

Collection of Crime Scene Evidence B

JANUARY 27, 2020

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C246 HLS

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Quiz this week

Online Assignment 4

Online Reading Quiz 1

Chapters 1, 2 and 3

Opens Thursday at 4pm and closes Saturday at 11:59

Lecture Overview

Physical Evidence

- definition, types

Evidence Collection

Packaging Evidence

- many different requirements

Chain of Custody

Reference samples

Submitting Evidence

Crime Scene Safety

Case study and implementation of standard procedures

Crime Scene Evidence

- Physical evidence encompasses any and all objects that can establish that a crime has been committed or can provide a link between a crime and its victim or a crime and its perpetrator.
- But if physical evidence is to be used effectively for aiding the investigator, its presence first must be recognized at the crime scene.

Crime Scene Evidence

- Forensic science begins at the crime scene.
- If the investigator cannot recognize physical evidence or cannot properly preserve it for laboratory examination, no amount of sophisticated laboratory instrumentation or technical expertise can salvage the situation.
- Here, investigators must recognize and properly preserve evidence for laboratory examination.
- It must be emphasized that the techniques of crime-scene investigation are not difficult to master and certainly lie within the bounds of comprehension of the average police officer.

Some Types of Physical Evidence

Blood, semen, and saliva

Documents

Drugs

Explosives

Fibers

Fingerprints

Firearms and ammunition

Glass

Hair

Impressions

Organs and physiological fluids

Paint

Petroleum products

Plastic bags

Plastic, rubber, and other polymers

Powder residues

Soil and minerals

Tool marks

Vehicle lights

Wood and other vegetative matter

Procedures for Collection

- Often, many items of evidence are clearly visible but others may be detected only through examination at the crime laboratory.
- For this reason, it is important to collect possible carriers of trace evidence, such as clothing, vacuum sweepings and fingernail scrapings, in addition to more discernible items.



Procedures for Collection

- Investigators handle and process physical evidence in a way that prevents changes to the evidence through contamination, breakage, evaporation, accidental scratching or bending, or other changes occurring as a result of improper or careless packaging.
- The use of latex or nitrile gloves, disposable forceps, and sanitized equipment reduces the chance for contamination.
- Whenever possible, one should keep evidence in its original condition, as found at the crime scene.



indy.gov

Packaging

- Each different item or similar items collected at different locations must be placed in separate containers. Packaging evidence separately prevents damage through contact and prevents cross-contamination.
- The well-prepared evidence collector will arrive at a crime scene with a large assortment of packaging materials and tools ready to encounter any type of situation.



Crime Scene Tool Kit

Notebook

Writing pens/pencils (black or blue ink)

Ruler

Chalk/Crayons

Magnifying glass


Flashlight

Disposable forceps

Scalpels/Razor blades

Swabs/Sterile Cloth

Plastic pill bottles with pressure lids



EVIDENCE

REPORTING AGENCY _____ CASE NO. _____

SUBJECT _____

DESCRIPTION OF EVIDENCE _____

APPROX. TIME _____

LOCATION _____

COLLECTED BY _____ DATE/TIME _____

REMARKS _____

CHAIN OF CUSTODY

FROM	TO	DATE

EDUCH 100-100-1000 10/2010



EVIDENCE

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FROM	TO	DATE

EDUCH 100-100-1000 10/2010

evidentcrimescene.com

Crime Scene Tool Kit

Evidence sealing tape

Evidence tags/flags

Various size paper bags, boxes and manila envelopes

Paper for wrapping

Lifting tape

Vacuum with filter

Fingerprint powders, brushes, lifters

Disposable gloves, face masks, hair nets and shoe covers

Packaging

- Disposable forceps and similar tools may have to be used to pick up small items.
- Unbreakable plastic pill bottles with pressure lids are excellent containers for hairs, glass, fibers, and various other kinds of small or trace evidence.
- Alternatively, manila envelopes, screw-cap glass vials, or cardboard pillboxes are adequate containers for most trace evidence encountered at crime sites.
- Ordinary mailing envelopes should not be used as evidence containers because powders and fine particles will leak out of their corners.

Packaging Trace Evidence and Arson

- Small amounts of trace evidence can also be conveniently packaged in a carefully folded paper, using what is known as a “druggist fold.”
- Evidence from arson scenes should be packaged in airtight metal or glass containers to prevent the loss of accelerant vapors.



Packaging Biological Material

- If biological or bloodstained materials are stored in airtight containers, the accumulation of moisture may encourage the growth of mold, which can destroy the evidential value.
- In these instances, the material should be allowed to air-dry before being packaged in wrapping paper, manila envelopes, or paper bags.



