

Investigation

by Crime Scene

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Crime Scene Investigation is regarded as the use of physical evidence that is available at the scenes where crime has been committed. The investigators apply both inductive and deductive reasoning in efforts to understand and gain knowledge of the events that surrounded that given crime. The investigations at the crime scene are intense and multidisciplinary, and they involve conducting a thorough search at the crime scene, documentation, observation, sketching, photography, identification, collection, and processing of the evidence that has been collected. The physical evidence that is usually obtained in crime scenes includes footwear impression, biological fluids, hair, material to be used for DNA analysis, and fibers. However, the success of the crime scene investigations is highly dependent on the application of the careful reasoning to the facts that have been presented. The paper will expound ³ on the crime scene investigation process and evidence collection. Further, the paper will explore biological evidence that is collected including body fluids, hair, blood, and other tissues.

Crime scene investigation process is an essential process that investigators undertake to establish the facts surrounding a given crime. The process entails conducting examination that is critical to assist the investigators in uncovering physical evidence that is available to establish what might have happened. The investigators are required to conduct the process carefully and comprehensively to ensure that all the evidence that has been collected is handled with a lot of care. Careful handling of the evidence is needed since it is at times very fragile and when not handled cleverly it is likely to be destroyed. The process has different stages where the evidence presented is processed to give the desired results that will aid in solving that particular crime (Dutelle, 2016).

The process of crime investigation involves investigation personnel working together. Some of the important activities that require this combined efforts are the defining and securing the crime scene or the area that might contain some evidence for that particular crime. Another

task that requires collaboration with different personnel is conducting a physical examination and the documentation of the crime scene. This activity requires individuals who have expertise and experience in this area. The other tasks that require teamwork in the crime investigation process are the collection of the physical evidence, preservation, packaging, and the submission of the given evidence for testing in a laboratory. At the laboratory, the investigators are tasked with the reconstruction of the crime through the use of the pieces of evidence that has been presented. The likelihood of accurately determining the facts of the cases is dependent on how thorough the crime scene teams have been in conducting the investigations. Further, the quality of the evidence is also another determinant that the judges use to ascertain innocence or guilt of an individual depending on the weight of the facts presented (Miller & Braswell, 2010).

Biological evidence in a criminal investigation process is regarded as the physical evidence collected at the crime scene, and it may include bodily fluids that have their origin in plants, animals, or humans. Biological evidence is of great significance in the investigations since it makes it possible to conduct a DNA analysis. DNA analysis, if done correctly helps in the identification of the donor. Fecal material, saliva, blood, sloughed skin cells, semen, urine, and are examples of biological evidence that contain DNA. Swabbing of items that are thought to have been handled by the perpetrator may also be used in conducting DNA profiling. DNA testing in most cases produces compelling evidence to support cases. However, some of the issues that are challenging to the use of this approach are the contamination, degradation, and the safety issues. Various approaches are used to detect the presence of biological evidence, and they include the visual inspection, chemical enhancement, and alternate source of light (Kayser, 2015).

Safety of using the biological evidence is at times debated. For instance, a blood sample obtained from a crime scene may contain different forms of pathogens that are risky to humans

such as HIV, Hepatitis B and Hepatitis C Virus among others. As a result, the universal safety precautions are followed in handling biological evidence since they are all regarded as being potentially infectious. Some of the measures used in handling this kind of evidence in a crime scene investigations is identifying evidence materials that appear to be biohazardous and ensuring that they have been labeled correctly. Additionally, the people collecting the biological evidence are expected to wear Personal Protective Equipment (PPE) which include the face masks and the gloves. The investigators are also required to avoid applying cosmetics, eating, and having hand-to-face contact when handling such kind of evidence. Finally, the investigators are expected to address their safety concerns when handling biological evidence through the use of wear puncture-resistant gloves that will make it possible for them to handle various objects that may harm them such as glasses that are broken within a crime scene as well as facilitating safe packaging of the evidence (Resnikoff, Ribaux, Baylon, Jendly & Rossy, 2015).

Evidence collection of the biological evidence is conducted in a manner that degradation, as well as contamination, is avoided. Careful handling of this evidence guarantees the integrity during the entire investigation as well as litigation. Preventing the contamination of the evidence requires the investigators to make sure that there is no presence of any form of human DNA in the tools used in the collection of the sample. The biological evidence is systematically collected used different approaches to ensure that there is substantial evidence to convict the perpetrators (Pepper, 2010).

Various practices of the collection of biological evidence are used to ensure that the samples collected are free of any form of contamination. The collection of the biological evidence encourages the use of the disposable latex gloves. These gloves are better than the reusable ones since those may contain some foreign materials that might contaminate the sample. Another

practice that is important in the collection process is the collection of DNA materials available before using the fingerprint powder. Further, when testing biological evidence in the field, the investigators are expected to swab the stains and testing them rather than examining the stains directly. The investigators are also supposed to clean the tools between samples before reusing them. The packaging of the evidence collected is supposed to be separate to avoid a mix-up of the evidence. Swabs and other items that are damp are supposed to be dried before packaging through laying them on surfaces that are clean and away from the crime scene. Finally, it is essential to use Personal Protective Equipment (PPE) for prevention from the biohazard exposure and even prevent one from transferring the DNA of the investigators to the sample (Pepper, 2010).

The packaging of the biological evidence is always expected to adhere to the best practices that ensure that there are minimal chances of the evidence being contaminated. The investigators of the biological evidence are expected to package the evidence in sealed containers to prevent it from being lost, contaminated, or cross changed. The other best practice in the packaging is making sure that the packages are marked with detailed description to make it easy to identify after storing. The use of paper bags, boxes, and even envelope is encouraged compared to the use of plastic packaging. Unloading firearms for packaging is standard practice for taking them for the biological analysis. Evidence and swabs are expected to be dried before packaging. Packages containing biological evidence are supposed to be sealed with tape rather than using staples. Each item should be packaged separately to ensure that cross-contamination has been avoided. The use of pill tins should be avoided in packaging biological evidence in most cases they rust hence ruining the integrity of the evidence. Finally, documentation of the biological evidence is essential, and it guarantees the integrity of the evidence. For instance, investigators are expected to label the

evidence by including seals, tags, markings, and labels during packaging and especially of the agencies involved in the investigation (Resnikoff, Ribaux, Baylon, Jendly & Rossy, 2015).

Documentation of the biological evidence is very important in the evidence collection. Investigators should always record the area where they have stored the biological evidence from a given crime scene. Some of the methods that have proven to be effective in recording the location where the evidence is stored are through the use of placards and photographs to assist in documenting these locations. The other method using a documentation system that is detailed including features such as the person who collected the evidence, date, crime scene location, and name of the evidence collected (Dutelle, 2016).

Biological evidence can be stored for both long-term and short-term. The evidence was taken to forensic laboratories for analysis. Preservation of the evidence is supposed to be handled in a way that it is easy for one to demonstrate that it is the same evidence that was collected at the crime scene. Evidence admissibility at the court can be prevented through strict adherence to all rules that govern the chain of custody of the biological evidence. Therefore, it is necessary for the evidence to be effectively packaged to minimize its degradation (Kayser, 2015).

In conclusion, crime investigation is a process that is used to gather information from a crime scene. Different experts collaborate to ensure that the collected evidence has been processed accordingly. Biological evidence is one of the most used pieces of evidence, and it may include bodily fluids such as saliva, blood, and semen among others. The integrity of the evidence collected is usually preserved through the process of evidence collection, packaging, and storage. Investigators should also put their safety first during the collection of the evidence.

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