

Anthology of forensic evidence essay sample



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How many people does it take to solve a murder? Investigating crime scene evidence is one of the most intricate disciplines in criminal justice, requiring a team of several forensic specialists. This field has become so scientific, with advances in technology, that the viable information it provides is more readily accepted as incriminating in court. For this reason, attention to detail, accuracy and strict compliance to procedures are crucial during every phase of handling evidence.

Many different experts are needed to piece together an abundance of evidence, process results in the crime lab, examine the victim, create a criminal profile, and interrogate suspects in order to solve a murder case and bring the killer to justice. The Crime The first stage in a murder investigation begins with the crime itself. The perpetrator(s) will transfer trace elements to and from the area they come in contact with, leaving a trail of evidence behind them. These can include shoe, hand, and fingerprints; hair; saliva; blood; broken glass; weapons; bullet casings; DNA and a victim. Fletcher, 2006, p. 10) All these elements make up the crime scene.

The sooner it is discovered, and the police are called, the better. Some biological evidence (blood, semen, saliva, etc.) deteriorates due to time, weather conditions, and animal intrusion. Time is of the essence. The longer the crime scene goes uninvestigated, the less evidence there will be in order to find the killer. The Scene Generally, the police are the first and most important responders to an emergency call, along with ambulance and fire personnel if necessary. Careful observation and swift action is at their discretion.

Once at the scene, if there are any victims, emergency personnel must provide life-saving procedures if they are alive. Although the victim's life is a priority, it must also be kept in mind that once the evidence is damaged, it is gone forever (Fletcher, 2006, p. 13). During this initial investigation, the least amount of disturbance to the evidence is critical, and it is the responsibility of the officer(s) to protect it. If any evidence is contaminated or destroyed by these personnel it must be carefully documented, to avoid inaccurate results in the crime lab.

The more evidence that can be collected, the more solid the case is to result in a killer's conviction. The Team Once the police call for assistance, the next phase begins. A team of lab technicians and investigators are put together, based on the information surrounding the crime (Fletcher, 2006, pp. 8-10). There might be a photographer, fingerprint expert, automobile track specialist, blood analyst, medical examiner, ballistic expert, and someone to document all the information (Bass, 2007, p. xiii). With this many people, it is critical that they employ effective teamwork and are very careful not to damage evidence (Fletcher, 2006, p. 3).

With a cooperative effort these experts are able to work together to assist in proper justice being served. The Evidence The photographer takes pictures of the whole scene and puts numbered measurement markers on all the evidence to photograph before it is collected. These pictures provide a permanent record of the scene before anything was touched (Fletcher, 2006, pp. 22-23). They can also provide clues that were overlooked in the preliminary investigation. Finger prints, impressions such as tire tracks and shoe prints, are carefully and painstakingly gathered by prints specialists.

Tire tracks can identify the type of vehicle that came to and left the scene. Shoe prints also indicate size and brand name, and directionality of the perpetrator(s). Using special compounds, these are all preserved and collected for further analysis in the crime lab. In a murder case, most likely there will be blood spatter from the victim(s) and possibly the perpetrator(s). It leaves patterns due to the laws of physics. When force is applied, the amount, shape of the drops, angle of impact, and location will indicate everything from velocity to weapon used and how many people were involved.

The pattern also provides clues as to where the blood originated from; where it traveled to; if the killer was bleeding; and what direction he/she went to flee the scene (Ramsland, 2001, pp. 148-154). Samples are also collected and sent to the crime lab in the event a suspect's blood sample is needed for comparison. These results, combined with the pattern at the scene, may provide investigators with enough information to make a preliminary reenactment of the crime (Ramsland, 2001, p. 159). If the perpetrator used a gun, most likely there will be shell casing(s) and bullet(s) at the scene, and in the victim.

These are collected, and a ballistics specialist fires test shots in an indoor firing range. Markings left on the bullets are compared to those at the scene, to determine a match and what type of gun was used. If a different weapon was used, it is collected and analyzed in the lab for prints, compared to wounds on the victim, and with blood spatter patterns, then integrated with the reenactment to check for inconsistencies (Ramsland, 2001, p. 83). The weapon is also checked for blood, prints or other fibers left from the killer.

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The victim(s) will also be examined. If at all possible, the Medical Examiner (ME) should be the first to check the body for time of death (TOD) before it is touched or moved. Several factors combine to determine TOD, such as, liver temperature, rigidity, and presence of any insects. Once the ME has completed his assessment, the body is transferred to the morgue to determine the cause of death (COD) (Bass, 2007, pp. 67-79).

