Fingerprint Analysis in the Identification of Missing Persons and Unidentified Decedents

WM (Bill) Bailey
Fingerprint Specialist

Disclaimer

Information shared in this session is graphic.

Information and forensic slides may be disturbing.

Discussion will be frank and forward.

Fingerprint Analysis of Unidentified Decedent

• The two basic factors are that fingerprints are individually unique and permanent.

• Barring accidental or surgical removal of the finger itself, this ridge arrangement is permanent for the life of the individual and will endure until decomposition of the body after death.
Fingerprint Analysis of Unidentified Decedents

- In cases of decomposition or physical damage, the identity of the deceased must be established by scientific methods.
- First method of scientific identification is the use of fingerprint examination and comparison.

Fingerprint Analysis of Unidentified Decedents

- Inked postmortem fingerprints are collected.
- Postmortem fingerprints are compared to:
  - previous arrest records
  - military service records
  - federal employment records
  - state driver’s license records
Fingerprint Analysis of Unidentified Decedents

- Advanced decomposition or damage of friction ridge tissue.
- Disarticulation of epidermal layer with a scalpel.
- Removal of fingers and/or hands.

Mexican Military ID
Live Victim

• 24/7 operation
• 365 days a year
• Databases available include: IAFIS; Immigration database IDENT
• 70% of IDENT not included in IAFIS
Automated Fingerprint Identification Systems (A.F.I.S.)
- Used for both inked and latent fingerprints.
- High-resolution scan of fingerprint is entered into system and converted to algorithm.
- Search is then performed against existing database for possible candidates.
- Identification is performed by the examiner.

Retainable Files (AFIS)
- Applicants for any and all State of Texas / Certificates / Licenses which
  -Concealed Handgun License / Texas Lottery Commissions / T.E.A. (Texas Education Agency)
- *Public and Private schools

- HAZMAT D.L.
  - Transportation of any hazardous materials, i.e. cargo, liquid, powders
- TSA
  - Applicant / Security Screener
- PI
  - Private Investigators/Private Security Guards
- SAVINGS AND LOANS
  - Loan Officers / Security Brokers
- CONSUMER CREDIT
  - Pawn Shop / Check Cashing Businesses
- RACING COMMISSION
  - Horse Racing / Dog Racing
- TCLEOSE / JAIL COMMISSIONS
- DEPT. OF HEALTH AND HUMAN SERVICES
  - Adoption-Family / Foster Parenting
  - Mental Health Facilitators / Janitors / Kitchen Aids / Transports
- BOARD OF NURSING EXAMINER’S
  - 1 year ago started putting in the database Nurse Practitioners / Chiropractors / All Licenses Medical Personnel
- TCADA
  - Texas Commission of Alcohol and Drug Abuse / Psychologist / Rehab Facilitators / Drug Abuse Counselors
- JUVENILE / ADULT PROBATION OFFICERS
Fingerprint Analysis of Unidentified Decedents

- Fingers of the deceased are shriveled due to early decomposition.
- The injection of tissue builder under the skin.
- Restores the tissue to its approximate original shape.
- Allows the collection of inked postmortem fingerprints.

Disarticulation of thumb
Unidentified Decedents

We often have to de-glove the skin from one or more of the decedent's fingers in order to obtain a satisfactory fingerprint.

We slip the de-gloved skin onto one of our fingers and roll the fingerprint as usual. Then the prints are run through our A.F.I.S. system.

Fingerprint Analysis of Unidentified Decedents

- Mikrosil scientific casting material.
- Epoxy-like material is mixed and applied to friction ridge skin.
- Material flows onto the ridges and valleys creating a negative replica of fingerprint.
Fingerprint Analysis of Unidentified Decedents

- Mikrosil cast of friction ridge skin is removed.
- Casting is viewed with oblique lighting.
- Individualizing characteristics are examined to effect identification.

Mt. Carmel / Waco, Texas
Mt. Carmel / Waco, Texas

Fingerprint Analysis of Unidentified Decedents

- Removal of epidermis
- Mounted between microscopic slides
- Digital photography

Body is in a 55 gallon steel barrel sealed with lid and locking.
Fingerprint Analysis of Unidentified Decedents

- Initially examined in the bay area of the Tarrant County Medical Examiner's Office.
- The Trace, Anthropology and Latent Print Laboratory assisted in identification.

Fingerprint Analysis of Unidentified Decedents

- Partially submerged
- Malodorous liquid
- Strong ammonia smell
- Only buttocks, low back and feet visible

Fingerprint Analysis of Unidentified Decedents

- Multicolored T-shirt
- Torn blue jeans
- Black leather western belt
- White Jockey underwear
- White socks
Fingerprint Analysis of Unidentified Decedents

- Gunshot wound to left cranium is present with prominent radiating fracture

Fingerprint Analysis of Unidentified Decedents

- Body is fully articulated in an advanced state of post mortem decomposition

Fingerprint Analysis of Unidentified Decedents

- Upper portion of the body wrapped in large blood stained towel
- Foam and cushion covered the buttocks, left hip, and back
- Blanket held in place with knotted rope around and ankle
Fingerprint Analysis of Unidentified Decedents

Post-mortem Known Fingerprint From P.D.

Scene Investigation

Scene Investigation
Fingerprint Analysis of Unidentified Decedents

- Examination for friction ridge skin
- Removal of phalangeal joint
- Clean friction ridge area
- Digital photography

Fingerprint Analysis of Unidentified Decedents

- Close up examination of available friction ridge

Fingerprint Analysis of Unidentified Decedents

- Removal of epidermis
- Digital photography of friction ridge skin
References


References Continued