

Carl Edward Wolf II, PhD, MS, F-ABFT



Toxicology Supervisor
Assistant Professor of Pathology
Research Assistant Professor of Forensic Science
Department of Pathology
Virginia Commonwealth University Health System
Office: 804-828-4420
Email: Carl.Wolf@vcuhealth.org

Education

- 2005 Doctorate of Philosophy, Forensic Toxicology, Department of Pathology, Medical College of Virginia at Virginia Commonwealth University, Richmond, Virginia. Dissertation: "Prevalence of Alcohol and Drugs in Second Sample Blood Specimens from Potentially Impaired Drivers in the Commonwealth of Virginia, 2001-2002"
- 1994 Master of Science, Forensic Science Option, Department of Administration of Justice, Virginia Commonwealth University, Richmond, Virginia
- 1986 Bachelor of Science, Chemistry, Gannon University, Erie, PA

Licenses & Certifications

- 2014 - present Fellow, American Board of Forensic Toxicology, Inc. Colorado Springs, Colorado. Recertified in 2018
- 2012 - 2014 Diplomate, American Board of Forensic Toxicology, Inc. Colorado Springs, Colorado
- 2001 - 2012 Forensic Toxicology Specialist, American Board of Forensic Toxicology, Inc. Colorado Springs, Colorado. Recertified 2006 & 2011

Selected Awards & Honors

- 2024 Teaching and Mentoring Award; Society of Forensic Toxicologists, Inc. Mesa, Arizona
- 2007 School of Medicine Teaching Excellence Award; The Educational Innovation/Educational Research Award, Virginia Commonwealth University School of Medicine, Richmond, Virginia. Chronic Non-Malignant Pain Management Curriculum

Recent Grants & Funding

- 2022 National Institute of Justice, Research and Development in Forensic Science for Criminal Justice Purposes, 15PNIJ-21-GG-04188-RESS. "The problems with Cannabinoid Analogs (Delta-8 THC, Delta-10 THC and CBD) and their metabolites detectability in urine drug testing for potential cannabinoid abuse." Principal Investigator (PI).
- 2018 National Institute of Justice, Research and Development in Forensic Science for Criminal Justice Purposes, 2017-R2-CX-0029. "Development of Matrix Matched Quality Control Materials and Sample Preparation Techniques for the Analysis of Marijuana Infused Products and their Application to Edible Testing", Principal Investigator (PI).
- 2017 National Institute of Justice, Research and Development in Forensic Science for Criminal Justice Purposes, 2016-DN-BX-0148. "Evaluation of sample preparation techniques for Matrix Effects and Absolute Recovery using UPLC-MS/MS using opiates and liver tissue specimens as the model and application to post-mortem toxicology." Co-PI.

Editorial Advisory Boards

- 2018 - 2024 Vice-Chairholder, Guideline C40: Measurement Procedures for the Determination of Lead in Whole Blood, Clinical and Laboratory Standards Institute, Inc. (CLSI), Wayne, Pennsylvania
- 2020 - 2024 Committee Member, Guideline C38-A: Control of Preanalytical Variation in Trace Element Determination. Clinical and Laboratory Standards Institute, Inc. (CLSI), Wayne, Pennsylvania

2018 - 2024 Member, Expert Panel on Clinical Chemistry and Toxicology, Clinical and Laboratory Standards Institute, Inc. (CLSI), Wayne, Pennsylvania

Professional Service

2015 - present Lecturer, Ambulatory Clinic Rotation for Primary Care Interns, Department of Internal Medicine, School of Medicine, Virginia Commonwealth University, Richmond, Virginia

2004 - present Mentor, Departments of Forensic Science and Medical Laboratory Sciences, Virginia Commonwealth University, Richmond Virginia

2004 - present Committee Member, Ambulatory Pain Committee, VCU Health, Richmond, Virginia

2000 - present Inspector, College of American Pathologists, Northfield, IL. Clinical Toxicology and FDT

