

Agency for Toxic Substances & Disease Registry/American College of Medical Toxicology's  
**Chemical Weapons of Convenience/Opportunity Course**

Oregon Health Science University (OHSU)

[OHSU Auditorium](#)

3181 SW Sam Jackson Park Road

Saturday, December 11<sup>th</sup>, 2004; 7:30 a.m. – 4:00 p.m.

**Overview:**

The horrible tragedy, which resulted when terrorist crashed a hijacked commercial airliner into the World Trade Center on September 11, 2001, demonstrated the lethal potential and our tremendous vulnerability to weapons of convenience or opportunity (WOC/O). Many now believe that terrorist attacks in the US are more likely to involve WOC/O than conventional nuclear, biological or chemical warfare agents. This one day course provides an awareness-level training of the potential medical and psychological consequences of chemical WOC/O. WOC/O may be toxic industrial chemicals (TICs), toxic industrial materials (TIMs), agricultural chemicals or other locally stored chemicals, which may be used by terrorists against our community. An understanding of the hazards and vulnerabilities to WOC/O agents is essential for adequate emergency preparedness. Conventional nuclear, biological or chemical warfare agents will not be included in this course.

**Sponsors:**

1. [American College of Medical Toxicology \(ACMT\)](#)



2. [Agency for Toxic Substances and Disease Registry \(ATSDR\)](#)



3. [Environmental Protection Agency \(EPA\)](#)



4. [Oregon Poison Center](#)



5. [Department of Emergency Medicine](#)



6. [Washington Poison Center \(WPC\)](#)



7. [Dupont Personal Protection](#)



8. [Fisher Scientific](#)



### **Course Objectives:**

By attending this one day course the participant will be able to:

- \* Describe the potential routes of exposures to WOC/O.
- \* Describe the major medical effects of WOC/O.
- \* Describe the psychological impact of toxic and perceived WOC/O exposures.
- \* Describe the role of regional poison centers and medical toxicologists in WOC/O and hazmat incidents.
- \* Use EPA Risk Management Plan (RMP) data to assess local chemical hazards and vulnerabilities.

### **Target Audience:**

The information presented will be valuable to professionals involved in chemical terrorism preparation and response including emergency response and on scene coordinators, first responders (fire, EMT, HazMat, paramedic team members), first receivers (emergency department care providers), hospital emergency preparedness staff, occupational medicine care providers, public health officials, law enforcement agencies, administrative agencies, toxicologists and industrial hygienists.

### **Course Agenda:**

**8:00-8:30 Registration**

**8:30-8:50 Welcome & Opening Remarks**

B. Zane Horowitz, MD, FACMT

An introduction of the concepts of Weapons of Convenience/Opportunity (WOC/O), TICs and TIMs, the sponsoring organizations and speakers for this session. An overview of the role of poison centers and medical toxicologists in WOC/O and hazmat incidents.

**8:50-9:30 Assessing Hazards and Vulnerability to WOC/O in Your Community**

Thomas G. Martin, MD, MPH, FACMT, FAACT, FACEP

This talk will discuss the use of US EPA mandated SARA Title III Tier I & II reports and Risk Management Plans (RMP) with Off-site Consequence Assessment (OCA) of worse and alternate (more likely) case scenarios in emergency preparedness for industry, communities and vulnerable receptacles (schools, day care, nursing homes, hospitals, etc.)

**9:30-10:10 Toxic Warfare: Looking Beyond Conventional Chemical Weapons**

B. Zane Horowitz, MD, FACMT

This talk will provide an overview of toxic warfare, describe emerging “less than lethal” technologies, and discuss current hypotheses regarding the 2002 Moscow Theatre event.

10:10-10:30 Break

**10:30-11:10 Toxic Gases in your Community**

Robert G. Hendrickson, MD

Chemical compounds are produced in massive quantities as part of America's industrial complex. Many of these compounds are amenable to use as large scale terrorist weapons. This talk will address a number of chemicals, such as phosgene, chlorine, and anhydrous ammonia, which can be

disseminated as inhalational threats. Their manifestations, treatment, and sources in the community will be discussed.

**11:10-11:50 Why Are Cyanide and Fumigants So Worrisome**

Daniel L. Sudakin MD, MPH

Of the numerous poisons that impair cellular respiration, cyanide is probably the most likely to be used in a chemical terrorism event, given its availability and the ease with which it can be generated. Cyanide and fumigants such as methyl bromide, sulfuryl fluoride, chloropicrin and the phosphides are among the most toxic TICs.

11:50-1:00 Lunch

**1:00-1:40 Food and Water as Vehicles for WOC/O Attacks**

Robert L. Norton, MD, FACMT, FACEP

This presentation will cover the vulnerability of the food and water supply as a vehicle for chemical terrorism. Specific groups of toxicants such as solvents, pesticides and natural toxins and their characteristics that make them potential toxic threats when consumed will be discussed.

