



Icahn  
School of  
Medicine at  
Mount  
Sinai

Summer 2015

OCCUPATIONAL

# HealthWATCH

Division of **Occupational & Environmental** Medicine

## Nail Salons and Worker Health

Across the United States there are more than 375,000 nail salon workers, and millions more visit nail salons frequently to have manicures, pedicures, and other treatments. New York City alone has an estimated 2,000 nail salons — an important part of the City's service economy.

Concern about the possible health effects of nail products has been voiced for years, especially since many women who work in or visit these salons are of child-bearing age — a vulnerable time when chemical exposure might cause harm to the fetus. In May 2015, following an investigative series in the *New York Times*, Governor Mario Cuomo issued an emergency order calling for new rules to protect workers that include wearing gloves and masks, requiring proper ventilation of salons, and educating workers of their rights. He also appointed a multi-agency task force to inspect salons, study the most effective safety strategies, and develop new safety rules.

### Health risks?

In the *New York Times* series, some workers reported miscarriages, cancer, respiratory, and other conditions from exposure to nail products. But studies of potential health effects to date have yet to back that up, mostly because so few have been done, and evidence comes from studies of high or frequent exposures to one chemical at a time. This makes it difficult to determine if the lower levels of mixed-chemical exposures typically found in nail salons will be dangerous for any one person.

Dr. John Meyer of the Selikoff Centers for Occupational Health at the Icahn School of

Medicine at Mount Sinai says, "We don't yet have all the information we need about the health effects of chemicals used in nail products. Current regulations address only acute conditions such as irritation of the lungs or skin — not the longer-term ones related to cancer or pregnancy outcomes."

Dr. Meyer says nail products can contain many chemicals but there are several to watch out for. Dubbed the "toxic trio" — DBP (dibutyl phthalate), formaldehyde, and toluene — all three of these can cause irritation to the skin, eyes, mouth, and throat.

In addition, DBP may disrupt the normal development of the male reproductive system before birth. Formaldehyde can cause allergic reactions or asthma and is a known carcinogen. Toluene can damage the brain, kidney, and liver, and at very high levels can harm a developing fetus.

Acrylic or gel nail systems may contain methyl methacrylate (MMA) or ethyl methacrylate (EMA), both of which can cause irritation as well as severe skin allergies. MMA can also cause loss of smell and has, in fact, been banned from use in many states including New York and New Jersey.

### Symptoms?

A chemical odor inside a nail salon is not always an indicator of potential harm. Some chemicals have a sharp smell

but do not cause harm at levels typically found in nail salons. Others may have no odor at harmful levels. Exposure can occur not only from vapors but also from the nail filing dust (which can contain chemicals) that can be inhaled or even consumed when workers eat meals.

If workers or patrons feel dizzy or "drunk" while in a salon, this is a warning sign that the air level of chemicals known as solvents is too high. For people with asthma, feeling the need to use more medications while at work also can signal a problem. Any exposure to a chemical that causes asthma-like symptoms or irritates any part of the body or causes an allergic reaction should be avoided until a physician is consulted. "Any worker who develops respiratory, skin, or neurological symptoms should be evaluated by an occupational medicine specialist before returning to work," according to Dr. Madelynn Azar-Cavanagh, Medical Director of the Mount Sinai Selikoff Centers for Occupational Health.

Continued on pages 6 & 7



## Message from the Director



### Roberto Lucchini, MD

Division of Occupational and Environmental Medicine

Department of Preventive Medicine  
Icahn School of Medicine at Mount Sinai

My colleagues and I working in occupational and environmental medicine will be forever shaped and humbled by the work of Irving J. Selikoff, MD (January 15, 1915 – May 20, 1992). Known as the “father of occupational medicine”, Dr. Selikoff developed the nation’s first hospital division of environmental and occupational medicine here at Mount Sinai. His groundbreaking research on asbestos-related diseases and his tireless advocacy for worker health and safety led to the establishment of stronger worker protection laws and have impacted the lives of millions. Our physicians and researchers at Mount Sinai are dedicated to continuing his legacy.

