CRIME SCENE SEARCH
STUDY GUIDE
2003

PART II OF II

This study guide is designed to provide the law enforcement Explorer with basic principles. The guide is not all inclusive, and does not delineate specific techniques that must be used. The focus of this guide is to provide principals that are flexible and adaptable to various law enforcement situations.

Following the basic principals in this guide should allow the law enforcement Explorer to successfully handle various law enforcement training activities safely and professionally.

The study guide was developed through the cooperation of International Association of Chiefs of Police and the Federal Law Enforcement Training Center.

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I. Introduction

Criminal Investigations are concerned with people and things. People commit crimes through the medium of things. These things become physical evidence. As an investigator, it is necessary to have a basic understanding of what physical evidence is and how it can help with the investigation of any criminal incident.

The recovery of physical evidence during an investigation is one of the most important aspects of contemporary law enforcement. Often, the tangible items of evidence and the descriptive information derived during the execution of a search warrant or from a crime scene investigation make the difference between the success and failure of an investigation and whether a case is brought to trial. With the expanded capabilities of modern forensic science, even more attention must be devoted to locating, recovering and documenting evidence that will be examined by experts in the crime laboratory and used in the furtherance of justice.

II. Physical Evidence

Physical – Real Evidence[1] - Evidence in the form of material objects (e.g. weapons, tools, fingerprints, etc.). When an object is admitted in evidence, it is usually marked as an exhibit. Documents are not usually classified as real evidence, but may be treated as such, if the physical characteristics of the document (rather than its content) are of significance.

A. Purpose of Physical Evidence

Physical evidence is as a rule more reliable than eyewitness testimony and is an important investigative aid to the investigator. Today, more than ever, the courts are placing emphasis on physical evidence to determine the guilt or innocence of a defendant. When physical evidence is properly handled and introduced in a court of law it is a very powerful tool in resolving the case. In addition, the court may use physical evidence to determine the length of sentencing.

B. Physical Evidence

Physical evidence is any object, smell, marking or impression, no matter how small, which may assist the investigator in the reconstruction[2] of the crime, lead to the identification of the criminal, provide a link between a crime and its victim, or a crime and its perpetrator. It can be as large as a house, small as a fiber, or ingenious as an odor.

1. In practically every case, the criminal will leave or carry away some physical evidence.

2. Physical evidence may require laboratory processing to render it useable in

[1] Real evidence is material, tangible evidence such as an object, a tape recording, a computer printout or a photograph. Real evidence does not usually stand-alone. The court will normally hear evidence from a witness (often an expert witness) explaining the significance or the relevance of the real evidence.

[2] Reconstruction is a method used to support a likely sequence of events by the observation and evaluation of physical evidence, as well as statements made by those involved.

the investigation or in court.

3. Physical evidence usually plays several important roles in the judicial process:

   a) It helps establish the elements of the crime.

   b) It helps reconstruct the crime or the crime scene.

   c) It may help associate or dissociate defendants with crimes.

   d) It can furnish proof as to the truth or falsity of an allegation.

4. Some additional benefits and/or expectations of physical evidence:

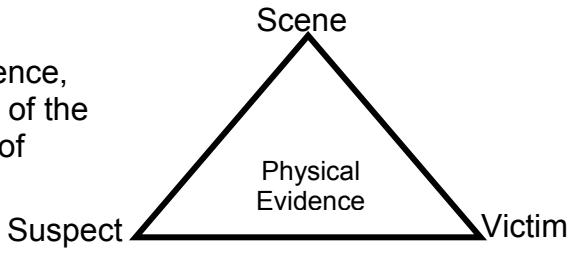
   a) A suspect confronted with physical evidence may confess.

   b) It can be used to corroborate eyewitness testimony.

   c) Juries have come to expect physical evidence in criminal cases.

C. Evidence Triangle

The evidence triangle, through physical evidence, establishes a link between the various facets of the crime scene, the victim, and the suspect. All of these components must be connected for a successful resolution of the case.



D. Principle of Interchange

Based on the Locard[3] Exchange Principle that, “Every Contact Leaves its Trace.”

The basis for trace analysis in forensic science is the statement made in 1910 by the French criminologist, Dr. Edmond Locard: "Every contact leaves a trace." Since physical contact is involved in almost every crime, the analysis of trace evidence plays a crucial role in crime scene investigation.

No one can enter an environment without leaving some trace of his or her presence and without carrying away some trace of that environment (e.g., a crime scene).

Some examples of interchange:

[3] Doctor Edmond Locard, French criminalist, founder and director of the Institute of Criminalistics University of Lyons, France.

1. Blood – drops on floor, suspect clothing, etc.

2. Hair – pulled from victim or suspect.

3. Finger Impressions – Victim on suspects' property or suspects' at crime scene.

E. Identification and Comparison

Identification has, as its purpose, the determination of the physical or chemical identity of a substance with as near absolute certainty as existing analytical techniques will permit.

