CSI

CHAPTER 1

An Introduction to Crime Scene Investigation

CHAPTER OBJECTIVES

The study of this chapter will help the learner to

- Understand the definition of crime scene investigation (CSI).
- Understand the objectives of CSI.
- Gain knowledge of the historical figures who have contributed to CSI.
- Understand the types of evidence associated with a criminal investigation.
- Understand the value of physical evidence.
- Define the scientific crime scene method.
- Know how to establish a proper chain of custody.

KEY TERMS

Chain of Custody
Circumstantial Evidence
Crime
Crime Scene
Crime Scene Investigation (CSI)
Criminalistics
Direct Evidence
Evidence
First Responder
Fruit of the Poisonous Tree Doctrine
Investigate
Iterative Process
Locard's Exchange Principle
Physical Evidence
Scientific Method
Scientific Investigation Method
Testimonial Evidence
Trier of Fact

What Is Crime Scene Investigation?

Crime Scene Investigation (CSI) is a common term in today's day and age, but many have never stopped to consider the meanings of the words making up the term. Therefore, before we can leap too far into what Crime Scene Investigation is, we must define a few things. First, the word **investigate** means *to make a systematic examination or to conduct an official inquiry*. In law enforcement terms, this is used with reference to the investigation of a crime. But what is a crime?

For the purposes of this text, **crime** is defined as *an act or the commission of an act that is forbidden by a public law and that makes the offender liable to punishment by that law*. Crimes are made up of elements. Any text on criminal law will break the topic of criminal elements down into subcategories, sometimes consisting of as many as seven. For our purposes, it is enough to say that the basic elements of a crime (assuming that the action or item has been written into law as being illegal to obtain or to do), are:

- Mental state (*Mens rea*): Refers to an individual's criminal intent.

- Conduct (*Actus reus*): The actual act or unlawful omission of an act.
- Concurrence: Both of the above must occur at the same time. More specifically, the criminal intent must precede (or accompany) the criminal act.
- Causation: Many crimes also include an element of harm, which means that a causal relationship exists between the act and the result and must thus be proven.

To support the previously mentioned criminal elements, evidence must be obtained and presented. **Evidence** is *anything that can help to prove or disprove that a crime was or was not committed, and by whom*. The varieties of evidence are endless and are discussed later in this chapter.

Crime scene investigation (CSI) is the often-used term relating to the process associated with the investigation of a criminal event. More specifically, it is *the systematic process of searching for, documenting, collecting, preserving, and interpreting physical evidence associated with an alleged crime scene, in an effort to determine the truth relating to the event in question*. Note that this does not define the purpose of a criminal investigation, and thus the process of CSI, as the determination of guilt or innocence. Rather, the sole purpose is to document the *truth*. In the United States, the determination of guilt or innocence is left up to the **trier of fact**—a judge or magistrate in a trial by the court, or a jury of one's peers in a trial by jury. The study of crime scene investigation, therefore, concentrates on guidelines, concepts, and principles associated with aiding the trier of fact to determine the truth. To accomplish this task involves techniques associated with locating, documenting, collecting, and preserving physical evidence. That will be the primary emphasis of this text.

Contrary to popular belief and pop culture, CSI is not necessarily (or inclusive of) the analysis of physical evidence, and it does not pertain to the entire criminal investigative process. CSI is often confused with **criminalistics**, the application of scientific methods to analyze physical evidence associated with civil or criminal breaches of the law. Criminalists (also called forensic scientists) use scientific tests, techniques, instrumentation, and education within the natural sciences, to aide them in providing the trier of fact with information, and in some cases, interpretation of the information, to give value to the physical evidence submitted. However, it is important to note at this point that CSI is associated with the on-scene techniques applied in an investigation and typically does not involve analyzing the physical evidence. The foundation of CSI is in *documentation*.

Who Is Responsible for Crime Scene Investigation?

There are many integral components of (and people involved within) a criminal investigation. To be successful, it is required that all are supportive of the others, and none can stand alone or be seen as being more important than any of the others.

The first tier of the investigative process begins with the **first responder**. This is typically the police officer who is dispatched to the initial scene. Through the course of their response to and documentation of the event, if the officer believes that a crime was committed, that officer must analyze the necessity to have that crime and any associated crime scene(s) further processed. Sometimes, the crime and associated crime scene are of a minor nature and can be handled by the first responder. Other times, they will necessitate the response of specialized personnel.

Most police departments use uniformed or patrol officers as well as detectives or crime scene investigators to process a crime scene. On smaller scenes, sometimes the initial officer on scene will be responsible for photographing, fingerprinting, and documenting the crime scene. On larger scenes, a detective or investigator may be called in to assist. Some agencies have specialists who can be called upon to process a scene. These specialists may be either uniformed or civilian personnel.

There are five basic personnel components of a criminal investigation: first responder, detective/investigator, crime scene investigator/technician, criminalist/forensic scientist, and the courts.

First Responder

Typically, the first responder is the patrol officer who responds to the initial complaint. Their duty is to secure the scene and not to touch anything. As part of their obligation of securing the scene, the first responder is responsible for separating witnesses, suspects, and other individuals at the scene. In doing so, they should be acting to best preserve the scene. The officer begins the initial stages of documentation by securing and preserving the physical evidence. The officer may also take initial witness statements or document spontaneous statements made by those suspected of having committed the crimes, thus preserving testimonial evidence.

Detective/Investigator

This is typically a specialized individual, who was previously a patrol officer, and who has significant experience in investigations. They are concerned with the entire criminal investigative process. This individual will process the information presented to him or her by the first responder and others and decide whether additional investigative methods are warranted, if search/arrest warrants need be issued, and whether arrests can be made. This individual rarely collects physical evidence but rather is primarily responsible for the collection of testimonial evidence.

Crime Scene Investigator/ Crime Scene Technician

This individual (who could be a civilian or a sworn police officer) has advanced training in the documentation, collection, and preservation of physical evidence. Additional skills might include technical or college training and education in photography, mapping, crime scene processing, search and seizure law, and criminal justice practices. While this person is responsible for processing the crime scene, they are rarely involved with the subsequent analysis of the collected evidence and is not involved with interviewing or interrogating suspects or witnesses. The primary area of concern is the crime scene and associated physical evidence. This may include conducting examinations for fingerprints or performing presumptive tests for the presence of blood at crime scenes. After documenting, collecting, and properly preserving the evidence, the crime scene investigator/ technician transports the evidence to the evidence booking location, where it is booked in (recorded) and held until such time that it is needed for analysis or checked out to be transported to court.

Criminalist/Forensic Scientist

This individual is responsible for the analysis of submitted items of evidence. A criminalist uses the latest in scientific tests, analysis, instrumentation, and knowledge to assist with interpreting the value of the evidence submitted. Typically, they will have a four-year degree in chemistry, biology, or another applied science. It is not the duty of the criminalist to determine guilt or innocence, or to otherwise investigate the crime. Their only obligation is the proper analysis, documentation, and interpretation of the submitted evidence and providing a report on such matters to the detective for final determination on the investigative value of the evidence.

The Courts

This step includes the prosecution, defense, judge/ magistrate, and jury (if applicable). It is left up to this step to determine whether the previous components of the investigative process have resulted in evidence showing that a crime was committed or not and, if so, then it shows by whom as well as defines the warranted punishment. At this step, it is pointed out whether there has been a breakdown or fault within the investigative process that would warrant retraining, education, or implementation of policies or laws to reduce future problems.

Objectives of Crime Scene Investigation

Although we have discussed how different personnel may be involved in processing a crime scene, it is important to note that their objectives remain the same. These include:

- Determine whether a crime has been committed. If it is determined that there is no crime involved, or if the issue is one for the civil courts, law enforcement personnel typically has no further responsibility in the case. If there is uncertainty as to whether a crime was committed, it is suggested to contact the district attorney's office.
- If a crime has been committed, determine whether it was committed within the investigating agency's jurisdiction and whether the agency has the authority to investigate the crime.
- Discovery and documentation of all facts pertaining to the complaint in question.
- Identify and eliminate suspects as a result of collected physical and testimonial evidence.
- Locate and apprehend the perpetrator. Sometimes this means issuing an arrest warrant, if the suspect is unable to be located.
- Throughout the entire process, maintain a proper chain of custody to ensure that collected evidence is admissible in court.
- Effectively testify as a witness to the collected evidence within a court of law.