This year, we will celebrate the 100th anniversary of Dr. Selikoff’s birth at a special symposium at Mount Sinai on October 16th. It offers a moment to reflect on Dr. Selikoff’s legacy, the evolution of occupational medicine, and the direction our work must take us in the future. With the growing burden of chronic diseases facing an aging workforce today, we must examine the relationships, pathways, and interactions of work conditions, such as hazardous exposures, stressful jobs, and inflexible schedules, with acute and chronic health outcomes. The link between chronic diseases among workers (whether arising from the nature of the work itself or from other factors) and their risk for workplace injury and illness is indisputable.

Working with our partners at the National Institute for Occupational Safety and Health (NIOSH), we are concentrating on developing the effective, evidence-based interventions that will ensure safe work environments, promote worker health, prevent disease, and ultimately reduce the risk for workplace injury and illness. Prevention in the workplace increases productivity and reduces costs, making it a sustainable approach. With exciting advances in research and promising practices, we continue Dr. Selikoff’s legacy by identifying new hazards facing today’s workers and the best, most effective solutions to control both new and old ones.

## Specialized Lead Exposure Assessment at



According to Andrew C. Todd, PhD, bone lead measurements are the most thorough way of detecting lead in humans, since 95 percent of lead in the body is stored in the skeleton.

Subclinical lead toxicity remains a widespread public health problem. While the general population is exposed to lead in the environment, with children and pregnant women recognized as vulnerable groups, many industrial workers are at particular risk for occupational exposure to lead. Regulatory standards dictate periodic blood lead testing for individuals working with lead, but blood lead measures only recent exposure. In contrast, bone lead measures accumulated or lifetime exposure, even when blood lead has returned to normal.

The Division of Occupational & Environmental Medicine recruited to its ranks a recognized world expert in the measurement of lead in bone. Under the direction of Andrew C. Todd, PhD, Research Professor in the Division, the Bone Lead X-Ray Fluorescence testing facility at Mount Sinai is one of the country’s leading centers for a novel technique for measuring chronic lead exposure. Professor Todd’s groundbreaking work continues a tradition of research in lead exposure at Mount Sinai, most notably the research efforts of Philip J. Landrigan, MD, former Chair of the Department of Preventive Medicine, who played a key role in establishing the government mandate phasing out

lead components from gasoline beginning in 1975, and the federal ban on lead in interior paint in 1978.

Professor Todd’s eminence in his field is recognized both nationally and internationally, resulting in requests for definitive assessment of cumulative lead exposure via x-ray fluorescence that come from all over the world. Nationally, he has conducted 27 projects with 30 investigators at 23 institutions; internationally, he has undertaken 11 projects with 13 investigators and institutions in seven countries. Professor Todd’s standing also is reflected in the patients who have been referred to him for testing. These referrals have been local, regional, national (e.g. Hopkins, Yale, Harvard) and international from as far away as Australia, and have consisted of both adults and children with suspected lead exposure, autistic children, worker groups, and U.S. military personnel referred by Walter Reede. Professor Todd has even examined fragments from the skull of Ludwig van Beethoven and found it was unlikely that lead poisoning caused the renal failure that was partly responsible for Beethoven’s death, eliminating one of the many suggested causes of death for the famed composer. Lead’s neurocognitive effects, particularly on the “risk-taking” circuitry of the brain, have resulted in requests for Professor

# Occupational Asthma and Cleaning



Some chemicals found in cleaning and disinfection products at work can cause asthma. Janitors, cleaners, health care workers, food service workers, and others who clean and disinfect are at particular risk. Individuals working in areas that are disinfected may also be at risk.

People suffering from occupational or work-exacerbated asthma often do not realize their symptoms are related to their job. If symptoms such as coughing, shortness of breath, wheezing, and chest tightness worsen during the work day and decrease when you are away from work, this suggests the possibility that your asthma may be related to your work.

If you experience symptoms, an evaluation should be done by an occupational physician or pulmonologist experienced in the care of patients with work-related asthma. Bring to your appointment information about the disinfectants you use. Take a photo of the ingredients label, or write down the manufacturer and product names.

