A6 Standard Methods of Analysis in Forensic Science: Panacea or Problematic

Jay A. Siegel, PhD, Indiana University - Purdue University Indianapolis, Chemistry, School of Science, 402 N Blackford, LD 326 D, Indianapolis, IN 46202; and Barry A.J. Fisher, MS, MBA, 19854 Vintage Street, Chatsworth, CA 91311*

After attending this presentation, attendees will understand the importance of developing standard methods of analysis in forensic science but also to not rely completely on such methods because it stifles the necessary creativity, imagination, and intuition that is so important to solving crimes and reaching conclusions about scientific evidence.

This presentation will impact the forensic science community by reminding forensic scientists that standard methods are important but that on occasion, it is necessary to go beyond them and use creativity, imagination, and intuition in doing their work.

One of the hallmarks of good scientific procedure is to develop standard methods and protocols for the analysis of practically anything and make sure that the methods are validated for their intended purposes. As a general principle, it is hard to argue with such an approach. In recent

years as increasing demands are being put on forensic science to become more scientific, practitioners and academics have run headlong into a program of developing standards for analysis of every type of evidence and every situation. The recent report of the National Academy of Sciences on the needs of forensic science had a whole chapter devoted to the issue of standard methods. There are numerous TWGs and SWGs sponsored by no less than the NIJ and the FBI that are setting standards for analysis in particular areas. The forensic science committee of the ASTM has been busy for years developing consensus standards. Groups of practitioners in various disciplines also have committees that help set standards in those areas.

Primarily all of this activity can be beneficial to forensic science but there are also dangers lurking within. For one thing, the higher level of standardization, the fewer degrees of freedom in making choices about the best methods of analysis in a given case. This runs the risk of turning forensic scientists into forensic technicians; people who are permitted to do only what is in the "cookbook." Forensic cases aren't like that. They are unique. The evidence is intertwined within the context of the scene and the surrounding circumstances. Recognizing the need to have reliable, valid scientific methods available for the analysis of physical evidence, forensic scientists must be able to exercise, judgment and use imagination and yes, even intuition, in deciding how best to approach evidence analysis.

This presentation will discuss the concept of standardization of forensic analysis in the context of the real world crime scene and make the case that another hallmark of good science is to be able to use experience and lateral thinking in developing solutions to problems. Further, good forensic science also implies reasonable common sense. It is not possible to have standard procedures for everything encountered in criminal investigations. Forensic scientists, like all scientists should apply their expertise based on good science, prior experience and an understanding of the task at hand.

Standard Methods, Forensic Analysis, Interpreting Evidence

 ** Presenting Author*