Comparison is an analysis that subjects specimen (unknown) and a control specimen (known) to the same tests and examinations for the ultimate purpose of determining whether or not they have a common origin. Control and unknown specimens;

1. Comparison Standards

   Those items of physical evidence recovered from a known source and subjected to the same laboratory analysis as the items recovered from an unknown source to find out if they have a common origin.

   a) May be recovered from scene, suspect and/or victim.

   b) Must be processed in the exact manner and with the same care as all other items of evidence.

   c) Examples of known items:

      (1) Broken glass removed from a window frame that had been broken during the commission of a crime is from a known source.

      (2) A test bullet fired from a specific weapon

      (3) Handwriting exemplars

   d) Examples of unknown items:

      (1) Glass recovered from the suspect vehicle or clothing.

      (2) Bullet removed from a crime scene or a victim.

      (3) Fibers left at crime scene or on victim.

2. Control Samples

   This is a materiel from a known source that was uncontaminated by the crime.

   The collection of blood for example:

   a) Absorb the suspected liquid blood onto a clean cotton cloth or swab.

Leave a portion of the cloth or swab unstained as a control. Air-dry the cloth or swab and pack in clean paper or an envelope with sealed corners. Package the control in a separate bag.

b) Absorb the suspected dried blood onto a clean cotton cloth or swab moistened with distilled water. Leave a portion of the cloth or swab unstained as a control. Air-dry the cloth or swab and pack in clean paper or an envelope with sealed corners. Package the control in a separate bag.

3. Elimination Samples

Elimination samples are taken from a source that had lawful access to the crime scene such as the first officer, EMT's or the victim.

The collection of friction ridge evidence for example:

Investigators process a victim's office for latent prints after the desk had been broken into. The investigators would take a set of "elimination prints" to compare against latents that had been found. Once the victim's prints had been eliminated, it could be assumed that the ones left may belong to the suspect.

F. Class vs. Individual Characteristics

1. Class Characteristics

Properties of evidence where the features or characteristics are not unique for that item but which are shared by other items of the same class (general).

a) Class characteristics cannot measure the unique features to find the source, but we can reduce the evidence to a certain class.

b) Examples of evidence with class characteristics:

(1) Flat tip screwdriver, tire iron, etc.

(2) Hair, fibers, etc.

(3) Tires, shoes, etc.

2. Individual Characteristics

Individual Characteristics are properties of evidence that can be associated with a common source with an extremely high degree of certainty. It is a feature, even among members of the same class, resulting from nature, accidental or chance occurrences, wear and tear, use and abuse, which demonstrates uniqueness or individuality.

Unique features can be analyzed as to source; at least they have the capability of identifying the source.

a) Examples of evidence with individual characteristics:

(1) Fingerprints

(2) Tire tracks and foot impressions made by worn tires and shoes.

(3) Irregular edges of broken or torn objects

III. Evidence Teams

The proper documentation, collection and preservation of physical evidence is important in any type of investigation. There is only one way to collect physical evidence, the "Proper Manner." The following are some guidelines to assist you with the basic steps.

A. Personnel, Duties and Responsibilities

There are certain personnel, duties and responsibilities, which are necessary in almost any major search operation. The following concentrates on those duties and responsibilities that are considered crucial to insure that search efforts are conducted in an organized and methodical fashion. It is important to note it may not be feasible to have one person assigned to each duty. *It is relatively common for one person to be responsible for two or more aspects of the search.*

B. Major Assignments, as well as corresponding general duties and responsibilities:

1. Team Leader

The team leader is the focal point of the crime scene investigation and it is absolutely imperative that this person exerts positive control of the entire crime scene operation. In many instances, outside agencies and personnel have an interest in the crime scene in question and may wish to intrude on the scene. The Team Leader must be able to control actions and access to the scene at all times to insure the investigative efforts are properly coordinated and that the scene is not compromised.

a) Assume control—insure safety of personnel and security at scene. Obtain all preliminary information from the initial responding officer(s) If necessary talk with the complainant to verify information.

b) Conduct initial walk-through for purposes of making a preliminary survey, evaluating potential evidence and preparing a narrative description.

c) Brief all team members relative to the scope and purpose of the search.

d) Determine search patterns and make appropriate assignments.

e) Designate command post location

f) Insure that sufficient supplies and equipment are available for

personnel.

g) Control access to the scene and designate an individual to log everyone into the scene.

h) Release the scene after a final survey and inventory of the evidence.

2. Photographer and Photographic Log Recorder

a) Photograph entire scene with overall, medium and close-up coverage, using measurement scale when appropriate.

b) Photograph each item of evidence before it is moved

c) Photograph all latent fingerprints, and other impression evidence, before lifting and casting is accomplished.

d) Prepare photographic log and photographic sketch.

e) Photograph the scene as you left it.

3. Sketch Preparer[4]

a) Diagram a rough sketch of the immediate area of scene

b) Set forth on the sketch(s) all fixed points that are being used as reference, all items of evidence and coordinate evidence nomenclature with Evidence Recorder/ Custodian and Evidence Recovery Personnel.

c) Indicate adjacent buildings, rooms, furniture, and so forth, as needed

d) Designate and label areas to be searched and advise Team Leader and all other search members of nomenclature for designated areas

e) Obtain appropriate assistance for taking measurements and list assistant(s) on sketch.

4. Evidence Recorder/ Custodian

a) Prepare evidence recovery log

b) Coordinate evidence packaging and preservation

c) Coordinate evidence nomenclature with Sketch Preparer and Evidence Recovery Personnel

d) Receive and record all evidence

e) Maintain chain of custody and control of evidence.

