



A43 Touch DNA From Property Crimes – CODIS Success Stories

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After attending this presentation, attendees will understand the impact that processing items from property crime scenes can have on the number of CODIS hits. The presentation will focus on DNA analysis of items containing touch DNA to prove that they are almost as successful as body fluid containing cases in obtaining a profile for comparison and CODIS entry, as well as in attaining CODIS hits. Examples of successful property crime cases from touch DNA will be presented to display the utility of collecting and examining these types of evidentiary items. The impact of entering property crimes into CODIS and the number of resulting CODIS hits will be discussed and compared to those of personal crimes.

This presentation will impact the forensic community by encouraging law enforcement and laboratories to collect and process evidence with touch DNA from property crimes for purposes of CODIS entry. Inevitably, the more profiles entered into CODIS the more CODIS hits will be made leading to an increase in solved crimes, benefitting law enforcement and the community. This is especially true for property crimes because they are several times more likely to lead to CODIS matches than personal crimes.

The majority of evidence submitted to crime laboratories from property crimes is in the form of blood evidence obtained from a crime scene. However, perpetrators do not always leave blood at the scene. Instead, the perpetrator may leave DNA in the form of saliva, semen, or touch DNA. Analysis of touch DNA evidence items from property crimes can dramatically increase the number of CODIS entries and the success rate of potentially solvable crimes.

Touch DNA in property crimes can be regarded as DNA transferred from a person to an object in the form of epithelial cells. Touch DNA can be obtained from objects handled by a perpetrator at a scene. In addition, personal items left behind at the scene may prove to be effective sources of touch DNA. The surfaces of clothing and items such as hats, masks, and gloves left at crime scenes may be analyzed in an effort to capture the DNA profile of the wearer. Items such as watches, screwdrivers, knives, and flashlights may be thoroughly swabbed in the areas most likely touched by the user. These types of evidence samples usually contain minimal amounts of DNA and should be processed to capture the maximum DNA yield. All of these items can result in DNA profiles for comparison and CODIS entry.

The Harris County Medical Examiner's Office (HCMEO) Forensic Biology Laboratory has been testing evidence from property crime cases and submitting them for entry into CODIS since 2005. DNA profiles from both touch and body fluid containing items have been uploaded into CODIS from property crime evidence. Five hundred and thirty-two property crime cases were analyzed and reported at the HCMEO during the four month interval from March through June, 2009. Of these, 313 (59%) produced interpretable DNA profiles, almost all of which were eligible for CODIS entry. One hundred ninety-two (36%) of the property crime cases reported were touch DNA cases while the remaining 340 (64%) contained blood or saliva evidence. Touch DNA cases yielded CODIS-eligible profiles 27% of the time while body-fluid containing cases yielded CODIS-eligible DNA profiles 73% of the time. While the touch DNA success rate was roughly 2.7 times less than the rate for items containing body-fluids, the CODIS hit rate for cases entered during this period was similar (36% of touch cases and 55% of body-fluid containing cases produced CODIS matches).

This presentation will discuss the success rate of property crime cases in comparison with personal crime cases, both in producing CODIS eligible profiles and in the number of CODIS hits obtained. This presentation will also provide case examples of touch and other non- blood evidence collected at property crime scenes that have hit in CODIS so that the attendee will better understand the utility of touch DNA to solve crimes.

Touch DNA, Property Crime, CODIS Hits