

Accepted Manuscript

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Sejal Makvana Bhavsar, Tanis C. Dingle, Camille L. Hamula



PII: S0732-8893(18)30178-0
DOI: [doi:10.1016/j.diagmicrobio.2018.05.021](https://doi.org/10.1016/j.diagmicrobio.2018.05.021)
Reference: DMB 14608

To appear in: *Diagnostic Microbiology & Infectious Disease*

Received date: 30 January 2018
Revised date: 27 April 2018
Accepted date: 24 May 2018

Please cite this article as: Sejal Makvana Bhavsar, Tanis C. Dingle, Camille L. Hamula, The impact of blood culture identification by MALDI-TOF MS on the antimicrobial Management of Pediatric Patients. *Dmb* (2018), doi:[10.1016/j.diagmicrobio.2018.05.021](https://doi.org/10.1016/j.diagmicrobio.2018.05.021)

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Title: The Impact of Blood Culture Identification by MALDI-TOF MS on the Antimicrobial Management of Pediatric Patients

Authors: Sejal Makvana Bhavsar, M.D.¹; Tanis C. Dingle, Ph.D., D(ABMM)²; Camille L. Hamula, Ph.D., D(ABMM)²

¹Division of Pediatric Infectious Disease, Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

²Division of Clinical Microbiology, Department of Pathology, Icahn School of Medicine at Mount Sinai, New York, NY, USA

Abstract:

Objective: To assess the impact of MALDI-TOF MS coupled with antimicrobial stewardship on clinical outcomes for pediatric inpatients with bloodstream infections.

Methods: Outcomes of pediatric inpatients were compared before and after MALDI-TOF MS implementation. Outcomes measured included time until organism identification and susceptibility, duration of antibiotics, patient length of stay (LOS), mortality and hospital costs.

Results: 210 and 135 patient events were compared pre- and post-intervention. Average time to organism identification decreased from 41 to 11 hours ($p < 0.0001$). Time to i) susceptibilities decreased from 50.8 to 37.7 hours ($p < 0.0001$), ii) de-escalation of antibiotics decreased from 58 to 23 hours ($p < 0.0001$), iii) discontinuation of unnecessary antibiotics decreased from 49 to 20 hours ($p < 0.0001$). Infection-related LOS decreased from 10.5 to 8.37 days ($p = 0.006$). No significant differences were seen for other outcomes.

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