The most important aspect to remember about the crime scene is, make sure you leave with all the evidence (Fletcher, 2006, p. 6). As investigators check the scene and its outlying areas, they follow a grid or back-and-forth line pattern in order to cover the whole area. Once it is determined all possible evidence has been collected and everyone leaves, anything left behind may be destroyed forever, which could result in an unresolved case, or the wrong suspect. The Victim An autopsy is almost always performed on the victim. X-rays are taken to examine the bones for injury, and to check for any foreign materials.

Injuries and their causes both in and outside the body are analyzed and documented. Often bullets are sent to the ballistics expert. Foreign substances are sent to the chemical expert for analysis. Under-nail scrapings are often done to check for DNA belonging to the killer, in the event the victim tried to defend their self. If rape is suspected, semen is tested for DNA. The body is also examined closely for any other possible fibers, fingerprints, bite prints, or any other incriminating evidence linking the killer to the victim (Ramsland, 2001, pp. 1-48).

In some instances, the victim needs to be identified. If fingerprints can't be compared because they are not in the computer data base system, teeth are one of the most reliable because they can be compared with dental records to confirm identity, and are as individual as fingerprints (Bass, 2007, p. 39). The missing person's data base is also very reliable if a facial match can be made. In some cases, someone knowing the victim may file a missing person's report, and be escorted to the morgue to positively identify the body.

In cases where the victim is not found before decomposition has occurred, facial reconstruction is performed via computer software, which involves measurements of specific positions on the skull (Bass, 2007, pp. 194-195). A forensic anthropologist is also able to examine the victim's bones to determine gender, age, and race (Bass, 2007, pp. 127-144). Once the body has been thoroughly examined it is stored in a cooler for preservation. All the collected physical evidence is compared and analyzed with the intention of matching it to a suspect, much like piecing together parts of a puzzle to get the whole picture.

This process can be very lengthy and requires a lot of patience and accuracy, which is why this team effort becomes so valuable in order to find the true killer. The Criminal Profile Another tool investigators rely on is criminal profiling to lead them to a suspect. A profile is an educated attempt to provide information about the type of person who committed a certain crime, and also includes the offender's gender and approximate age; specific method and signature of the crime; living situation and vehicle condition; and evidence of significant relationships.

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This involves years of information collected from interviewing serious criminals, which is then incorporated into a data bank, also based on experience and knowledge about previous crime scenes and offenders.

Based on results of the collected evidence, analysis of the crime scene, and information on the ViCAP (Violent Crime Apprehension Program) data-base, will determine a suspect.

Before questioning a suspect, the following must be involved as well in developing an assessment of a criminal: the weapon used; the killing site; the position of the body and whether it was moved; the type of wounds inflicted; details about the victim; any risks the offender took; the method of controlling the victim; and any evidence of staging the crime (Ramsland, 2001, pp. 167-186). With these many experts involved to solve the case, the killer is outnumbered and outmaneuvered. As long as all proper procedures were following in handling and processing the evidence, the perpetrator is most likely doomed to fail getting away with murder. The Interrogation Upon a suspect being apprehended, one final step in the anthology of forensic evidence is necessary for court proceedings: the interrogation.

Investigators are very adept at seeing through deception. A suspect's fabrication can be undermined by evidence. Rather than use a question-and-answer format which reveals what is known about the crime, investigators simply ask, " What happened? " leaving the suspect to fill in the blanks. The interrogator looks for what's revealed and what's omitted (Ramsland, 2001, pp. 193-194). This statement analysis focuses on three parts: what is said about events leading up to the crime, the crime itself, and what is said about the aftermath.

Investigators note whether the suspect provides more information than what is requested or skips something crucial. They also analyze body language.

Types of behaviors that may indicate deception include: more negative than positive statements; increased leg and foot movements; speech hesitations and pauses, taking longer to answer questions; hyperventilating, blanching, flushing, and sighing; reduced hand gestures and lack of head movement (Ramsland, 2001, pp. 196-197). With very astute observation, confidence, and perseverance, the killer will probably give their self away, and not even know it.

A clever investigator will most likely help bring the guilty perpetrator to justice and rule out innocent suspects. Conclusion While forensics has become more advanced, criminals have become clever at covering their tracks. Even with all of the investigator's savvy, there are still crimes that no amount of physical evidence or psychological expertise can easily solve. With enough diligence and use of modern forensic science however, more murderers are given their life sentence, than in the old days of Sherlock Holmes.

Also, with these advances in science, fewer innocent people are serving life sentences belonging to the true killer. The wrongfully convicted who have been serving time in prison have been exonerated, and many cold cases have been solved. It is not a perfect science, but forensic evidence and the team of many experts who collect, analyze and process it properly, has become more dependable in court to help solve violent crime, thus putting the true killer behind bars or on death row.