# Introduction

The field of crime scene processing is extremely demanding and ever changing. Demands from the scientific and legal communities influence the crime scene investigator's everyday activities. The scientific community focuses on the examination of evidence collected at a crime scene. Investigators and crime scene specialists are responsible for identifying, securing, documenting and preserving biological evidence recovered from a crime scene. Legal considerations include scrutiny of procedures used at crime scenes and chain of custody. The investigator must also know when and how to make decisions to obtain written consent or a search warrant to assure that the evidence will be admissible in court and not subject to a motion to suppress.

DNA databases provide law enforcement officers with the ability to identify potential suspects when no prior suspect existed. The development and expansion of databases that contain DNA profiles at the local, state and national levels have greatly enhanced law enforcement's ability to solve cases with DNA evidence. These databases are operated using the Combined DNA Index System (CODIS), a software program that permits the cross-comparison of DNA profiles developed from biological evidence found at crime scenes and also of known offender profiles.

# 1. Types of Evidence

**Physical evidence consists of tangible objects**, such as biological material, fibers and latent fingerprints. Physical evidence is any object that can connect a victim or suspect to a crime scene. **Biological evidence**, which contains DNA, is not always visible to the naked eye.

Evidence may aid an investigator in re-creating the crime scene and establishing the sequence of events. Physical evidence can corroborate statements from the victim, witness and suspect. Physical evidence is objective and, when documented, collected and preserved properly, may be the only way to reliably place or link someone to a crime scene. **Physical evidence is often referred to as the "silent witness."**

##### **Types of Crime Scenes**

There are three types of crime scenes:

* Outdoor.
* Indoor.
* Conveyance.

##### **Outdoor Crime Scene**

****An outdoor crime scene is the most vulnerable to loss, contamination and damaging effects on biological evidence in a short period of time. Individuals with access to the scene can potentially alter, destroy or contaminate evidence. The risk is greatest when the crime scene is not properly secured.

Destruction or deterioration of evidence due to environmental conditions, such as heat, cold, rain, snow and wind call for rapid and effective protection of biological evidence. Evidence that cannot be protected under these conditions should be quickly collected without compromising its integrity. When encountering a combination of an indoor and outdoor scene, process the outdoor component first.

Night time outdoor crime scenes are especially problematic. Regardless of the quality of the light source used to illuminate the scene, the lack of sunlight can increase the possibility of missing or destroying evidence. Whenever possible, hold and secure outdoor crime scenes for processing until daylight.

##### **Indoor Crime Scene**

****Compared to an outdoor scene, evidence at an indoor scene is generally less susceptible to environmental loss and deleterious change.

The possibility of loss and contamination from multiple people accessing the scene is greatly increased. Limiting access to the scene and collecting known reference samples from individuals with access to the scene are a priority.

**The Conveyance Crime Scene**

Conveyance is defined as "something that serves as a means of transportation." Types of crimes committed in conveyances include, but are not limited to:

* Vehicle Burglary.
* Grand Theft.
* Car Jacking.
* Sexual Battery.
* Homicide.

It is important that the crime scene investigator recognize that physical evidence recovered from these scenes may extend well beyond the conveyance itself. The flight path of the perpetrator may reveal evidence important to the investigation. For example, impression evidence, such as shoe or footprints in soil, may be found leading away from the scene, and property removed from the conveyance may be deposited or dropped as the perpetrator flees the scene.

Cigarette butts are sometimes found in and around the conveyance. The nature of the crime may give the investigator an idea of the type of evidence present. To protect the scene against inclement weather and other factors that may contribute to evidence loss and/or destruction, a conveyance such as a vehicle may be transported to the laboratory after proper documentation has been completed.

# Basic Principles of Investigation

1. **Be fair and objective.** Everyone involved in an investigation deserves to be treated with respect and dignity.
2. **Do not pre-judge.** Wait until all witnesses have been interviewed and evidence examined before reaching factual determinations and ultimate conclusions.
3. **Avoid the appearance of bias.** If the key parties to a dispute or allegation of misconduct are personally known to the investigator, or if the allegation of misconduct is against a high-level university official, someone more independent should be brought in to conduct the investigation.
4. **Plan and outline the investigation before starting**. Think through who should be interviewed and in what order; what documents and evidence should be gathered before interviewing certain witnesses; and what interim measures are needed (e.g., temporarily restricting access to computers).
5. **Investigate promptly.** Certain investigative steps may need to be done immediately – for example, preserving electronic and other evidence. But rarely should an investigation be rushed and prematurely concluded due to some arbitrary deadline.
6. **Keep the investigation separate and independent from the stakeholders.** Especially in sensitive matters, the university president, provost, general counsel, or board members may wish to be kept apprised of the investigation’s progress and preliminary findings. This should generally be avoided so as not to compromise the integrity and independence of the investigation itself.
7. **Never mislead a witness.** Do not disclose details of the investigation to your witnesses, do not make promises that cannot be kept, and do not lie to or make misleading statements to the witnesses.
8. **Protect confidentiality.** Failure to take reasonable precautions to protect the confidentiality of the investigation and the witnesses being interviewed can damage reputations and potentially lead to cover-ups, liability, and retaliation.
9. **Protect reputations.** Nothing can undermine the credibility of an offender. For instance, in university-based investigation more severely than if the investigation fails to adequately( protect the reputations of students, university employees, and witnesses).
10. **Investigate acts of retaliation.** If during the investigation a report or allegation of retaliation against the person who reported the misconduct or any other witness is received, the alleged retaliation must be immediately and thoroughly investigated.
11. **Seek every witness’s cooperation.** Try to obtain the cooperation of all potential witnesses, not only those who may support or corroborate one side of a dispute.
12. **Reach a conclusion.** Even in difficult cases involving conflicting accounts from equally credible sources, it is important to make determinations regarding credibility and reach reasonable fact-based conclusions based on a thorough evaluation of the evidence.