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Put your Toxicology where your mouth is

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A relatively overlooked aspect of forensic science is the utilization of oral cavity fluid in a forensic diagnosis. Although traditional specimens, blood and urine, are routinely evaluated for forensic toxicology testing, fluid from the oral cavity has not previously been investigated as a matrix in postmortem cases. Our laboratory developed and validated qualitative and quantitative analytical methods for determining 47 medicinal and illicit drugs in oral fluids. The developed methods analyze oral fluid samples utilizing liquid chromatography coupled with tandem mass spectrometry (LC-MS/MS) analyses; the results were directly compared to traditional matrices collected from the same postmortem subjects. Within minutes of a drug entering the bloodstream, drugs can be detected in oral fluid. Studies have demonstrated oral cavity fluid retains trace amounts of drugs and their ensuing metabolites and it is an unanticipated, plausible alternative matrix in the rapid detection and quantification of prescription and illicit drugs (including alcohol). SteelFusion Clinical Toxicology Laboratory, LLC's unique oral cavity fluid testing capabilities supports key stakeholders by providing an economical, less time consuming, safe and non-invasive collection method, while maintaining chain-of-custody procedures which allows for cases to be closed more rapidly. Types of cases performed in decedents utilizing oral cavity fluid have been drug overdoses deaths; embalmed decedents; multiple blunt force trauma; drownings; burn victims; suicides; decompositions (up to 19 days); still-born deaths; and methamphetamine explosions.

Biography

Amy Reisinger studied Biology/Pre-Medicine at The University of North Carolina in Wilmington, North Carolina and completed postgraduate studies in the Cardiovascular Perfusion Program at Duquesne University in Pittsburgh, Pennsylvania. She became a Research Scientist at GlaxoSmithKline, Research Triangle Park, North Carolina, where she provided regulatory support to the pharmaceutical industry. Based on her knowledge of toxicology and pathology and understanding the logistics of performing clinical studies in accordance with Good Laboratory Practices (GLPs), she served as a Study Director/Monitor at Bristol-Myers Squibb Company in Mt. Vernon, Indiana for GLP and non-GLP toxicology studies. SteelFusion Clinical Toxicology Laboratory, LLC, was established in 2014 by Amy J. Reisinger as an women-owned and operated toxicology laboratory specializing in clinical and forensic toxicology services. She has been serving as the President and CEO of the laboratory since its inception. She has published multiple publications; with her most recent in The Journal of Analytical Toxicology.

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