



CALIFORNIA DEPARTMENT OF JUSTICE
BUREAU OF FORENSIC SERVICES
PHYSICAL EVIDENCE BULLETIN



COLLECTION OF PHYSICAL EVIDENCE IN SEXUAL ASSAULT INVESTIGATIONS

Physical evidence in sexual assault cases can assist in establishing elements of the crime, help to identify or eliminate a suspect, and can be used to corroborate or dispute the statements of principals. The evidence most often encountered in sexual assault cases includes not only biological evidence (e.g. semen) but also fingerprints, impression evidence (e.g. shoeprints) and trace evidence (e.g. hairs/fibers).

- I. **General Crime Scene** - Collect all items at the scene having possible **evidentiary value**: anything which might have originated from the suspect/victim (depending upon the nature of scene [e.g. victim's or suspect's residence]) or provide information about what occurred. Process the crime scene systematically for evidence:
- **Photos**: To record the scene and identify items of evidence.
 - **Sketches**: To establish spatial relationships.
 - **Latent Prints**: Best evidence for identification of the suspect(s); should always be considered. Focus on anything that may have been handled or touched by assailant(s).
 - **Shoeprints, Tire Tracks, Toolmarks**: Impression evidence that may serve to link suspect(s) to a crime scene.
 - **Biological Evidence** - Biological evidence includes blood, hair, saliva, semen and other body fluid stains. Any of this evidence may be important and should be collected. All stains collected should be accompanied by a control sample from an unstained area near the collected stain. A forensic light source (e.g. *Polilight or Woods lamp*) may be of assistance in locating biological stains.
 - **Bedding**: Collect bedding **upon which the assault occurred**. If wet stains are located, indicate their location with a piece of tape, allow to air dry and then package by folding the edges toward the center and place in a paper bag.
 - **Other Physical Evidence**: Collect all other items at the scene having possible **evidentiary value**: anything which might have originated or been in contact with the assailant(s) or provide information about what occurred. Depending upon the type of scene being examined (e.g. suspect's residence), collect any evidence possibly originating from the victim (e.g. clothing items). Evidence that could be useful in sexual assault investigations includes: fibers, hairs, saliva stain swabbed from a bite mark, lubricants or foreign objects used in the assault or discarded clothing.
- II. **Stains Found at Crime Scene** - All biological evidence is subject to deterioration. The careful collection and storage of this evidence will help ensure that this evidence is preserved so that useful information can be obtained from its analysis. The pattern of bloodstain evidence may sometimes contain important information. If the bloodstain pattern is determined to be important, it should be documented with appropriate sketches and photographs. Finally, biological evidence can contain infectious organisms (e.g. hepatitis virus) that can be transmitted to any person who contacts it. For these reasons, it is important to take proper safeguards to ensure the safety of all personnel.
- A. Safeguards while handling biological evidence include:
- Wear disposable (e.g. latex) gloves
 - Keep any contaminated surface (e.g. gloved hand) away from face to prevent contact with mucosal membranes (e.g. eyes, nose).
 - After dealing with evidence, properly dispose of gloves and wash hands with germicidal soap.

Stains Found at Crime Scene (cont'd)

B. Goals of Biological Evidence Collection

- Collect as much sample as possible from a single source.
- Keep biological evidence stain concentrated.
- Insure that the sample is not inadvertently mixed with other biological samples (e.g. contaminated)
 - Change gloves if they become stained with any biological sample.
 - Do not talk over any biological evidence sample.
- Handle the sample in a manner, which minimizes deterioration of the sample.
 - Air-dry (in a stream of cool air) the sample as fast as possible.

C. Recommendations for collecting biological evidence stains:

- Handle the evidence stains as little as possible. When possible, submit the item with the stain. This is the easiest and best method to collect biological evidence. If the stain is on a smooth, non-porous surface and can be easily dislodged, protect it from contact with other objects (e.g. immobilize in box).
- If the stain is on a large object with a porous surface (wood or carpet), the area with the stain can be cut out and packaged in paper. Be sure to include a portion of the unstained material as a control.
- If it is not possible to collect the object or cut out the stain, the stain may be collected by using a **slightly moistened** (with distilled water) cotton swab. While collecting the stain, an effort should be made to **concentrate it onto a small area on the swab**. A control sample of an unstained area close to the biological evidence stain should also be collected using the same distilled water and type of swab that was used to collect the evidence. Allow the samples to air-dry, then package in appropriately marked paper envelopes or folded paper bindles.
- The size of the stain should influence the size of a substrate used to collect the stain. Thus, use a small part of a swab or a small piece of gauze to collect a small stain. Do not smear a small stain over a large surface.
- To keep the stain concentrated, collect the stain on the smallest area of the swab or cotton gauze.
- **Small biological evidence stains (e.g. 2 mm size bloodstain) may need special handling:**
 - Put on a fresh pair of gloves before collecting these small stains.
 - ◆ If the object with the stain can't be taken, a swab is the best sample collection device.
 - ◆ If these stains have to be manipulated by a tool, consideration should be given to using new, disposable implements (e.g. new razor blade/ disposable pair of tweezers).
- **Try to minimize the amount of time a stain is kept wet.** Air-dry all wet stains as soon as possible. Do **not** expose to heat or sunlight in an attempt to dry the stain.

Care should be taken to ensure that biological evidence is not contaminated during its collection:

- To avoid contamination, do not allow one evidence stain to come into contact with other biological samples. Minimize contact with the sample. Do not "talk over" a biological evidence sample.
- Each individual stain should be collected separately. Do not collect or package two separate stains together.
- Do not allow evidence samples to come into contact with any surface that contains residue from another biological sample (e.g. dirty tweezers, bloodstained glove, contaminated work surface).
- Use tweezers that have smooth, easy-to-clean working surfaces.
- Tools (e.g. tweezers, scissors) can be cleaned by thoroughly rinsing with a stream of distilled water and drying thoroughly with paper tissue. Repeat this process twice before using tool to manipulate another sample.