While the aforementioned are objectives of CSI, at all phases of the process, the responsibility of the individuals involved is to the *truth*. All personnel involved in processing and investigatory efforts must

be conscious of not simply collecting evidence to prove what they believe happened. Also, investigators should approach the crime scene investigation as if it will be their only opportunity to preserve and recover these physical clues.

History of Crime Scene Investigation

When considering the history of CSI, it is important to define its parameters. As mentioned earlier, CSI is not truly the forensic laboratory analysis portion of the investigation but rather, it pertains to the processing methodology related directly to the scene of a crime. As such, the history of CSI spans thousands of years. Suffice it to say that since mankind first walked upon the earth, there have been cases of foul play. The following investigators are but a few of the individuals who have furthered the process that has come to be known as what we now know as CSI.

Song Ci (1186–1249)

The Chinese death investigator Song Ci wrote a book titled *Xi Yuan Ji Lu* (translated as *Collected Cases of Injustice Rectified*) in 1247 in which he discussed a number of murders. One such case took place in a village in which the victim had been slashed repeatedly. The local magistrate suspected that a sickle had been used, but repeated questioning of witnesses proved fruitless. Finally, the magistrate ordered all of the local men to assemble, each with their own sickle. It was a hot summer day and flies, attracted by the smell of blood, were eventually observed to gather on a single sickle. Confronted with such evidence, the sickle's owner confessed to the murder. The book also offered advice on how to distinguish between a drowning (water in the lungs) and strangulation (broken neck cartilage), along with other evidence from examining corpses to determining if a death was caused by murder, suicide, or an accident (Gernet, 1962).

Sir Robert Peel (1788–1850)

In 1829, Peel established and subsequently headed the Metropolitan Police Force for London, based at Scotland Yard. The 1,000-member force became known as "Bobbies." They proved to be very successful in reducing the crime rate. Peel was also responsible for defining ethical requirements of policing officers through what became known as "Peelian Principles." His most memorable principle is summarized by the concept that the police are themselves the public, and the public are themselves the police. This is the earliest recorded reference to the idea of community-oriented policing efforts (Becker, 2013) (**Figure 1.1**).

Figure 1.1 Sir Robert Peel.

Auguste Ambroise Tardieu (1818–1879)

The preeminent forensic medical scientist of the mid-19th century, Tardieu participated in over 5,000 cases as a forensic expert during his career, which spanned more than two decades. He wrote over a dozen volumes of forensic analyses, covering such topics as abortion, drowning, hanging, insanity, poisoning, and suffocation (Labbé, 2005). Tardieu wrote what may be the first book on the sexual abuse of children, titled *Medical-Legal Studies of Sexual Assault*, which was published in six editions from 1857 to 1878. To this day, a history or pattern of child abuse may also be referred to as "Tardieu's Syndrome."

Allan Pinkerton (1819–1884)

In 1849, Allen Pinkerton was appointed as Chicago's first detective by Mayor Levi D. Boone. This is the first known functional separation of criminal investigations

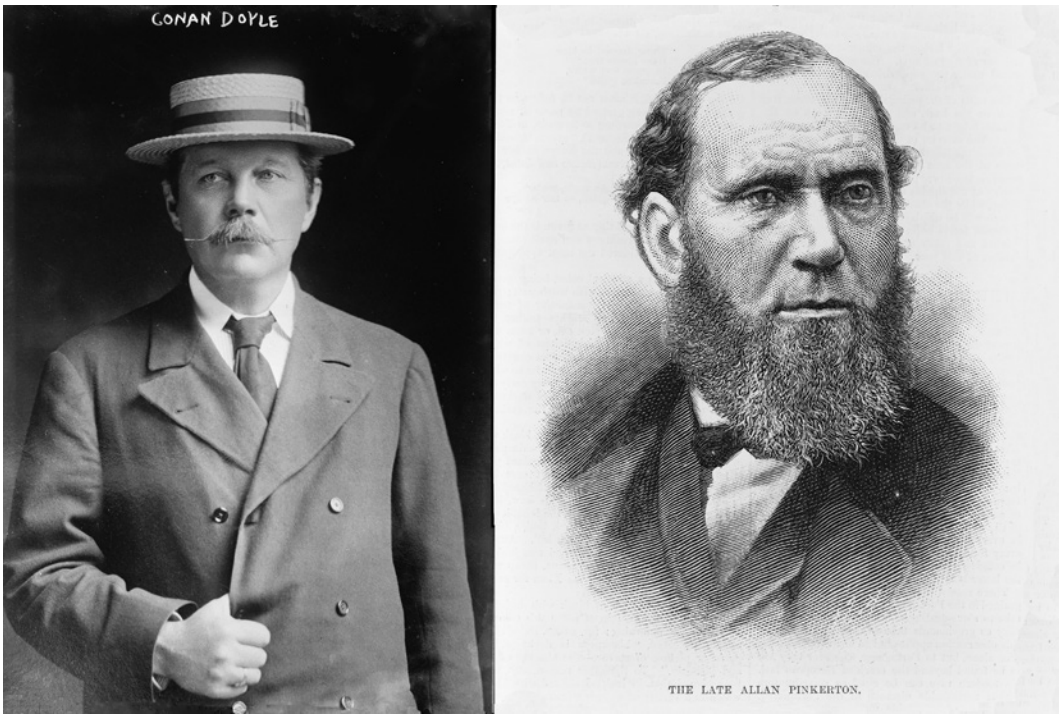


Figure 1.2 Sir Arthur Conan Doyle and Allan Pinkerton.

Courtesy of Library of Congress, Prints & Photographs Division [reproduction numbers LC-DIG-ggbain-12334 and LC-USZ62-117576].

from patrol operations. Pinkerton is also known for creating the Pinkerton Detective Agency, which provided private service to railroad properties and other business enterprises (**Figure 1.2**) and was one of the earliest American versions of what has now become an enormous and profitable global industry, that of private security.

Sir Arthur Conan Doyle (1859–1930)

While it might seem odd to list an author as a contributor toward advancing the work of crime scene investigation, few would argue the impact that Doyle had on popularizing the work associated with such matters. Doyle's fictional character, Sherlock Holmes, brought science to the process of investigation. In Doyle's first Sherlock Holmes novel, *A Study in Scarlet* (1887), Holmes used forensic investigation methods that were undiscovered at the time but later would revolutionize crime scene work. One of these areas was the concept of serology, the study of blood and other bodily fluids. Regardless of whether this was a case of life imitating art, this foresight led many readers to become intrigued by the possibilities of the field of criminology, and undoubtedly was an impetus for many future scientists to explore its realm (Figure 1.2).

Hans Gross (1847–1915)

In 1893, Hans Gross was responsible for authoring the first dissertation concerning the practical application of scientific disciplines to criminal investigation. Gross spent much of his life as a public servant, serving as both a public prosecutor and judge in Graz, Austria. As such, he spent a great deal of time studying and developing principles relating to criminal investigation. His compilation of information became a classic book, titled *Handbuch für Untersuchungsrichter als System der Kriminalistik* (*Handbook for Examining Magistrates as a System of Criminology*), which was published in English under the title *Criminal Investigation* in 1906. This is the first known text to propose that investigators could expect investigatory assistance from such scientific fields as microscopy, chemistry, zoology, botany, physics, fingerprinting, and anthropometry (Saferstein, 2018). Gross was a very strong advocate for the application of the scientific method within investigations, although he did not make any specific technical contributions regarding such work.

