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**Limitation in Forensics Science**

*Forensic laboratories are negatively affected by various limitations, in personnel, technology, amount and timing of testing, and the ability to store and track evidence.*

**Challenges in Forensic Science**

In a perfect world, every crime scene would be loaded with evidence that could be validly and reliably analyzed. Every piece of evidence would be properly identified, collected, preserved, analyzed, admitted into court, and then given its proper weight by the fact finder.

The reality, however, lands far from that ideal. Limitations hamper each step of the process, from crime scene to courtroom, preventing our system from producing perfect justice. Science isn’t perfect, and all forensic science methodologies and disciplines suffer shortcomings.

Determining where the limitations lie, and knowing how to maximize the efficacy of the procedures, are important skills for every forensic scientist.

Similarly, understanding the limitations of the technology is important for both examiners and legal professionals facing courtroom discussions of laboratory reports.

**It Starts At The Crime Scene**

Any criminal investigation hinges on the ability of the investigator to properly identify evidence: evidence not identified and collected will never be analyzed. But it can be difficult for a crime scene analyst to recognize the potential value in an item: the scene is typically a place the investigator has never been before, such as a private home or an individual’s office.

Once evidence has been identified it needs to be preserved. For example, pieces are packaged individually to prevent cross-contamination. Swabs and samples need to be taken from all over the crime scene, even in places where no evidence is apparent, to obtain baseline information about what compounds, DNA and trace elements are ubiquitous for the scene.

If the scene of a crime is in a high traffic area, or a home that has frequent visitors, it’s important to take samples that could contain evidence of people who have been in that area in a non-criminal capacity.

Also, samples of [substrate](http://www.forensicbasics.org/wp-content/themes/hotpepper_child/inc/glossary-inline.php?gid=240&iframe=true) that existed at the scene before the crime was committed need to be collected. This allows analysts to more clearly sort through sources of substances, and focus on who might have been present at the time of the crime.

**Weighing Evidence in Context**

As many of the [Innocence Project](http://www.forensicbasics.org/wp-content/themes/hotpepper_child/inc/glossary-inline.php?gid=176&iframe=true) cases demonstrate, wrongful convictions are more likely to occur when only a few pieces of evidence are available, and their strength is overestimated or unchallenged.

Thus, jurists should keep three considerations in mind:

1. When there is little evidence (of any kind), any piece of scientific testimony carries much more weight than its scientific strength may warrant.
2. When there is an abundance of evidence, any single piece of evidence may be given less weight than it deserves.
3. The admissibility, strength, and validity of scientific evidence should always be considered in the context of the broader case.

**Determining The Age Of Evidence**

Beyond “Who left the evidence?” another question investigators explore is, “When?” Unfortunately, determining the age of evidence can be a challenge, and sometimes an impossibility. For example, there is no way to determine if a fingerprint was left one hour ago or one year ago, which further complicates crime reconstruction.

Delve deeper into these considerations in the following sections, which discuss the overarching limitations in handling and storing evidence, prioritizing that evidence, and how the limitations in sample size can affect testing procedures and the reliability of results.

*Critical Writing*

* What are the limitations of forensic science?
* What is the purpose of a forensic scientist?

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