5. Evidence Recovery Personnel

[4] See crime scene search for additional information.

a) Have all evidence photographed and videotaped before it is collected

b) Keep Team Leader apprised of significant evidence located

c) Initial and date all evidence and turn it over to the Evidence Recorder/ Custodian, after noting where the item was located.

d) Insure that appropriate safety measures are adhered to, especially with respect to proper protective clothing, including gloves.

6. Specialists

It is sometimes necessary to bring in expertise from outside an agency. The field of forensic science is so broad today no agency will have every form of specialty service available from among its ranks. Typically, specialists are brought in from industry, the academic community, private scientific laboratories and similar concerns.

Examples of specialty assistance to be considered:

Medical Examiner/Coroner
Odontologist
Anthropologist
Entomologist
Blood Pattern Analyst
Computer Investigative Specialist
Geologist
Surveyor
Engineer
Bomb Technician
Crime Laboratory Examiner

IV. Crime Scene Search

A. Stages

1. Preparation
2. Basic premises
3. Approach the scene
4. Initiate a preliminary survey of the scene and brief team.
5. Evaluate physical evidence possibilities around and within the scene
6. Document the scene
7. Conduct a detailed search
8. Record and collect all physical evidence
9. Conduct a final survey
10. Release the scene when you are satisfied that you have accomplished everything you can.

B. Preparation

1. Evaluate the current legal ramifications of crime scene searches. (*e.g., obtaining of search warrants*)
2. Accumulate packaging and collection materials necessary for typical search circumstances.
3. Prepare the preliminary format for the paperwork needed to document the search.
4. Discuss upcoming search with involved personnel before arrival at scene, if possible.
5. Make preliminary personnel assignments before arrival at scene, if practicable.
6. Organize communication with services of an ancillary nature (*e.g., medical examiner, prospective attorney*) in order that questions, which surface may be resolved. Take steps to organize a "command post" headquarters for communication, decision-making, etc. in major/complicated investigations.

C. Basic Premises

1. The best search options are typically the most time consuming.
2. You cannot over document the physical evidence.

3. There is only one chance to perform the job properly.

D. Approaching the Scene

1. Approach every scene in a safe manner. Officer safety is always the first priority.

2. If necessary render aid to the victim(s).

3. Be alert for discarded evidence.

4. Make pertinent notes.

5. Establish frame-of-mind to take control of scene regardless of circumstances observed on arrival.

6. Is this a HAZMAT situation?

7. Secure and protect the scene.

   a) Take control aggressively on arrival.

   b) Determine extent to which scene has thus far been protected.

   c) Check for adequate scene security even if advised that it has been protected prior to arrival.

   d) Obtain information from logical personnel who have entered scene and have knowledge relative to its original condition.

   e) Identify one individual who is designated as the person-in-charge for final decision-making and problem resolution.

   f) Take extensive notes—DO NOT rely on memory.

   g) Keep unauthorized personnel out — begin recording who enters and leaves (entry log).

E. Initiate a Preliminary Survey of the Scene

1. The survey is an organizational stage to plan for the entire search.

2. A cautious walk-through of the scene is accomplished.

3. Select appropriate narrative description technique.

4. Acquire preliminary photographs.

5. Delineate extent of the search area—expand initial perimeter if necessary.

6. Organize methods and procedures needed—recognize special problem areas.

7. Determine personnel and equipment needs—make specific assignments.

8. Identify and protect transient physical evidence.

9. Develop a general theory of the crime.

10. Brief team

F. Evaluate Physical Evidence Possibilities Around and Within the Scene.

1. Based on preliminary survey (type of crime), establish evidence types most likely to be encountered.

2. Insure collection and packaging equipment is sufficient for task at hand.

3. Concentrate on the most transient evidence and work to the least transient forms of this material.

4. Focus first on the easily accessible areas in open view and progress eventually to possible out-of-view locations—look for purposely hidden items.

5. Consider whether the evidence appears to have been moved inadvertently.

6. Evaluate whether or not the scene and evidence appears intentionally "contrived."

G. Document the Scene

Documentation of a crime scene is extremely important. ***The Golden Rule Is; Do Not Touch, Move, Or Alter Any Evidentiary Item Until You Document The Scene.***

The following formats are specifically designed to assist the crime scene investigator/ search leader from a planning perspective. These formats, the Photographic Log, the Video Shot Log, the Diagram/Sketch, the Evidence Recovery Log and the Latent Print Lift Log provide detailed documentation of the actual search process.

The following documents are examples of important categories of documentation that are considered directly applicable to virtually any search:

1. Prepare a Narrative Description

Notes are indispensable and considered the nucleus of all documentation techniques no matter what additional methods are being used. You should always use a bound type of notebook to document your notes. The notes should be written in ink not a pencil unless absolutely necessary. Number the pages consecutively, in advance, to avoid any subsequent allegations about removing or destroying pages. Draw a single line through any errors you may make rather than obliterating the error or removing the entire page. Date the error, initial and then make any corrections. Try to make all

entries in chronological order leaving with no blank spaces. It is a good practice to initial and date each page as you complete them.

a) Basic requirements:

(1) Legible

(2) Accurate

b) Purpose

(1) Assist with the preparation of your written reports.