Industrial hygiene specialists can assist employers and workers to assess and reduce hazards in the workplace and provide training in how to safely work with disinfectants. Disinfectants have an important role in preventing the spread of serious infectious diseases, but their use

is not recommended in places where there is no elevated risk of infection, or where plain detergents would be effective in removing infectious organisms. Occupational asthma can largely be prevented by eliminating or reducing exposure to asthma-causing agents.

## Mount Sinai

Todd to measure the cumulative lead exposure of death row inmates for efforts to have their executions commuted.

“Lead accumulates in the body over time, mostly in the bone,” said Professor Todd. “Assessing cumulative lead exposure, even when the level of exposure is perceived as low, can help us identify individuals who would benefit from intervention strategies to prevent the deleterious health effects of chronic exposure.”

In the Division of Occupational and Environmental Medicine, bone lead is measured via a noninvasive technique called x-ray fluorescence. A very small radiation dose (about the same dose as 10 minutes of natural background radiation) is used to make the lead stored in bone give off lead x-rays, which are recorded in a radiation detector and spectroscopy system.

X-ray fluorescence bone lead measurement for clinical referrals is only available at one other facility in the United States, giving the Mount Sinai Selikoff Centers for Occupational Health — the clinical core of the Division of Occupational and

Environmental Medicine — a resource for the assessment of workers that no other occupational health clinic possesses.

Individuals concerned about work-related lead exposure, either past or current, are encouraged to make an appointment at the Mount Sinai Selikoff Centers for Occupational Health by calling 888.702.0630. Your physician can order a bone lead test if s/he considers it appropriate. Bone lead screenings and surveys for unions and employers are also performed by arrangement.

### Occupations at Risk

- Auto repair
- Battery making
- Bridge, tunnel, road work
- Construction
- Demolition
- Firing range instruction and cleaning
- Foundry work
- Painting
- Plumbing
- Remodeling
- Scrap metal recycling
- Ship building
- Welding

## How does lead exposure affect your health?

Symptoms from acute exposure to lead may include abdominal pain, nausea, constipation, fatigue, irritability, and loss of appetite. Exposure may cause anemia, weakness, and kidney and brain damage. Very high lead exposure can cause death.

Adults with chronic exposure may not be symptomatic and lead poisoning can be easily overlooked. They may be at risk for high blood pressure, heart disease, kidney disease, and reduced fertility.



# A Day in the Life of an OEM Resident

## Q&A with Aletheia Donahue, MD



John Meyer, MD, Residency Director and Aletheia Donahue, MD, Resident

**The Occupational Medicine Residency Training Program at the Icahn School of Medicine at Mount Sinai is an ACGME accredited, two-year combined academic and practicum experience. Residents are exposed to a didactic curriculum, and emphasis is placed on the performance and practice of teaching, clinical and community service, administration, and research. Residents also are enrolled in the Master of Public Health at the Icahn School of Medicine. To learn more, visit <http://icahn.mssm.edu/DOEM>**

**What motivated you to study medicine, and occupational and environmental medicine in particular?** Medicine is always changing and growing. There is an intersection of science, ethics, spirituality, and community that you don't find in most

professions. I am interested in environmental medicine because I think it is the next frontier.

**Describe your typical day.** I have clinic at least once a week where I see patients ranging from those who have had accidents

at work to people exposed to environmental toxins. We have conferences weekly to discuss cases and new scientific findings. My day starts at 8 a.m. when I battle the A train to the 4,5,6 train. I have class most afternoons.

**What has been your most memorable experience as a resident?** I had the chance to work at ABC News and learn about the important role of medical journalism in providing correct health information to the public. One day, when I rushed to the editor new statistics showing an increase in measles cases, the story, which had previously been cut, was added back into the World News segment. I felt we reached a lot of people with an important story that day. And maybe convinced a few folks to vaccinate their kids!

**What has been your favorite class so far?** Dr. Kristen Oliver's introduction to public health course featured speakers from all over New York City. There are some really inspiring people doing pretty amazing work in this city.