**1:40-2:20 Terrorism by Fear and Uncertainty**

Mohamud R. Daya MD, MS, FACEP, FACMT, DTM&H

This talk will cover the clinical presentations of individuals or groups exposed to agents with long latency (e.g. metals). The toxicity of metals such as thallium and the organomercurials, and of halogenated hydrocarbons like PCBs, PBBs and dioxins, will be discussed with particular reference to how poisoning with these agents presents and how delay in symptom onset complicates response to potential incidents of toxic terrorism.

2:20-2:40 Break

**2:40-3:20 Toxic Caustics as WOC/O**

Craig R. Warden, MD, MPH, FACEP, FAAP

The toxic effects of caustic exposures are usually the result of unintentional or accidental exposures. This will cover the use of caustic and the special group of "toxic caustics" as WOC/O against key governmental or political individuals in the community as well as a mass casualty threat.

**3:20-4:00 Psychological Impact of WOC/O Attacks**

Kenneth E. Bizovi, MD

Analysis of previous incidents demonstrates that large numbers of patients with psychological distress will impact the emergency response and potentially overwhelm the health care system. It is often difficult to differentiate between symptoms due to psychological harm from those due to physical harm. This goal of this presentation is to provide insight into individual and mass psychological responses to terrorist incidents.

**Cost:**

No charge to register.

**Online Registration:** <http://www.trainex.org/offeringslist.cfm?courseid=370>

Online Registration will close on Friday, December 3<sup>rd</sup>, 2004 or sooner if the maximum number of participants and speakers is reached (480).

**Venue:**

OHSU Auditorium, 3181 SW Sam Jackson Park Road, Portland, OR 97238

**Map of Marquam Hill (OHSU) Campus:**

<http://www.ohsu.edu/about/campusmap.html>

<http://www.ohsu.edu/edcomm/presentationrooms/>

**Driving Directions, Parking and Bus Info:**

<http://www.ohsu.edu/about/directions.shtml>

Parking is free on Saturdays but please do not park in parking lots for patient!

**Course Planning Committee:**

Thomas G. Martin, MD, MPH<sup>1,3,5,7</sup>; B. Zane Horowitz, MD, Captain Andrew C. Stevermer<sup>2</sup>; Jeffrey Rodin<sup>4</sup>

**About the Agency for Toxic Substances and Disease Registry (ATSDR)/American College of Medical Toxicology (ACMT) Network**

ACMT is the major professional (nonprofit) organization of physicians specializing in medical toxicology in the United States. In 1999 ACMT entered into a 5-year cooperative agreement with ATSDR under the auspices of Program Announcement 99081: Program to Build Capacity to Conduct Environmental Health Promotion Activities. This agreement was designed, in part, to enhance educational outreach to health care professionals on issues pertaining to environmental toxicology. Recognizing the urgent need to improve the capacity of health professionals and public health officials to respond knowledgeably and effectively to chemical terrorism and related mass chemical exposure, the ACMT – ATSDR partnership has considerably expanded during the past year. A national network now links medical toxicologists across the country with the 10 ATSDR regional offices. As part of this growing partnership, ACMT has organized this intensive one-day training course on the medical and psychological consequences from chemical terrorism and mass chemical exposures to weapons of convenience/ opportunity.

**Speakers:**

Mohamud R. Daya MD, MS, FACEP, FACMT, DTM&H  
Associate Professor of Emergency Medicine OHSU  
Medical Director, Tualatin Valley Fire & Rescue  
Medical Consultant, Oregon Poison Center

Kenneth E. Bizovi, MD

Assistant Professor, Department of Emergency Medicine, OHSU;  
Medical Consultant, Oregon Poison Center;

Robert G. Hendrickson, MD

Assistant Professor, Department of Emergency Medicine, OHSU; Medical Consultant, Oregon Poison Center; Emergency Preparedness Liaison, OHSU; Member, Oregon State Health Preparedness Advisory Committee

B. Zane Horowitz, M.D., FACMT

Professor, Department of Emergency Medicine, OHSU;  
Medical Director, Oregon-Alaska Poison Center, Portland, OR

Thomas G. Martin, MD, MPH, FACMT, FACEP, FAACT

Associate Professor of Medicine UWSOM; Director: UW-TOX (medical toxicology service);  
Associate Medical Director: Washington Poison Center; Consultant: NW Pediatric Environmental Health Specialty Unit and Seattle/King County Health Department

Robert L. Norton, MD, FACMT, FACEP

Professor of Emergency Medicine and Surgery OHSU;  
Medical Toxicology Consultant: Oregon Poison Center

Daniel L. Sudakin MD, MPH

Assistant Professor, Department of Environmental and Molecular Toxicology, Oregon State University. Clinical Assistant Professor, Department of Public Health and Preventive Medicine, OHSU. Principal Investigator, National Pesticide Medical Monitoring Program

Craig R. Warden, MD, MPH, FACEP, FAAP

Associate Professor, Department of Emergency Medicine & Pediatrics, OHSU;  
Medical Consultant, Oregon Poison Center;  
Medical Director: Clackamas County Fire District # 1

Revised 11/29/2004