B172 DNA Recovered From a Victim's Pockets Solves a Cold Case: A Case Study

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After attending this presentation, attendees will understand the importance of utilizing techniques currently used in the field today to help aid in the re-examination of old evidence in unsolved cold cases.

This presentation will impact the forensic science community by encouraging the re-examination of the victim's pockets of clothing worn at the time of death in crimes in which robbery could be a possible motive. Evidence that is suitable for further testing should then be swabbed for the presence of touch DNA left behind by the perpetrator.

A case study will be presented that highlights this method of swabbing the victim's pockets for touch DNA left behind by the perpetrator, which ultimately aided in solving the case after 22 years. The perpetrator can deposit skin cells when reaching into the victim's pockets in the process of robbery. This touch DNA can then be collected and analyzed in order to develop a DNA profile.

On the night of November 6, 1993, a witness stated he saw a car driving down the street and then stopping. Minutes later, he heard gunshots and saw an individual exit the passenger side of the car and flee. A 17-year-old boy was found in the driver's side area of the car shot multiple times in the head. The victim's left front pants pocket was turned inside out and there was change lying on the ground next to the driver's door.

In 2015, a request was made by the prosecutor's office cold case unit to re-examine the victim's clothing worn at the time of death. The pants were examined and the pockets were swabbed on the inside for the presence of touch DNA. The swabs were extracted using organic extraction methods. The extracted DNA was quantified using the Quantifiler® Duo quantification kit using a Real-Time Polymerase Chain Reaction (RT-PCR) instrument. The DNA was amplified by using the PowerPlex® Fusion amplification kit. The amplified DNA was loaded onto the genetic analyzer for the detection of DNA fragments. Fragment analysis was performed using GeneMapper® ID software.

A Short Tandem Repeat (STR) DNA mixture profile was developed from the victim's left front pants pocket. The DNA mixture consisted of the victim and an unknown major contributor. This unknown profile was entered into the Combined DNA Index System (CODIS). The unknown profile hit to a convicted offender. After releasing the name to the agency, it was learned that this individual had been interviewed in the initial investigation and was a person of interest.

In conclusion, touch DNA in the victim's pockets that was left behind by the perpetrator over 20 years ago was still able to be collected and a DNA profile developed, which ultimately aided in solving the case.

Touch DNA, Cold Case, Criminalistics