B169 Recovery of Physical Evidence From Crime Scenes Contaminated With Chemical and Biological Warfare Agents

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After attending this presentation, attendees will be briefed on the standard operating protocols for the recovery of DNA, the chemical detection of latent fingerprints and the chemical enhancement of footwear impression evidence from crime scenes contaminated with either chemical or biological warfare agents. In addition they will understand the rationale for the choice of agents used and the techniques employed for evidence recovery within the context of this research; the methodology (sample preparation, mode of exposure, evidence recovery & exposure to deconta- mination agents); and, the effects of decontamination agents, Chemical Warfare agents and Biological Warfare agents on the physical evidence.

This presentation will impact the forensic community and/or humanity by demonstrating how the knowledge base for the forensic exam- ination of physical evidence contaminated with chemical or biological warfare agents does not exist in the forensic identification or the forensic science community to any great extent. This research project is an attempt to fill some of that knowledge gap. The study is in its fifth year and nearing completion whereas many similar studies are just getting started. For any forensic identification specialist or forensic scientist who is responsible for examining this type of evidence, this will be a valuable presentation to attend.

If fingerprints were present on the plastic bags used to disperse Sarin during the Tokyo subway gas attack in 1995, would investigators know how to recover them? If DNA was present on the stamp or seal of the US Anthrax letters that were circulated in 2001, would investigators know how to safely recover it?

This presentation describes a five-year research program that examines the effects of chemical and biological warfare agents on the ability to recover physical evidence such as DNA, fingerprint and footwear impressions. Results will be presented on the recovery of fingerprints, footwear and DNA after exposure to biological and chemical warfare agents and selected decontamination agents.

Learning Objectives: to provide rationale for the choice of agents used and the techniques employed for evidence recovery within the context of this research; to describe the methodology (sample preparation, exposure to agents, evidence recovery & exposure to decontamination agents) to explain effects of decontamination agents on evidence; to discuss the effects of CW agents on the recovery of fingerprints, footwear and DNA; to discuss the effects of BW agents on the recovery of fingerprints, footwear and DNA; and to recommend protocols for forensic examination of CW and BW crime scenes.

CBRN Forensics, Physical Evidence, Standard Operating Protocols