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1. Learning Outcomes

After studying this module, you shall be able to learn about Crime, Crime Scene, various types of Crime Scenes, few basic reasons behind the commission of a crime, the crime scene investigation, Locard's Exchange principle, who are the members of a Crime Scene Team, the seven important stages of a crime scene investigation including Securing of crime scene, Scanning of crime scene, Sketching of the crime scene, Searching of evidence, Documentation of crime scene, Collection & Packaging of evidence, Chain of Custody and Reconstruction of Crime Scene.

2. Crime- An Introduction

2.1 What is a Crime?

Crime is an act or the commission of an act that is not allowed or the omission of a responsibility that is ordered by a public law and that makes the criminal accountable to punishment by that law.

2.2 What is a Crime Scene?

A crime scene is a place where a crime has occurred (or another place where sign of the crime may be establish), and includes the part from where maximum of the physical evidence is retrieved by law enforcement personnel, crime scene investigators (CSIs) or in occasional circumstances, forensic scientists. Crime scenes may or may not be where the crime has happened. There are various stages and kinds of crime scenes.

2.3 Types of Crime Scene

A different type of crime scenes includes outdoors, indoor, and conveyance. Outside scene of crime is the very challenging to scrutinize. The experience with the fundamentals such as rain, breeze, or heat, as well as animal movement, infects the crime scene and causes damage to evidence.

Indoor crime scenes have a significantly lower chance of contamination due to lack of exposure. The contamination here usually comes from the people factor. Conveyance crime scenes are offences done by means of transport, such as robbery or auto theft. All type of crime scene, with the nature of the crime done (robbery, homicide, rape, etc.) has diverse procedures.

2.4 Why a Crime is Committed?

There are several reasons behind the commission of a crime. A crime may be committed for the following reasons:-

1. Lure of Money
2. For the sake of Revenge
3. Emotion—love, hate, anger

3. Crime Scene Investigation

An Effective Crime Scene Examination uses a stages of procedure in the detection, protection and gathering of Physical Evidence. The Corpus Delicti of an offence i.e. “Body of the Crime” must be clear. At a crime scene, before starting investigation it must be proved that a crime has occurred as well as the person who is charged with the crime was accountable for the commission of crime.

The aim of a crime scene examination is to identify, document, and gather evidence at the scene of a crime. Resolving the crime will depend on joining together the evidence to form a image of what take place at the crime scene. The first individual to notice this condition was Dr. Edmond Locard, Director of the world’s 1st forensic laboratory in Lyons, France.

The Locard’s Exchange Principle said that when a individual comes into interaction with an object or another individual, a cross transfer of physical evidence will occur. The exchanged substances shows that two objects were in contact.

The 2nd part of Locard’s Principle says that the strength, period and nature of the constituents in contact decide the extent of the transmission.

3.1 Crime Scene Team

A crime scene team includes

1. Team members
2. First police officer on the scene:- Protects the scene
3. Medics (if necessary)
4. Investigator(s)
5. Medical examiner (if necessary): Declare death, I.D. the body, determine cause, manner, and time of death.

A Medical Examiner is responsible for Recognize the dead, Found the time and date of death, Determine a medical cause of death (the injury or disease that resulted in the person dying), Determine the *mechanism* of death (the physiological reason that the person died), classify the manner of the death (whether Natural, Accidental, suicide, Homicide, Uncertain), Inform the subsequent scene

6. Photographer
7. Technician
8. Lab experts

4. Crime Scene Investigation- The Seven Important Stages

The Eight Stages of Scene of Crime Examination are:-

1. Securing the crime scene
2. Scanning the scene
3. Sketching the scene
4. Searching for evidence
5. Documentation of crime scene
6. Securing, Collecting & Packaging of evidence
7. Chain of Custody
8. Crime Scene Reconstruction

Now let us understand these stages in detail:-

4.1 Securing the Crime Scene

The scene of crime should be secure in manner to isolate the crime scene from the people who can disturb the potential evidence. It may disturb the investigation.

