QUALITY MANAGEMENT SYSTEM CONCEPTS AND TOOLS
"MISTAKES HAPPEN – WHAT TO DO WHEN IT HAPPENS TO YOU AND HOW TO PREVENT THEM"

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The failure to properly recognize, collect, preserve, and then analyze probative evidence, followed by a quality report to the criminal justice community can have serious negative consequences in a criminal court proceeding. Forensic scientists are human and, unfortunately, can make mistakes. A mistake can be described as a non – conformance to a defined performance metric (categorical value or measurement of variance). Forensic procedures must clearly define the acceptable result or unacceptable result of a process. The American Society of Crime Laboratory Directors / Laboratory Accreditation Board (ASCLD/LAB) Legacy Program and International – ISO17025/IEC/:2005 mandate that a laboratory establish a Quality Management System that provides continuous quality improvement. A forensic laboratory must first measure the quality within the laboratory, and then manage it. The measurement and management of Quality within a forensic laboratory can be a challenge for the bench scientists, supervisors and laboratory directors. Organizational culture issues within police department laboratories and the adversarial process within criminal court proceedings can significantly elevate the consequences of errors.

The business community uses well-developed Quality System processes that identify a non – conformance, correct the non – conformance and monitor the process to detect unacceptable trends. You cannot eliminate non – conformance or error, but you can strive for continuous improvements. Corrective Action and Preventive Maintenance procedures have been used in laboratories handling and processing forensic evidence to reduce the potential of errors that could have deleterious effects on the evidence and results obtained from the evidence. Critical areas that are prone to high variability in results or non – conformance to performance standards are constantly monitored to detect unacceptable trends. The Quality Management System must use resources wisely to focus on the most significant variables that effect quality.

Recognizing that no matter how good the standard procedures in a laboratory are and no matter how well trained the laboratory staff is, mistakes are going to occur in a laboratory, albeit, hopefully at a very low level. Included in good quality assurance programs are mechanisms for documenting and handling errors that occur in the laboratory. We will address proactive vs. reactive responses and how to learn from your mistakes. Quality assurance programs have been put in place in laboratories to ensure quality work is obtained through various processes, including maintenance of equipment, quality control checks of critical reagents and processes, proficiency testing of all laboratory staff, and document control. For example: Pareto Diagrams, Process Mapping, Histograms, Fishbone Charts, Six Sigma Control Charts and ANOVA Statistics can all be used to identify, measure and manage the quality of a forensic laboratory.

The second portion of the presentation will focus on how to proceed when a mistake occurs while processing evidence or reporting the results of testing in a case. The following areas will be addressed in relation to various types of minor to serious errors that can occur: documentation of the error in the case folder, troubleshooting the error and corrective action for the case and for the laboratory in general, dissemination of information regarding the error to the laboratory, clients, detectives, and attorneys, how to handle discovery requests regarding the error and how to present the error in court.