Packaging DNA Evidence

- Contamination is a key concern during the collection of DNA-containing specimens such as blood, saliva, sweat or skin cells. Contamination can occur either by introducing foreign DNA through coughing or sneezing onto evidence or if items of evidence are incorrectly placed in contact with each other during packaging.
- To prevent contamination, the evidence collector must wear a face mask and use disposable latex or nitrile gloves and disposable forceps when collecting evidence that may contain DNA.

Chain of Custody

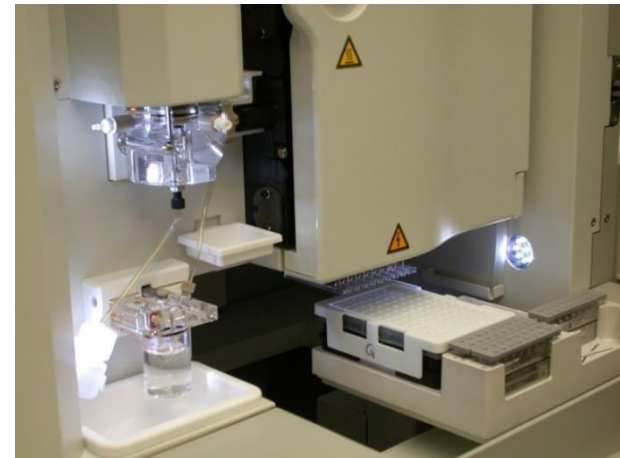
- **Chain of Custody** - a list of all persons who came into possession of an item of evidence
- Continuity of possession, or the chain of custody, must be established whenever evidence is presented in court as an exhibit.
- Adherence to standard procedures in recording the location of evidence, marking it for identification, and properly completing evidence submission forms for laboratory analysis is critical to chain of custody.
- This means that every person who handled or examined the evidence and where it is at all times must be accounted for.

[illegible]

nalabs.ca

Obtaining Reference Samples

- Standard/Reference Sample - Physical evidence whose **origin is known**, such as blood or hair from a suspect, that can be compared to crime-scene evidence.
- The examination of evidence, whether it is soil, blood, glass, hair, fibers, and so on, often requires comparison with a known standard/reference sample.
- Although most investigators have little difficulty recognizing and collecting relevant crime-scene evidence, few seem aware of the necessity and importance of providing the crime lab with a thorough sampling of standard/reference materials.



dps.alaska.gov

Submitting Evidence

- Evidence is usually submitted to the laboratory either by personal delivery or by mail shipment.
- Care must be taken in packaging evidence that will be sent by mail in order to prevent breakage or other accidental destruction during transit to the laboratory.
- Most laboratories require that an evidence submission form accompany all evidence submitted. Case information provided on this form enables the laboratory analyst to make an intelligent and complete examination of the evidence. See text example

Crime Scene Safety

- Crime scenes frequently present the investigator with biological specimens of unknown origin; the investigator has no way of gauging what health hazards they may contain.
- Therefore, one must use caution and protection at all times.
- It is recommended by the International Association for Identification Safety Committee that crime scene personnel wear a minimum of latex/nitrile gloves (double gloved) and protective shoe covers. In cases of large contamination areas, coveralls are also recommended.

Crime Scene Safety

- The use of a particle mask/respirator, goggles, or face shield is recommended in addition to the minimum protective items when potentially infectious dust or mist are present.
- Personnel should be alert to sharp objects, knives, hypodermic syringes, razor blades, and similar items.
- Personnel should maintain a red biohazard plastic bag for the disposal of contaminated gloves, clothing, masks, pencils, wrapping paper, and so on.
- HIV and hepatitis B

Collection Techniques

Foot/Tool Impressions

- Dental stone is used to fill in the impression
 - Dries very quickly for prompt preservation and packaging
 - Stone provides a 3-dimensional impression of exact dimension

Latent footprints (e.g. in dust)

- Electrostatic lifter

Hairs, Fibres, Glass Particles

- Disposable forceps
- Lifting tape
- Vacuum with filter



Collection Techniques

Biological Evidence (i.e. blood, saliva, semen, unknown fluids)

- Sterile swabs
- Scalpels (when completely dried/adhered to a surface)
- Object cut-away

Collection Techniques

Powders, Soils and Unknown Granular Particulate Matter

- Sterile scoopulas /popsicle sticks to transfer into packaging

Latent Fingerprints

- Developing techniques include dusting powders, chemical agents, lifting tape & fingerprint cards



Collection Techniques

Weapons/Tools

- Often large enough to collect by hand and place directly into preservation packaging



Search and Seizure Protocols USA

- The removal of any evidence from a person or from the scene of a crime must be done in conformity with Fourth Amendment privileges: “The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizure, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.”

