illness:

- Use either non-pathogenic or attenuated bacterial strains when possible in teaching laboratories to reduce the risk of students and/or family members becoming ill
- Thoroughly assess your laboratory environment and procedures to reduce potential contamination hazards. Review institutional biosafety policies and procedures for laboratory-acquired infections
- All students and employees using the laboratory should be trained in biosafety practices prior to any lab work
- Students and staff should always wear gloves when working with infectious agents. Require handwashing with soap and water before leaving the laboratory.
- Do not allow food, drinks or personal items (e.g., keys, electronic items) to be used while in the laboratory or placed on laboratory work surfaces
- Advise all persons working in the laboratory to watch for symptoms of a *Salmonella* infection and to call their health care provider if they or a family member have symptoms
- Display this CDC poster in a prominent area of your laboratory as a reminder to students and staff:
http://www.cdc.gov/salmonella/pdf/CDC_LAI_Prevention_Poster_012313_508.pdf

Additional resources:

CDC Key Resources page <http://www.cdc.gov/salmonella/typhimurium-labs-06-14/key-resources.html>

Biosafety Guidelines for Handling Microorganisms in the Teaching Laboratory: Development and Rationale
<http://jmbe.asm.org/index.php/jmbe/article/view/531/html>

Guidelines for Biosafety Laboratory Competence, MMWR Supplement
http://www.cdc.gov/mmwr/preview/mmwrhtml/su6002a1.htm?s_cid=su6002a1_w

Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition
<http://www.cdc.gov/biosafety/publications/bmbl5/index.htm>

For laboratory-related questions, please contact: Dr. Jim Rudrik, Michigan Department of Community Health Bureau of Laboratories, RudrikJ@michigan.gov (517) 335-8063