- a) When a crime is called in, the first officer at the scene should:
 - ✓ Protect the scene to safeguard the damage of evidence
 - ✓ Anyone not involved in the investigation must be kept out
 - ✓ No one must use the toilet, towels, phone, lights etc.

- b) On arrival at scene of crime the first priority for an investigation officer is to provide medical assistance to individuals & arresting the perpetrators.
- c) Ropes or barriers and protectors will preserve illegal access to the area.
- d) Each person who come in the scene of crime has the potential to damage physical evidence.
- e) Ask the following questions:
 - i. When did the crime occur?
 - ii. Who called in the crime?
 - iii. Who is the victim?
 - iv. Can the perpetrator be identified?
 - v. What did you see happen?
 - vi. Where were you when you observed the crime scene?

4.2 Scanning the Scene

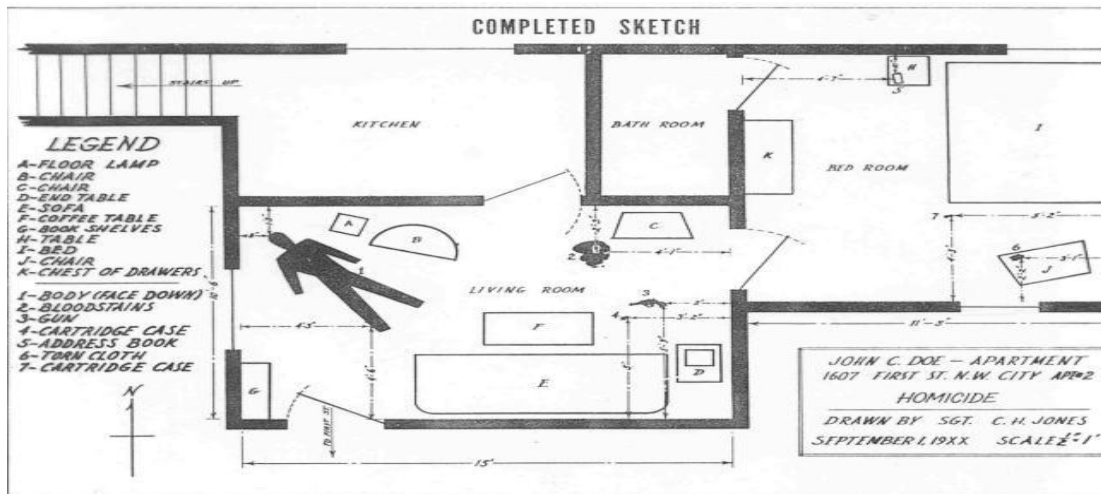
The crime scene should be scanned cautiously in order to find out the hidden details of the scene. A walk through must be performed by the crime scene investigator, the officer, and occasionally the lead detective in order to psychologically prepare a reconstruction theory. The crime scene investigator must note the following things:

- a) Any temporary or unconfirmed evidence which can change over time must be noted.
- b) The environmental conditional and weather conditions must be recorded properly.
- c) Point of entry, exit and path of travel within the crime scene.
- d) Record the initial records like who, what, where, when and how.
- e) Recognize special requirements contained by the crime scene for persons, protections, or apparatus and inform senior officers or other agencies.

4.3 Sketching the Scene

The concluding phase in writing down the scene is creation a crime scene sketch. The weakness of pictures is that they are 2-D illustrations of 3-D objects. As a outcome, most pictures can misrepresent the three-dimensional relations of the snapped items showing items to look nearer together or further at a distance than they actually are. A sketch is usually made of the scene as if one is looking straight down (overhead sketch) or straight ahead (elevation sketch) at a crime scene.

A rough sketch at the scene is generally prepared initially on graph paper by pencil. A final sketch can be made later using inks, paper, and ruler, or a computer. The original rough sketch must be reserved and well-maintained in case it is needed at a later date. Once the scene has been systematically documented then the evidence gathering can started.



