

# Antimicrobial Susceptibility Testing (AST) Selection

## Method Overview

	Organism Category	CLSI	Primary	Alternate(s)	Notes
GNR	<i>Enterobacteriales</i>	M100	V <a href="#">NR07:MN30</a>	⊙/ε S <a href="#">MORGANZE</a>	
	<i>Pseudomonas aeruginosa</i>	M100	Non-CF: V <a href="#">NR07:MN30</a> CF/Mucoid: ⊙	⊙/ε S <a href="#">MORGANZE</a>	
	<i>Acinetobacter</i> spp.	M100	V <a href="#">NR07:MN30</a>	⊙/ε S <a href="#">MORGANZE</a>	
	<i>Burkholderia cepacia</i> complex	M100	ε	ARUP: 0060216	
	<i>Stenotrophomonas maltophilia</i>	M100	ε	⊙ S <a href="#">MORGANZE</a>	
	Other non-Enterobacteriales	M100	ε	ARUP: 0060216	<i>Pseudomonas</i> spp. and other non-fastidious, glucose-nonfermenting, GNRs not listed elsewhere
	<i>Haemophilus influenzae/parainfluenzae</i>	M100	ARUP: 0060345	N/A	
	<i>Aeromonas</i> spp.	M45	⊙	ARUP: 0060200	
	<i>Campylobacter jejuni/coli</i>	M45	ARUP: 0060200	N/A	
	HACEK group, not <i>H. influenzae/parainfluenzae</i>	M45	ARUP: 0060345	N/A	HACEK: <i>Haemophilus</i> , <i>Aggregatibacter</i> , <i>Cardiobacterium</i> , <i>Eikenella</i> , and <i>Kingella</i> spp.
	<i>Helicobacter pylori</i>	M45	ARUP: 2006686	MAYO: HPFRP	Children or treatment failure
	<i>Pasteurella</i> spp.	M45	⊙	ARUP: 0060200	
	<i>Morax</i> spp.	M45	⊙	ARUP: 0060200	Usually performed on extra-intestinal sites only
GNC	<i>Neisseria gonorrhoeae</i>	M100	None	N/A	
	<i>Neisseria meningitidis</i>	M100	None	N/A	!!! Do not manipulate <i>N. meningitidis</i> outside of a biosafety cabinet
	<i>Moraxella catarrhalis</i>	M45	ARUP: 0060345	N/A	
GPC	<i>Staphylococcus</i> spp.	M100	V <a href="#">ST05</a>	⊙/ε	
	<i>Enterococcus</i> spp.	M100	V <a href="#">ST05</a>	⊙/ε	
	<i>Streptococcus pneumoniae</i>	M100	V <a href="#">ST02</a>	⊙/ε	
	<i>Streptococcus</i> spp., <i>hemolytic</i>	M100	V <a href="#">ST02</a>	⊙/ε	Large-colony (>0.5mm) <i>S. pyogenes</i> , <i>S. agalactiae</i> , and <i>S. dysgalactiae</i> , <i>S. equi</i> , <i>S. canis</i> , and <i>S. porcinus</i>
	<i>Streptococcus</i> spp., <i>viridans</i> group	M100	V <a href="#">ST02</a>	⊙/ε	<i>S. mutans</i> , <i>S. salivarius</i> , <i>S. equinus</i> , <i>S. anginosus</i> , and <i>S. mitis</i> groups