Edmond Locard (1877–1966)

Edmond Locard was instrumental in demonstrating how the principles articulated by Gross could be applied within the crime laboratory. His educational

background was in medicine and law, and he used both extensively within his work. Locard is credited with starting the world's first crime laboratory, when, in 1910, he persuaded the police department in Lyon, France, to give him space to begin work on such matters. His work in criminalistics led him to develop what has come to be known as **Locard's Exchange Principle**. The essence of this theory is that *whenever two objects come in contact with one another, there is a cross-transfer of evidence that occurs* (Saferstein, 2018). Locard was specifically referring to dust particulates and trace materials, an area in which he performed significant research. According to the premise behind Locard's Principle, every crime scene could be connected to a criminal, witness, and victim, and every criminal, witness, and victim could be connected to a crime scene. In addition to this concept, the theory has come to be the foundation behind many of the guidelines and steps taken at a crime scene to limit contamination.

Paul Leland Kirk (1902–1970)

A chemist and forensic scientist, Paul Leland Kirk is most known for his work on blood spatter evidence. He applied this expertise on bloodstain pattern analysis to the Sam Sheppard homicide case (a case that has inspired many popular television shows and movies). As a result of Kirk's contributions to the fields of forensic science and investigations, the highest honor that one can receive in the criminalistics section of the American Academy of Forensic Sciences carries his name.

Training and Education/Professional Development

Those interested in crime scene investigation will need to do more than simply hunker down and log endless hours of watching primetime television. There are various levels of education that one can accumulate in the field of CSI. Some regional technical/vocational schools offer certificate programs and/or two-year degrees relating to crime scene investigations. An increasing number of four-year colleges and universities are beginning to offer more comprehensive education than simply the criminal justice system, to include in-depth studies relating to the specific sections and functions of crime scene investigation. Typical program offerings include: Introduction to orensic Science, Introduction to Crime Scene Investigation, Evidence Collection and Preservation, Crime Scene Processing Techniques, Criminalistics, Investigative Photography, Fingerprint Classification and Development, and Criminal Investigation.

Many departments today prefer—if not require—some type of college degree. It is advisable to contact the departments or agencies where one plans to apply to find out their particular requirements and duties. Regardless of whether one's major education is in general studies, criminal justice, or forensics, augmenting those studies with supplemental courses in the physical and biological sciences, basic computer training, drafting, and photography will increase one's value to future employers. Any curriculum designed for crime scene investigation in criminal justice classes at most colleges will cover more general studies and not involve specifics.

After being selected for employment, most departments will have a probationary period where the employee will go through a training period and be assigned to a field training officer. Most of the experience about how to do the job will be gained in this phase of employment. Most departments also offer their employees opportunities for postemployment or in-service training to further their employees' skills and development. Most of the continuing education classes for the crime scene investigator are specifically geared to crime scene response, evidence collection, forensic photography, fingerprint technology, and death scene investigation.

Visiting the morgue or a local trauma center is another way to gain experience. This is a custom-tailored job not suited for everyone. What a person can do to a fellow human is not always a pretty sight. If someone is not able to stomach a busy weekend night in the local trauma center or morgue, they surely will be challenged to stomach the graphic and gruesome sights that are a common part of the job.

To be successful in the field of crime scene investigation, an individual must dedicate themselves to a career of continuing education and professional development. There are a number of professional accreditations that crime scene investigators can pursue in order to meet basic and advanced standards within their field. Competent crime scene investigators will acquire continuing education and training through regular attendance at conferences and training seminars, as well as by seeking advanced education within their areas of interest and specialty.

The International Association for Identification (IAI) offers numerous programs and levels of

certifications within those programs to encourage professionals to continue their training and education, while also ensuring common training and standards of investigative strategies. The standards for certification are high, and thus achievement of certification serves to underscore the competence of the individual to perform their job-related duties, which assists in reducing or eliminating scrutiny of their qualifications by the court. According to the organization website (http://www.theiai.org) the IAI offers professionals within the field of crime scene investigation certifications in the following areas:

- Bloodstain Pattern Analyst Certification
- Crime Scene Certification
  - Certified Crime Scene Investigator
  - Certified Crime Scene Analyst
  - Certified Crime Scene Reconstructionist
  - Certified Senior Crime Scene Analyst
- Footwear Certification
- Forensic Art Certification
- Forensic Photography Certification
- Forensic Video Certification
- Latent Print Certification
- Tenprint Fingerprint Certification

What Is a Crime Scene?

We have discussed what constitutes a crime, but we have not yet addressed what the definition of a crime scene is. For our purposes, a working definition of a **crime scene** (both primary and secondary) *is anywhere evidence may be located that will help explain the events* (Ragle, 2002). The crime scene is thought of as the location at which the crime was committed. However, a single crime may have numerous associated locations. Crime scene personnel should consider the first scene where evidence is located as the primary scene, even if it is not the most significant, and they should consider any subsequent locations as secondary scenes (Ragle, 2002).

ICITAP: The Global World of Crime Scene Investigation

According to the United States Department of Justice (n.d.), the International Criminal Investigative Training Assistance Program (ICITAP) "works with foreign governments to develop professional and transparent law enforcement institutions that protect human rights, combat corruption, and reduce the threat of transnational crime and terrorism." ICITAP is located within the Department of Justice's Criminal Division and receives its primary funding from the State Department.

ICITAP was established in 1986 with the first mission being the training of Latin American police officers. Over the last two decades, this mission has evolved into the ICITAP, becoming a full-service criminal justice development agency that plays a vital role in international stability and rule of law, both of which are paramount to U.S. security in the post 9/11 world in which we live.

ICITAP's Forensic Services program assists in development of crime laboratories that support criminal justice institutions while also providing technical assistance and training related to:

- DNA/serology
- Engineering sciences
- Expert witness development
- Odontology
- Pathology and biology
- Physical anthropology
- Psychiatry and behavioral science
- Questioned documents
- Toxicology
- Forensic nursing
- Crime scene processing
- Forensic photography and digital imaging
- Computer evidence
- Forensic accounting

ICITAP has recently supported forensic developments in the following countries:

- Algeria
- Brazil
- Bulgaria
- Colombia
- Egypt
- Indonesia
- Iraq
- Kenya
- Kosovo
- Mexico
- Morocco
- Mozambique
- Philippines
- Senegal
- Sri Lanka
- Tajikistan
- Tanzania
- Thailand
- Turkmenistan
- Uganda
- Ukraine
- Uzbekistan

U.S. Department of Justice, International Criminal Investigative Training Assistance Program (ICITAP). Retrieved September 28, 2019 from http://www.usdoj.gov/criminal/icitap/programs/forensics/

Every crime scene is unique, and each is dynamic. Although a standardized set of procedures must be followed at every location by the crime scene investigator, experience and observation will assist in developing a strategic operational plan for processing the area.

Types of Evidence

To learn about the proper manner in which to document, collect, and preserve evidence, it is wise to recognize the two types of evidence associated with criminal investigations: Testimonial evidence, and real or physical evidence.

Testimonial Evidence

If current events have taught us anything, it is that the spoken word is powerful but not always accurate. This lack of accuracy must be considered when documenting, collecting, and testifying about this type of evidence. **Testimonial evidence** consists of vocal statements that most commonly are made by a person who is under oath, typically in response to questioning. However, this type of evidence also can be obtained from witnesses, victims, or suspects during the course of the investigation, while not under oath.

Eyewitness identification is a type of testimonial evidence and one that has been increasingly scrutinized and one in which many courts have been reticent to place great value. While eyewitnesses play a key role in criminal investigative processes, eyewitness evidence is far from perfect. In fact, since 1989, eyewitness misidentification was the leading cause of wrongful conviction in more than 70 percent of the 321 cases overturned by postconviction DNA analysis in the United States (Innocence Project, 2019). There are a number of reasons for misidentifications, some of which include memory loss, stress, incorrectly assembled police lineups, and improperly prepared potential witnesses. As a result, 18 states have passed legislation to study or regulate procedures relating to eyewitness identification, to reduce the potential for this form of testimonial evidence to improperly convict, with more states working on legislation every year (Williams, 2019). (This is a growth from 10 states, at the time when the second edition of this text was published.) See **Figure 1.3**. This legislation typically requires that "law enforcement agencies adopt written policies for eyewitness identification, designed to reduce the possibility of wrongful conviction" (The Innocence Project, n.d., preservation of evidence).

