

An effective intervention to

ALIGN YOUR SEPSIS PROTOCOL & ANTIBIOTIC STEWARDSHIP

Reduce unnecessary antibiotic usage by dramatically increasing your sepsis testing accuracy.

Antibiotic Stewardship programs are one of the most critical mechanisms for reducing antibiotic resistance with the goal to provide every patient with the right antibiotic, at the right time, at the right dose, and for the right duration. The National Action Plan of antibiotic usage by 2020 demands strong antibiotic stewardship programs in all hospitals.

Due to the severe, life threatening nature of sepsis, most sepsis management protocols require immediate action in the form of broad-spectrum antibiotic therapy. Blood culture results play a critical part in determining the next steps in the treatment path. Therapy can be de-escalated for patients with a negative blood culture, but typically continued for any patient with positive blood culture results.

The challenge is that between 30-50% of positive blood cultures are actually false positive due to contamination. The resulting positive predictive value, as low as 50%, would not be acceptable for any other diagnostic test. In fact, blood cultures are one of the most important tests in microbiology, yet they have been named one of “the worst tests in microbiology,” according to Chris Doern, PhD, Director of Clinical Microbiology at VCU School of Medicine.¹

Even when rapid molecular diagnostic technologies are used for organism identification, final diagnosis and clinical decision-making is impaired since 15-40% of potential contaminants, such as coagulase-negative staphylococci, are actually the source of true bacteremia.

This leaves physicians with a dilemma in determining the appropriate treatment for patients with a positive blood culture.

More often than not, antibiotic treatment is continued, and additional testing is ordered. Patients are subjected to unnecessary antibiotics with attendant risks of secondary infection such as *C. difficile*, Multidrug Resistant Organisms (MDROs) and other antibiotic-associated complications.² Inappropriate antibiotic usage is the principal driver of antibiotic resistance and directly conflicts with antibiotic stewardship programs.

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Realize important evidence-based opportunities and methods to improve antibiotic use for several infections and/or situations. e.g.: inappropriate treatment of culture contaminants.

–National Quality Partner’s Playbook: Antibiotic Stewardship in Acute Care, National Quality Forum

THE EFFECT OF CONTAMINATION

BCC (blood culture contamination) has been associated with increased laboratory workloads, extended length of stay, and increased costs particularly caused by antibiotic use, patient adverse effects, development of *C. difficile* infection, and contribution to the continuing emergence of antibiotic-resistant bacteria.²

So... What can be done to align these critical initiatives?

The answer is simple— improve your testing accuracy. Eliminating false-positive blood culture results would end this diagnostic uncertainty, guide appropriate treatment, and dramatically reduce unnecessary antibiotic treatment. There is now an evidence-based technology that enables you to trust your blood culture results.

Steripath was designed to mechanically divert and sequester contaminants, virtually eliminating false-positive results for sepsis. It has been clinically proven to deliver sustained contamination rates as low as 0.2% (P=0.001) in the ED, and a positive predictive value as high as 97%.³ This improved testing accuracy has been shown to reduce vancomycin days of therapy up to 37%⁴ in a retrospective analysis conducted by the San Antonio Military Medical Center.

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Steripath may be the easiest and fastest route to significantly impact antibiotic stewardship within the hospital.”

—Lindsey Nielsen, PhD
 CPEP Fellow, University of Nebraska Medical Center

Aligning your sepsis protocol and antibiotic stewardship is not a complicated project. At an average sized hospital, all staff can be trained in a matter of days. Immediately after adoption, the benefits to your patients and antibiotic stewardship program can begin to be realized. A money-back guarantee of at least a 50% sustained reduction in false positives provides a risk-free path to improved patient care and antibiotic stewardship.



NATIONAL QUALITY PARTNERS PLAYBOOK™:

ANTIBIOTIC STEWARDSHIP MEASUREMENT GUIDE⁵

Steripath Gen2 directly impacts many NQF recommended performance measurement metrics

PROCESS

- ✓ Percentage of cases where therapy is appropriate (*esp. for serious infections, such as sepsis*)
- ✓ Frequency at which de-escalation occurs
- ✓ Appropriate cultures obtained before starting antibiotics
- ✓ Timely administration of appropriate antibiotics in case of suspected sepsis

OUTCOME

- ✓ Length of stay
- ✓ Risk-adjusted mortality
- ✓ Hospital-onset *C. difficile* infections
- ✓ Adverse drug reactions (number%/rate)
- ✓ Hospital readmissions for select infections
- ✓ Antimicrobial resistance - focusing on hospital-onset cases would most likely best reflect the impact of ASPs

FINANCIAL

- ✓ Antibiotic cost per patient day
- ✓ Antibiotic cost per admission
- ✓ Total hospital cost per admission

References: (1) Reference on file (2) Robert Garcia, et al., American Journal of Infection Control, 2017. (3) Rupp, Mark E. "Reduction in Blood Culture Contamination Through Use of Initial Specimen Diversion Device." R. Jennifer Cavaliere, Cole Marolf, Elizabeth Lyden, Clin Infect Dis 2017; cix304. doi: 10.1093/cid/cix304 (4) D. Chang, et al. "Impact of Blood Culture Diversion Device and Molecular Pathogen Identification on Vancomycin Use." Society of Healthcare Epidemiology of America (SHEA) Conference (Spring 2017). (5) National Quality Forum, "National Quality Partners Playbook™": Antibiotic Stewardship in Acute Care." https://www.qualityforum.org/Publications/2016/05/National_Quality_Partners_Playbook__Antibiotic_Stewardship_in_Acute_Care.aspx 2016. MM00074, REV A