

Methodology and Quality Assurance in Forensic Breath Alcohol Analysis

REFERENCE: Gullberg RG: Methodology and quality assurance in forensic breath alcohol analysis; *Forensic Sci Rev* 12:49–68; 2000.

ABSTRACT: Breath alcohol analysis has become widely established in the forensic science and legal communities. The increasingly serious consequences of a drunk driving conviction, however, requires that further attention be focused on improving quality assurance. Although computerized instrumentation with advanced technology has enhanced forensic interpretation and confidence, other important areas of measurement protocol and program details must receive equal attention. Measurement results are the product of a process and not simply an instrument. Confidence in results can occur only after showing the entire program is “fit-for-purpose”. Forensic quality assurance results from a balanced consideration for instrumentation, protocol, administrative rules, record keeping, interpretation, communication, etc. The following review will discuss current breath alcohol instrumentation along with several program features important to forensic quality control. Statistical methods are also available to assist in the quantitative interpretation of results to ensure statistical control and fitness-for-purpose. Increasing public and political attention on drunk driving requires the highest possible standards for quality control applied from a total program perspective.

Key Words: Forensic quality control, forensic breath alcohol, fit-for-purpose, statistical methods, statistical control, measurement, confidence intervals.