(2) Refresh you memory during the investigation and at trial.

c) Rough notes would include:

(1) Your assignment

(2) What you observed while performing your duties.

(3) People contacted, interviewed, or arrested

(4) Evidence found or recovered.

(5) Time cleared.

(6) What did you observe upon your arrival?

(7) Names of the first officer/agent, and agency on the scene?

(8) Who else was on the scene? (e.g. fire, medical personnel, etc)

(9) What were the conditions inside the business/residence?

(10) Methods of narrative—written, audio, video (*sight/sound or sight only*).

Remember your written notes will bring together all other forms of documentation. Notes should be accurate, legible and they should begin with the date and time you received the assignment and end with the time you cleared the assignment. Record facts, observations, and victim and witness statements, avoid making conclusions and evaluations in your notes. Each investigator should keep notes of their activities including the search methods employed. All of your written notes need to be preserved for court.

2. Depict the Scene Photographically

You should recognize the importance of photography to document a crime scene or search site, even though it is not used to its maximum potential at many incidents. Photography is an excellent means of documenting a great amount of detail. **Remember** photographs should be fair and accurate, and represent the crime scene exactly as you found it.

a) Begin photography/video as soon as possible—plan before taking shots

b) Start a photography log, which should include information such as the photographic conditions, date, time, frame number, subject matter, location, and so forth. This information can be very important for interpretation of photographs.

c) Insure that a progression of overall, medium and close-up views of the scene is established. *Do not place numbers in these pictures.*

d) Use a recognized scale device and evidence number for size determination and identification when applicable.

e) When a scale device and evidence number is used, be sure to take a picture without them in the scene.

f) Photograph/videotape evidence in place before its collection and packaging.

g) Be observant of, and photograph/video tape areas adjacent to, the crime scene—points of entry, exits, windows, attics, etc.

h) Photograph/videotape items, places, etc., to corroborate the statements of witnesses, victims, and suspects.

i) Take photographs/ videotape from eye-level, when feasible, to represent scene as it would be observed by normal view.

j) Photographs are two-dimensional and are usually supplemented by diagrams/sketches.

k) Create a photo diagram if necessary.

l) Prior to lifting latent fingerprints, photographs should be taken 1:1, or using appropriate scale.

m) Videotape can be used to supplement your narrative and photographs, and video can best be used in the overall shot or documentation of the scene.

3. Prepare a Diagram/Sketch of Scene

Sketches and photographs compliment your field notes, they do not replace them. They refresh your memory of the event and they provide a permanent record of the incident. Distances are best documented by creating rough drawings or sketches with all the significant dimensions accurately recorded.

a) The diagram establishes a permanent record of; items, conditions and distance/size relationships. Diagrams supplement photographs.

b) A rough sketch is drawn at scene and changes may not be made once

you have left the scene.

c) Number designations on sketch should be coordinated with same number designations on the evidence log.

d) The sketch should contain sufficient measurements and detail to be used as a model for a drawn-to-scale, or smooth, diagram, if necessary.

e) Be sure to select a sketch technique before beginning the sketch—insure that enough room is allowed to include all pertinent information.

f) Accurate and consistent measurements must be taken before the evidence is collected. Triangulate for exact distance. Use the lowest scale on the ruler/tape that you use for taking the measurements. The measurements should be recorded on a separate piece of paper, the key or legend, rather than on the rough sketch itself.

   (1) Straight Line - Measurements are taken from fixed points to either side of the object.

   (2) Rectangular Coordinates – The Baseline technique is the simplest form of the rectangular coordinate system. Using a straight line between two known points, items are measured along the line and perpendicular from the line. Inside or outside of a house, this line can be a straight wall. Outdoor scenes can use a string or long measuring tape as the reference or base line.

   (3) Triangulation - Measurements are taken from two fixed points to point on the item as to create an imaginary triangle. This is usually done from two or more points on the evidentiary item.

g) Insure necessary administrative information, such as the scale disclaimer (*not drawn to scale*), is recorded on sketch and a;

   (1) Title block that contains, at a minimum:

      (a) Case number

      (b) Exact location

      (c) Date and Time

      (d) Person preparing the sketch and all those who assisted.

      (e) Compass orientation (North arrow)

   (2) Key or legend containing

      (a) Evidence is represented by numbers (DO NOT USE I and O)

      (b) Fixed points and large objects, represented by letters

      (c) Measurements

(d) Other symbols used such as:

(i) Direction of stairway

(ii) Direction a door opens

h) General Progression of Sketches:

(1) Overall or area sketch

(2) Scene/incident sketch

(3) Place fixed objects, furniture, etc.

(4) Insert evidence as it is recovered

(5) Record appropriate measurements

(6) Place the key/legend compass orientation, etc.

Do not overcrowd the sketch with nonessential items or details. The rough sketch may also be required to be produced at the trial.

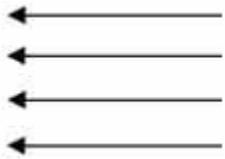
***Remember**, you must complete the rough sketch and all necessary corrections before leaving the crime scene.*

H. Conduct a Detailed Search

The search for physical evidence must be through and systematic. If you fail to recognize an item as a piece of evidence, or improperly collect the item, it will not serve any purpose in your investigation. Remember that all scenes are three-dimensional never forget to look up.