The findings of most of the legislatively mandated studies of eyewitness identification typically surround the following recommendations:

- Law enforcement agencies should use "blind" procedures when conducting lineups, meaning that LE personnel tasked with administering the lineup do not know the identity of the suspect.

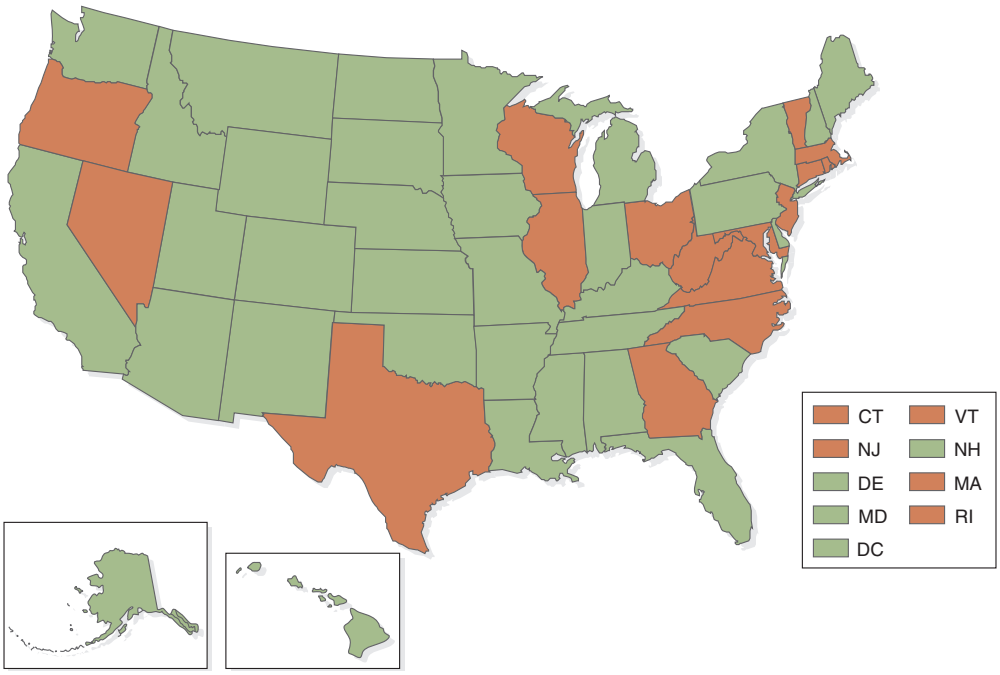


Figure 1.3 States in brown have passed legislation to study or regulate procedures relating to eyewitness identification.

Data from www.innocenceproject.org.

- A video recording of the eyewitness identification process and procedures should occur.
- Agencies should develop standardized instructions for use with eyewitnesses, prior to them viewing and performing an identification in a lineup.
- Agencies and jurisdictions should use standard jury instructions to explain the many factors that a jury should consider when weighing eyewitness testimony.

The result of many of these studies and findings is that laws have been subsequently developed and implemented to address the shortfalls associated with eyewitness testimony.

While there is a certain amount of testimonial evidence that may occur at the crime scene (witness statements, victim statements, and spontaneous utterances by suspects), typically, this is not the subject of collection efforts associated with crime scene work. Therefore, such matters are not addressed in this text. However, it should be noted that, from an investigatory standpoint, all testimonial evidence is considered unreliable until corroborated by other physical evidence or by additional supporting testimonial evidence. That is to say, the easiest way to tell when a person is lying is if his or her lips are moving.

Real or Physical Evidence

Real or **physical evidence** *includes any type of evidence with an objective existence, that is, anything with size, shape, and dimension*. This type of evidence can take any form. Gases, fingerprints, glass, paint, hair, blood, soil, and drugs are all examples of physical evidence. The variety is infinite.

The area of concern with respect to crime scene processing is in relation to physical evidence. Some texts break evidence into further categories of "direct" and "circumstantial" evidence, which simply subcategorize the testimonial and physical evidence. This is because **direct evidence** is *that which proves a fact without the necessity of an inference or a presumption*. This can be true of either physical or testimonial evidence. **Circumstantial evidence**, on the other hand, involves *a series of facts that through inference, prove a fact at issue*. Again, at times, this can be the case for either testimonial or physical evidence. Therefore, this book recognizes two chief categories of evidence: Testimonial (not emphasized herein), or real/physical evidence.

Some types of physical evidence may originate from a single source (such as fingerprints or DNA); however, most physical evidence is only associated with a class or group (such as fibers, hairs, clothing, etc.). Although most physical evidence cannot definitively connect a suspect directly to having committed the crime, the usefulness of that evidence should not be diminished. Such evidence may serve the purpose of corroborating other evidence and information collected within the investigative process, may be capable of placing an individual at the scene, may give investigators added data to use in the interrogation of potential suspects, and many other purposes.

Value of Physical Evidence

No matter the size, volume, or type of evidence, there are numerous ways in which it can prove valuable to an investigation. Some are interrelated, and some stand alone. Some may aid the prosecution, and some may aid the defense, while some may seem not at all helpful at the time. In any case, they should be noted. Let's look at ways in which physical evidence can prove of value to an investigation.

It Can Prove that a Crime Has Been Committed or Establish Key Elements of a Crime

An individual contacted on a traffic stop is found to have a large amount of ingredients commonly associated with the manufacture of methamphetamine. Based on this and other intelligence data, a search warrant is performed on the individual's home and an active methamphetamine laboratory is subsequently located.

It Can Establish the Identity of Persons Associated with the Crime

Blood, fingerprints, and DNA are typically specific to individuals and, when located at a crime scene, can be used to associate the individual with having been at the scene of the crime.

It Can Place the Suspect in Contact with the Victim or with the Crime Scene

Officers are dispatched to a series of burglar alarms at a retail outlet. When they arrive, they discover several businesses that have been broken into by

gaining access through destruction of the windowed storefronts. An officer locates an individual walking in the area, and upon further investigation, the individual is found to have glass particles covering his clothing. Later, laboratory analysis of the trace material found that the glass was consistent with the glass windows that had been broken to gain access to the businesses. While not necessarily definitive, when combined with other evidence, it may be corroborative and useful in assisting to prove or disprove involvement.

It Can Exonerate the Innocent

The Innocence Project was founded in 1992 by Barry C. Scheck and Peter J. Neufeld to assist prisoners who could be proven innocent through DNA testing. At this writing, 367 people in the United States have been exonerated by DNA testing, including 21 who served time on death row (The Innocence Project, n.d., Facts on post-conviction DNA exonerations). These individuals served an average of 14 years in prison before exoneration and release. According to the website for The Innocence Project, "In almost 40 percent of DNA exoneration cases, the actual perpetrator has been identified by DNA testing." Also, approximately 70 percent of individuals exonerated by DNA testing were members of minority groups. Exonerations have been won in 37 states and Washington, D.C. The leading causes of wrongful convictions in these cases were: Mistaken eyewitness testimony (69 percent), misapplication of forensic science (44 percent), false confessions (28 percent), and informants (17 percent). The proper DNA analysis of the evidence resulted in the true story being told (The Innocence Project, n.d., Facts on post-conviction DNA exonerations).

