VANDERBILT V UNIVERSITY

MEDICAL CENTER

Carbapenem Resistant Enterobacteriaceae (CRE) Treatment Algorithm

Infectious Diseases and Infection Control should be notified of <u>all</u> CRE infection!

Use the following guidelines if

1. CRE isolate reported by Verigene® from bloodstream <u>or</u>
2. Sepsis with history of documented CRE infection in the past 90 days

Contact Microbiology to request sensitivity to ceftazidime-avibactam +/- ceftolozane-tazobactam

Isolates will not be routinely tested against these agents without special request

Promptly de-escalate therapy per sensitivity data

Remember that isolates detected as CRE by Verigene® can remain phenotypically susceptible to common drug classes

	Initial Therapy	Sensitivity Known
Pathogen Unknown[1]	meropenem + colistimethate	adjust per speciation and sensitivity report (see "Pathogen Known" below)

[1] rapid diagnostics pending or unable to detect target

	Genus	Initial Therapy	Sensitive to	Adjusted Therapy
Pathogen Known[1] (confirmed but phenotype pending)	*Acinetobacter*	meropenem + colistimethate	meropenem, cephalosporin or quinolone	de-escalate appropriately
			only aminoglycoside or colistin	meropenem + colistimethate (vs colistin monotherapy[3])
	Pseudomonas	ceftolozane-tazobactam[2] + colistimethate	meropenem, cephalosporin or quinolone	de-escalate appropriately
			ceftolozane-tazobactam	ceftolozane-tazobactam
			only ceftazidime-avibactam	ceftazidime-avibactam
			only aminoglycoside or colistin	meropenem + colistimethate (vs colistin monotherapy[3])
	Enterobacteriaceae (e.g., *E. coli*, *Klebsiella*, *Enterobacter*)	ceftazidime-avibactam[2] + colistimethate	meropenem, cephalosporin or quinolone	de-escalate appropriately
			ceftazidime-avibactam	ceftazidime-avibactam
			only aminoglycoside or colistin	meropenem + colistimethate (vs colistin monotherapy[3])

[1] only for KPC or OXA isolates confirmed by Verigene® (treat other gene expression as "Pathogen Unknown")

[2] add empiric metronidazole for intra-abdominal infection

[3] Paul et al Lancet 2018

Date revised: 4/18/18