	<i>Abiotrophia</i> spp. and <i>Granulicatella</i> spp.	M45	ARUP: 0060200	N/A	
	<i>Erysipelothrix rhusiopathiae</i>	M45	ARUP: 0060346	N/A	! Intrinsic resistant to vancomycin
	<i>Gamella</i> spp.	M45	ARUP: 0060200	N/A	
	<i>Leuconostoc</i> spp.	M45	ARUP: 0060200	N/A	! Intrinsic resistant to vancomycin
	<i>Micrococcus</i> spp.	M45	ARUP: 0060200	N/A	
	<i>Pediococcus</i> spp.	M45	ARUP: 0060200	N/A	! Intrinsic resistant to vancomycin
<i>Rothia mucilaginosa</i>	M45	ARUP: 0060200	N/A		
GPR	<i>Listeria monocytogenes</i>	M45	ARUP: 0060346	N/A	Only for treatment failure or patient with penicillin allergy
	<i>Lactobacillus</i> spp.	M45	ARUP: 0060346	N/A	! Intrinsic resistant to vancomycin
	<i>Corynebacterium striatum</i> and <i>C. jeikeium</i>	M45	ε	ARUP: 0060346	In-house validated for ciprofloxacin, penicillin, and vancomycin
	<i>Corynebacterium</i> spp., other	M45	ε	ARUP: 0060346	In-house validated for ciprofloxacin, penicillin, and vancomycin
	<i>Bacillus</i> spp., not <i>B. anthracis</i>	M45	ARUP: 0060346	N/A	
Other	Bioterrorism and biothreat agents	M45	N/A	N/A	!!! Do not manipulate suspected <i>B. anthracis</i> , <i>Y. pestis</i> , <i>B. mallei</i> , <i>B. pseudomallei</i> , <i>F. tularensis</i> , <i>Brucella</i> spp., and <i>C. botulinum</i> unless as directed for rule-out, shipping, or destruction
	<i>Mycobacterium</i> spp.	M24	ARUP: 0060217	NJH: APPRO	
	<i>Nocardia</i> spp.	M24	ARUP: 0060193	N/A	
	Anaerobe, obligate, GN or GP	M100	ARUP: 0060202	N/A	
	Other, not otherwise specified	N/A	ARUP: 0060200	N/A	
Fungal	<i>Candida</i> spp.	M27	S <a href="#">ST01</a>	ARUP: 2009257	Only rezafungin CLSI breakpoints for <i>C. auris</i> , others CDC; <i>C. krusei</i> intrinsically resistant to fluconazole
	<i>Cryptococcus neoformans/gattii</i>	N/A	ARUP: 2009257	UTHSCSA	Intrinsically resistant to echinocandins (anidulafungin, caspofungin, micafungin, rezafungin)
	Yeast, other than above	N/A	ARUP: 2009257	UTHSCSA	Intrinsically resistant to echinocandins
	Molds	M38	ARUP: 2009257	UTHSCSA	Fosmanogepix offered through UTHSCSA, treatment approval must accompany requisition

