



A62 Investigations on the Recovery of DNA From Footwear and Gloves

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After attending this presentation, attendees will have learned of the factors that contribute to successful recovery of DNA from footwear and gloves.

This presentation will impact the forensic science community by providing a potential approach to recovering touch DNA from footwear and gloves.

Shoes and gloves may be recovered at the scene of home invasions, homicides, and sexual assaults. The perpetrator may either discard the gloves used to commit the crime in the vicinity of the scene or when fleeing the scene. In addition, shoes that are not adequately secured may be discarded as the perpetrator flees the scene. Further, footwear impressions are invariably left at a crime scene but few are collected and analyzed. These impressions can provide class characteristics and may also yield features that permit an individualization to be made between the impression and the footwear. As suspects are identified, they may deny owning the shoes or gloves found at the crime scene; they may also deny having worn the shoe found in their possession. In these instances, establishing a positive association between the suspect and the evidentiary item becomes crucial.

One approach to establishing this association is by recovering trace ("touch") amounts of DNA from the interior surface of the items and to compare the profile with a reference sample (oral swab in the proposed study). This comparison will assist in the investigation by providing information that will either include or exclude the suspect. This study investigates methods for obtaining DNA profiles from the interior surfaces of footwear and gloves. Various types of footwear and gloves were sampled using a tape-lift procedure to recover trace amounts of "touch" DNA from interior surface of the items. The samples were extracted using a commercial kit prior to mitochondrial and nuclear DNA analysis. This presentation will summarize the factors that contribute to the successful recovery of DNA from footwear and gloves.

Touch DNA, Gloves, Footwear