It Can Corroborate the Victim's Testimony

A victim of sexual assault claimed that she had been raped by her neighbor. There was no initial evidence of semen present during the medical examination, and the victim claimed that this was because the suspect had worn a condom. The victim also mentioned that the suspect had placed his mouth on her breast during the assault. The neighbor claimed to have never had intimate contact with the victim and said that he had never been inside her apartment. During a search of the victim's bedroom, hair was located that was consistent with the neighbor's. This evidence proved that the neighbor was being dishonest but did not show that a sexual assault had occurred. Swabs collected from the victim's breasts were compared against saliva samples collected from the suspect and were found to be consistent in all respects with the biological profile of the suspect. Further forensic analysis of samples taken during the medical exam showed the presence of spermicidal lubricant commonly associated with condoms, located within the vagina of the victim. This information corroborated that what the victim had said was true.

A Suspect Confronted with Physical Evidence May Make Admissions or Even Confess

A suspect in a series of construction-site vandalisms was confronted with video surveillance tapes that had been set up to record the ongoing vandalisms. The suspect immediately admitted to the crimes and claimed to have been a disgruntled former employee.

Court Decisions Have Made Physical Evidence More Important

Miranda v. Arizona, 384 U.S. 436 (1966), as well as a number of other high court decisions within the United States, have limited the authority of law enforcement to rely on statements and custodial confessions. This has resulted in a paradigm shift of attention being placed on physical evidence as fundamental to proving a case.

Juries Expect Physical Evidence

Due to the vast amount of influence on the jury pool portrayed in prime time forensic dramas, jurors expect litigation to involve physical evidence. Juries also expect the science associated with the analysis and testimony regarding such evidence to be infallible.

Negative Evidence (Absence of Physical Evidence) also May Provide Useful Information (such as Fraudulent Reporting)

An owner of a local electronics store claimed that a burglary had occurred. Subsequent investigation revealed no sign of forced entry. There was no video

Witness Sketch Assists Police with Identifying Thief

While eye-witness testimony has increasingly shown to be less than reliable as a method of identification, and sometimes even as a reliable lead within a criminal investigation, combined with other tools in the forensic investigation toolbox, they may be wise to not be entirely disregarded.

Police in Pennsylvania were aided by a witness to a theft occurring at a local farmer's market. Witnesses said that the suspect concealed himself under the guise of an employee and subsequently made off with cash from the market stand. A witness to the crime provided police with a rudimentary black and white sketch, conceded by the police as offering a break in the case. The police conceded that although "the sketch provided by the witness may have appeared amateurish and cartoonish, it, along with the distinctive physical descriptors, jogged the memory of at least one investigator" as to the identification of a possible suspect.

Law enforcement was subsequently able to search for the 44-year-old suspect and charge him with two counts of theft.

CBS News. (February 8, 2018). Amateur sketch from witness helps Pa. police identify theft suspect. Lancaster, PA. Retrieved April 18, 2020, from https://www.cbsnews.com/news/lancaster-pennsylvania-amateur-sketch-from-witness-helps-police-identify-theft-suspect//

surveillance evidence because the video system was not operating. The owner claimed that the video system had gone down from a power outage during the night and probably missed capturing the incident. A check of power records revealed no such outage, and when pressed on the inconsistencies, the owner admitted to staging the incident due to financial difficulties. The lack of evidence prohibited the owner from committing the intended crime of insurance fraud.

Scientific Crime Scene Investigation

Most texts about crime scene investigation limit the investigator's responsibilities to the documentation of the crime scene and the subsequent collection of the associated physical evidence. While this is mostly true, and most responsibilities and actions are mechanical in nature, the reasoning behind this processing methodology is actually to ensure the admissibility of the evidence within a court of law. It is important to remember that the fundamental purpose behind a criminal investigation is the determination of the truth and successful investigation of a criminal episode. Because of this, the crime scene investigator has to take such mechanical steps a stage further.

A crime scene investigator must implement a scientific approach to CSI. This process includes the mechanical aspects of scene security, documentation of the crime scene, and the collection and preservation of the physical evidence; it also demands and expects more dynamic approaches, such as scene survey, scene definition, and analysis, development of the link between physical evidence and persons, and the reconstruction of the crime scene.

These more dynamic aspects of CSI play an extremely important role in the identification of the suspect(s) and the solution of the crime (Lee, 2003). Therefore, the process of CSI is scientific. This process adheres to the scientific method, which means that the investigation of the crime scene is a systematic and methodical approach.

The **scientific method** utilizes principles and procedures in the systematic pursuit of knowledge involving the recognition and formulation of a problem, the collection of data through observation and experiment, and the formulation and testing of a defined hypothesis. **Figure 1.4** shows the steps involved in the scientific method.

If a crime scene investigator is to incorporate this methodology into CSI, the associated **scientific investigation method** could be used, as shown in **Figure 1.5**.

A process such as the scientific investigation method that involves backing up and repeating is referred to as an **iterative process**. This means that the investigator repeats the process throughout, and continually rechecks and analyzes that they have properly conducted the scene processing. Rechecks are continued until the results are negative, meaning that nothing further is required, and nothing has been overlooked. As with the scientific method, however, all steps within the scientific investigation method are subject to peer review.

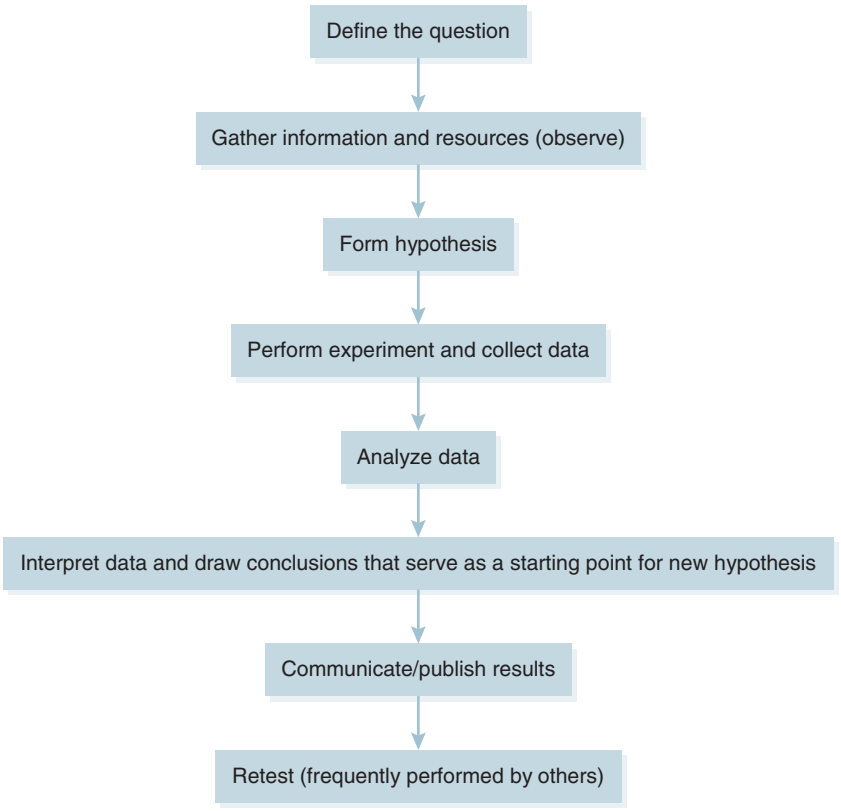


Figure 1.4 The scientific method.

