PREVENTING AND TREATING BIOLOGICAL EXPOSURES

An Occupational Health Colloquium

June 8-10, 2014
Providence, RI

Presented in partnership by the Eagleson Institute and the Elizabeth R. Griffin Research Foundation

Sponsored by:
American Association for Laboratory Animal Science (AALAS)
American Association of Occupational Health Nurses (AAOHN)
American Biological Safety Association (ABSA)
American College of Occupational and Environmental Medicine (ACOEM)

Eagleson Institute

current program information online at eagleson.org/OCCHALTH
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PO Box 954 • Sanford ME 04073
207-490-1076 • eagleson.org

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Preventing and treating biological exposures is a unique event that provides an opportunity to examine the latest issues facing those who provide occupational medical services to laboratory personnel as well as network and develop long-lasting relationships with colleagues from around the country.

Providence, RI
The only US city to be named “One of the Top Ten Up-and-Coming Travel Destinations in the World” by the Wall Street Journal, Providence boasts a vibrant arts community, world-renowned restaurants and an endless array of theatrical performances and sporting events.

Providence combines the accessibility and friendliness of a small town with the culture and sophistication of a big city. The city’s compact size and convenient location make it easy to get to and hard to forget. Nearby Warwick offers bountiful shopping and 39 miles of coastline, while the scenic beauty and rich history of Rhode Island’s other regions are a quick drive away. Historic and hip, sophisticated and small-town, Providence packs the best of New England into one convenient and colorful package.

Hotel & Local Information
The Providence Biltmore, located in the heart of downtown Providence, Rhode Island, is an historic hotel built in the neo-Federal Beaux-arts style. The iconic landmark combines the classic elegance of its public spaces, with newly renovated guest rooms and offers superior personal attention to guests. Amenities include a full-service spa, a fully equipped fitness center, valet parking, and complimentary Wi-Fi.

A block of rooms has been reserved at the special rate of $145. To make reservations, call (800) 294-7709 and mention the “Occupational Health Colloquium” to receive the event rate.

Photo Credits
Front Cover from Top to Bottom: Amanda Mills, CDC; James Gathany, CDC; James Gathany, CDC; James Gathany, CDC; Greg Knobloch, CDC.
Inside Flap: Providence Biltmore Hotel. Inside Photos: James Gathany, CDC.
**SUNDAY, JUNE 8, 2014**

**8:00 AM - 12:00 PM INTRODUCTION TO NANOMATERIALS AND OCCUPATIONAL HEALTH**

Pam Greenley, CIH, Massachusetts Institute of Technology

Occupational health professionals and biosafety officers are increasingly called upon to assess risks and develop surveillance programs for workers handling nanoparticles in the research setting—subjects which currently may be more familiar to industrial hygienists such as instructor Pam Greenley. This course, adapted from materials developed through an OSHA grant, will examine the basics of nanomaterials and their toxicology, consider the regulations and standards that govern their use, discuss methods of assessing nanomaterial exposure and means of controlling exposure, and provide tools and resources for further study. A small group exercise will provide practice in using the Control Banding Nanotool, a novel CB approach being used at the Lawrence Livermore National Laboratory to assess risks associated with nanotechnology operations and prescribe appropriate controls.

**1:00 PM - 5:00 PM OCCUPATIONAL HEALTH ISSUES IN BIOLOGICAL LABORATORIES**

Gary Fujimoto, MD, Occupational Medicine Consultant

An introduction or refresher course that provides an overview of medical surveillance and monitoring, including a brief discussion of human biohazards and biosafety programs, post-offer pre-placement exams, Tier 1 select agents, non-human primate exposures, and internal donor programs, along with updates on bloodborne pathogens and management issues.