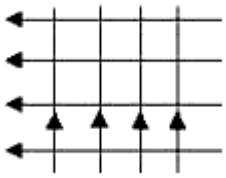
1. Search Patterns

a) Strip or Lane Search Method



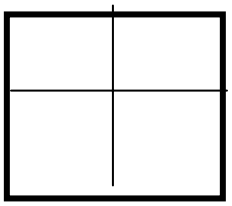
Usually used for covering large or open areas. Personnel will line up shoulder to shoulder; usually an arm's distant away from each other and move slowly along examining parallel strips of terrain. When a suspected piece of evidence is located they will call the Team Leader before taking any action. Personnel should try to maintain the straight line and move forward together to avoid missing areas.

b) Grid Search Method



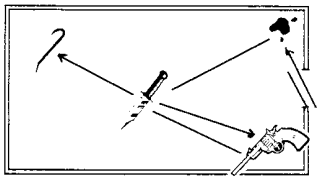
Variation of the strip search method-best used outdoors. Personnel will search a strip along one axis, east to west and then come back and cover the same area on a north to south axis. This method provides a double check of the search area.

c) Zone or Sector Search Method



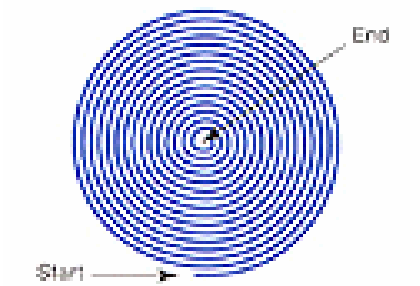
Area to be searched is divided into zones or sectors. Each person is assigned a sector to do a thorough search. The sectors can then be searched by another if necessary.

d) Point to Point



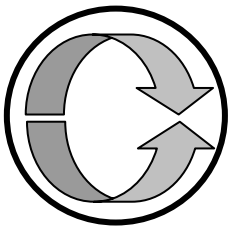
Even though this is not very systematic, it can be used in small confined areas.

e) Spiral or Circular Search



Typically used for outdoor scenes. This search pattern is usually conducted by a single searcher who walks in a slightly decreasing, less-than-concentric circle from the outermost boundary towards the center. The process should not be reversed. Can be used for underwater searches.

f) Clockwise – Counter Clockwise - Inside



This search pattern involves two agents working together. On agent would search in a clockwise direction searching the area from the waist up to the ceiling. The second agent would search counter clockwise waist down to floor. Once you have completed one pass you will reverse roles and repeat the process.

2. Searching

The Team Leader should analyze and evaluate the crime scene before they or other personnel enter the area. Determine where other personnel have walked, mark and try to adhere to that path of travel, if practical, to avoid additional destruction of evidence. Visually locate the essential items of evidence. Record in your mind or in notes what will you have to measure, photograph and collect. Remember to brief those who will be assisting you.

If you are part of the search team listen carefully to the Team Leader's briefing and limit your movements to those areas designated. A crime scene is not a place to fool around. Take the assignment seriously; when you have located any suspected items of evidence notify the Team Leader before taking any action.

a) Accomplish search based on previous evaluation of evidence possibilities.

b) Conduct search in a general manner and work to the specifics

regarding evidence items.

c) Use of one of the specialized search patterns listed above when possible.

I. Record and Collect Physical Evidence [5]

1. Photograph or videotape all items before collection and enter notations in photographic or video log (remember—use scale when necessary).

2. Mark evidence locations on the diagram/sketch.

3. Complete evidence log with appropriate notations for each item of evidence.

a) Have at least two persons:

(1) See evidence in place before collection

(2) Observe it being recovered

(3) Mark the evidence (mark item itself whenever feasible)

(4) Count currency, or inventory valuables seized as evidence/contraband.

(5) Place identifying marks on evidence containers, e.g. date, time, case number, name of agent, etc.

b) If feasible, have one person as an evidence custodian.

c) Do not handle evidence excessively after recovery.

d) Seal all evidence containers at the crime scene.

e) Do not guess on packaging requirements—different types of evidence can necessitate different containers.

f) Do not forget entrance and exit areas at scene for potential evidence.

g) Be sure to obtain appropriate "known" standards (*e.g., fiber sample from carpet).*

h) Be sure to obtain appropriate "known" standards (*e.g., fiber sample from carpet).*

i) Be sure to obtain appropriate "known" standards (*e.g., fiber sample from carpet).*

j) Constantly check paperwork, packaging notations and other pertinent

[5] See Section VI Collecting, Packaging and Processing Some Common Items of Evidence.

recordings of information for possible errors, which may cause confusion or problems at a later time.