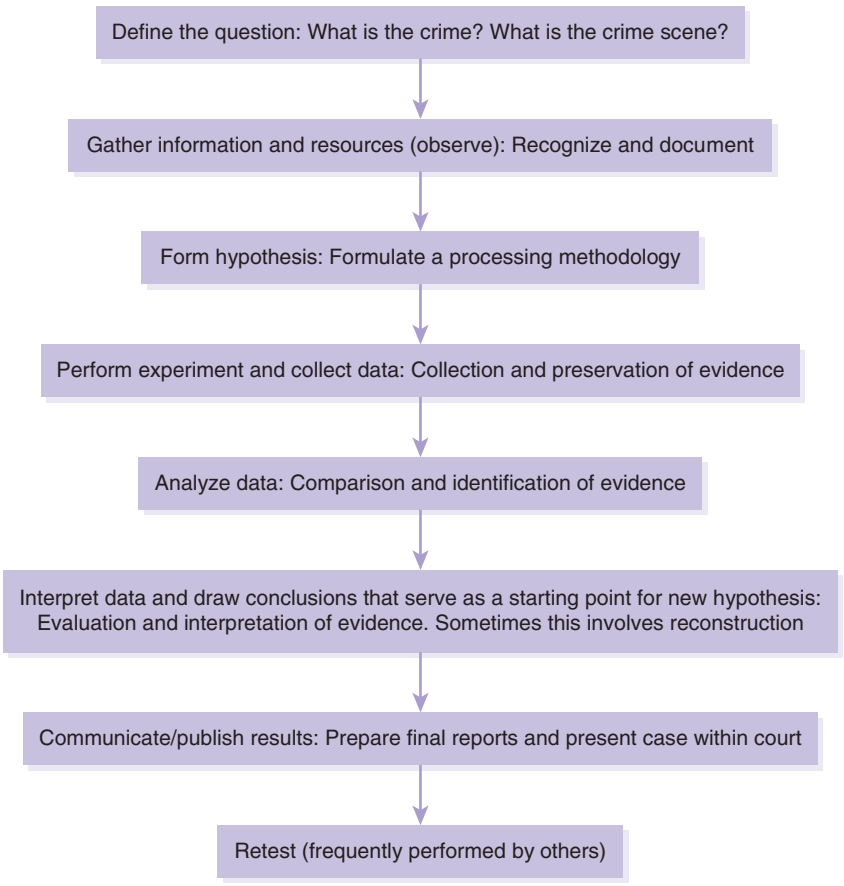


Figure 1.5 The scientific investigation method.

Collection and Preservation of Physical Evidence

The need for proper recognition, collection, and preservation of physical evidence is apparent to all who are involved within the criminal justice system and to those who regularly watch prime time TV dramas associated with such matters. Physical evidence can directly or indirectly lead to the solution of a crime. Charging and prosecutorial decisions are often affected by the quality of the physical evidence associated with the case and the manner in which it was collected.

Because the laws and legal precedents concerning collection of physical evidence are subject to change, it is impossible to give specific, up-to-date information on acceptable procedures. It is, however, possible to provide guidelines. Foremost, it is of the utmost importance that extreme care be taken to use only approved and legal methods when collecting and packaging evidence (Wisconsin Department of Justice [DOJ], 2009). If the individual involved in processing efforts is unsure of these procedures, close communication should be maintained between the prosecutor's office, the crime lab, and those people responsible for the collection of physical evidence. This will ensure that the evidence will not only be collected properly but that it will also be admissible within a court of law.

With regard to the admissibility and forensic usefulness of evidence, there are two main areas of concern relating to the collection and preservation of physical evidence.

These include both legal and scientific considerations. Legally, before any evidence is seized, the investigator must decide if:

- Case law is pertinent. Has there been a case in which a decision was rendered relating to the case at hand?
- A search warrant is required. Is it necessary for the court to issue an order and permission for law enforcement to search an area for physical evidence?
- A court order is required. Is it necessary for the court to issue an order that requires a suspect/defendant to submit an evidence sample (DNA, handwriting, hair, etc.)?

If the investigator does not have legal grounds to be within the area at which the evidence is located, the evidence cannot be collected. If evidence is found to be illegally collected (whether intentionally or unintentionally), that evidence will be found to be inadmissible in court. This is commonly referred to as the **fruit of the poisonous tree doctrine** (Fisher, 2012). To avoid this and other pitfalls relating to the seizure of evidence, investigators should consult with the prosecutor's office and stay current with case law and court decisions.

With regard to scientific considerations in CSI, the "validity of information derived from examination of the physical evidence depends entirely upon the care with which the evidence has been protected from contamination" (Wisconsin DOJ, 2017, p. 16). More to the point, if the evidence is found to have been improperly collected, handled, or stored, its value may be destroyed, and no amount of forensic laboratory work will be of assistance in restoring it. Therefore, it is imperative that items of evidence be collected, handled, and stored in a way that will ensure their integrity. In doing so, the likelihood is increased that useful information can be extracted by examination and that the item will be considered admissible within subsequent court proceedings (Wisconsin DOJ, 2017).

Scientific considerations include the following:

- Physical evidence should be handled as little as possible.
- Items should be packaged separately in individual containers.
- Known or control samples are needed for comparative laboratory analysis. (For example, if an item is submitted to the lab for DNA analysis, it would be necessary to also include a reference sample taken from the individual from whom the evidence is to be compared.)
- As a general guideline, paper is the preferred packaging material, because it allows the evidence to breathe and prevents mildew or degrade. It also prevents cross-transfer of evidence from occurring with nearby objects.
- Sealable, airtight containers are necessary for chemical evidence and evidence associated with accelerants (arson) to prohibit the gaseous evidence from escaping the container and thus becoming impossible to analyze.
- At all phases of collection, efforts should be made to avoid contamination of the evidence. This can include cross-contamination from incorrect collection and packaging methods as well as contamination directly from the individual conducting the collecting and packaging.

- Areas associated with the correct collection and preservation methods of physical evidence will be covered in more depth throughout the course of this book. This is simply an overview of the scientific considerations that one must consider when collecting and packaging evidence.

Legal Duty to Preserve Evidence

In addition to the obvious importance of collection and preservation of evidence from an investigative standpoint, crime scene personnel have a legal duty to collect and preserve physical evidence associated with a crime. In fact, courts across the country have enacted legislation imposing both civil and criminal penalties for failure to properly preserve evidence.

In addition to the District of Columbia, 43 states have created legislation that compels the preservation of evidence (**Figure 1.6**). These statutes meet the best practices standards outlined by the National Institute of Standards and Technology (NIST) Technical Working Group on Biological Evidence Preservation. To date, seven states do not have statutes requiring the preservation of evidence (The Innocence Project, n.d., Preservation of Evidence). However, that certainly does not suggest that such preservation is not warranted or departmentally required within those jurisdictions lacking state legislation. Many departments have individual policies governing preservation and retention of evidence, along with strict sanctions for those failing to comply.

Requirements around the preservation of evidence are usually embedded in DNA testing access statutes. In 2004, Congress passed the Justice for All Act (H.R. 5107), which provides financial incentives for states to preserve evidence and withholds those same monies from states that do not adequately preserve evidence. Preserved evidence can help solve closed cases—and exonerate the innocent. Preserving biological evidence from crime scenes is critically important because DNA can provide the best evidence of innocence—or guilt—upon review of a case. None of the nation's nearly 400 DNA exonerations would have been possible had the biological evidence not been available to test. Had the evidence been destroyed, tainted, contaminated, mislabeled, or otherwise corrupted, the innocence of these individuals would never have come to light.