**What sets this residency apart from other opportunities?** Being in New York, with one of the most robust and innovative health departments in the country, is a strong quality. I also think the history of Mount Sinai makes it so unique, as it is the institution that brought awareness to the world about the dangers of asbestos.



## MEET THE RESIDENCY DIRECTOR

John D. Meyer, MD, MPH, is the Director of the Occupational Medicine Residency Program and a Senior Faculty member in the Department of Preventive Medicine at the Icahn School of Medicine at Mount Sinai. He has held academic positions in occupational health at West Virginia University, the University of Connecticut Health Center, SUNY Downstate School of Public Health, and the University of Manchester (UK). He sits on the NIOSH Safety and Occupational Health Study Section and the Editorial Board for the journal *Occupational Medicine* (UK). His clinical interests include occupational and environmental exposures in pregnancy, occupational asthma and lung disorders, and work-related upper extremity disorders.

## Upcoming VCF Filing Deadline October 21, 2015

If you were diagnosed with **prostate cancer** on or before October 21, 2013, the deadline to register with the VCF is October 21, 2015.

Questions? Call the **VCF** at **855.885.1555** or visit [www.vcf.gov](http://www.vcf.gov)



### Michael A. Crane, MD, MPH

Medical Director  
World Trade Center Health Program  
Clinical Center of Excellence  
at Mount Sinai

Assistant Professor  
Department of  
Preventive Medicine

# WTC HealthWATCH

## Bipartisan Group of U.S. Lawmakers Introduces Critical Reauthorization of Zadroga Act

With the Zadroga bill's two critical programs — the World Trade Center (WTC) Health Program and the September 11th Victim Compensation Fund — set to expire in October 2015 and October 2016 respectively, a bipartisan group of lawmakers from across the country introduced in April the James Zadroga 9/11 Health and Compensation Reauthorization Act to permanently extend these programs.

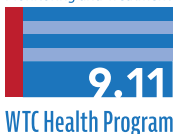
Mount Sinai and other World Trade Center Health Program (WTCHP) Clinical Centers of Excellence provide critically important health care and health monitoring services for workers and volunteers who were involved in the rescue, recovery, and rebuilding at the World Trade Center. In recognition of the first responders' heroic service to the United States of America in the days, weeks, and months after the attacks on the World Trade Center on September 11, 2001, this medical program is supported by the federal government through the National Institute for Occupational Safety and Health.

Continued funding for this program is essential. Recent studies, including those authored by Mount Sinai researchers, have documented the persistence of physical and mental health problems experienced by 9/11 rescue and recovery workers and volunteers. Forty percent have abnormalities of lung function that are the result of their service. Additional numbers have persistent mental health, upper respiratory and gastrointestinal problems, and cancer. These individuals require continuous medical care and long-term follow-up.

Additionally, continuing medical follow-up of first responders is needed to identify new health problems that may arise in these men and women in the years ahead as the result of their service. First responders were exposed to asbestos, dioxin, and other toxic chemicals at the World Trade Center site. These exposures can cause cancer, cardiovascular disease, and other chronic health problems many years after exposure, even after a long latency period. Continued follow-up and research by Mount Sinai and other WTCHP Centers is essential to discover as-yet unidentified illnesses and other medical conditions related to environmental exposures at the WTC site.

The Mount Sinai Selikoff Centers for Occupational Health are part of the national consortium of Clinical Centers of Excellence of the federal World Trade Center Health Program (WTCHP), which has medically screened more than 35,000 WTC rescue and recovery workers and volunteers since 2002. We, along with our colleagues nationwide, remain committed to providing continuing medical monitoring and treatment services to 9/11 responders, and we are grateful for the bipartisan efforts of U. S. Senators Kirsten Gillibrand (D-NY), Mark Kirk (R-Ill), and Charles Schumer (D-NY) and U. S. Representatives Carolyn Maloney (D-NY), Jerrold Nadler (D-NY), Peter King (R-NY) and Lee Zeldin (R-NY), along with other Members of Congress who support this critical reauthorization of the James Zadroga 9/11 Health and Compensation Act.

