



G31 The Efficacy of Combining Various Fingerprint Acquisition Techniques to Obtain Examination-Quality Postmortem Fingerprints From Unidentified Human Remains

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After attending this presentation, attendees will understand the problems involved with acquiring fingerprints from Unidentified Human Remains (UHR). The unpredictable condition of UHR is widely known throughout the identification community. This unpredictability leads to the issues involved with acquiring examination-quality fingerprints for identification purposes.

This presentation will impact the forensic science community by exposing the procedures and techniques utilized for daily UHR cases at the NYC OCME and emphasizing the success of their combination and subsequent identification of the deceased. As a result, widespread use of these techniques may help identify the tens of thousands of UHR that are being held within Medical Examiner's/Coroner's (ME/C) offices throughout the United States. Additionally, these decedents will now have a name and can be returned to their families, who will finally have closure as to the whereabouts of their loved one.

Fingerprint acquisition is quite uniform in the realms of the living and crime scene processing where techniques and technology are developed specifically for each purpose. However, the methodology for fingerprinting the deceased is not uniform, and use of techniques must be determined on a case-by-case basis. A major difference in printing the deceased versus the living is the manipulation of the fingerprinting medium (i.e., fingerprint card, ink pad, etc.). When printing the deceased, the fingerprint medium is being manipulated against the decedent as opposed to the living, where the person is being manipulated against the medium. Therefore, in the case of UHR, a combination of traditional and newly developed techniques are required to obtain examination-quality fingerprints. The challenge lies within the unpredictable condition of the UHR that are being printed. Often the UHR are in various stages of decomposition, which can negatively affect the condition of the hands and fingers. Conditions such as rigor mortis, skin slippage, and mummification can all discourage the attempt of obtaining fingerprints from the decedent. Contrary to the notion that the decedent is not printable, ridge detail on the epidermis and the dermis could still allow for acceptable fingerprints despite the aforementioned conditions. As a result, reconditioning techniques should be used followed by attempting fingerprint acquisition techniques.

The techniques described in this presentation are proven to yield examination-quality prints from UHR that range from fresh to significantly decomposed. The wide range of techniques include the use of reconditioning of skin using tissue injection and soaking/rehydration, boiling, manipulation of degloved skin, as well as recording techniques such as ink/card, fingerprint powder/adhesive lifter/acetate sheet, fingerprint powder/casting putty, photography under microscope, and photography using macro settings. While some of these techniques are by no means foreign to forensics, their usage was adapted to serve the cause for fingerprint identification of UHR. Case studies will be presented detailing particularly interesting and/or challenging cases in which a unique combination of these techniques was used that resulted in a positive identification. Statistics will also be provided to further substantiate the efficiency and success of these techniques and the importance of utilizing them throughout the identification community.

Specific resources and supporting data for utilization of various advanced fingerprint acquisition techniques currently available to the forensic community will be provided. It is recommended that ME/C offices and agencies tasked with the identification of UHR become familiar with the various fingerprint techniques which can assist in cleaning and reconditioning remains, leading to the successful recording of examination-quality postmortem fingerprint impressions.

Fingerprint, Unidentified Deceased, Fingerprint Technique