Bridges

Issue 15: Winter 2015

Connecting the Nation's Environmental Laboratories

New and Upcoming Releases from the WLA

By Latisha P. Mapp, USEPA, Office of Water, Team Leader, Water Laboratory Alliance Program.

In 2009, EPA launched the Water Laboratory Alliance (WLA) to improve the country's preparedness to respond to water contamination incidents. To accomplish this goal, the WLA Team develops tools and resources to support technical and leadership staff from the water sector, laboratory and emergency response communities. Below are brief updates on four WLA projects.

Water Contaminant Information Tool Mobile Website

The Water Contaminant Information Tool (WCIT) is a secure, online database that contains comprehensive information on chemical, biological and radiochemical contaminants of concern for the water sector. To meet the needs of water sector stakeholders, WCIT compiles drinking water- and wastewater-specific data in a user-friendly tool. WCIT includes field and laboratory methods from sources including EPA, ASTM, Standard Methods and USGS on over 800 contaminants. WCIT was shaped and validated by water utility professionals, scientists and public health experts.

EPA is updating the user interface for easier access on a variety of platforms, including mobile devices, tablets, laptops and desktops to enhance the user's overall experience. Critical information in WCIT will be easily accessible at times when using an office desktop is not an option, such as in the field or when local servers are offline due to a power failure.

WCIT supports multiple users including utilities, laboratories, public health agencies, state primacy agencies and federal departments and agencies. Access to WCIT is restricted to registered users who work for those organizations. WLA strongly encourages laboratorians to register as soon as possible to gain access.

Although WCIT has a user-friendly interface, users should become comfortable with the tool so it can be navigated efficiently during an incident. After registering for WCIT, you may sign up for free WCIT training online.

Liquid Chromatography-Mass Spectrometry Study

Liquid Chromatography-Mass Spectrometry (LC-MS) can rapidly detect a wide range of contaminants, making it a valuable tool for drinking water laboratories. To prepare laboratories to use LC-MS for

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sample screening following potential contamination, the WLA Team developed an LC-MS library for 129 harmful organic compounds and conducted a multi-laboratory study to evaluate its transferability. Water samples spiked at low levels were randomly distributed among six volunteer laboratories as unknown solutions. Each contaminant was analyzed by three laboratories, with identification at two of three laboratories as the threshold for success. Of the compounds analyzed in the study:

- **95% (123) were identified by at least one laboratory,**
- **83% (107) were identified by at least two laboratories,**
- **68% (88) were identified by all three laboratories and**
- **Less than 5% (6) were not successfully identified.**

The study also developed a rapid screening procedure for 13 of the library contaminants in a variety of complex drinking water matrices and may be utilized for rapid screening following contamination incidents. While study data demonstrated transferability of the LC-MS library to other laboratories using different instruments and models, the optimal approach is for each laboratory to develop its own library. A report on this study, to be posted on the WLA website soon, will provide detailed results, information regarding development of the LC-MS library and how to use it, and step-by-step procedures that can be used by a laboratory to develop its own library.

Semi-Volatile Organic Compounds Standards Stability Study

Many potential semi-volatile organic compound (SVOC) contaminants are currently unregulated in water, and laboratories may not store the standards needed for analysis. Many of these SVOCs are available only in pure crystal form and must be purchased, precisely weighed, dissolved and diluted to create standards. When responding to a contamination incident, these steps can delay response time by several days. Although suppliers provide an expiration date for the neat materials, the stability of the associated standards is often unknown.

The WLA Team coordinated with a volunteer laboratory to monitor the stability of standards containing 21 unregulated SVOCs over a period of six months. Certified reference materials were used to prepare standards in methylene chloride, and the standards were stored at 4 ± 2 °C prior to analysis using gas chromatography/mass spectrometry (GC/MS). Results indicated holding times of up to six months for 12 of the analytes. A corresponding flyer and detailed report will be posted on the WLA website in the near future.