4.4 Searching for Evidence

Before searching for evidence it is very essential to know what could be the sources of evidence. The following sources may provide potential evidence which may lead to investigation:-

- a) Body
- b) Primary and/or secondary crime scene
- c) Suspect(s)

The Primary crime scene is defined as the place where the crime took place whereas a Secondary crime scene is a location other than the primary crime scene, but that is in some way related to the crime, where evidence is found.

There are various search patterns to look for evidences. The examining array choose at a scene of crime depended on the dimensions & location of the scene & also on the number of gatherers contributing in the search.

Typical examples of crime scene search patterns are:

1. Grid
2. Line or strip method
3. Quadrant or Zone
4. Wheel or ray method
5. Spiral

Now let us understand all these methods in detail:-

Grid Method- It is basically a double line search method. It is a very operational method but time consuming.

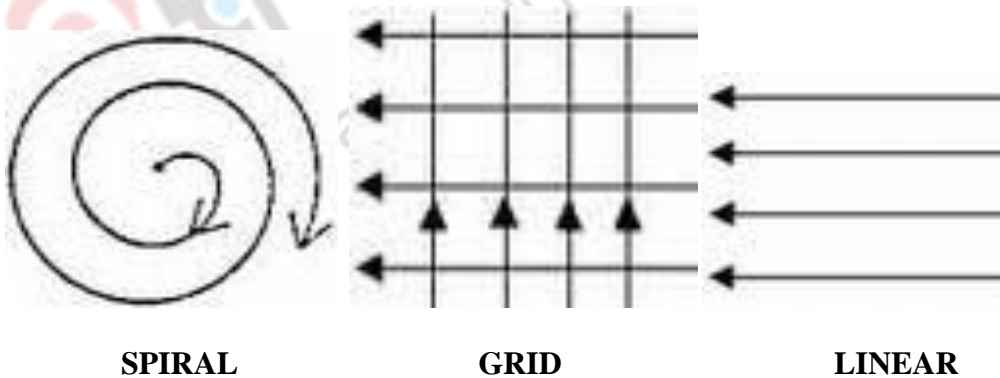
Line or Strip Method— this method is best in large and outdoor crime scenes.

Quadrant or Zone Method— this method is most effective in houses or buildings. Groups are allocated in small zones for examining.

Wheel or Ray Method—Wheel or ray method is best on small and circular crime scenes.

Spiral Method— it can go internal or external. It is best used when there is no physical barricades are present.

The given pictures may help in understanding crime search patterns more effectively



4.5 Documentation of Crime Scene

Timely recording of an offence scene is very essential for the investigation and any subsequent trials the reason being that a scene of crime remains untouched is very limited. The following three methods are used for the crime scene recording:-

