

SEQUENTIAL APPLICATIONS IN THE DEVELOPMENT AND RECOVERY OF LATENT FINGERPRINT EVIDENCE FROM HUMAN SKIN

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CADAVER

VISUAL OBSERVATIONS

Purpose: To detect, record, collect and preserve items of potential evidentiary value. e.g., patent or plastic fingerprints, fibers, hair, biological fluids, etc., etc.

Procedure: Utilize visual activity in the examination of the cadaver for physical evidence. The cadaver should be processed for physical evidence prior to being moved.

LIGHT SOURCE EXAMINATION

Purpose: To detect inherent fluorescent fingerprint evidence, fibers, hair, plastic impressions, tissue damage, biological fluids, etc., etc.

Procedure: Examine the body with various light frequencies utilizing;

White Light
Ultra Violet Light
(with and without filters)

Alternate Light
(with filters suited to the various light emissions)

DIRECT LIFTS FROM HUMAN SKIN

Purpose: To collect latent fingerprint evidence by utilizing non-transparent and transparent mediums.

Types of non-transparent lifting mediums:

- a. fixed photo paper (Kodakrome 2) 5 x 7 inches.
 - b. Kromekote cards, 5 x 7 inches
- NOTE: the above mediums will produce mirror or inverted fingerprints when developed.

Types of transparent lifting mediums:

- a. laminated glass
3 x 5 inches
- b. pint size Ziplock freezer bag

NOTE: These prints may be positive or inverted latent prints when developed.

Procedures:

Apply lifting medium direct to the suspect skin area with light pressure. Pressure should be applied with a sponge behind the medium to insure equal distribution of pressure to the lift area. Hold the medium on the skin for approximately three seconds.

The lifting medium should be 82 to 88 degrees Fahrenheit applied to a cadaver surface temperature at 72 degrees Fahrenheit. (window of 10 to 16 degrees Fahrenheit)

The area of the body from which the lift is taken should be marked with a body marker. (pen, water soluble)

A second lift should be made of the same area. The medium should be applied with firm pressure for approximately three seconds. Again use a sponge to apply even pressure.

Label the lifting mediums with sequential numbers.

Record information in the evidence log as to area of body the from which the lift is made, the surface temperature of the body and the surface temperature of the lifting medium.

Photograph the area where the direct lift was taken or apply a thin coat of fingerprint ink to the skin area and transfer the dermal structure to a Kromekote card. This exemplar will be utilized for elimination purposes.

CAUTION: Dermal structure may give the appearance of papillary ridges from the palm of the hand.

Allow the lifting medium to air dry for approximately 15 to 20 minutes. This allows the excess moisture to evaporate.

Superglue the mediums for approximately twenty minutes to fix any latent fingerprint evidence. This lessens the chance of inadvertent destruction of the print.

Process the lifting mediums at your leisure, back in the office within six hours of the initial lift.

Use black magna powder to process the lifting mediums.

Photograph any latent print development and then cover the developed print with clear latent fingerprint tape to preserve it.

The theory behind this process is that heat attracts. Applying a warm medium to a cool surface creates condensation on the emulsion side of the medium thereby transferring the latent print to the medium. This also depends on the consistency of the print itself. (oil and /or contaminate)

CYANOACRYLATE APPLICATION

Purpose: To develop latent fingerprint evidence possibly not detected in the first sequence.

Procedure: Place a portable Superglue chamber over the body as you find it. Introduce glue fumes by one of the following means:

Heat Infusion

a. Begin by utilizing a fuming wand and glue cartridge.

-or-

b. Utilize a hot plate set at 160 degrees Fahrenheit. Set an aluminum weigh dish on the hot plate that contains 3 grams of liquid Superglue with a centerpose of +30.

Chemical Acceleration

a. Utilize a thin liquid Superglue

with a centerpose of -5.

b. Place the chemical catalyst in an aluminum weigh dish and saturate with liquid Superglue.

Envelope of Packet Application

a. Use any commercial envelope type packet or laboratory constructed type applicator. Each envelope or packet will cover approximately 80 cubic feet of space to be fumed.

b. Mass infuse the chamber by attaching three envelope type packets to the top of the chamber.

Affix one at each of the following areas:
either end
the center

The maximum fuming time for all infusions is approximately thirty minutes. Place a controlled latent fingerprint in the chamber towards the upper portion of the chamber. When the test or control print is developed the fuming is completed.

Remove the chamber and let the body and adjacent area air for a few moments until the fumes dissipate. This is for a dual purpose, both the safety of the investigator and the fixing of the suspect print on the body.

2nd VISUAL EXAMINATION

Purpose: To detect possible latent print development.

Areas which may have latent fingerprint residue may appear to be white marks on the skin surface.

Procedure: Areas of the skin must be examined by oblique lighting techniques. In addition the areas must be viewed

from different optical views. e.g. 15, 30 and 45 degrees respectively.

The skin may have to be slightly manipulated or stretched to see ridge detail.

Photograph developed latent fingerprint evidence. Latent development may also be transferred to a clear lifting medium such as clear plastic and mechanically developed with fingerprint powder at a later time, as described above.

DIRECT POWDERING OF THE SKIN AREA

Purpose: To develop latent fingerprints missed by other sequential applications.

Procedure: Magnetic powder should be applied to the skin surface uniformly in areas where there is the possibility of latent fingerprint evidence.

Check areas for fingerprint development.

Photograph any latent print development.

Place a transparent lifter over any developed fingerprint and lift in the normal manner. Apply the latent lift to a regular latent backing card.

Follow up these procedures at the coroner's or medical examiner's office and re-evaluate all previous sequences as to their productivity. Repeat sequences if deemed necessary or as appropriate. Sequential application of the foregoing techniques is designed to develop or obtain latent fingerprints from the skin. If one sequence fails the other may produce positive results.