Analytical Preparedness Full-Scale Exercise Toolkit

When a water contamination event threatens a drinking water supply, timely availability of analytical data is needed to support decision making that protects the environment and public health. WLA Analytical Preparedness Full-Scale Exercise Toolkits (AP-FSEs) provide the benefit of establishing a learning environment for organizations to practice with others in response to a mock contamination incident, including actual sample shipment and analyses, communication, coordination, data reporting and evaluation.

Historically, the WLA Team coordinated large (multi-regional or smaller), utility-led exercises on an annual basis. However, based on positive responses from previous participants and interest expressed

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Building an Understanding of Environmental Health

By Surili Sutaria Patel, senior program manager of environmental health at the American Public Health Association

What does environmental health mean? Is it recycling? Does it involve physical activity and making good food choices? Who works in environmental health?

Environmental health is a very broad field, and boiling it down to one description is no simple task. At least, that's what we learned when we went on a quest to define environmental health. We quickly realized that the public is confused by the term. They think environmental health is about the health of the environment, or contaminants only, or about making good individual choices. While experts in the field understood environmental health well, they explained it differently based on which area of environmental health they practiced.

The American Public Health Association, in partnership with the Association of Public Health Laboratories and the Association of State and Territorial Health Officials, commissioned the FrameWorks Institute to help us understand what the public and experts think about environmental health and direct their thinking into one unified voice.

Using sociological methods and anthropological models to do qualitative and quantitative research on more the 4500 people from across the US, we quickly learned that everyone understands the connection between environments and human health with a little assistance from explanatory metaphors, such as: what happens upstream in our environments will affect our health downstream. Another effective metaphor that emerged compared environmental health workers to an airport ground crew. Just as an airport ground crew ensures all goes smoothly on the runway and in the air, an environmental health ground crew ensures the healthy environmental conditions in which people live and work.

The FrameWorks researchers also tested values. Through this part of the study, we learned that the idea of "fairness across places," the idea that all Americans deserve to live in a healthy environment, resonated with the general public. By applying these metaphors and value during a conversation, researchers observed that the general public began to understand the field of environmental health and its practitioners.

"...everyone understands the connection between environments and human health with a little assistance from explanatory metaphors..."

This research is meant for all to use. On the Building an Understanding of Environmental Health webpage, you'll find a variety of resources, including archived webinars that delve deeper into this research, access to trainings and a toolkit with materials you can use today. When communicating with the public or policymakers, users are encouraged to borrow toolkit language verbatim if desired, or adapt it to their needs — no citation or special permissions are needed.

The Toolkit includes:

- Graphics and videos animations that model the key concepts
- Sample 'ready-to-go' communications that can be used as is or adapted for your organization's needs
- Communications examples that demonstrate the do's and don'ts of framing

And more!

Check out the resources and let us know how you've applied a metaphor or value to change the way your audience views environmental health.

WA Environmental Lab Uses New Tools, Methods to Ensure Compliance with Product Toxics Laws

By Joel C. Bird, director of the Washington Department of Ecology's Manchester Environmental Laboratory; and Joshua Grice, research analyst, Department of Ecology focused on Washington's Children's Safe Products Act

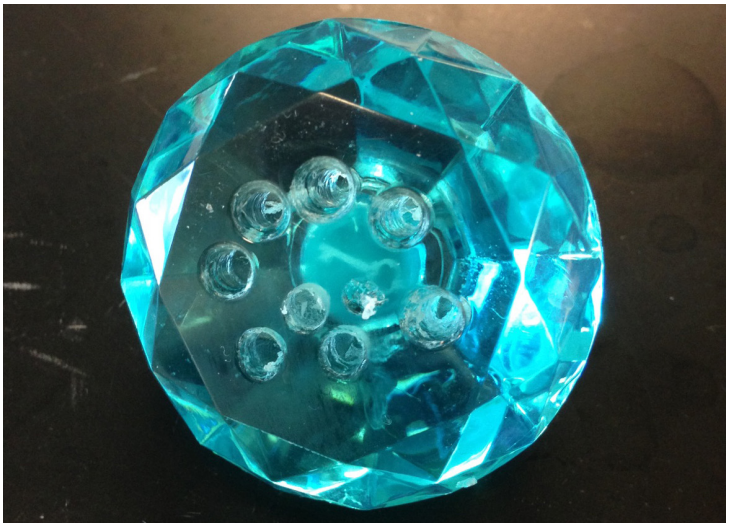
Over the last decade, the Washington Department of Ecology (Ecology) has increasingly focused on consumer product testing for chemicals of concern. This focus has been driven by the restriction of toxics in consumer products by state and federal laws, in addition to their required reporting. These laws target specific product types and chemicals known to be harmful to human health and the environment.