KEY:	V VITEK AST	⊙ Disk Diffusion	ε E-Test	S Sensititre	Perform per procedure	Perform upon request	Consult DMT if requested	Never perform
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# Antimicrobial Susceptibility Testing (AST) Selection

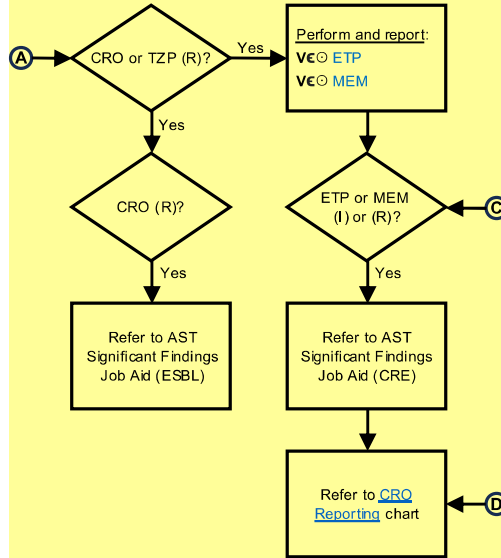
## Enterobacterales, non-AmpC<sup>1</sup>

### Perform and Report When Indicated

Urine	Code	Drug	Notes
	V⊙€	AM Ampicillin <sup>IR</sup>	
	V⊙€	SAM Ampicillin/Sulbactam <sup>IR</sup>	
	V⊙	CZ Cefazolin <sup>2JR</sup> (urine)	
	V⊙	CRO Ceftriaxone	→A
	V⊙€	CIP Ciprofloxacin	
	V⊙€	GM Gentamicin	
	V⊙€	LVX Levofloxacin	
	V⊙	FM Nitrofurantoin <sup>IR</sup>	
	V⊙€	TZP Piperacillin/Tazobactam	→A
	V⊙€	SXT Trimethoprim/Sulfamethoxazole	
CSF	Code	Drug	Notes
	V⊙€	AM Ampicillin <sup>IR</sup>	
	V⊙	CRO Ceftriaxone	→A
	V⊙€	GM Gentamicin	
Other	Code	Drug	Notes
	V⊙€	AM Ampicillin <sup>IR</sup>	
	V⊙€	SAM Ampicillin/Sulbactam <sup>IR</sup>	
	V⊙	CZ Cefazolin <sup>2JR</sup> (other)	
	V⊙	CRO Ceftriaxone	→A
	V⊙€	CIP Ciprofloxacin	
	V⊙€	GM Gentamicin	
	V⊙€	LVX Levofloxacin	
	V⊙€	TZP Piperacillin/Tazobactam	→A
	V⊙€	SXT Trimethoprim/Sulfamethoxazole	

Manual AST Conditions (M100):  
MHA; 35±2°C; O<sub>2</sub>: 16-18h

### Cascades and Reflexes



### Perform and Report Upon Request

All Sites	Code	Drug	Notes
	X⊙€	AN Amikacin	
	X⊙	AMC Amoxicillin/Clavulanate <sup>IR</sup>	
	X⊙	ATM Aztreonam	
	V⊙€	FEP Cefepime	
	⊙	FDC Cefiderocol <sup>DMT</sup>	
	V⊙	FOX Cefoxitin <sup>IR</sup>	
	€	CPT Ceftaroline	
	V	CEFUR Cefuroxime	
	V⊙€	CAZ Ceftazidime	
	X€	CZA Ceftazidime/Avibactam	
	X€	CT Ceftolozane/Tazobactam	
	S	CL Colistin <sup>IR</sup>	
	⊙	D Doxycycline <sup>3JR</sup>	
	V⊙€	ETP Ertapenem	→C
	X	IPM Imipenem	
	V⊙€	MEM Meropenem	→C
	X	MEV Meropenem/Vaborbactam	→D
	X€⊙	MI Minocycline <sup>3JR</sup>	
	⊙	TE Tetracycline <sup>3</sup>	
	X	TGC Tigecycline <sup>IR</sup>	
	X⊙€	NN Tobramycin	
Urine	Code	Drug	Notes
	⊙	FOSFO Fosfomycin (E. coli only)	

### Do Not Perform or Report

All Sites	Code	Drug
	X⊙€	CTX Cefotaxime
	X	CEFPD Cefpodoxime
	V	CEFUR Cefuroxime, axetil
	⊙	CC Clindamycin <sup>IR</sup>
	€	DAP Daptomycin <sup>IR</sup>
	X	ERV Eravacycline
	⊙	E Erythromycin <sup>IR</sup>
	⊙	FOSFO Fosfomycin (non-E. coli)
	⊙	GENTH Gentamicin High Level
	X	IMR Imipenem/Relebactam
	⊙€	P Penicillin
	X	PB Polymyxin B
	⊙	RA Rifampin <sup>IR</sup>
	⊙€	VA Vancomycin <sup>IR</sup>

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>DMT</sup> DMT approval required.

<sup>1</sup> AmpC producers are *Serratia marcescens*, *Providencia* spp., *Morganella morganii*, *Citrobacter freundii* group, *Enterobacter cloacae* complex, and *Klebsiella aerogenes*. Other Enterobacterales (excluding *Salmonella/Shigella*) are considered non-AmpC for AST.