1. Photography & Videography
2. Sketches
3. Notes

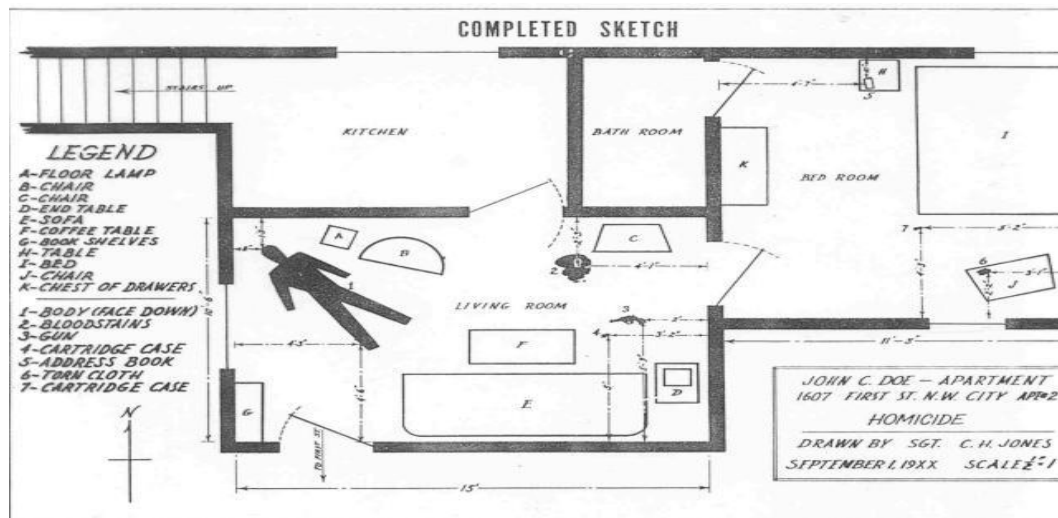
1. Photography & Videography

An unaltered crime scene is very important. In case any object is moved/removed/replaced it should be noted properly. In no situations it should be reintroduced. Remember following points while photographing the crime scene:

1. Crime scene photos should include the immediate scene.
2. The photographs must be taken from all relevant angles and adjacent areas.
3. The close-ups of victim's relative position in the scene and any injuries must be photographed.
4. Photograph any possible weapons
5. Photograph the area under the body
6. Photo record all evidence as it is found and if size is significant a point of reference should be included in the picture.
7. Use advanced technology to record crime scene such as digital photos which allow near three-dimensional panoramic views of the scene of crime.
8. Photos of scene and surroundings should be taken. The mid-range to close-up photos with various angles of each piece of evidence should be taken.

Videotaping scene of crime is rising in popularity. While videotaping the crime scene the investigator must narrate as he/she records the scene. Videography allows for description (non-subjective) and diverse perceptions.

2. **Sketches**—the sketch must include date, time, scale, reference points, distance measurements, names of investigators, victims, suspects, a legend (key) etc.



3. Notes

The maintenance of notes is a persistent work when handling a scene of crime and the notes must include

- a) Detailed written descriptions of Crime Scene with locations of potential evidence (including time of discover of evidence and who find it, who packed and marked it, disposition of item after being collected etc.).
- b) The notes must be detailed enough to refresh one's memory even after months or years after processing.
- c) Date, time, explanation of the location, weather & environmental conditions, description of the crime, location of the evidence relative to other key points, the names of all persons involved, alterations that have happened, and other important information.

4.6 Securing, Collecting & Packaging of Evidence

One team member must be assigned to look for the evidence collection. It should be done to ensure that the evidence is collected, packaged marked, sealed, and preserved in a consistent manner, maintaining the chain of custody. Evidence can be substantial to microscopic.

- a) Every article should be placed in a *isolated* container, sealed, and labeled.
- b) The most delicate evidence is gathered and packed first.
- c) Various kinds of evidence need particular or special assembly and packing methods.
- d) The body is the property of the coroner or medical examiner; gathering of evidence on the body is complete by that division.
- e) It can only be identified in crime lab ex. traces of blood on clothing, hair and fibers from vacuum sweeps.
- f) It is occasionally essential to seize clothing from victim and perpetrator.
- g) Critical regions must be vacuumed; sweepings from diverse areas should be kept separate.
- h) Finger nail scratching must also be taken from suspects and victims
- i) All evidence needs to be properly packaged, sealed and labeled.
- j) The evidence record must comprise all relevant information consisting:
 - Case No.
 - Item inventory No.
 - Description of the evidence
 - Name of suspect
 - Name of victim
 - Date & time of recovery
 - Signature of person recovering the evidence
 - Signature of any witnesses present