Washington's Toxics Laws

The state of Washington has a variety of laws intended to reduce toxics:

- **The Children's Safe Product Act** (CSPA), passed in 2008, requires manufacturers of children's products sold in Washington to report if their product contains one of 66 chemicals of high concern to children. It also places limits on the amount of lead, cadmium and phthalates allowed in children's products. Children's products affected by the law include toys, cosmetics and personal care products, clothing, jewelry, car seats, sleep products and feeding products.
- **Toxics in Packaging Legislation**, passed in 1991, limits levels of lead, mercury, cadmium and hexavalent chromium used in product packaging to no more than 100 parts per million by weight for the total concentration of all four metals.
- **The Better Brakes Law**, passed in 2010, restricts the use of several heavy metals and asbestos in automotive brake pads and shoes, and works to phase out copper. Manufacturers are required to report concentrations of copper, nickel, zinc and antimony in brake friction materials currently sold in Washington.
- **Other laws passed between 2008 and 2011** limit particular chemicals in certain products. Bisphenol A (BPA) is banned in bottles and cups for children, as well as sports bottles. Polybrominated diphenyl ether (PBDE) flame retardants are prohibited in a wide array of uses. A ban of copper in antifouling paints for recreational boats will take effect in 2018.

Ecology also conducts product testing to support its chemical action plans. These plans identify, characterize and evaluate uses and releases of specific persistent bioaccumulative toxic chemicals. Based upon testing results, these plans may recommend actions and possible future legislation to protect human health or the environment. Ecology recently completed a plan addressing polychlorinated biphenyls (PCBs) and will work on perfluorinated chemicals.



This back-to-school "Aqua Knob" product was drilled with a titanium drill bit to reduce its size, microwave digested, weighed/extracted and then analyzed for arsenic, cadmium, cobalt, mercury, molybdenum, lead and antimony

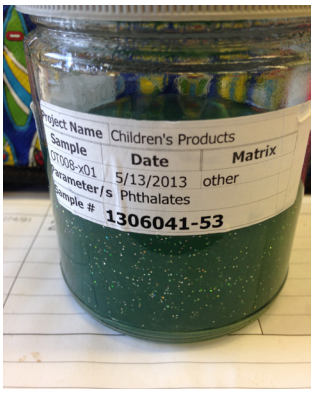
Testing Consumer Products Poses Challenges

Ecology's product testing program has utilized both qualified contract laboratories as well as its own Manchester Environmental Laboratory (Manchester Laboratory) to develop methods and standard operating procedures for the analysis of toxic chemicals in children's and consumer products. Depending upon the products and chemicals of interest, reference methods can include those of the Consumer Products Safety Commission (CPSC), EPA and European standards and methods. The work requires collaboration with contract laboratories, authors of published journal articles, universities, EPA and CPSC.

Though the Manchester Laboratory has worked to develop consistent, repeatable quality processes and procedures, the complexity of the matrices pose a

challenge. Children's glue or play slime does not extract or digest in the same way as a plastic doll does. The same holds true for Halloween make-up versus hard computer plastic, or an embossed plastic t-shirt logo compared to pencil lead or crayons. Similarly, painted metal toy cars microwave digest differently than necklaces and hair clips.

Sample homogeneity and the creation of more extractable surface area through size reduction is essential for data reproducibility. Cryomilling, the act of cooling or chilling a material and then reducing it into a small particle size, is helpful with sample homogeneity and improves digestion/extraction efficiency in certain matrix types. Along with appropriate calibration standard curves, surrogates, method blanks, matrix spikes, sample duplicates and laboratory control samples, it is very important to find appropriate Standard Reference Materials and analyze these known value materials with each sample batch.

