



Criminalistics Section - 2016

B209 Success Rates From Touch DNA in Property Crimes

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After attending this presentation, attendees will be aware of the rate of success for obtaining useful DNA from touch DNA in property crimes.

This presentation will impact the forensic science community by providing data on touch DNA success rates from a laboratory with no limitations on case acceptance.

Genetic evidence left by a perpetrator at a property crime in the form of epithelial cells is often described as touch DNA. Touch DNA samples include any object that the perpetrator may have touched at the crime scene or any personal item left behind. These items include objects handled at the crime scene, tools used during the crime (e.g., flashlight or screwdriver) and clothing worn by the suspect. Items worn by the perpetrator have much higher levels of genetic material compared to other items that were briefly touched. The Harris County Institute of Forensic Sciences (HCIFS) Forensic Genetics Laboratory accepted all touch DNA evidence from property crimes from 2009 to 2015 without limit (i.e., no case acceptance policy was in place). The DNA results for touch and touch clothing DNA evidence from property crimes from 2009 to 2013 were categorized and analyzed to determine success rates as far as profile Combined DNA Index System (CODIS) eligibility and CODIS hits.

In total, the laboratory analyzed 4,548 property crime cases containing clothing and touch samples. Of these cases, 672 had clothing items left behind that were examined for the presence of DNA from the wearer of the item. Of these 672 cases, 435 (65%) produced a DNA profile suitable for entry into CODIS. Of the 4,548 cases, 3,876 cases had evidence touched by a suspect with 703 (18%) suitable for CODIS entry. The CODIS hit rate for both categories was similar with 53% (231 of 435) of clothing cases and 44% (309 of 703) of touch cases with CODIS hits. The offender hit rate in both categories was also similar at ~80%. Overall, 34% of the cases with clothing samples and 8% of the touch cases had some type of CODIS hit.

Despite the modest 8% hit rate, the number of touch cases submitted per year to the HCIFS Forensic Genetics Laboratory increased more than three-fold from 2009 (402) to 2013 (1,348) and, when polled, submitting law enforcement agencies strongly supported the continuation of touch DNA testing as the best opportunity to link cases and to identify possible perpetrators for burglaries and thefts.

Touch DNA, Property Crimes, CODIS