



# ACMT

American College  
of Medical Toxicology

## 2021 ACMT Seminar in Forensic Toxicology

*A Look Forward at New Psychoactive  
Substances and a Look BAC at Ethanol*

Join us for the 2021 ACMT Seminar in Forensic Toxicology. Lead by recognized experts in medical toxicology, medicine, and law, this course will be offered Thursday, December 16 and Friday, December 17, 2021.

This 2-day course will focus on important forensic and medical-legal aspects of new psychoactive substances (NPS) and ethanol. For decades, forensic concerns about ethanol have focused on intent, impairment, and liability. We are now challenged by a growing number of legal cases involving NPS. Can the lessons learned about ethanol provide a framework to address these same issues regarding NPS?

Cases involving alcohol and novel stimulant, opioid, and hallucinogenic compounds will be discussed. Panelists will highlight the importance of scene-based information, analytic considerations, and interpretation of clinical or postmortem findings in an ever-changing drug environment.

**Target Audience:** Physicians, pharmacists, toxicologists, analytic chemists, medical review officers, nurses, scientists, social workers, attorneys, law enforcement, and public health specialists.

### **Course Objectives:**

1. Review the science supporting analysis of ethanol in body fluids and effects on human behavior
2. Apply the framework of analytics and performance measures to issues of intent, impairment, and liability with ethanol and new psychoactive substances
3. Identify and analyze information regarding drug trends from established and developing resources
4. Discuss a variety of new psychoactive substances and their effects on human behavior and performance
5. Describe key features from existing literature regarding ethanol's impact on human performance
6. Apply kinetic principles and mathematical tools to a specific ethanol impairment case

7. Demonstrate ability to present information and summarize opinions regarding ethanol and its impact on human performance
8. Demonstrate ability to translate knowledge regarding specific drug classes (stimulant, opioid, hallucinogens) to the assessment of effects of new psychoactive compounds

**About ACMT:** Founded in 1993, the American College of Medical Toxicology (ACMT), is a professional, nonprofit association of physicians with recognized expertise and board certification in medical toxicology. Our members specialize in the prevention, evaluation, treatment, and monitoring of injury and illness from exposures to drugs and chemicals, as well as biological and radiological agents. We care for people in clinical, academic, governmental, and public health settings, and provide poison control center leadership.

### Agenda

All sessions will take place on Zoom. All times listed below are in Eastern Time (ET).

#### Thursday, December 16, 2021 - Ethanol

9:45 - 10:00 AM	<b>Welcome &amp; Introductions</b> Paul M. Wax, MD, FACMT, Professor, Emergency Medicine, UT-Southwestern; Executive Director, American College of Medical Toxicology, Phoenix, AZ
10:00 - 10:50 AM	<b>From Death to Death Certificate</b> Steve Cohle, MD, Chief Medical Examiner, Kent County, MI
10:50 - 11:50 AM	<b>Pharmacology and Pharmacokinetics of Ethanol</b> Alan Wayne Jones, BSc, PhD, DSc, Guest Professor in Forensic Toxicology, University of Linköping, Department of Clinical Chemistry and Pharmacology, Linköping, Sweden
11:50 - 12:15 PM	<b>Analysis of Alcohol in Blood</b> Robert Johnson, PhD, Chief Toxicologist, Tarrant County Medical Examiner's Office, Fort Worth, TX
12:15 - 12:40 PM	<b>Analysis of Alcohol in Breath</b> Robert Johnson, PhD, Chief Toxicologist, Tarrant County Medical Examiner's Office, Fort Worth, TX
12:40 - 12:55 PM	<b>Break</b>
12:55 - 1:35 PM	<b>Methods &amp; Findings: Impairment of Driving Related Abilities by Alcohol</b> Barry Logan, PhD, F-ABFT, SVP Forensic Sciences, Chief Scientist NMS Labs; President, Fredric Rieders Family Foundation, Willow Grove, PA

