



## Criminalistics Section – 2004

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### **B83 A Comparison of GSR Collected With Swabs and With Swabs Analyzed by Inductively Coupled Plasma Mass Spectrometry**

*Elzbieta Bakowska, PhD\*, Lawrence A. Presley, MS, MA\*, Anna Foror, BS\*, and April A. Shea, BA\*, National Medical Services, Inc., 3701 Welsh Road, Willow Grove, PA 19090*

After attending this presentation, attendees will understand the possibility of analyzing GSR samples by ICP-MS regardless of the collection method (swabs or stabs)

This presentation will present the opportunity of utilization of ICPMS as a confirmation technique following the analysis of stubs by SEM/EDX or by other non-destructive technique.

Cotton swabs are currently used for the collection of GSR prior to the quantitative analysis by either atomic absorption (AA) or Inductively Coupled Plasma Mass Spectrometry (ICP-MS). Stubs are traditionally used for the collection of GSR subsequently analyzed by SEM/EDX.

Each of the analytical techniques mentioned above offers unique advantages. Also both of those analytical techniques exhibit unique limitations. Currently the method of collection of GSR dictates which of those techniques will be utilized for the analysis of the samples. This presentation will compare the results of analyzing GSR specimens collected with either swabs or stubs by a single analytical method: ICP-MS. This work demonstrates the opportunity of analyzing the GSR samples by ICP-MS regardless of the method of sample collection. It also presents the possibility of utilizing ICP-MS as a confirmation technique following the analysis of stubs by SEM/EDX or by other non-destructive technique.

**GSR, ICP-MS, SEM/EDX**