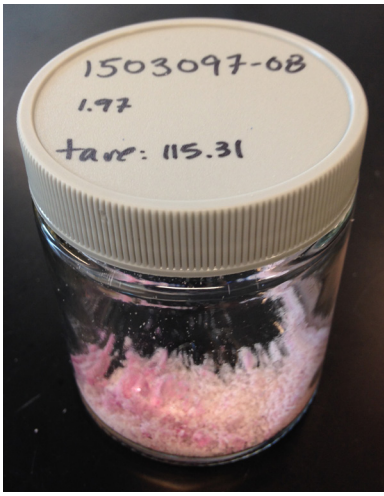


Glitter slime to be weighed/extracted and analyzed for phthalates

Preparing the Laboratory

Located on the shores of Washington's Puget Sound, across the water from the city of Seattle, Ecology's Manchester Laboratory serves multiple environmental programs at the agency. The laboratory is co-located in a facility owned by EPA. Challenges arise with analyzing samples that can contain parts-per-million to percent levels of target compounds in the same laboratory space that analyzes compounds down to sub part-per-trillion levels.

The Manchester Laboratory has been able to borrow additional laboratory space from EPA when needed to accommodate these needs. The additional laboratory space allows Manchester to physically separate the organic extractions of children's products, which may contain higher levels of target compounds, from the organic prep of low-level environmental samples. Mercury preparation and analysis is also physically separated. The Manchester Laboratory used funding from its analytical laboratory equipment budget and funding contributed by Hazardous Waste and Toxics Reduction Program to purchase equipment that is dedicated solely to the preparation of children's products. The equipment includes a RETSCH CryoMill and 20 grinding jars, a 24-position nitrogen evaporator, Organomation N-EVAP™, CEM MARS One Touch™ (microwave sample preparation and reaction system) and two sets of 24 EasyPrep™ Plus high-pressure extraction vessels. One set of 24 vessels is dedicated to children's products metals digestions and another set is dedicated to children's products organic extractions. All associated glassware is also dedicated.



Polyvinyl chloride plastic toy that was cryomilled, microwave-digested and analyzed for mercury

The Manchester Laboratory utilizes a single Inductively-coupled plasma mass spectrometry (ICP-MS) for both children's and environmental samples. The laboratory utilizes existing gas chromatography-mass spectrometry (GC-MS) systems to analyze organic samples. Manchester tries to dedicate one GC-MS to children's products, but, depending upon the target compounds, it has used several of its GC-MS systems on a single project. The laboratory is in the process of refurbishing and bringing online an existing liquid chromatography-mass spectrometry (LC-MS) system, which was replaced several years ago by a Triple Quadrupole LC/MS/MS. The LC-MS will be dedicated to children's and consumer products.

Ecology strives for transparency in its methods and results related to the testing of consumer products for chemicals of concern. Ecology publishes regular reports on its product testing projects, and all results obtained from analyses on products are made publicly available via Ecology's product testing database at https://fortress.wa.gov/ecy/ptdbpublicreporting/.

All photos by Joel C. Bird, Washington Department of Ecology

New NAMP Radiochemistry Webinar Series on Nuclear Forensics

By Berta Oates, NAMP Technical Coordinator, Portage, Inc.

The threat from malicious acts involving nuclear and other radioactive materials persists. If a nuclear security event were to occur, the powerful field of nuclear forensics would help identify the origin and history of these materials using innovative science and methodologies. What exactly are these methodologies that help to prevent and respond to acts involving non-regulated nuclear and other radioactive materials? You can learn about these existing technical capabilities in the next radiochemistry webinar series offered by the Department of Energy's National Analytical Management Program (NAMP) free of charge starting December 10, 2015.

The webinar topics in this series incorporate the expertise of companion disciplines, such as geochemistry, materials science, nuclear engineering and environmental science. These fields provide measurement and analysis important for identifying nuclear forensics signatures. The 15-webinar nuclear forensics series, scheduled between December 10, 2015 and January 28, 2017, will present new information in addition to reinforcing concepts from previous webinar series.