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**MONDAY, JUNE 9, 2014**

**8:30 WELCOME AND INTRODUCTIONS**

Mary Ann Sondrini, EdM, Eagleson Institute

James M. Welch, Elizabeth R. Griffin Research Foundation

**8:45 RISKS AND BENEFITS OF GRAPHENE FOR ENVIRONMENTAL AND BIOMEDICAL APPLICATIONS**

Robert H. Hurt, PhD, Brown University

Agnes B. Kane, MD, PhD, Brown University

Nanotechnology is an emerging industry based on design, synthesis, and application of engineered materials in the size range of 100 nm or less. Interdisciplinary research at Brown University focuses on graphene, a single-atom monolayer of carbon arranged in a two-dimensional honeycomb structure with unique optical, electronic, and mechanical properties. Graphene-based nanomaterials are under development for novel electronic and energy storage applications. As a carbon-based nanomaterial, graphene is biocompatible and has potential applications as biosensors, multimodal imaging probes, barriers for chemical pollutants, antimicrobial agents, and bioengineered tissues and implants. Dr. Agnes Kane is working together with an interdisciplinary research team of engineers and cell biologists to use computational design for safe development of graphene-based nanomaterials to minimize adverse environmental and human health impacts.

**9:45 BREAK**

**10:05 ENGINEERED NANOPARTICLES: THE NEXT ASBESTOS OR THE NEXT BEST THING SINCE SLICED BREAD?**

Pam Greenley, CIH, Massachusetts Institute of Technology

This presentation will provide both an overview of the types and benefits of engineered nanomaterial research being conducted at MIT and the aspects of an EHS program necessary to ensure that research is done in a safe, healthy, and environmentally responsible manner. A brief overview of the results of recent toxicology studies will be reviewed. Industrial hygiene air sampling techniques and engineering controls suitable for
laboratory scale work with engineered nanoparticles will be described. Medical surveillance requirements and controls established for use of engineered nanoparticles in animals will be presented. Finally, we will discuss how to convince researchers to take adequate precautions when they work with materials with unknown health effects.

11:00 VIRAL VECTORS: UPDATES AND TREATMENT OPTIONS FOLLOWING LABORATORY EXPOSURES

Gary Fujimoto, MD, Occupational Medicine Consultant
This presentation will focus on some of the more common vectors used in biological laboratories. Issues involving lentiviral and retroviral vectors will include the problems associated with replication-incompetent vectors that can still alter the host’s genome as well as the enhanced range associated with VSV-G pseudotyping and potential health consequences following exposures. Topics will include consideration of pre-placement screening, on-going medical surveillance and post-exposure prophylaxis.

12:00 LUNCH

1:00 ROUNDTABLE DISCUSSION: VIRAL VECTORS

This session will feature three short presentations involving current concerns related to work with viral vectors. Following the presentations, there will be an opportunity to discuss these topics with the presenters and the audience.

Gary Fujimoto, MD, Occupational Medicine Consultant
“Occupational Health Considerations for Projects Involving Viral Vectors and Humanized Mice”

T. Warner Hudson, MD, FACOEM, FAAFP, UCLA Health System
“Summary of Current Bloodborne Pathogen Post-Exposure Prophylaxis (PEP) Testing, Medication and Follow-up for Exposures Involving Human Materials in Addition to Viral Vectors”

Jatin M. Vyas, MD, PhD, Massachusetts General Hospital
“Is There a Role for Anti-HIV Medications After Exposure to Retroviral or Lentiviral Vectors? First, Do No Harm”

2:40 BREAK

3:00 INSECT VECTOR ISSUES IN LAB AND FIELD WORK

Jatin M. Vyas, MD PhD, Massachusetts General Hospital
This session will focus on insect vectors and the diseases that may be transmitted to those performing field work or laboratory research. Vectors including mosquitoes and ticks will be covered, along with epidemiology, preventive measures to protect oneself from exposure, disease timeframes after infection, and treatment options.

4:30 GROUP DISCUSSION

An opportunity to further explore the ideas and issues presented during the day.