<sup>2</sup> *Escherichia coli*, *Klebsiella pneumoniae*, and *Proteus mirabilis* only. Pay special attention to the site of isolation due to different interpretive breakpoints. Refer to CLSI M100 for details.

<sup>3</sup> Tetracycline susceptibility predicts doxycycline and minocycline susceptibility, but doxycycline and/or minocycline may be susceptible if tetracycline is non-susceptible. Recommend direct testing of doxycycline or minocycline if intended to be used for therapy.

<sup>IR</sup> Intrinsically resistant in some Enterobacterales. Refer to the *AST Significant Findings Job Aid* for organism-specific intrinsic resistance prior to performing manual AST. VITEK results automatically include intrinsic resistance considerations for reporting.

# Antimicrobial Susceptibility Testing (AST) Selection

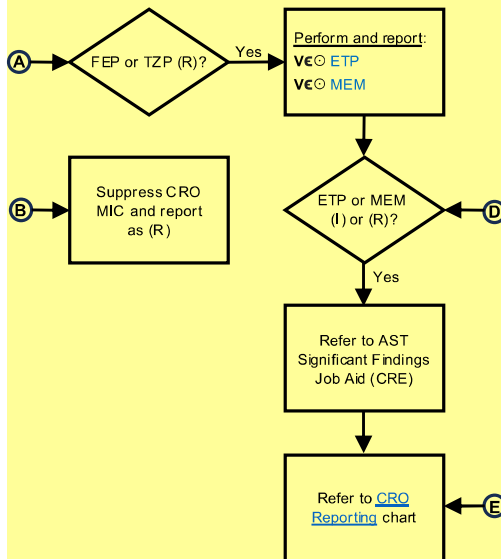
## Enterobacteriales, AmpC<sup>1</sup>

### Perform and Report When Indicated

Urine	V⊙€	SAM	Ampicillin/Sulbactam <sup>IR</sup>
	V⊙	FEP	Cefepime → <b>A</b>
		CRO	Ceftriaxone (no perform) → <b>B</b>
	V⊙€	CIP	Ciprofloxacin
	V⊙€	GM	Gentamicin
	V⊙€	LVX	Levofloxacin
	V⊙	FM	Nitrofurantoin <sup>IR</sup>
CSF	V⊙€	TZP	Piperacillin/Tazobactam → <b>A</b>
	V⊙€	SXT	Trimethoprim/Sulfamethoxazole
CSF	V⊙	FEP	Cefepime → <b>A</b>
		CRO	Ceftriaxone (no perform) → <b>B</b>
	V⊙€	GM	Gentamicin
Other	V⊙€	SAM	Ampicillin/Sulbactam <sup>IR</sup>
	V⊙	FEP	Cefepime → <b>A</b>
		CRO	Ceftriaxone (no perform) → <b>B</b>
	V⊙€	CIP	Ciprofloxacin
	V⊙€	GM	Gentamicin
	V⊙€	LVX	Levofloxacin
V⊙€	TZP	Piperacillin/Tazobactam → <b>A</b>	
V⊙€	SXT	Trimethoprim/Sulfamethoxazole	

Manual AST Conditions (M100):  
MHA; 35±2°C; O<sub>2</sub>: 16-18h

### Cascades and Reflexes



### Perform and Report Upon Request

All Sites	X⊙€	AN	Amikacin
	X⊙	AMC	Amoxicillin/Clavulanate <sup>IR</sup>
	⊙	FDC	Cefiderocol <sup>DMT</sup>
	X€	CZA	Ceftazidime/Avibactam
	X€	CT	Ceftolozane/Tazobactam
	S	CL	Colistin <sup>IR</sup>
	⊙	D	Doxycycline <sup>2,IR</sup>
	V⊙€	ETP	Ertapenem → <b>D</b>
	X	IPM	Imipenem
	V⊙€	MEM	Meropenem → <b>D</b>
	X	MEV	Meropenem/Vaborbactam → <b>E</b>
	X€⊙	MI	Minocycline <sup>2,IR</sup>
	⊙	TE	Tetracycline <sup>2</sup>
	X	TGC	Tigecycline <sup>IR</sup>
X⊙€	NN	Tobramycin	