1:35 - 2:15 PM	<p><b>Interpretation of Ethanol Results Including Post-Mortem Generation + Impairment by Ethanol - the Experimental and Epidemiological Evidence</b></p> <p>Graham Jones, PhD, Clinical Professor, Dept. of Laboratory Medicine and Pathology, University of Alberta, Retired Chief Toxicologist, Medical Examiner's Office, Edmonton, Alberta, Canada</p>
2:15 - 2:50 PM	<p><b>Retrograde Extrapolation and other Ethanol Calculations</b></p> <p>Patrick Harding, BS, Associate Course Director, Robert F. Borkenstein Courses, Indiana University; Retired Supervisor, Toxicology Section of the Wisconsin State Laboratory of Hygiene (WSLH)</p>
2:50 - 3:35 PM	<p><b>Lunch</b></p>
3:35 - 4:10 PM	<p><b>Extrapolation Tools</b></p> <p>Brent Furbee, MD, FACMT, Professor Emeritus Clinical Emergency Medicine, Indiana University School of Medicine, Indiana Poison Center, Indianapolis, IN</p> <p>Bryan Judge, MD, FACMT, Professor of Emergency Medicine, Michigan State University College of Human Medicine, Grand Rapids, MI</p>
4:10 - 4:45 PM	<p><b>What Are We Asking of Observers - Dram Shop Issues</b></p> <p>Bryan Judge, MD, FACMT, Professor of Emergency Medicine, Michigan State University College of Human Medicine, Grand Rapids, MI</p> <p>Charles McKay, MD, FACMT, FACEP, President Emeritus, ACMT; Connecticut Poison Control Center, Hartford, CT</p>
4:45 - 5:00 PM	<p><b>Break</b></p>
5:00 - 5:35 PM	<p><b>ED Pitfalls: Legal Concerns in the Care of Inebriated Patients</b></p> <p>Lewis Nelson, MD, FACMT, Chair of the Department of Emergency Medicine, Rutgers New Jersey Medical School, Newark, NJ</p> <p>Paul M. Wax, MD, FACMT, Professor, Emergency Medicine, UT-Southwestern; Executive Director, American College of Medical Toxicology, Phoenix, AZ</p> <p>Charles McKay, MD, FACMT, FACEP, President Emeritus, American College of Medical Toxicology; Connecticut Poison Control Center, Hartford, CT</p> <p>Rachel S. Wightman, MD, Director of Medical Toxicology Education, Department of Emergency Medicine, Assistant Professor of Emergency Medicine, Alpert Medical School of Brown University, Providence, RI</p>
5:35 - 6:15 PM	<p><b>Faculty Breakout Session for Ethanol Case Analysis</b></p> <p>Lewis Nelson, MD, FACMT, Chair of the Department of Emergency Medicine, Rutgers New Jersey Medical School, Newark, NJ</p>

	<p>Paul M. Wax, MD, FACMT, Professor, Emergency Medicine, UT-Southwestern; Executive Director, American College of Medical Toxicology, Phoenix, AZ</p> <p>Rachel S. Wightman, MD, Director of Medical Toxicology Education, Department of Emergency Medicine, Assistant Professor of Emergency Medicine, Alpert Medical School of Brown University, Providence, RI</p>
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**Friday, December 17, 2021 - New Psychoactive Substances**