J. Conduct a Final Survey

1. This survey is a critical review of all aspects of the search.

2. Discuss search jointly with all personnel for completeness.

3. Double-check documentation to detect inadvertent errors.

4. Check to insure all evidence is accounted for before departing scene.

5. Insure all equipment used in the search is gathered.

6. Make sure possible hiding places or difficult access areas have not been overlooked in detailed search.

K. Release Crime Scene

1. Release is accomplished only after completion of the final survey.

2. At minimum documentation should be made of:

   a) Time and date of release

   b) To whom released

   c) By whom released

3. Insure that appropriate inventory has been provided, as necessary considering legal requirements, to person to whom scene is released. Once the scene has been formally released, re-entry may require an additional warrant. In addition, evidence recovered during a re-entry may not have the integrity as that recovered during the original search.

4. Only the person-in-charge should have the authority to release the scene.

5. Consider the need to have certain specialties observe the scene before it is released (*e.g., blood pattern analysis, medical examiner*).

V. Collecting, Packaging and Processing Some Items of Evidence Found within the Scenario

A. Handling Evidence

Each class of evidentiary items is handled differently. Remember that there is no set procedure applicable to every case. There are general principles and guidelines that must be followed and used in most cases. One of the most

important principles is that evidence of a fragile nature must be collected first as it can easily be destroyed by personnel, changing environmental or other conditions.

Examples of fragile evidence include:

a) Trace materials such as hairs and fibers.

b) Various body fluids (DNA evidence)

c) Latent friction ridge evidence

d) Volatile liquids

When collecting evidence it is suggested that you wear gloves to protect yourself and the item. Always be aware of possible hazmat difficulties in collecting evidence especially with body fluids and volatile liquids.

Each item of evidence collected should be marked for identification. This marking is accomplished by placing your initials, date, item and case number on the item, package or tag as appropriate. Seal container and place your initials and date along the seal edges where they make contact with the packaging.

You should mark the item whenever possible if the mark does not destroy potential evidence. If there is a possibility that you could destroy evidence mark on the container you put the item in.

If you are unsure of what type of packaging to use, and the item is not a liquid or very wet, place the item in a porous container.

B. Evidence

1. Blood and Other Body Fluids

Moist or wet biological evidence from a crime scene can be collected in clean, unused plastic containers at the scene and transported back to an evidence receiving area if the storage time in sealed plastic does not exceed two (2) hours. This is done to prevent contamination of other evidence. Once in a secure location, wet evidence whether packaged in plastic or paper, must be removed and allowed to completely air dry. The evidence can then be repackaged in a new, clean, unused, dry paper container. Under no circumstances should evidence be sealed in a plastic container for more than two (2) hours. Moisture allows the growth of microorganisms that can destroy or alter evidence.

Blood evidence must never be exposed to excessive heat or humidity. If possible, the bloodstained evidence should be refrigerated until it can be transported to the crime lab.

a) Clothing or fabrics

Do not expose the wet item to excessive heat. Allow the wet item to air dry naturally by hanging it on a clean hanger or on a clean surface.

The item should be placed over a clean piece of collection paper. Handle the item as little as possible. When the item is dry, package it in paper or a porous container. Be sure to package the paper that was placed under the item as it was drying. This paper should be packaged in a separate porous container. (Usually collect wet bloody items first)

b) Non porous surfaces, dry stain

After photography, scrape the stain onto a clean piece of paper with an unused razor blade or similar instrument; use only one blade for each stain. Collect the scrapings into a druggist fold, along with the razor blade and submit to the lab. Be sure to note "**Sharp Hazard"** on the packaging.

c) Other

If the blood spatter is located on an item that can be collected, collect and properly package the item for submission to the lab. Then seal with evidence tape and mark on the outside for identification purposes.

2. Friction Ridge Impressions (Fingerprints, Palm Prints and Barefoot impressions)

There are three basic types of friction ridge impression evidence that may be left at the crime scene. These are referred to as visible, plastic and latent impressions. Friction ridges that are stained make visible friction ridge impressions with colored substances such as blood, ink, paint, grease or dirt. A visible print usually requires no further development techniques to be seen by the naked eye. A plastic impression is actually an indentation into a soft substrate such as chewing gum, wax, soap, putty, tar, butter or clay. Plastic impressions are usually photographed but may also be cast with a casting material to lift the impression. Latent impressions in the true sense means hidden or not visible. These impressions require some sort of developing technique to be seen by the naked eye.

In this day and age all friction ridge impression evidence recovered from or in conjunction with a crime is referred to as latent prints or latent impression evidence.

Surfaces: There are two types of surfaces, non-porous and porous. Consider that on a non-porous surface, the latent impression "rests" on the surface, and special care must be taken as to not wipe the latent print from the surface. While the latent prints deposited onto porous surfaces are "absorbed" into the item.

A systematic search of the crime scene should be used to locate latent impression evidence. Depending on the type of crime, the search should

start at possible points of entry continuing into the immediate area surrounding the actual crime scene. Once that is completed, the search should continue in a logical way trying to follow a path of exit that may be the same as the point of entry that the suspect may have taken. Search for friction ridge impressions on any item that has been moved or seems out of place. If possible, ask the victim to assist you with locating what has been moved. The following are some suggested areas and objects to consider:

a) The pathway traversed by the criminal, which may include the doors, windows, hallways, staircase handrails, windowsills, and other possible points of entry and exit.

b) Objects or materials that may have been touched by the criminal such as light switches, tables, drawers, doors, door knobs, mirrors, desks, closets, telephones, refrigerators, liquor cabinets, counter tops, and toilet seats.

c) Weapons or tools used by the criminal, such as knives, screwdrivers, credit cards, flashlights, or vehicles.

d) Locations where valuables are kept such as a wallet or pocketbook, cash register or security boxes.

e) Objects or materials destroyed by the criminal, such as broken glass, broken doorknobs, torn papers, etc.

f) Articles or materials that the criminal may have left at the scene, such as bottles, cans, cigarette butts, empty cigarette packages, matchbooks or any personal property.