### Do Not Perform or Report

All Sites	V⊙€	AM	Ampicillin <sup>IR</sup>
	X⊙	ATM	Aztreonam
	V⊙	CZ	Cefazolin
	X⊙€	CTX	Cefotaxime
	V⊙	FOX	Cefoxitin
	X	CEFPD	Cefpodoxime
	€	CPT	Ceftaroline
	V⊙€	CAZ	Ceftazidime
	V⊙	CRO	Ceftriaxone
	V	CEFUR	Cefuroxime <sup>IR</sup>
	V	CEFUR	Cefuroxime, axetil <sup>IR</sup>
	⊙	CC	Clindamycin <sup>IR</sup>
	€	DAP	Daptomycin <sup>IR</sup>
	X	ERV	Eravacycline
	⊙	E	Erythromycin <sup>IR</sup>
	⊙	FOSFO	Fosfomycin
	⊙	GENTH	Gentamicin High Level
	X	IMR	Imipenem/Relebactam
	⊙€	P	Penicillin
	X	PB	Polymyxin B
⊙	RA	Rifampin <sup>IR</sup>	
⊙€	VA	Vancomycin <sup>IR</sup>	

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>DMT</sup> DMT approval required.

<sup>1</sup> AmpC producers are *Serratia marcescens*, *Providencia* spp., *Morganella morganii*, *Citrobacter freundii* group, *Enterobacter doacae* complex, and *Klebsiella aerogenes*. Other Enterobacteriales (excluding *Salmonella/Shigella*) are considered non-AmpC for AST.

<sup>2</sup> Tetracycline susceptibility predicts doxycycline and minocycline susceptibility, but doxycycline and/or minocycline may be susceptible if tetracycline is non-susceptible. Recommend direct testing of doxycycline or minocycline if intended to be used for therapy.

<sup>IR</sup> Intrinsically resistant in some Enterobacteriales. Refer to the *AST Significant Findings Job Aid* for organism-specific intrinsic resistance prior to performing manual AST. VITEK results automatically include intrinsic resistance considerations for reporting.

# Antimicrobial Susceptibility Testing (AST) Selection

## *Salmonella*<sup>1</sup> and *Shigella* spp.

### Perform and Report When Indicated

CSF	V⊖€	AM	Ampicillin
	V⊖	CRO	Ceftriaxone
	V€⊖	CIP	Ciprofloxacin <sup>2</sup>
	V€⊖	LVX	Levofloxacin <sup>2</sup>
Stool	V⊖€	AM	Ampicillin
	V⊖	CRO	Ceftriaxone
	V€⊖	CIP	Ciprofloxacin <sup>2</sup>
	V⊖€	SXT	Trimethoprim/Sulfamethoxazole
Other	V⊖€	AM	Ampicillin
	V⊖	CRO	Ceftriaxone
	V€⊖	CIP	Ciprofloxacin <sup>2</sup>
	V⊖€	SXT	Trimethoprim/Sulfamethoxazole

Manual AST Conditions (M100):  
MHA; 35±2°C; O<sub>2</sub>: 16-18h

### Cascades and Reflexes

### Perform and Report Upon Request

All Sites	V⊖€	MEM	Meropenem <sup>DMT</sup>
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### Do Not Perform or Report