5:00 CONCLUSION

6:30 DINNER & NETWORKING

Join fellow attendees for a special networking dinner event from 6:30 PM to 8:00 PM

TUESDAY, JUNE 10, 2014

8:30 I WAS THE LABORATORY-ACQUIRED INFECTION: COXIELLA BURNETII (Q FEVER) IN THE DIAGNOSTIC LABORATORY

Tanya D. Graham, DVM, DACVP, Biosafety Consulting for Veterinary Medicine, LLC
The diagnostic laboratory’s routine work-up for abortion cases involving non-primate animals (i.e. cattle, sheep, goats, pigs, and horses) was performed in the necropsy suite without respiratory protection. Environmental controls provided nine changes of air/hour and management believed this was sufficient protection in conjunction with laboratory dedicated coveralls, boots, and gloves. This presentation will address issues associated with a laboratory-acquired infection involving Coxiella burnetii (Q Fever), including the responses of the state health department, the employer and the employee.

9:15 DIAGNOSIS AND MANAGEMENT OF Q FEVER: RECOMMENDATIONS FROM CDC AND THE Q FEVER WORKING GROUP

Alicia Anderson, DVM, MPH, Dipl ACVP, National Center for Emerging & Zoonotic Infectious Diseases, CDC
This report, published in March, 2013, provided the first national recommendations issued by CDC for Q fever recognition, clinical and laboratory diagnosis, treatment, management, and reporting for health-care personnel and public health professionals. Dr. Anderson, one of the report’s authors, will provide a review of the recommendations and answer questions from attendees regarding their implementation.

10:00 BREAK
10:20 CASE STUDY ACTIVITY: ADDRESSING ATTITUDINAL ASPECTS OF BIOLOGICAL EXPOSURE RISK
In this table-top exercise, small groups will identify and record the occupational health risks of a research project, develop creative solutions and/or possible interventions that would have the greatest impact on reducing those risks, and share their results with the entire group.

11:45 LUNCH

12:45 LEGAL ASPECTS OF WORKPLACE REPRODUCTIVE HAZARDS
Carolyn S. Langer, MD, JD, MPH, Commonwealth Medicine / UMass Medical School
Lab workers and other employees with potential exposure to biological agents face unique risks and hazards in the workplace, including potential exposure to reproductive hazards. Occupational health and safety professionals play a key role in assessing risk to workers. As part of that assessment, it is important to understand applicable laws, regulations and case law. Using didactic materials and case studies, this session will highlight the legal, practical and human considerations in safeguarding workers with potential exposure to workplace reproductive hazards.

2:15 BREAK

2:35 PANEL DISCUSSION: OTHER OCCUPATIONAL HEALTH LEGAL ISSUES
Previous speakers will comment on attendee’s most perplexing situations, as well as share their own.

3:15 LATE-BREAKING, “HOT TOPICS”
Moderator: T. Warner Hudson, MD, FACOEM, FAAFP, UCLA Health System
This session will include a variety of “hot topics” and items of particular interest, such as recently updated guidelines for HIV and Hepatitis B, and vaccination guidelines for the immunocompromised host.

4:15 WRAP-UP AND IDEAS FOR FUTURE DIRECTION
Attendees are encouraged to share suggestions and ideas for future programs and ways to further communication among those dealing with occupational health in the biological research setting.

4:45 CONCLUSION

REGISTRATION INFORMATION

COLLOQUIUM FEES:
Colloquium fees include attendance at all colloquium sessions, lunch on Monday and Tuesday, and dinner on Monday evening.

COLLOQUIUM
before May 2, 2014 $925
after May 2, 2014 $975

PRECONFERENCE WORKSHOPS
Nanotechnology $195
Occupational Health $195

Register online at www.eagleson.org/OCCHEALTH or call 207-490-1076

CANCELLATION POLICY:
Individuals who cancel more than 15 business days prior to the class date will receive a full refund. For cancellations made 6 to 15 business days before the start of the program, a 50% refund will be given. For cancellations made 5 business days or less prior to the class date, no refunds will be given. Notification of cancellation must be received in writing. Substitutes for a registered attendee may be made at any time.
This annual gathering brings together all those who help safeguard the health of biological laboratory workers in a highly interactive format that encourages sharing among the various disciplines involved.

WHO SHOULD ATTEND?
- Occupational medicine, infectious disease, and emergency physicians
- Physician assistants and nurse practitioners
- Occupational health nurses
- Biosafety professionals

“COLLOQUIUM” IS FROM THE LATIN COLLOQU, MEANING TO TALK TOGETHER.