

4<sup>th</sup> International Conference and Exhibition on  
**Pathology**

July 13-15, 2015 New Orleans, USA



## *Nancy S Miller*

*Boston University School of Medicine, USA*

### **Laboratory considerations in an era of improved microbial identification**

Clinical microbiologists now have several new non-phenotypic technologies for microbial identification, including DNA sequencing and MALDI-TOF Mass Spectrometry. These offer many advantages when compared to traditional phenotypic methods. But diagnostic laboratories, pathologists, and clinical microbiologists face new practical considerations as they embrace new technologies. Case histories are used to 1) illustrate some benefits and challenges of these new methods; 2) highlight when the former “gold standard” phenotypic knowledge is still relevant and useful; and 3) contemplate what is still missing from our collective diagnostic tool box.

#### **The objectives of this presentation are to:**

1. Review examples of new non-phenotypic methods of microbial identification
2. Briefly review the drivers of technological change in clinical microbiology
3. Use case histories to a) illustrate challenges & benefits of using new technology for microbial identification – with a focus on MALDI-TOF MS and 16s rRNA sequencing; and b) to present circumstances in which knowledge of traditional phenotypic knowledge plus diagnostic skills are still relevant and important.

This is an entertaining, case-based presentation featuring diagnostic microbiology, clinical correlation and management. Information is presented so that non-microbiologists should be able to understand the implications of each case. In-depth aspects of technical methods are not discussed. Instead the focus is on clinical cases that demonstrate the considerations raised by using new technology, while still respecting the role of traditional diagnostic skills, clinical correlation and communication.

### **Biography**

Nancy S Miller earned an M.D. with distinction in research from the State University of New York at Stony Brook. She completed residency (Anatomic and Clinical Pathology) and fellowship training in medical microbiology at the Johns Hopkins Medical Institutions. At Boston Medical Center she is Medical Director of Clinical Microbiology & Molecular Diagnostics. Dr. Miller is an Assistant Professor in the Department of Pathology & Laboratory Medicine at Boston University School of Medicine. She is also current president of the Northeast Branch of the American Society for Microbiology. Dr. Miller's interests include new technology, best practices, and policy and process improvements. She is a clinical Principal Investigator for a variety of translational research involving new diagnostics for infectious diseases, including several collaborations with the Boston University (BU) School of Bioengineering.

[Nancy.Miller@bmc.org](mailto:Nancy.Miller@bmc.org)

### **Notes:**