Monitoring and Treatment



For information about these screenings and other services available through the WTC Health Program, please call

**888.982.4748**  
[www.cdc.gov/wtc](http://www.cdc.gov/wtc)

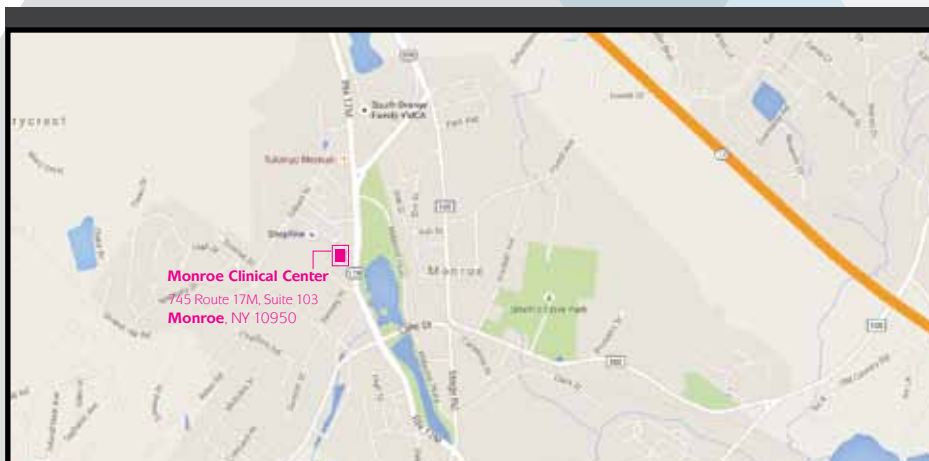
# get screened

for breast, cervical, colon & lung cancers

The WTC Health Program now offers these screenings for eligible 9/11 workers and volunteers, as well as workers, residents, students, and passersby near Ground Zero.

# New Occupational Health Clinic Opens in Monroe, NY

The Mount Sinai Selikoff Centers for Occupational Health are pleased to announce a new clinical center location in Monroe, New York. The Monroe Clinical Center will support the occupational health needs of workers, businesses, and unions throughout the Hudson Valley. Winston Kwa, MD, who serves as Medical Director for the Lower Hudson Valley Region of the Selikoff Centers for Occupational Health, will be the treating physician and also will continue to see patients at the clinical center in Yonkers, New York. Dr. Kwa is an Assistant Professor in the Department of Preventive Medicine at the Icahn School of Medicine at Mount Sinai and board-certified in occupational medicine and internal medicine. Other clinical centers are located in Manhattan, Staten Island, and Yonkers. To make an appointment at any location, call 888.702.0630.



**MONROE CLINICAL CENTER**  
745 Route 17M, Suite 103, Monroe, NY 10950

## CLINICAL CENTERS

- MANHATTAN** 1468 Madison Avenue  
Annenberg Building, 3rd Floor  
New York, NY 10029
- STATEN ISLAND** 690 Castleton Avenue, 2nd Floor  
Staten Island, NY 10310
- MONROE** 745 Route 17M, Suite 103  
Monroe, NY 10950
- YONKERS** 1020 Warburton Avenue, Suite 1  
Yonkers, NY 10701

## Nail Salons and Worker Health Continued from page 1



Reducing or eliminating chemical exposure goes a long way to help reduce potential longer term risks such as cancer or miscarriages.

### How to protect workers?

Many employers may want expert advice. Consulting an industrial hygienist or occupational medicine specialist is the best way to ensure worker safety. They can evaluate work sites and make specific recommendations.



# 2015 NY/NJ ERC ANNUAL MEETING



Christine Branche, PhD, FACE, CDC/NIOSH and Philip J. Landrigan, MD, MSc, FAAP, former Chair, Department of Preventive Medicine

The NY/NJ Education and Research Center held its 36th Annual Scientific Meeting in March 2015. The meeting, entitled Occupational Health and Safety in Construction: New Preventive Models for Large Construction Projects, focused on prevention and control of workplace hazards at construction sites. Construction workers incur the most fatal injuries of any industry in the private sector.