NAMP launched its first series of two-hour educational lectures on radiochemistry topics in April 2012. The first radiochemistry lecture, the Actinide Chemistry

Upcoming Webinars in NAMP Nuclear Forensics Series

Presenter	Title of Webinar	Tentative date for Webinar Presentation
Dr. Walter Loveland, Oregon State University	Introduction	December 10, 2015
Dr. John McClory, US Air Force Institute of Technology	Nuclear Fission/Nuclear Devices	January 28, 2016
Dr. Lindsay Shuller-Nickles, Clemson University	Uranium Resources	February 25, 2016
Dr. Michael Schultz, University of Iowa	Chronometry	March 24, 2016
Dr. Amy Hixon, University of Notre Dame	Sample Matrices and Collection, Sample Preparation	April 28, 2016
Dr. Jeff Terry, Illinois Institute of Technology	Nuclear Materials Analysis — Physical and Spectroscopic Methods	May 26, 2016
Dr. Brian Powell, Clemson University	Nuclear Materials Analysis — Chemical Methods	June 30, 2016
Dr. Azaree T. Lintereur, University of Utah	Nuclear Materials Analysis — Non-Destructive Analysis	July 28, 2016
Dr. Alena Paulenova, Oregon State University	Nuclear Materials Analysis — Radioanalytical Methods (Destructive)	August 25, 2016
Dr. Ken Marcus, Clemson University	Nuclear Materials Analysis — Mass Spectroscopy	September 22, 2016
Dr. Kiel Holliday and Dr. Leonard Grey, Lawrence Livermore National Laboratory	Development of Signatures	October 27, 2016
Dr. Luther McDonald, University of Utah	Statistics in Nuclear Forensics	November 17, 2016
Dr. Jenifer Braley, Colorado School of Mines	Source and Route Attribution,	December 8, 2016
Dr. Lindsay Shuller-Nickles, Clemson University	Case Studies Part 1	January 14, 2017
Dr. Timothy A. DeVol, Clemson University	Case Studies Part 2	January 28, 2017

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New and Upcoming Releases from the WLA

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by those who had only heard of the exercises, EPA recognized the need to increase the frequency of AP-FSEs to ensure the nation's water sector is prepared to respond to water contamination incidents. In response to this critical stakeholder need, the WLA Team is developing the AP-FSE Toolkit.

The Toolkit will provide interested organizations with the materials needed to develop their own exercises and will guide users through the 10 steps involved with planning and conducting an exercise. It includes example scenarios and associated exercise documentation that can be used as-is or as templates for building a customized exercise. A beta version of the Toolkit is being piloted in New York City and also in Region 9. Feedback from stakeholders participating in the pilots will be used to refine and optimize the Toolkit.

If your laboratory is not already a WLA member, take steps to join today. Becoming a member will expand your resources (e.g., access to tools and newly validated methods), improve your preparedness and increase your credibility in the water sector. To apply, go to http://www2.epa.gov/waterlabnetwork/learn-about-water-laboratory-alliance#learn about. Please do not hesitate to contact EPA's WLA Team lead, Latisha Mapp, at Mapp.Latisha@epa.gov or 202.564.1390.

New NAMP Radiochemistry Webinar Series on Nuclear Forensics

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Series, provided an understanding of the advances and challenges of actinide chemistry faces. Since then, NAMP, in cooperation with EPA, other federal agencies and its university partners, has conducted 40 free, live, interactive webcasts organized in four series. The goal of these webinars is to promote nuclear and radiochemistry education to strengthen the next generation of radiochemists in the US workforce.

The second webinar series focused on topics fundamental to its title, "Environmental Radiochemistry and Bioassay series." The third series provided a comprehensive overview of topics related to the Nuclear Fuel Cycle, including front end, reactor operation, back end, reprocessing and disposal. Lastly, two topics of current interest, "High Resolution Gamma Ray Spectrometry Analyses for Normal Operation and Radiological Incident Response" and "Radiation Safety," were offered as a mini-series prior to the upcoming Nuclear Forensics webcasts.