Visible or plastic prints must be photographed as found. In some cases you may be able to collect or cast the impression but before doing anything be sure to photograph the impression. A data card should be prepared which would contain the case number, your initials, date, location of impression, the name of the officer who discovered the print, and the name of the photographer. Take a second photograph containing the data card and a ruler for scale. The aim is to compose a photograph with clear friction ridge detail along with the documentation necessary for later identification. You should also complete a sketch of the object on which the impression was found. Indicate the exact location of the impression and the orientation of the impression if you are able to determine that.

g) Basic Methods for Developing Latent Impressions

Physical Methods: Physical methods depend on the adherence of inert materials to friction ridge residues. The most common method for developing latent impression evidence is the use of powder dusted onto the surface of an object using a special bush.

(1) Locating and developing latent impressions using the powder

dusting procedure:

If crime scene photographs will be taken, they should be taken prior to any search for latent impression evidence. If it is a major crime you may also have to complete other examinations prior to your search for latents.

Search surfaces to find visible latent impressions through the use of a strong flashlight held at an oblique angle to check the surfaces. If latent impressions are visible before processing you should photograph them, using a close up lens. Remember that just because you don't see the impression doesn't mean it's not there. That is why they are called latent prints.

Don't examine just the obvious, but also look for the not so obvious places that a suspect may have touched. As an example if you find a flashlight, examine the batteries; a gun the magazine and each cartridge; the bathroom the toilet seat.

You should recover all latent print impressions that show signs of friction ridge detail no matter how small it may be. The decision "of value" or "not of value" should be left to the latent print examiners.

(2) Select an appropriate powder and brush.

If you are unsure of the type to use, place a test impression on the surface away from the suspected area. Dust this area and check the results.

(3) Brush selection

Non-magnetic versus magnetic.

For field use the most common practice is to use a powder brush.

Magnetic "brushes" can be used to "dust" almost any surface type but are mainly used within a laboratory environment.

(4) Powder

Select a powder color that contrasts with the surface

Before starting be sure that the fingerprint powder does not contain lumps. Shake or stir the powder in the container. If the

fibers of the brush are wider than the mouth of the jar do not put the brush into the jar.

Before using a regular powder brush, “fan” the brush to get rid of powder residues, contaminants and “open” up the fibers. Dip the tips of the brush in a SMALL amount of powder poured out from the container. Do not attempt to put a powder fiberglass brush inside a container, if the mouth is smaller than the diameter of the brush. This will damage the fibers.

Gently “fan” off the excess powder. Too much powder is one of the most common mistakes made.

Carefully dust the suspected area using gentle strokes, or a light spinning of the brush. As the impression develops follow the flow of the ridgelines.

If you dust across the ridgelines, you could destroy the impression.

Gently clean up the developed impression until the ridges become clear and distinct.

Occasionally you may notice that certain latent impressions develop with very poor contrast. One reason this may occur is the presence of only a slight amount of residue. You may be able to add residue and improve the contrast by breathing very lightly on the impression, allow the impression to “dry” and then process the impression with powder.

h) Collection of latent impressions

Once a fingerprint has been developed, and photographed, other methods of preserving and collecting it may be attempted. With objects such as paper or glass, which are small, you may retain the entire object as evidence. The object should be handled with gloves or a handkerchief and touch the object as little as possible.

When the print appears on a moveable object, such as a weapon or a bottle, it may be advisable to cover the print with the fingerprint tape, and then transfer the entire item to the laboratory. Use care in applying the tape so as not to destroy the ridge details. All such

evidence should be placed in proper containers, secured, labeled and sealed, before transporting it to the laboratory.

If a fingerprint appears on an immovable object, such as a wall or a counter top, the print can be lifted after it has been photographed. In applying the lifting tape, the end is placed a little distance away from the print and the tape is carefully smoothed out over it. Hopefully, air bubbles may be avoided by using a gradual but deliberate technique to apply the tape. The tape is carefully removed and placed on a backing card.

Remember Latent impressions like all physical evidence must be properly documented and protected.

Each lift-backing card should contain important information such as the date, time, location, case number, and the object from which the impression was recovered. The name of person lifting the impressions, and a small diagram illustrating the specific area from which the impression was lifted should also be included.

Create a chain of custody for the lift backing cards and secure them until they are submitted to the laboratory for comparison with a known suspect.

3. Hairs and Fibers

When possible submit the entire garment or textile. Loose hairs and fibers should be placed in a clean folded piece of paper or an envelope with sealed corners. Collect standards for the laboratory. Control samples for hair should include about 25 combed and pulled hairs from the head and pubic region. These hairs should be placed in a clean folded piece of paper or an envelope with sealed corners.

Mark the envelope on the outside for identification.