Construction workers maintain our nation's physical infrastructure, and build and repair our roads, houses and workplaces. This work includes hazardous tasks and conditions such as silica exposure, chemical hazards, falls, crane operation, and many others.

More than 90 health and safety professionals, including students from the ERC, attended the meeting. This meeting provided information on the leading causes of safety and health accidents, and illnesses, the elements of safety culture and safety climate, and the benefits of implementing interventions that improve safety and health on construction projects. Presentations were provided on prevention through design, safety culture, return on investment, chemical hazards, silica, ergonomics, and disproportionate risks faced by immigrant workers.

Dr. Christine Branche, Principal Associate Director of NIOSH, provided the keynote address focusing on NIOSH's construction safety and health portfolio. She said, "construction workers have more fatalities than any other industry" and resources must be put in place to protect them from workplace hazards. Dr. David Michaels, OSHA Assistant Secretary of Labor, highlighted OSHA's efforts to increase employers' commitments to workplace safety. NIOSH and OSHA are partnering on the 2015 National Safety Stand-Down

to raise awareness about preventing fall hazards in construction. Falls account for 35 percent of construction fatalities. Deaths are preventable by implementing training and utilizing the proper safety equipment.

Dr. Michael Toole, Associate Dean, College of Engineering at Bucknell University, outlined a comprehensive approach to safety in his discussion on Prevention through Design (PtD). He spoke of the need for "embedded safety features" during the design phase of construction projects. PtD is at the top of the hierarchy of controls by building safety features and eliminating hazards in the design of a building. Dr. Toole stated, "PtD is the right thing to do, and the smart thing to do."



Adequate ventilation is important. Opening doors and windows and letting in fresh air can reduce exposure to vapors. Many experts feel that down-draft ventilation tables that exhaust out of the building provide the most protection from dust and vapors. It is important to note that fans and air purifiers do not prevent dust and vapors from reaching workers.

Masks for workers who file nails are also important, but not the flimsy surgical masks so often seen in salons. A fitted disposable dust mask called an "N95 respirator" will help to keep dust but not vapors out.

A charcoal mask can help block some vapors. Lids should be kept tight on trash and product containers.

Workers should wear disposable gloves, change them often, and wash their hands several times a day, especially before eating. Finally, salon owners should purchase "toxic-three-free" products — those that do not contain DBP, formaldehyde, or toluene.

Employers seeking trainings or more information can contact the Mount Sinai Selikoff Centers for Occupational Health at 888.702.0630.



# Icahn School of Medicine at Mount Sinai

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## Symposium & Exhibit

# Commemorating the 100<sup>th</sup> Anniversary of the birth of Dr. Irving J. Selikoff

This symposium will examine the lasting impact of Dr. Irving J. Selikoff's legacy on occupational health and safety in the United States. Considered the father of occupational medicine, he is remembered for his seminal research on asbestos-related illnesses, his tireless advocacy for worker safety and health protections, and his contributions to the establishment of federal asbestos regulations.

Born in Brooklyn, Dr. Selikoff earned his medical degree from the Royal Colleges of Scotland in 1941 and joined The Mount Sinai Hospital that same year, where he later established the nation's first hospital division of environmental and occupational medicine. He retired as director of the division in 1985 but continued to be active in research. The Mount Sinai Selikoff Centers for Occupational Health, which are named in his honor continue his work and are recognized leaders in the prevention, diagnosis, and treatment of workplace injuries and illnesses.

### Location:

Davis Auditorium, Leon and Norma Hess Center for Science and Medicine  
1470 Madison Avenue (between 101<sup>st</sup> and 102<sup>nd</sup> streets)

Sponsored by the Selikoff Centers for Occupational Health  
Division of Occupational and Environmental Medicine  
Department of Preventive Medicine  
Icahn School of Medicine at Mount Sinai

Save the Date  
**October 16, 2015**

8:00 a.m. - 1:00 p.m.



Dr. Irving J. Selikoff  
(January 15, 1915 - May 20, 1992)

**100<sup>th</sup>**  
Anniversary

For more information, contact Carla Azar at [carla.azar@mssm.edu](mailto:carla.azar@mssm.edu)