With attendance at the live broadcasts totaling 7,174 and nearly 4,800 viewings of archived webinars to date, NAMP has taken great strides toward advancing knowledge of radiochemistry. For more information on NAMP, upcoming sessions and to access archived webinars, visit the NAMP website at www.wipp.energy.gov/namp.

Chronic Beryllium Disease at the Department of Energy Hanford Site: An Epidemiological Study

By Lisa Maier, MD, MSPH; Annyce Mayer, MD, MSPH; Peggy Mroz, MSPH; Alison Welch, CIH; and Laura Nelson, MBA, National Jewish Health Division of Environmental and Occupational Health Sciences

Reactors located at the Hanford Site in southeastern Washington State produced plutonium for the US defense program from 1943 to 1986. Since 1986, the site has been undergoing cleanup. The use of beryllium in fuel element production at the site resulted in potential occupational beryllium exposure for current and former employees. The Department of Energy implemented a corrective action plan at the site, which included engaging the National Jewish Health Division of Environmental and Occupational Health Sciences to conduct an independent epidemiological study. This study examined risk factors for beryllium sensitization (BeS) and chronic beryllium disease (CBD) and identified opportunities for prevention.

Beryllium can enter the body through the lungs or skin. It can cause BeS, which is a response similar to an allergy. BeS can be detected with the blood beryllium lymphocyte proliferation test (BeLPT). Persons with BeS are at risk of developing CBD, which is diagnosed through a lung biopsy looking for characteristic scarring called granulomas. Symptoms of CBD may take time to develop and include dry cough, shortness of breath first noticed with physical activity, sweating at night, feeling tired all the time and, in some cases, severe shortness of breath.

Research Objectives

Objectives of the epidemiological study at Hanford included:

Primary Objective:

- Identify past and present jobs, work areas or processes with increased probability of BeS and CBD

Secondary Objectives:

- Characterize the prognosis of BeS and CBD among Hanford workers
- Characterize the prevalence of other potentially beryllium-related health symptoms and medical diagnoses among BeS and CBD cases

Methodology

The research utilized a case-control study of current and former workers at the Hanford site (approximately 8,000 employees are currently involved in site cleanup). "Cases" included individuals diagnosed with BeS or CBD. "Control" subjects did not have BeS or CBD. Study participants completed a medical symptom/diagnosis questionnaire and quality of life assessment. Medical records and data were collected, and a "blinded" work history and exposure interview was conducted by an industrial hygienist.

Case Definitions

BeS: Evidence of abnormal BeLPTs
CBD: BeS and evidence of granulomatous inflammation in the lung

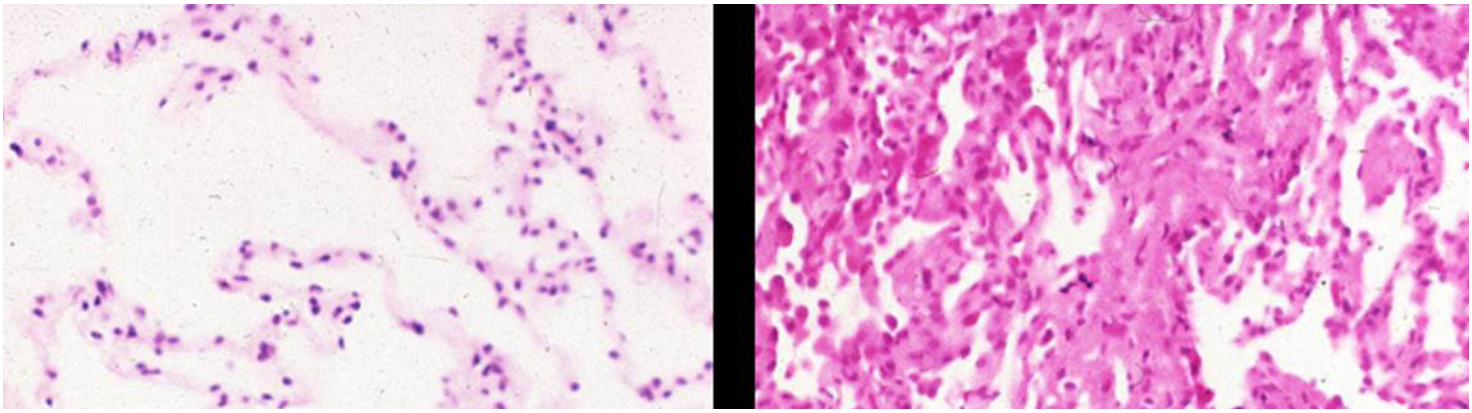
Assessing beryllium exposure presented challenges for researchers with work histories spanning eight decades, workers often changing job titles, and the sheer size and diversity of operations in hundreds of buildings. Researchers calculated a Beryllium Building Rating for each building and a Dust Generating Rating for each job task, which allowed them to calculate an Exposure Score for each of the 221 study subjects.