Package all biological evidence in paper bags or envelopes. Do not use plastic.

- Allow stains to air dry as much as possible before placing in paper bag or envelope.
- Package the "unstained control" separately from the evidence stain.
- Package different evidence items in separate paper containers.
- Ensure that paper container is large enough to allow air circulation around evidence item.
- Clean paper can be placed on (or in) a bloodstained garment and the garment folded so that the paper prevents contact between different stains. Ensure that while items are drying that the stain patterns are not altered or the stain cross-contaminated with another wet stain.
- Tape seal, initial and date all packages.

II. MEDICAL PERSONNEL

Victim - Refer to the California Medical Protocol for Examination of Adult Sexual Assault Victims and Child Sexual Abuse Victims for evidence collection guidelines.

- ◆ **Ensure that all clothing worn during or immediately after the assault is collected. Package in separate paper bags.**

III. MEDICAL AND/OR LAW ENFORCEMENT PERSONNEL

Suspect - use a Suspect Sexual Assault Evidence Kit to collect relevant evidence and follow kit instructions:

1. All Clothing Worn By Suspect at the time of assault: Package separately in paper bags (not plastic).
2. Pubic Hair Brushing: Place a paper towel or piece of paper under the area being brushed. Brush the pubic region. Wrap the brush in the piece of paper and place into a paper envelope. Always collect pubic hair brushing **before** collecting pubic hair reference standards.
3. Pubic Hair Reference Standards: Pull or cut close to the skin a minimum of 20-30 hairs from different areas.
4. Head Hair Reference Standards: Pull or cut close to the skin approximately 20-30 hairs taken from several areas to include front, back, sides, and top.
5. Other Body Hairs: Take additional hair samples if case indicates.
6. Blood Samples:
 - A. Collect a blood sample, approximately 5-7cc, in a lavender-stoppered tube [**containing EDTA**]. The crime laboratory should be informed if the subject had recently received a blood transfusion of any kind. If it is not possible to obtain a blood sample, oral (mouth) swabs (e.g. swabs of the inside of cheek) can often be used as a reference sample **for DNA typing only**. Check with your local laboratory to determine the suitability of oral (cheek) swabs as reference sample. If oral samples are obtained, have the subject rinse his mouth with water and then take 2 swabs (one from the inside of each cheek). Put on a pair of clean gloves and take a sterile swab and vigorously rotate the swab on the inside surface of the subject's cheek. Take another sterile swab and repeat this process on the other cheek. (Do not use gauze). **It is imperative that these samples be dried as soon as possible in a stream of cool air.** When the samples are dry, they may be placed into a labeled paper envelope or bag. The evidence envelope/bag should be labeled and taped sealed.
 - B. Sample for Blood Alcohol or Drug Analysis - Collect 10cc of blood in a gray-stoppered tube [containing potassium oxalate/sodium fluoride].
7. Penile Swabs: If indicated by the case history (e.g. if victim was forced to orally or vaginally copulate assailant) and time frame of case, penile swabs may be taken. Using swabs moistened with distilled water hold the swabs together as a unit and swab the glands, shaft, and base of the penis with a rotating motion to ensure uniform sampling. Air-dry swabs, package, label and seal.
8. Scrotal Swabs: If indicated by the case history (see 8. above/this evidence may be especially important if assailant wore a condom) scrotal swabs may be taken. Using swabs moistened with distilled water, hold the swabs together as a unit and swab the scrotum in a rotating motion, focusing on area in closest in proximity to penis. Air-dry swabs, package, label and seal.

9. Extra Swabs - These swabs can be used to collect other semen, blood or saliva stains on the skin. Slightly moisten the swabs with distilled water and swab the suspected stain. A control swab should also be made by swabbing an unstained area adjacent to the stain. Label the swabs indicating the location from which it was taken. Air dry and package in paper carton.
10. Miscellaneous - Fingernail scrapings can be collected using a toothpick, one toothpick per nail. Place all five toothpicks from the right hand into appropriate container and label. Repeat for left hand. Collect any other foreign material, place in paper bindle and package in envelope. Label envelope.

VII. EVIDENCE STORAGE

- A. Submit all items to the BFS laboratory in your area as soon as possible.
- B. If the evidence cannot be immediately submitted to the laboratory:
 - Refrigerate **liquid** blood samples. Do **not** freeze.
 - Air-dry all items that contain wet biological evidence. Do not subject to heat.
 - Until submission to the crime laboratory, **freeze** all items containing biological evidence **except** for any **metal or glass items** (e.g. knives or bottles). **Metal or glass** items should be **stored at room temperature** and submitted to the laboratory as soon as possible.
 - Evidence from the scene, suspect and victim must be handled and packaged separately.

Related Physical Evidence Bulletins (PEB):

- => PEB 4 - "Collection of Evidence Blood and other Body Fluid Stains and Reference Samples for Conventional Typing & DNA Analysis" / PEB 6 - "Collection of Fiber and Hair Evidence"
- => PEB 17 "Latent Print Section"/ PEB23 "Documentation of Shoe and Tire Impressions"
- => PEB 22 - "Evidence from Human Bodies"

SUBMIT A COPY OF THE POLICE REPORT TO THE CRIME LABORATORY WITH ANY EVIDENCE SUBMITTED.

CONTACT YOUR LOCAL BFS CRIMINALISTICS LABORATORY IF YOU HAVE ANY QUESTIONS.