



# Increasing the Validity of Forensic Science in the United States

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## INTRODUCTION:

Forensic science is “the application of scientific principles and techniques to matters of criminal justice” (Webster). While some forms of forensic science, such as DNA, are extremely solid and are constantly being improved upon, there are also other forms, such as bite marks and hair strands (otherwise known as “trace evidence”) which are not being developed as actively. Trace evidence is easy to misinterpret, causing a small piece of evidence to be misrepresented as something much more useful than scientifically possible. Moving forward, how do we sort out which forms of forensic science are reliable, and how do we spot errors occurring in forensic science?

## DATA & FINDINGS:

Bite mark evidence shows minimal scientific credibility  
DNA evidence is constantly being improved upon  
The public is accustomed to watching television shows and is thus under the idea that forensic science is flawless  
The national commission of forensic science was created in 2013 to go through and improve all aspects of forensic science  
This committee was the only connecting point between mainstream science and the criminal justice system  
Forensic science needs to be validated by an independent and nonbias party  
DNA Phenotyping is currently being used to solve cold cases  
There are many examples of cases that had fatal flaws causing false imprisonment  
Evidence is often being overstated in court  
Hair evidence involves more craft than science  
DNA Evidence is only as good as the sample collected is  
The National Institute of Standards and technology are unable to require facilities to meet their guidelines  
Upwards of 70 percent of labs and police stations didn't have general accreditation for forensic science  
Judges are largely misinformed about error rates  
There was a lack of scientific research to support the discipline  
DNA has a backing up of scientific evidence  
People are overstating their evidence in court (for things such as partial prints)  
Courts were told by the FBI until recently that fingerprint analysis was infallible  
Judges can be very ill-informed  
Each discipline of forensic science has varying degrees of reliability  
Bite marks, hair matching, (trace evidence) needs more research  
DNA should be backing up cases (if possible) to make it more reliable  
This evidence should be allowed in court but it needs to be modest and qualified  
There's no standardized oversight  
Reality and fiction are now blurring due to tv shows  
The “CSI” effect is leaving jurors with a distorted view on how forensic science works  
It is crucial for jurors and lawyers to understand the expectations of forensic science

## CONCLUSIONS AND RECOMMENDATIONS:

- 1.Re-establish the National Commission of Forensic Science with the goal of setting national standards for forensic science.
- 2.Install a set of standards for all labs, facilities, and police stations that collect and analyze evidence.
- 3.Make sure these standards all improve and create unity across the country to set the bar higher for how evidence is processed.
- 4.Inform judges across the country on forensic science and its correct use in court. Ensure jurors are informed before the trial about the more realistic expectations of forensic science.
- 5.Give forensic science labs funding to stay up to date with technological advances and training.
- 6.Re-evaluate past cases where evidence may have been processed poorly.
- 7.Keep on tracking and watching the collection and analysis of forensic science and continue to make improvements to it.

## RESEARCH METHODOLOGIES:

The data I have collected mostly consist of summarizing articles and interviews. My data are qualitative, since they consist of government pages, interviews, and web pages. I analyzed my data by summarizing all the information that I have collected. From the information collected, I drew real conclusions. I determined if my responses were significant by seeing if they could be a realistic method to solve the current issues regarding the reliability of forensic science.

## MAJOR THEMES:

Trace Evidence

National Committee of Forensic Science

Overstating Evidence in Court

DNA

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