All Sites	⊖€	AN	Amikacin
	⊖	AMC	Amoxicillin/Clavulanate
	V⊖€	SAM	Ampicillin/Sulbactam
	⊖	ATM	Aztreonam
	V⊖	CZ	Cefazolin
	V⊖€	FEP	Cefepime
	⊖	FDC	Cefiderocol
	⊖€	CTX	Cefotaxime
	V⊖	FOX	Cefoxitin
	€	CPT	Ceftaroline
	V⊖€	GAZ	Ceftazidime
	€	CZA	Ceftazidime/Avibactam
	€	CT	Ceftolozane/Tazobactam
	V	CEFUR	Cefuroxime
	V	CEFUR	Cefuroxime, axetil
	⊖	D	Doxycycline
	V⊖€	ETP	Ertapenem
	⊖	FOSFO	Fosfomycin
	⊖	CC	Clindamycin <sup>IR</sup>
	€	DAP	Daptomycin <sup>IR</sup>
⊖	E	Erythromycin <sup>IR</sup>	
V⊖€	GM	Gentamicin	
⊖	GENTH	Gentamicin High Level	
€⊖	MI	Minocycline	
V⊖	FM	Nitrofurantoin	
V⊖€	TZP	Piperacillin/Tazobactam	
⊖	RA	Rifampin <sup>IR</sup>	
⊖	TE	Tetracycline	
⊖€	NN	Tobramycin	
⊖€	VA	Vancomycin <sup>IR</sup>	

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>DMT</sup> DMT approval required.

<sup>1</sup> Routine AST is not indicated for nontyphoidal *Salmonella* spp. (not *S. enterica* serovar Typhi and *S. enterica* serovar Paratyphi A-C) isolated from intestinal sources, such as stool.

<sup>2</sup> *Salmonella* spp. and *Shigella* spp. have different fluoroquinolone interpretative breakpoints. Pay special attention to headers in CLSI M100 when interpreting results.

<sup>IR</sup> Intrinsically resistant. Do not perform manual AST. VITEK results automatically include intrinsic resistance considerations for reporting.

# Antimicrobial Susceptibility Testing (AST) Selection

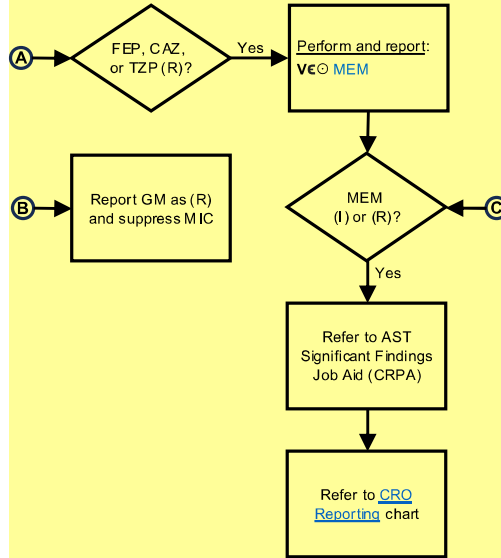
## *Pseudomonas aeruginosa*

### Perform and Report When Indicated

CSF	V O E	FEP	Cefepime	→ A
	V O E	CAZ	Ceftazidime	→ A
	V O E	CIP	Ciprofloxacin	
	V O E	LVX	Levofloxacin	
CFI	O	FEP	Cefepime	
	O	CAZ	Ceftazidime	
	O	CIP	Ciprofloxacin	
	O	GM	Gentamicin (no perform)	→ B
	O	LVX	Levofloxacin	
	O	TZP	Piperacillin/Tazobactam	
Other	V O E	FEP	Cefepime	→ A
	V O E	CAZ	Ceftazidime	→ A
	V O E	CIP	Ciprofloxacin	
	V O E	GM	Gentamicin (no perform)	→ B
	V O E	TZP	Piperacillin/Tazobactam	→ A

