Preserving Forensic Evidence at Crime Scenes

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Preserving Forensic Evidence

• It is critical to preserve Forensic Evidence in all criminal investigations, or in any investigation that may result in criminal charges.
• It is equally critical to preserve Forensic Evidence in incidents in which the actions of the first responder may be subject to review in a civil arena.

GOLDEN RULE OF CRIME SCENE INVESTIGATION:
Do not touch, change or alter anything until it has been identified, measured and photographed.

LOCARD’S LAW
The law of mutual exchange. It is not possible to come in contact with an environment without changing it.

Types of Evidence
“Class” or “Circumstantial” Evidence
Examples of this type of evidence are:
• Blood
• Hair
• Glass
• Fibers

Types of Evidence
“Individual” Evidence
Examples of this type of evidence are:
• Fingerprints
• Teeth Impressions
• DNA
Types of Evidence
• Forensic Evidence can consist of either Class or Individual, and in some instances can be both.

Bodily Fluids & Trace Evidence
• Trace Evidence differs from physical evidence in its size, often microscopic and macroscopic and easily overlooked.
• Easily transferred
  – Types of trace evidence include: dust, soil, fibers, ash, wood, hair, blood, saliva, paint, glass and much more

Scene Priorities
• Life Safety
• Incident Stabilization
• Preservation of Property
• Preservation of Evidence

Crime Scene
• Paramount to any crime scene investigation is the protection of that crime scene to avoid destruction of evidence or alteration of the scene.

Scene Limits and Protection
• Crime Scenes should be secured with both a “Safety Line” and an “Evidence” line.
• Law Enforcement or Fire Personnel will generally establish these lines.
• Entry into the scene should be authorized by those agencies who established the lines listed above.

Scene Limits and Protection
• Responders should be guided through the scene in order to minimize contamination or alteration of the scene.
• Potential pieces of evidence should be identified to responders so that they can avoid contacting those items.
Scene Limits and Protection

- When entering any scene, **always** adhere to the Golden Rule of Evidence and Locard’s Law. (This assumes all emergent situations have been addressed.)
- When handling any item that may have evidentiary value, limit opportunities for that item to be contaminated.

Outdoor Crime Scene

- Most vulnerable to loss, contamination, and deleterious change of physical evidence in a relatively short period of time
  - Individuals with access to the scene can potentially alter, destroy or contaminate evidence

Outdoor Crime Scene Continued

- Risk is greatest when crime scene investigators fail to secure the crime scene properly
  - Destruction or deterioration of evidence due to environmental conditions such as heat, cold, rain, snow and wind are problems associated with outdoor scenes

Preserving Evidence

- Ensure that the victim’s clothing & personal effects are preserved.
- If you bag these items, the preferred method is to bag each item in separate paper bags to avoid cross-contamination.
- Caution medical personnel to avoid cutting through bullet holes & knife tears in clothing.

Outdoor Crime Scene Continued

- Nighttime outdoor crime scenes are particularly problematic
  - Whenever possible, outdoor crime scenes should be held and secured until daylight for processing

Preserving Evidence

- Instruct first responders to avoid “cleaning up” the scene.
- If a victim is to be transported to a medical facility, first responders may be asked to assist law enforcement or fire personnel in documenting comments and preserving evidence.
Preserving Evidence

- Latent fingerprints can be left on a variety of evidence. Generally the best prints are found on non-porous flat surfaces.
- If you must handle an object, try to handle it in a manner that would not be the most common way to do so.
- Fingerprints can also be left as impressions in a wide variety of serological substances.

Preserving Evidence: Hair

- Hair Evidence can tell us:
  1. Human or Animal
  2. Race
  3. Location of Growth
  4. How the Hair was Removed
  5. Disease and/or Damage
  6. Whether the Hair was Dyed, Bleached etc.

Preserving Evidence: Hair

- Care should be taken not to disturb hair at the scene.
- If the hair is in danger of being lost to the elements, it should be collected.
- DNA can be obtained from hair, especially if the root contains skin cells that have a nucleus.

Preserving Evidence: DNA

- DNA samples can come from a wide variety of biological sources including:
  - Blood
  - Teeth
  - Semen
  - Hair
  - Tissue
  - Nails
  - Bones
  - Saliva

Preserving Evidence: DNA

- When considering DNA Evidence, there are so many possible sources for collection that it is difficult to list them all in a short discussion.
- It is of paramount importance that responders take as much care as possible to avoid contaminating scenes with their own DNA.

Preserving Evidence: General

- As mentioned earlier, there are a wide variety of source contributors when it comes to forensic evidence.
- Non-Law enforcement personnel will rarely be expected to collect or process this evidence.
- The most beneficial contribution that can be made is to lessen destruction of any evidence.
Preserving Evidence: General

- Blood, Semen, Saliva, and other bodily fluids are important pieces of forensic evidence.
- These items will be collected by trained forensic experts.
- Do not contaminate, alter or destroy these samples.

Preserving Evidence: General

- In order to avoid contaminating forensic evidence never:
  - Eat, drink or smoke at an incident scene.
  - Litter or dispose of personal items.
  - Chew or spit tobacco.
  - Walk or enter into an area without a legitimate need.

Preserving Evidence: Conclusion

- Keep in mind the Golden Rule of Crime Scene Investigation and never touch, change or alter anything that has not been identified, measured and photographed.
- Avoid becoming a card carrying member of the EET. (Evidence Eradication Team.)

Test Questions

1. What is the “Golden Rule” of crime scene investigation?
   a. Do not touch, change or alter anything until it has been identified, measured and photographed.
   b. Police can reconstruct the scene to near perfect even if evidence is tampered with.
   c. If the scene is secure, moving about freely is suggested.
   d. Never allow media to enter the scene, as they may ruin it.

2. Fingerprints are classified as “Individual” evidence.
   a. True  b. False

3. A “Safety Line” is the sole responsibility of the Fire Department.
   a. True  b. False

4. As first responders, Fire/EMS should clean up the scene when they are finished.
   a. True  b. False

5. Non-Law enforcement personnel will rarely be expected to collect evidence.
   a. True  b. False
Secret Question

Hair evidence can tell us:

a. Human or animal 
b. Area of growth on the body 
c. Race 
d. ????????___________________

Questions?

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