What and How Much to Collect

One question a crime scene investigator asks of themselves is, "*How much should I collect?*" Because it is often impractical, and sometimes impossible, to return to a crime scene at a later time to collect additional evidence, it is suggested that the crime scene investigator ensure a thorough and systematic processing of the crime scene to be certain that all necessary evidence, in the correct quantity, has been collected. As a general

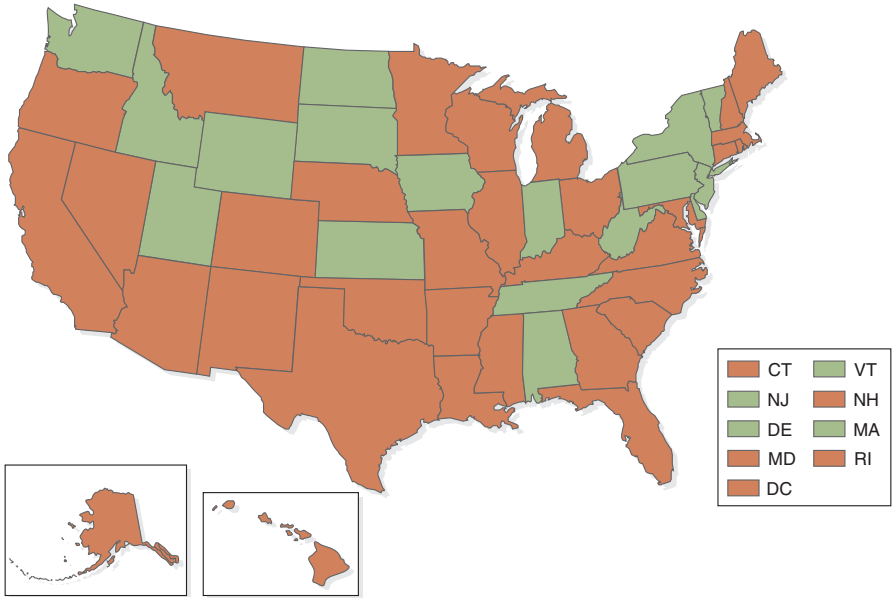


Figure 1.6 States in brown have created legislation that compels the preservation of evidence.

Data from www.innocenceproject.org.

Case in Point

The Scientific Method at Work

A homicide investigator has been called to the scene of an apparent suicide. In the kitchen of a small rural home, a body lies next to an overturned chair and a shotgun. The right foot of the deceased is bare, and a string tied in a bow around the big toe is also tied around the trigger of the shotgun. There is a large wound in the victim's chest and considerable tissue and blood residue on the barrel of the shotgun. Behind the victim is a waist-high hole in the wall about the size of a little finger.

Although, one should never rush to preconceived conclusions, the presence of these facts, considered in their totality, give some support to the hypothesis that this was a suicide. There appears to have been no struggle, and the weapon is in close proximity to the body. The hole in the wall is a bit troubling. The investigator's experience (inductive reasoning) tells him that shot shells do not leave such a hole unless they are chambered for a rifled round (shotguns have a cartridge that contains either numerous pellets or a single projectile). The investigator examines the shotgun (analysis) and discovers that the two chambers of the double-barreled shotgun both contain a shell. One is spent. Upon removing the shell, it is noted that the shell contains pellets. Therefore, the previous hypothesis that a suicide occurred does not explain the hole in the wall (synthesis). If wedded to the hypothesis, the investigator may choose to ignore this anomaly, or else the investigator may begin to ask some additional questions:

- Who was present at the time of the shooting?
- Did the hole in the wall exist prior to the shooting?
- Are there other weapons on the premises?

Pursuing answers to these questions will provide information that can be used as a basis for further reasoning.

The investigator learns that only the victim's wife was present at the time of the incident, and she does not seem to be aware of any structural flaws in the kitchen wall. She tells the investigator that there is also a 30-caliber hunting rifle in the gun cabinet in the living room. Another hypothesis begins to take shape. Could the wife have murdered her husband? There are only two possibilities if the wife is telling the truth: Suicide or homicide (with the wife as the primary suspect).

The investigator notices that the victim is wearing his wristwatch on his left wrist, which sometimes suggests that the victim was right-handed. The investigator begins to gather information that is seen as consistent with right-handedness (classification):

- The wristwatch is on the victim's left wrist.
- The victim's wallet is in his right rear pants pocket.
- The victim's right front pants pocket is worn.
- There is a pocketknife in the right front pants pocket.
- There is a ballpoint pen in the left shirt pocket.
- The wife confirms that her husband was right-handed.

The investigator begins to gather information that is seen as inconsistent with right-handedness (classification):

- The right foot is bare (has no sock or shoe on it).
- The string is tied to the right big toe.

The investigator's assumption, based on experience and reason, is that a right-handed person would have bared his left foot and tied the string to his left big toe (induction). That the facts conflict with this assumption suggests that someone else tied the string (deduction). The investigator suspects homicide, and he has the crime scene handled in a manner appropriate for an investigation of a homicide (as should almost always be the case).

The medical examiner confirms that a hole consistent with the passage of a 30-caliber bullet through the body was made prior to the shotgun blast. The laboratory discloses that the bow tied to the victim's big toe was tied not from the victim's position but rather from a reversed position, by someone facing the sole of the foot. The prosecution's theory of the case, which it will attempt to prove by presenting forensic evidence, is that the wife shot her husband with the hunting rifle while they were both sitting at the kitchen table. She then took the shotgun and placed the barrel at her husband's chest and fired, thereby obscuring the original and fatal wound. Stripping his foot bare and tying the string to his toe was her final attempt at making the homicide look like a suicide.

Courtesy of Ronald Becker, JD, Professor, Chaminade Institute.

rule, more is better than less. However, there is a measure of experience, training, and judgment that goes into making the decision as to the amount of material to collect as evidence.

One must remember that regardless of the amount that is collected, department policy and sometimes statutes will require that the items be preserved for a considerable amount of time, if not indefinitely.

Case in Point

Duty to Preserve Evidence

In 2009, a federal District Court sanctioned defense counsel and defendants for spoliation of electronic evidence. In *Swofford v. Eslinger*, deputies from the Seminole County Sheriff's Office (SCSO) encountered an armed man, Robert Swofford, and shot him. Through the course of the investigative process, Mr. Swofford's attorney served the sheriff's office with a letter that requested that any and all evidence related to the event be preserved. The request from Swofford's attorney specifically requested evidence "including firearms, clips and ammunition, training records, and electronic evidence" (671 F. Supp. 2d 1289; 2009 U.S. Dist.). Despite the correspondence, which the SCSO's general counsel admitted to receiving, the guns that were used in the shooting were disassembled and one of the involved deputy's laptop computers was erased, thus deleting a relevant instant message thread (which was later recovered from another deputy's computer). As a result, District Court Judge Mary S. Scriven found that all of the defendants (both involved deputies, the sheriff) as well as the SCSO's general counsel acted in bad faith and handed down sanctions against each of them.

The Innocence Project. (n.d.). Preservation of innocence. Retrieved from www.innocenceproject.org/Content/Preservation_Of_Evidence.php.

Case in Point

Robin Lovitt, Virginia Death Row Inmate

Robin Lovitt was convicted of the capital murder and robbery of a pool hall employee in Arlington, Virginia, and was sentenced to death in early 2000. When Lovitt sought to appeal the decision, it came to light that the evidence associated with his case had been destroyed. Despite being reminded that Virginia law required the preservation of evidence from the case, a court clerk nonetheless discarded the murder weapon: A blood-stained pair of scissors. The DNA testing available at the time of the trial could only conclusively tie the blood on the weapon to the victim and not to anyone else. More sophisticated DNA testing is now available, but the evidence—which could have proven guilt or innocence and/or informed the appropriateness of the death penalty—is not. The Supreme Court declined to address this issue, and Lovitt was ultimately scheduled to become the 1,000th person executed since capital punishment resumed in 1977. The wrongful destruction of the evidence that could have conclusively proven innocence or guilt denied a conclusive answer. Recognizing the ambiguity caused by the destruction of evidence, Virginia Governor Mark Warner commuted Lovitt's sentence to life in prison.

The Innocence Project. (n.d.). Preservation of innocence. Retrieved from www.innocenceproject.org/Content/Preservation_Of_Evidence.php.

This can create significant storage issues within an evidence and property room setting. Therefore, crime scene personnel should consider the proper collection method that will ensure that the proper amount of evidence has been collected that will result in the least amount of storage-related issues. For example, if a crime scene investigator is confronted with a bloody king-sized mattress at a homicide scene, would it be best to collect the entire mattress or simply to photograph the complete mattress and then cut out a sufficient amount of the bloody mattress to submit as evidence? Due to the statute of limitations regarding homicide-related evidence, such evidence may be required to be kept indefinitely. Which takes up more room? The bloody mattress material, which could fit within a medium-sized paper bag, or the entire king-sized mattress? The evidence property room custodian will be much happier with the crime scene investigator who chooses to collect the sample rather than the entire mattress, because it will take up considerably less space and will have the same forensic analysis potential.