- k) Most items should be packaged in a primary container and then placed inside a secondary one.
- l) Pill bottles, vials, manila envelopes, and plastic bags are good for most evidence.
- m) Trace evidence may be placed on a piece of paper which is then folded in a particular way called a “druggist’s fold.”
- n) These are then placed inside other containers such as paper bags, plastic bags, canisters, packets, or envelopes, depending on the type and size of the evidence.
- o) Evidence is placed in a paper bundle. The size of the bundle depends on the size of the evidence.
- p) Entire object should be sent to the lab.
- q) Each different item must be placed in separate containers. Packaging evidence separately prevents cross contamination.
- r) Unbreakable plastic pill bottles excellent containers for hair, fiber, glass evidence
- s) Small amounts of trace evidence can be conveniently packaged in a carefully folded paper called druggist fold. Folding one end of the paper over 1/3, then folding the other end (1/3) over that, & the repeating the process from the two sides. After the paper is folded, the outside 2 edges are tucked into each other to produce a closed container.

4.7 Chain of custody

Maintenance of Chain of Custody is very essential. The chain of custody may be defined as the documented and unbroken transfer of evidence. There must be a written record of all people who have had possession of an item of evidence, beginning at the time of collection.

1. Every person who handles the evidence must be accounted for.
2. The evidence container must be marked for identification.
3. If evidence is turned over to another person, the transfer must be recorded.
4. An evidence log and a chain of custody document must be attached to every evidence container.
5. All items must be carefully packaged & marked upon their retrieval at the scene.
6. Record to show collector’s initials, location of evidence, & date of collection.
7. Seal the evidence & the collector’s signature is written across the sealed edge.
8. When the package is reopened at the lab it is opened at a location other than the sealed edge.
9. Every time opened: new seal, new signature, and place in new evidence bag.

4.8 Crime Scene Reconstruction

Crime scene reconstruction is a method used to support a likely sequence of events at a crime scene by observing & evaluating physical evidence & statements made by those involved. Reconstruction of crime scene is a team effort which involves putting together many different pieces of a puzzle.

The collection & documentation of physical evidence is the foundation of a reconstruction. The investigator captures the nature of the scene on an initial walk through. Using physical evidence the investigator can hypothesize about what occurred, where it occurred & when it occurred. Reconstruction of crime scene involves forming a hypothesis of the sequence of events from before the crime was committed through its commission.

5. Summary

1. A crime is defined as an act or the commission of an act that is forbidden or the omission of a duty that is commanded by a public law and that makes the offender liable to punishment by that law.
2. Outdoor crime scenes are the most difficult to investigate due to the exposure of scene to rain, wind, heat, animal activity as they contaminates the crime scene and leads to the destruction of evidence.
3. A Successful Crime Scene Investigation utilizes a step by step process in the discovery, preservation and collection of Physical Evidence..
4. The Locard's Exchange Principle states that when a person comes into contact with an object or another person, a cross transfer of physical evidence can occur. The exchanged materials indicate the two objects were in contact.
5. A crime scene team includes Team members, First police officer on the scene to protect the scene, Medics, Investigators, Medical examiner, Photographer, Technician and Lab experts.

6. A Medical Examiner is responsible for Identify the deceased, Establish the time and date of death, determine a medical cause of death, determine the mechanism of death, Classify the manner of death and notify the next of kin.
7. The crime scene investigator must note any transient or conditional evidence that could change over time must be noted, the environmental conditional and weather conditions must be recorded properly, point of entry, exit and path of travel within the crime scene, Record the initial observations such as who, what, where, when and how.
8. A rough sketch at the scene is usually made first on graph paper in pencil. A final sketch can be made later using inks, paper, and ruler, or a computer.
9. Grid, Line or strip method, Quadrant or Zone, Wheel or ray method and Spiral are the typical examples of crime scene search patterns for evidence collection.
10. The search pattern selected at a crime scene depends on the size & locale of the scene & also on the number of collectors participating in the search.
11. Date, time, description of the location, weather & environmental conditions, description of the crime, location of the evidence relative to other key points, the names of all people involved, modifications that have occurred, and other relevant information.
12. The chain of custody may be defined as the documented and unbroken transfer of evidence.
13. Crime scene reconstruction is a method used to support a likely sequence of events at a crime scene by observing & evaluating physical evidence & statements made by those involved.