Study Conclusions

- Study participants with CBD at Hanford were:
- More likely to be hired before 1986
- Worked more years in a beryllium building
- Had higher cumulative and average Exposure

National Jewish Health – Leader in Respiratory Health

National Jewish Health is the leading respiratory hospital in the nation and a Gold Sustaining Member of APHL. The Clinical Immunology Laboratory at NJH, in collaboration with the Division of Environmental and Occupational Health Science, is one of only three labs in the country that performs the beryllium lymphocyte proliferation test. Industrial hygiene and/or occupational health testing, an essential component of public health, may offer additional collaboration opportunities for public health labs. Approximately 18% of the 50 APHL state public health member labs currently conduct some level of industrial hygiene and/or occupational health testing.



Biopsy tissue from a healthy lung and from a CBD patient. The picture on the left shows what normal air sacs look like under the microscope. The air-filled sacs are lined by a single layer of cells, which makes it easy for oxygen to travel from the air sacs into the blood stream. The picture on the right shows what happens in CBD. Immune cells begin to multiply in response to beryllium in the lungs. This causes inflammation, including the development of abnormal collections of cells called granulomas which interfere with the exchange of oxygen between blood and the lung. The round cluster of cells in the lower right of the picture is a granuloma.

Scores than BeS cases and controls
- CBD occurred among employees hired after production ceased in 1986, suggesting legacy exposure
- CBD and BeS cases at Hanford are generally healthy based on medical evaluation, reports of symptoms and other medical conditions, and quality of life assessments
- The percentage of BeS cases with CBD at Hanford is lower than what has been reported in other BeS and CBD workforce studies
- CBD cases reported disease-related symptoms, however, progression of disease over time was minimal

Future Direction and Recommendations

Researchers recommended several strategies to reduce exposure risk for current workers:
- Continue to characterize potential exposures via wipe and air sampling
- Representative samples of all processes and areas should be collected
- ALL departments with beryllium exposure should have personal breathing zone air monitoring on a monthly basis
- If sampling exceeds the permissible exposure limit or the action level, follow-up sampling should be performed to determine if additional controls are needed
- Wipe sampling should be performed to look for legacy exposures
- Continue vigilant control measures, such as the use of Personal Protective Equipment, to prevent exposure
- CBD and BeS patients should be removed from further exposure or exposure should be minimized as much as possible
- Continue medical surveillance and evaluate CBD/BeS risk (by job title, task, etc.). Cases should continue regular medical follow-up to detect disease related progression
- Continue to promote worker wellness to keep workers healthy
- Smoking cessation
- Healthy diet and exercise
- Medical surveillance for other hazards
- Stress management
- Examine gene-environment interactions as genetic predisposition is likely increased in BeS compared to CBD cases

This study is an example of using the BeLPT in medical surveillance to define risk factors for occupational health effects in the beryllium industry. Ultimately, this provides a model for prevention by eliminating these risk factors for BeS and CBD.

For more information about the Hanford site research, contact Lisa Maier, MD, Division of Environmental and Occupational Health Sciences at maierl@njhealth.org.

Environmental Laboratory Webinars

APHL: Managing Data Quality in an Environmental Laboratory

What does "quality" mean in an environmental laboratory setting? How do you develop a management system to ensure all staff understand the integral role they play in quality data production? This webinar will answer these questions and more to provide an overarching picture of how quality assurance, quality control and a quality management system fit together in a high-functioning environmental laboratory.