Recent Invited Presentations

Nov. 2025 Frequency of Alcohols, and the Ethanol Biomarker (Phosphatidylethanol) in Donated Blood Products and the Potential Forensic Implications. The International Association of Forensic Toxicologists Meeting, Auckland, New Zealand

June 2024 Potentially Blemished Nature's Superfood: Cannabinoids in Breast Milk and Participant Self-Reports of Recent Use. Stirring the Pot: Recent Findings on Perinatal Cannabis Exposure. The College on Problems of Drug Dependence Meeting, Montreal, Canada

Selected Publications

Peer Reviewed Papers

Wolf CE, Pokhai AA, Poklis JL, Williams GR. The Cross Reactivity of Cannabinoid Analogs (Delta-8-THC, Delta-10-THC and CBD), their metabolites, and Chiral Carboxy HHC metabolites in Urine of Six Commercially Available Homogeneous Immunoassays. J Anal Toxicol. 2023. <https://doi.org/10.1093/jat/bkad059>.

Pokhai AA, Poklis JL, Williams GR, **Wolf CE**. The Preanalytical Stability of Emerging Cannabinoid Analogs (Delta-8 THC and its Metabolites, Delta-10 THC, and Carboxy-HHC) in Urine. *J Anal Toxicol*. 2023. <https://doi.org/10.1093/jat/bkad061>.

Williams GR, Akala MA, **Wolf CE**. Detection of 58 fentanyl analogs using ARK fentanyl II and Immunalysis fentanyl immunoassays. *Clin Biochem*. 113:45-51, 2023. <https://doi.org/10.1016/j.clinbiochem.2023.01.001>.

Singh K, Alagaraju MR, **Wolf CE**, Poklis JL, Kulkarni N, Tharpe W, Joshi PH. Ivabradine toxicity: a case report. *Journal of Medical Case Reports*. 16:393, 2022. <https://doi.org/10.1186/s13256-022-03554-w>.

Provost RG, Downs JW, **Wolf CE**, Williams GR. The high cost of low quality: recurring hypoglycemia in a 63-year-old man. *Clin Chem*. 67(11): 1450-1454. 2021. <https://doi.org/10.1093/clinchem/hvab174>

Downs J, **Wolf CE**, Williams G, Cumpston KL, Kershner E, Wills BK, Negligible nux vomica: homeopathic nux vomica remedies don't contain strychnine? *Toxicon*, <https://doi.org/10.1016/j.toxicon.2021.06.014>.

Gesseck AM, Poklis JL, **Wolf CE**, Xu J, Bashir A, Hendricks-Muñoz KD, Peace MR. A Case Study Evaluating the Efficacy of an Ad Hoc Hospital Collection Device for Fentanyl in Infant Oral Fluid. *J Anal Toxicol*, 4 (7): 741–746, 2020, <https://doi.org/10.1093/jat/bkaa069>.

Wolf CE, Pierce KL, Dempsey SK, Nanco CR, Poklis JL, Korzun WJ. Using papaverine and its metabolites, 6-desmethyl papaverine (6-DMP) and 4, 6-didesmethyl papaverine (4, 6-DDMP) as biomarkers to improve the detection time of heroin use *J Anal. Toxicol*, [10.1093/jat/bkz069](https://doi.org/10.1093/jat/bkz069).

Ramnarine RS, Poklis JL, **Wolf CE**. Determination of Cannabinoids in Breast Milk using QuEChERS and Ultra-Performance Liquid Chromatography and Tandem Mass Spectrometry (UPLC-MSMS). *J Anal. Toxicol*. [10.1093/jat/bkz072](https://doi.org/10.1093/jat/bkz072).

Book Chapters and Monographs

Williams GR, **Wolf CE**, Fentanyl Contamination in Street Drugs. *Clinical and Forensic Toxicology News*, 28 Feb. 2023, pp. 1–7.