Canadian Charter of Rights and Freedoms*

Part 1

Search or seizure

8. Everyone has the right to be secure against unreasonable search or seizure.

<http://laws.justice.gc.ca/eng/charter/>



Search and Seizure Protocols USA*

- The United States Supreme Court has determined that search and seizure without a court-approved warrant is justified in four cases:
 - The existence of emergency circumstances
 - The need to prevent the immediate loss or destruction of evidence
 - A search of a person and property within the immediate control of the person provided it is made incident to a lawful arrest
 - A search made by consent of the parties involved

Search and Seizure Landmark Cases USA

- In the case of *Mincey v. Arizona*, the Court dealt with the legality of a four-day search at a homicide scene and determined that the evidence was illegally seized because a warrant was never issued and the circumstances of the case did not justify a warrantless search.

Search and Seizure Landmark Cases USA*

- In *Michigan v. Tyler*, fire destroyed a business establishment leased by Loren Tyler and a business partner. The court decided that evidence obtained from the initial search was legally seized, but evidence obtained from searches carried out 4, 7, and 24 days after the incident were illegally seized.

O.J. Simpson Case: The Crime

- Some time between 10:15pm and 10:40pm on June 12, 1994, Nicole Brown Simpson and Ronald Goldman were stabbed to death outside Nicole's condominium in Brentwood, L.A.

O.J. Simpson Case



The O.J. Simpson Case: An Investigative Nightmare



IN EVIDENCE



COURTV



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Simpson's Highly Publicized Involvement

Simpson was an early suspect

In front of a televised audience, police cars and helicopters chased Simpson's white Ford Bronco at 100km/h across Route 405 in southern California

The car was driven by A. C. Cowlings, a friend and an ex-football player teammate, while Simpson sat in the back seat with a gun

Simpson's Highly Publicized Involvement

- Simpson had failed to show up for his arraignment on the charges of the double murder
- At the end of the car chase, his Rockingham Avenue estate, Simpson was arrested



The Evidence

- DNA from hair samples found on Goldman's body could not be excluded as being the same as the DNA retrieved from O. J. Simpson
- A trail of bloody shoeprints near the murder scene were estimated to be made by a man's shoe, size 12—the same size that Simpson wears
- DNA from a pair of bloody socks found in O. J. Simpson's bedroom could not be excluded as being the same as Nicole's DNA
- Blood found on Simpson's Ford Bronco could not be excluded as being the same as the DNA from both victims

The Evidence

- Blood found at the crime scene could not be excluded from that of O. J. Simpson
- Simpson had a cut on his left hand
- A leather glove found near both of the victims had blood on it that could not be excluded from being the same as that of both Simpsons and, separately, of Goldman
- A matching glove, with bloodstains on it, was also recovered on Simpson's own estate



The Evidence



Photo of glove



Evidence glove

- Ms. Simpson bought Simpson two pair of such gloves in 1990
- A long strand of blond hair similar to Ms. Simpson's was also found on that glove

Hairs and Fibres

- Hairs found in a dark knit cap were similar to Simpson's hairs; fibres on a cap were similar to those in the carpeting of Simpson's Ford Bronco; dark blue cotton fibres were found on Goldman



Blood stains in Simpson's foyer

The Alibi

- Simpson's alibi was that he was hitting golf balls in his own backyard
 - But no witnesses could confirm his alibi

Maintaining Evidence Integrity

Where did the case unravel?

The beginning of the End:

- Simpson's reference blood vial was collected in his home and taken to the crime scene for personal delivery to crime scene investigators
- Defence argued blood drops were planted at the crime scene by investigators in a conspiracy attempt to frame OJ Simpson

A CSI Example of Precedence

- This case exemplifies the importance of investigators' handling of evidence
- It also demonstrates that even with the most seemingly 'cut & dry' evidence collected by investigators, it may not be enough to convince a jury beyond a reasonable doubt that an accused individual is guilty
- Following this case, it became clear that crime scene investigation protocols were required, particularly the DNA analysis and the footwear impression examination

A CSI Example of Precedence

- Detailed guidelines for the investigations of homicides, crime scene processing, and arson investigation have since been drafted by the National Institute for Justice
- This includes the development of certification programs that specifically train police officers and crime scene technicians in the appropriate approaches to handle the evidence in a crime scene investigation

Lecture Review

Physical Evidence – definition, types

Evidence Collection

Packaging Evidence

Chain of Custody

Reference samples

Submitting Evidence

Crime Scene Safety

Simpson Trial