BCID2 Blood Culture Results and Action Plan				
Species	**Resistance genes detected**	**Interpretation**	**Empiric therapy[1]**	**Comments[2]**
GRAM-POSITIVE BACTERIA				
Enterococcus faecalis	None detected	Vancomycin susceptible	Ampicillin	99.5% of all *E. faecalis* are ampicillin-susceptible
	Van A/B	Vancomycin resistant	Ampicillin	
Enterococcus faecium	None detected	Vancomycin susceptible	Vancomycin	Ampicillin if susceptibility confirmed by conventional testing
	Van A/B	Vancomycin resistant	Daptomycin[3] or linezolid	
Listeria monocytogenes			Ampicillin Severe illness: + gentamicin	
Staphylococcus aureus	None detected	Methicillin susceptible	Oxacillin[4] or cefazolin CNS infection: oxacillin	
	mecA/C	Methicillin resistant	Vancomycin	
Staphylococcus epidermidis	None detected	Methicillin susceptible	Oxacillin[4] or cefazolin	Single blood culture suspect for contaminant
	mecA/C	Methicillin resistant	Vancomycin	
Staphylococcus lugdunensis	None detected	Methicillin susceptible	Oxacillin[4] or cefazolin	Single blood culture suspect for contaminant
	mecA/C	Methicillin resistant	Vancomycin	
Staphylococcus species	Note: mecA/C will not be reported	Other *Staphylococcus spp* (not *S.aureus, epidermidis, lugdunensis*)	Vancomycin	Single blood culture suspect for contaminant
Streptococcus agalactiae		Group B streptococcus	Ampicillin or penicillin	
Streptococcus pneumoniae			Ceftriaxone Add vancomycin if meningitis	Tailor therapy based on susceptibility data
Streptococcus pyogenes		Group A streptococcus	Ampicillin or penicillin Toxin-mediated: add clindamycin	
Streptococcus species		Other Streptococcus species (not Group A, Group B or *pneumoniae*)	Ceftriaxone	Single blood culture suspect for contaminant Possibility of *Strep anginosus* in correct clinical context (ie. head/neck infection)

GRAM-NEGATIVE BACTERIA				
Acinetobacter baumannii	*		Ampicillin/sulbactam	
Bacteroides fragilis			Metronidazole	
Enterobacter cloacae	*		Cefepime Critically ill: meropenem	Piperacillin/tazobactam, ceftriaxone, and ceftazidime not recommended due to inducible beta-lactamases, even if susceptible in vitro
Escherichia coli	*		Ceftriaxone	Narrow based on susceptibilities
Haemophilus influenzae			Ceftriaxone	Ampicillin if susceptibility confirmed by conventional testing
Klebsiella aerogenes	*		Cefepime Critically ill: meropenem	Piperacillin/tazobactam, ceftriaxone, ceftazidime not recommended due to inducible beta-lactamases, even if susceptible in vitro
Klebsiella oxytoca	*		Ceftriaxone	Narrow based on susceptibilities
Klebsiella pneumoniae	*		Ceftriaxone	Narrow based on susceptibilities
Neisseria meningitidis			Ceftriaxone	Susceptibility not routinely reported
Proteus species	*		Ceftriaxone	Narrow based on susceptibilities
Pseudomonas aeruginosa	*		Cefepime Critically ill: meropenem	Recommend ID consult
Salmonella species	*		Ceftriaxone	
Serratia marcescens	*		Cefepime	
Stenotrophomonas maltophilia			TMP/SMX	Recommend adding a 2nd agent and ID consult
Enterobacterales	*	General target for Enteric bacteria. Examples: *Citrobacter* species, other *Enterobacter* species, *Morganella* species, *Pantoea* species, *Providencia* species, *Cronobacter* species, etc.	Cefepime	
IF GRAM-NEGATIVE RESISTANCE MARKERS DETECTED*				

Enterobacter cloacae, Escherichia coli, Klebsiella aerogenes, Klebsiella oxytoca, Klebsiella pneumoniae, Proteus species*, Salmonella* species*, or Serratia marcescens*	CTX-M	ESBL-producer	Meropenem	
	KPC or OXA-48	Carbapenem-resistant	Ceftazidime/avibactam[5]	Recommend ID consult
	IMP, NDM, or VIM	MBL producer (carbapenem-resistant)	Ceftazidime/avibactam[5] + aztreonam	Recommend ID consult
	mcr-1	Colistin-resistant	Avoid colistin/polymixin B	Therapy choices limited; Recommend ID consult
Pseudomonas aeruginosa	KPC, IMP, OXA-48, NDM, or VIM	Carbapenem-resistant	Depends on resistance marker	Therapy choices limited; Recommend ID consult
Acinetobacter baumannii	KPC, IMP, OXA-48, NDM, or VIM	Carbapenem-resistant	Ampicillin/sulbactam + minocycline	Recommend ID consult
YEAST				
Candida albicans			Fluconazole Critically ill: add micafungin	
Candida auris			Micafungin Neonate or CNS: amphotericin	High fluconazole resistance Recommend ID consult
Candida glabrata			Micafungin Neonate or CNS: amphotericin	Variable fluconazole resistance
Candida krusei			Micafungin Neonate or CNS: amphotericin	Intrinsic fluconazole resistance
Candida parapsilosis			Fluconazole Critically ill – add mica	Higher MICs to micafungin
Candida tropicalis			Micafungin	Fluconazole if susceptibility confirmed by conventional testing
Cryptococcus neoformans/gattii			Liposomal amphotericin B	

Footnotes:

1: Recommendations based on Children's Wisconsin antibiogram data

2: Contact Infectious Diseases or Pharmacy for alternatives in patients with reported drug allergies

3: Inactivated by lung surfactant; do not use if source is pneumonia or other lung infection

4: May cause vein irritation; central line access preferred

Quick facts about Biofire FilmArray Blood Culture Identification 2 (BCID2) Panel

- BCID2 is an FDA-approved multi-plex PCR assay that detects a limited number of commonly-identified bloodstream pathogens in about 1 hour.
- BCID2 can differentiate between MSSA and MRSA as well as identify VRE
- BCID2 can identify common resistance markers for Gram negative pathogens
- Molecular blood culture tests improve turnaround time by 30-40 hours compared to standard methodologies
- Studies show use of rapid diagnostics can improve patient outcomes (e.g., decrease time to appropriate therapy, decrease length of stay, and potentially cost savings) with real-time notification of results

Resources are intended for informational purposes only. Resources are current at the date of publication and reviewed on a regular basis to align with best available evidence. It is not intended to establish a protocol for all patients or replace a clinician's judgment. Adherence to this resource is voluntary. Medicine is a dynamic science; as research and clinical experience enhance and inform the practice of medicine, changes in recommendations may be required. Neither the authors nor Children's Hospital and Health System, Inc. warrant the information contained is in every respect accurate or complete, and are not responsible for errors in, omissions from, or results obtained from the use of this information. Readers are encouraged to confirm the information contained in this work with other sources.

Original: 03-2023
Revised: 11-2023, 3-2024, 9-2025
Process owner: Antimicrobial Stewardship and Microbiology