9:45 - 10:00 AM	<p><b>Welcome &amp; Introductions</b></p> <p>Paul M. Wax, MD, FACMT, Professor, Emergency Medicine, UT-Southwestern; Executive Director, American College of Medical Toxicology, Phoenix, AZ</p> <p>Charles McKay, MD, FACMT, FACEP, President Emeritus, American College of Medical Toxicology; Connecticut Poison Control Center, Hartford, CT</p> <p>Bryan Judge, MD, FACMT, Professor of Emergency Medicine, Michigan State University College of Human Medicine, Grand Rapids, MI</p> <p>Robert A. Middleberg, PhD, DABCC(TC), F-ABFT, Laboratory Director, NMS Labs, Willow Grove, PA</p> <p>Brent Furbee, MD, FACMT, Professor Emeritus Clinical Emergency Medicine, Indiana University School of Medicine, Indiana Poison Center, Indianapolis, IN</p> <p>Lewis Nelson, MD, FACMT, Chair of the Department of Emergency Medicine, Rutgers New Jersey Medical School, Newark, NJ</p> <p>Ken Kulig, MD, FACMT, FAACT, Partner Toxicology Associates, Prof LLC Littleton, CO</p> <p>J.J. Rasimas, MD, PhD, FAPM, Associate Professor of Psychiatry and Emergency Medicine, University of Minnesota; Medical Director of C-L Psychiatry, Hennepin County Medical Center, Minneapolis, MN</p> <p>Ayrn D. O'Connor, MD, FACMT, Banner-University Medical Center, Phoenix, AZ</p> <p>Laura M. Tormoehlen, MD, Associate Professor of Clinical Neurology and Emergency Medicine-Toxicology, Indiana University</p>
10:00 - 10:45 AM	<p><b>Introduction to New Psychoactive Substances</b></p> <p>Barry Logan, PhD, F-ABFT, SVP Forensic Sciences, Chief Scientist NMS Labs; President, Fredric Rieders Family Foundation, Willow Grove, PA</p>
10:45 - 11:30 AM	<p><b>Does Science Support the DRE Assessment?</b></p> <p>Charles McKay, MD, FACMT, FACEP, President Emeritus, American College of Medical Toxicology; Connecticut Poison Control Center, Hartford, CT</p>

	Lewis Nelson, MD, FACMT, Chair of the Department of Emergency Medicine, Rutgers New Jersey Medical School, Newark, NJ
11:30 - 11:45 PM	<b>Break</b>
11:45 - 12:45 AM	<p><b>Panel Discussion. Case 1: ETOH or Z drugs? Identifying Behavioral Differences in the Impaired Driver</b></p> <p><i>A police officer observes a 58-year-old driver to be impaired. The driver is amnesic but does remember taking a sleeping pill. A BAC equivalent is 0.08. A DRE assessment is requested.</i></p> <p><b>Moderator:</b> Brent Furbee, MD, FACMT, Professor Emeritus Clinical Emergency Medicine, Indiana University School of Medicine, Indiana Poison Center, Indianapolis, IN</p>
12:45 - 1:45 PM	<p><b>Case 2: Habeas Corpus &amp; K2</b></p> <p><i>A 37-year-old man challenges his murder conviction, alleging he was not responsible for his actions because of recent K2 use.</i></p> <p><b>Moderator:</b> Charles McKay, MD, FACMT, FACEP, President Emeritus, American College of Medical Toxicology; Connecticut Poison Control Center, Hartford, CT</p>
1:45 - 2:30 PM	<b>Lunch</b>
2:30 - 3:30 PM	<p><b>Case 3: Opioids &amp; Analysis of “Altered” Biological Matrix</b></p> <p><i>A young adult dies while being “watched by friends” after using “heroin” supplied by a friend. The friends dispose of his body – limited postmortem blood is available for testing.</i></p> <p><b>Moderator:</b> Bryan Judge, MD, FACMT, Professor of Emergency Medicine, Michigan State University College of Human Medicine, Grand Rapids, MI</p>
3:30 - 4:30 PM	<p><b>Case 4: Synthetic Cannabinoids &amp; Alternate Anatomic Diagnoses</b></p> <p><i>A 36-year-old man dies after “partying with friends.” What are the implications of the autopsy finding of severe coronary artery disease and postmortem toxicology testing confirming prescribed methadone and identifying a synthetic cannabinoid receptor agonist?</i></p> <p><b>Moderator:</b> Robert A. Middleberg, PhD, DABCC(TC), F-ABFT, Laboratory Director, NMS Labs, Willow Grove, PA</p>
4:30 - 4:45 PM	<b>Break</b>
4:45 - 5:45 PM	<p><b>Case 5: Drug Use and Liability in a Congregate Setting</b></p> <p><i>Students at a local university provide a range of drugs for a non-college sponsored party. Several students require emergency care and hospital admission, with symptoms ranging from tremors, seizures, to cardiac arrest.</i></p>

	<b>Moderator:</b> Charles McKay, MD, FACMT, FACEP, President Emeritus, American College of Medical Toxicology; Connecticut Poison Control Center, Hartford, CT
5:45 - 6:00 PM	<b>Concluding Remarks</b>