As illustrated in this example, it is imperative that the crime scene investigator recognize what is evidence and what is not. Also, it is important for the investigator to have a working knowledge of the forensic value of the evidence located and collected. If all of the natural and commercial objects located within the vicinity of a crime scene were collected and submitted as evidence, the deluge of evidence would quickly incapacitate any department's evidence and property facilities, in addition to further inundating the forensic laboratories charged with analyzing the material. Therefore, evidence can achieve its optimum value only when its collection is performed with a selectivity that is governed by the collector's knowledge of the crime laboratory's capabilities and limitations, and the forensic value of the evidence collected. Such matters will be the topic of discussion throughout this book.

Chain of Custody

The court will require proof that evidence collected during the course of an investigation and the evidence ultimately submitted to the court are one and the same. In order to accomplish this, those involved

in the crime scene investigation must establish a secure **chain of custody**, sometimes referred to as a *chain of evidence*. This "chain" shows who had contact with the evidence, at what time, under what circumstances, and what changes, if any, were made to the evidence. What is needed to establish a chain of custody?

- Name or initials of the individual collecting the evidence and each person subsequently having custody of it.
- Dates the item was collected and transferred (as well as signatures of both parties, validating the item transfer).
- Agency, case number, and type of crime.
- Victim or suspect's name.
- A brief description of the item.

In addition to proper labeling and documentation, all collected evidence must be booked into, and subsequently stored, in a secured area prior to transportation to court.

Any evidence reasonably assumed to have been tampered with by unauthorized persons because it was kept in an unsecured area may be inadmissible in court.

Teamwork

Successful CSI involves a team approach. A crime scene team is a group of professionals, each trained in specific disciplines. The common goal of the team is to locate and document all of the associated evidence at the scene. Of the utmost importance, however, is that each member of the team is allowed to work the scene independent of the others' influence and to have the ability to challenge the others' findings. This system was purposefully designed so that no one person or entity can operate independently. No single element or person is more important than any other. Each has a vital role. There is no place within this process for those seeking fame or glory.

The team approach to CSI begins with planning. This includes a procedure that is agreed upon by all of the team members and agencies involved with the process. Training for each member is typically mandatory, but more important is the understanding of exactly what is expected of each individual at the scene and in the process.

Assemble any group of individuals and they will likely be able to investigate a crime scene, albeit not necessarily in a thorough and systematic manner. A successful investigation, and thus a methodical approach to CSI, is much more likely with a well-trained, experienced, and cohesive unit.

As it turns out, however, this is not necessarily the case in many jurisdictions. If a crime scene investigator does only what they are told to do and collects only what the on-scene police investigator tells them to collect (this is by no means a systematic approach), it falls woefully short of the scientific method discussed previously.

Attributes of a Successful Crime Scene Investigator

While it is universally recognized that every person is unique and brings his or her own abilities and insights into any given situation, it has been found that there is a type of person who makes for a successful investigator. As with all information contained within this text, these are guidelines and by no means hard, fast rules. The following is offered as a framework for those taking a self-inventory and those thinking about choosing individuals who would be successful at involvement within a crime scene investigation capacity.

Intuition

This attribute is not trainable. Someone either has this ability or does not. This component of intellect is what those in law enforcement term a "hunch" or a "gut feeling."

Eye for Detail

An individual's observation skills cannot be overlooked when discussing desirable attributes for a crime scene investigator. Someone who is detail oriented in both observation and notation will find themselves to be very successful as a crime scene investigator.

Good Communication Skills

The ability to communicate is an extremely valued, and unfortunately rare, commodity. An individual who is interested in crime scene work should be adept at both oral and written forms of communication, as these are imperative for proper testimony and documentation regarding crime scene activities.

Knowledge of Methods for Locating and Preserving Evidence

If one is not familiar with the correct way to properly collect the various forms of evidence or know where to locate the information that could aid in educating them on the correct manner, the evidence risks being collected improperly and thus may be found inadmissible in court or unusable. This trait requires that the person be both scientific as well as process-minded and have a working knowledge of pertinent case law.

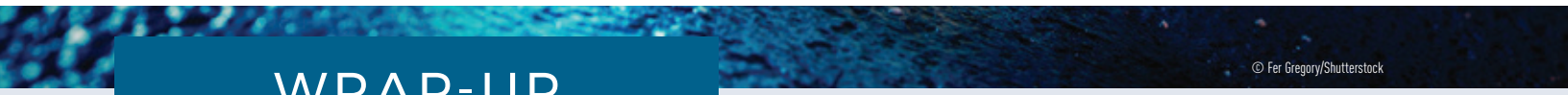
Enjoyment of Continuing Education

Because crime scene work is dynamic, such things as technological innovations, case law, and human ingenuity change it on an almost daily basis. It is important for a crime scene investigator to have an affinity for continuing education. Without a drive to learn the latest strategies to achieve a successful gathering of appropriate evidence, the individual will quickly be collecting and processing materials in an archaic or perhaps even illegal manner.

Mistakes and Errors

Crime scene investigators are human. Mistakes will be made. The most important thing is to limit these mistakes, learn from them, and not repeat them. Repetition of mistakes is seen as incompetence. Critics will always dissect and critique the actions and decisions taken at a crime scene. This is why it is extremely important to adopt a systematic approach to crime scene processing—to minimize the possibility for errors. Courtroom focus on forensic science is shifting from the lab to the crime scene. Defense attorneys are quick to learn that if they can show that the initial handling of the physical evidence at the crime scene was faulty, the evidence may be kept out of the trial or at least be tarnished in the eyes of the jury.

Those entrusted with the investigation of criminal activity bear a heavy burden. Mistakes are often not forgiven; there are scores of examples where unintentional errors have been made that resulted in evidence being declared inadmissible by the courts. The best advice is to consider all of the ramifications before embarking on any action (Fisher B., 2012).



WRAP-UP

Summary

Successful CSI begins at the crime scene. If the investigator cannot recognize physical evidence or cannot properly preserve it, no amount of sophisticated laboratory instrumentation or technical expertise can rectify the situation. The crime scene investigator must implement a thorough and systematic methodology toward the documentation and processing of a crime scene in order to ensure a successful outcome to the investigation. While involved in this process, a crime scene investigator must remember that the underlying obligation is not to either the prosecution or the defense, but rather to the truth. Adherence to a scientific, legal, and systematic approach, in an unbiased manner, will ensure that the chain of custody for collected evidence will be intact and will result in the subsequent admissibility of such evidence.

Review Questions

1. Define *crime scene investigation*.
2. What are the differences between *criminalists* and *crime scene investigators*?
3. What is meant by "fruit of the poison tree"?
4. Define Locard's Exchange Principle.
5. List the objectives of crime scene investigation.
6. Explain the differences between *real evidence* and *testimonial evidence*?
7. List the steps of the scientific method.
8. List the steps of the scientific investigation method.
9. What did Hans Gross contribute to the advancement of crime scene investigation?
10. How did Sir Arthur Conan Doyle impact what is modern day crime scene investigation?

Questions for Discussion

1. What are some attributes of a successful crime scene investigator? Why?
2. What is necessary to establish chain of custody?
3. Discuss some benefits of and drawbacks to testimonial evidence.
4. Discuss what factors are involved with determining the amount of evidence to collect and the correct sample sizes to collect.
5. Discuss why it is important that evidence be collected legally.

Case Studies

1. Conduct a search for the case of *Silverthorne Lumber Co., Inc. v. United States*, (251 U.S. 385; 40 S. Ct. 182; 64 L. Ed. 319; 1920) and describe how the fruit of the poisonous tree doctrine was used.
2. After researching the case of Columbus County, on behalf of Katie Brooks Plaintiff v. Marion A. Davis, (163 N.C. App. 64; 592 S.E.2d 225; 2004 N.C. App.), discuss the importance of a complete chain of custody.