



E82 An Efficient Workflow to Recover Examination-Quality Postmortem Fingerprints From Human Remains

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After attending this presentation, attendees will recognize and understand the various techniques used during Postmortem (PM) fingerprint recovery for obtaining examination-quality fingerprint records from Unidentified Human Remains (UHR). The incorporation of the highlighted workflow into morgue operations may help identify many of the UHR that are being held within Medical Examiner/Coroner's (ME/C) offices throughout the United States. Not only will identification of UHR yield valuable investigative information, but it also allows for the notification of next of kin regarding the fate of their family member. The use of fingerprints for forensic identification is a rapid, reliable, and cost-effective means to identify UHR.

This presentation will impact the forensic science community by furthering the ability of ME/C offices and other medicolegal professionals to enhance operations by utilizing the PM fingerprint recovery workflow to efficiently and effectively handle UHR identification matters. The specific directions and resources needed to use the updated PM fingerprint recovery techniques will be presented.

The use of friction ridge impressions for identification is well established in forensic science; however, the most efficient workflow for PM fingerprinting is often complex and the need for advanced techniques must be determined on a case-by-case basis. The condition of the friction ridge skin on each decedent will dictate which method must be used to successfully enhance and record any valuable friction ridge information; multiple techniques may be used on each UHR. The wide range of techniques include the reconditioning of skin using tissue injection, soaking/rehydration, boiling, manipulation of degloved epidermal skin, as well as recording techniques such as ink/card, fingerprint powder/adhesive lifter/acetate sheet, fingerprint powder/castings, photography, and digital scanning. While some of these techniques are by no means new or foreign to forensics, their utilization is adapted to serve the cause of identifying UHRs. Moving forward, new potential techniques such as 2D and 3D fingerprint scanning may also be introduced into the proposed workflow. A major difference in printing the deceased versus the living is the manipulation of the fingerprinting medium (i.e., fingerprint card, ink pad, scanning platen, 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. Conditions such as rigor mortis, skin slippage, and mummification can all discourage attempts to obtain PM fingerprints from the decedent. Contrary to the predisposition that a specific decedent may not be printable, ridge detail on the epidermis and the dermis can still allow for acceptable friction ridge fingerprints despite the aforementioned conditions. As a result, reconditioning techniques should be used, followed by attempting fingerprint recovery techniques using the specific workflow that will be proposed by this presentation.

Postmortem Fingerprint, Unidentified Human Remains, Forensic Identification