VI. Chain of Custody [6]

A chain of custody records the movement of the evidence. It is the "life history" of the item from the time that it was discovered until it is no longer needed.

Complete continuity in the chain of custody is essential to the admissibility of an item of evidence in judicial proceedings. An item of evidence, whose custody cannot be firmly established from the time of discovery to court presentation, may not be admitted no matter how potentially informative it could be.

To maintain a secure chain of custody:

[6] Establishing a chain of custody requires that the whereabouts of the evidence *at all times* since the evidence was involved in the events at issue be established by *competent testimony.*

1. Mark each item for identification purpose in such a manner as to not destroy any evidentiary value of the item.

2. Enter the item on the chain of custody when found, ensuring that the item number is the same as entered on your evidence log, placed on the item and on the sketch if one is drawn.

3. Ensure that you properly record the chain of custody information at every stage of evidence handling or transfer from one person to another and document the reason for the transfer.

4. Store the items in a secured vault or special room with limited access.

5. Limit the number of personnel who are involved in the movement of the evidence.

6. The longer the chain the more potential there will be for a weak link to exist.

VII. Conclusion

All items that have been recovered as evidence at the crime scene should be considered significant and handled properly. Cases are never lost because too much evidence had been gathered and preserved. Cases are often lost because the officer or investigator conducting the crime scene search decided that some pieces of evidence were not important and failed to collect and preserve them. Always recognize that physical evidence must be in its original state when received by the laboratory in order to obtain a good scientific analysis.

All evidence found must be carefully collected. Handle the evidence in a manner that will avoid contaminating it. Then mark, log and package the evidence so that it will not be contaminated or damaged during transportation.

The finder must identify all evidence. This is necessary for use as evidence in court. Usually, we identify evidence by marking on the evidence itself. If this is not practical, the identification markings should be placed on the container in which the

evidence is placed. If the identification markings are placed on the evidence itself be sure they are in a place where they will not hinder a laboratory examination. Usually, initials, dates, and identifying number will sufficiently identify evidence. The identifying number refers to an agency case number or evidence number. Then record that number in your notes, where you record the complete details concerning the finding of the evidence.

Keep accurate and complete notes. It is impossible to remember the circumstance surrounding the finding of several items of evidence. Besides just recording the usual data about the piece of evidence, your notes should contain something about the piece of evidence. As an example, note that blood and hair were found on the barrel, the position in which the weapon was found and anything else unusual that you may observe about this piece of evidence.

After you have collected the evidence, package each item of evidence separately. This prevents contamination by the transfer of small evidence items such as hairs and fibers from one item of evidence to another.

Maintain the chain of custody for the evidence. In order for physical evidence to be admissible in court, you must account for every step in its handling. This includes the time when the evidence was found at the crime scene until it is presented as evidence in court. This is another reason to have accurate and complete notes. Keep the number of persons involved in the handling of evidence to a minimum. Remember that it may be necessary for all those who handled the evidence to testify. If possible, the officer who collects the items of evidence should also handle transportation of shipment to and from the laboratory.

Do not delay in getting evidence to the laboratory. If practical, take it. Otherwise, send it by registered mail or other agency-approved carriers.

Common Errors:

1. Lack of organization and communication between team members
2. Improper protection of the scene
3. Failure to secure the scene from unauthorized personnel
4. Too many personnel involved in the scene search
5. Failure to take proper notes.
6. Taking too few rather than too many photographs.
7. Using improper search techniques
8. Failure to investigate beyond the immediate scene
9. Improper handling, collection and packaging of evidentiary items
10. Moving/collecting items before documentation
11. Placing wet items in plastic bags for longer than two hours
12. Failure to recognize evidence
13. Failure to canvass the area for witnesses
14. Jumping to conclusions
15. Failure to restrict your information, evidence, etc.

VIII. References

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Criminalistics, An Introduction to Forensic Science 7th Ed, Richard Saferstein, Prentice Hall, 2001

Techniques of Crime Scene Investigation, Barry A. J. Fisher, Elsevier, 1992

The Field Guide of Crime Scene Investigations, Naval Criminal Investigative Service, GPO

Best Practices for Seizing Electronic Evidence, U.S. Secret Service. International Association of Chiefs of Police and National Institute of Justice

A. Notes

Name: _____ Class #: _____

Case #: _____ Start Time: _____ End Time: _____

Type of Incident: _____ Date: _____

Location: _____ State: _____

Weather: _____

TEAM MEMBERS

Team Leader: _____ Photographer: _____

Evidence Custodian: _____ Sketcher: _____

Others: _____ _____

Purpose of the Operation:

_____

_____

_____

Initial Observations:

_____

_____

_____

_____

Duties and Synopsis of actions:

_____

_____

_____

_____

Victim: _____ DOB: _____

Address: _____

City/State: _____ Zip: _____

Phone: (H) _____ (W) _____

Vehicle or other Information:

_____

_____

Witness: _____ DOB: _____

Address: _____

City/State: _____ Zip: _____

Phone: (H) _____ (W) _____

Vehicle or other Information:

_____

_____

Suspect: _____ DOB: _____

Address: _____

City/State: _____ Zip: _____

Phone: (H) _____ (W) _____

Vehicle or other Information:

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