Available until December 10, 2016. Free. http://tinyurl.com/nfys98h

EPA: The Perfect Storm, Ice Cold: WLA-RP Tabletop Exercise Webcast

This "virtual training course will be led by two facilitators who will present background information and a water contamination scenario to students. Participants will be presented with situations and questions stemming from the scenario that they will address based upon real-life experiences and knowledge of the Water Laboratory Alliance Response Plan (WLA-RP) and Water Security tools including the Water Contaminant Information Tool, Selected Analytical Methods for Environmental Remediation and Recovery and the Laboratory Compendium.

January 27, March 23, and May 11, 2016, all 1:00-3:00 pm ET. Free. http://tinyurl.com/jnqdjmb

APHL: Laboratory Fraud: Why Should I Worry… What Could Happen?

Fraud in the laboratory? This webinar will discuss various aspects of laboratory fraud. What specific activities are considered laboratory fraud and to whom should allegations of laboratory fraud be reported? What is the role of the EPA Office of Inspector General? Laboratory personnel will learn the answers to these questions, as well as the potential legal ramifications from engaging in laboratory fraud. This program meets NELAP annual ethics and data integrity training requirements.

Available until September 17, 2016. Free. http://tinyurl.com/hrtvxzb

APHL: Harmful Algal Blooms: Drinking Water Impacts and Lab Methods

Cyanotoxins resulting from harmful algal blooms are increasingly a threat to public drinking water supplies. Human exposure to these toxins may cause adverse health effects, resulting in recent health advisory postings by EPA for two cyanotoxins in drinking water. Public water systems and governmental laboratories across the country are being called upon to manage their source water and ensure their finished drinking water is safe for consumption. This webinar explores how harmful algal blooms have affected several Lake Erie drinking water treatment plants, and review laboratory methods to determine if cyanotoxins are present in finished drinking water.

Available until July 7, 2016. Free. http://tinyurl.com/hz869du

Contribute to the Member Resource Center

The APHL Member Resource Center (MRC) provides an extensive range of resource materials designed to provide technical assistance within the public health and environmental laboratory sector. Created by and for the APHL member community, the MRC provides a virtual clearinghouse of documents designed to exchange practices, communications, protocols, state newsletters and more. The MRC assists APHL members in accessing timely, peer-contributed, public and environmental health information—rapidly and easily. These resources are not necessarily endorsed by APHL.

For more information, visit the MRC: **http://www.aphl.org/MRC/Pages/default.aspx**. Send questions/feedback to **memberresources@aphl.org**.

Examples of MRC resources include:

- Promising laboratory practices
- Media relations procedures
- Laboratory newsletters
- Human relations processes
- Lab testing protocols and guidelines
- Local fact sheets
- Energy management practices.

The APHL Member Resource Center is a vital instrument for the environmental laboratory community to remain knowledgeable in meeting today's challenges. To submit a resource item, please visit http://www.aphl.org/MRC/Pages/Submit.aspx.

Join APHL, an Association for Environmental Laboratory Leaders

APHL serves as a focal point for environmental laboratory communication, training, policy and interactions with the federal government.

An Associate Institutional membership with APHL offers environmental laboratory directors and their staff opportunities to connect with their counterparts from across the country to address shared issues and strengthen relationships with other health decision makers at the local, state and federal level.

Membership benefits include:

- Networking and laboratory linkages
- Professional development, training
- Policy and regulatory updates
- Technical assistance
- Unlimited access to APHL's MRC.

For an application, visit www.aphl.org/member.

New Associate Institutional members receive a 50% discount their first year of membership.
Questions? Contact Drew Gaskins, associate specialist, member services, at **240.485.2733** or **drew.gaskins@aphl.org**

Bridges

Connecting the Nation's Environmental Laboratories

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APHL

The Association of Public Health Laboratories (APHL) works to strengthen laboratory systems serving the public's health in the US and globally. APHL's member laboratories protect the public's health by monitoring and detecting infectious and foodborne diseases, environmental contaminants, terrorist agents, genetic disorders in newborns and other diverse health threats.

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