Manual AST Conditions (M100):  
MHA; 35±2°C; O<sub>2</sub>: 16-18h

### Cascades and Reflexes



### Perform and Report Upon Request

All Sites	X O	ATM	Aztreonam	
	O	FDC	Cefiderocol <sup>DMT</sup>	
	X E	CZA	Ceftazidime/Avibactam	
	X E	CT	Ceftolozane/Tazobactam	
	X	IPM	Imipenem	
	S	IMR	Imipenem/Relebactam	
Urine	V O E	MEM	Meropenem	→ C
	X O E	NN	Tobramycin	
	X O E	AN	Amikacin	

### Do Not Perform or Report

All Sites	X O	AMC	Amoxicillin/Clavulanate <sup>IR</sup>
	V O E	AM	Ampicillin <sup>IR</sup>
	V O E	SAM	Ampicillin/Sulbactam <sup>IR</sup>
	V O	CZ	Cefazolin <sup>IR</sup>
	X O E	CTX	Cefotaxime <sup>IR</sup>
	V O	FOX	Cefoxitin <sup>IR</sup>
	X	CEFPD	Cefpodoxime
	E	CPT	Ceftaroline
	V O	CRO	Ceftriaxone <sup>IR</sup>
	V	CEFUR	Cefuroxime <sup>IR</sup>
	V	CEFUR	Cefuroxime, axetil <sup>IR</sup>
	O	CC	Clindamycin <sup>IR</sup>
	S	CL	Colistin
	E	DAP	Daptomycin <sup>IR</sup>
	V O	D	Doxycycline <sup>IR</sup>
	X	ERV	Eravacycline
	V O E	ETP	Ertapenem <sup>IR</sup>
	O	E	Erythromycin <sup>IR</sup>
	O	FOSFO	Fosfomycin
	V O E	GM	Gentamicin <sup>IR</sup>
O	GENTH	Gentamicin High Level	
X	MEV	Meropenem/Vaborbactam	
X E O	MI	Minocycline <sup>IR</sup>	
V O	FM	Nitrofurantoin	
O E	P	Penicillin <sup>IR</sup>	
X	PB	Polymyxin B	
O	RA	Rifampin <sup>IR</sup>	
V O E	SXT	Trimethoprim/Sulfamethoxazole <sup>IR</sup>	
O	TE	Tetracycline <sup>IR</sup>	
X	TGC	Tigecycline <sup>IR</sup>	
O E	VA	Vancomycin <sup>IR</sup>	

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>1</sup> May require extended incubation up to 48 hours.

<sup>IR</sup> Intrinsically resistant. Do not perform manual AST. VITEK results automatically include intrinsic resistance considerations for reporting.

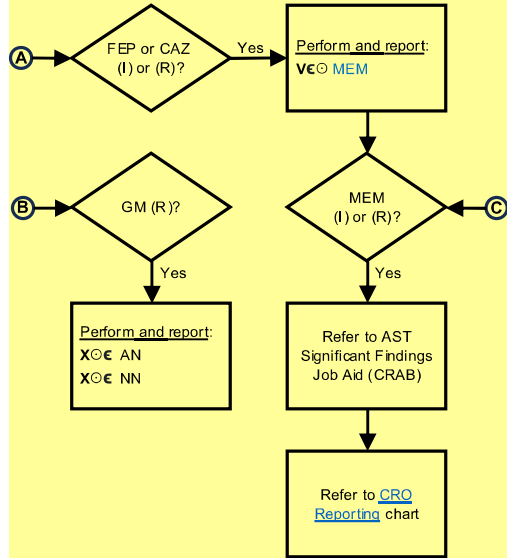
# Antimicrobial Susceptibility Testing (AST) Selection

## Acinetobacter spp.

### Perform and Report When Indicated

CSF	Method	Antibiotic	Report
⊙€	FEP	Cefepime	→A
V⊙€	CAZ	Ceftazidime	→A
V⊙€	SAM	Ampicillin/Sulbactam	
⊙€	FEP	Cefepime	→A
V⊙€	CAZ	Ceftazidime	→A
V⊙€	CIP	Ciprofloxacin	
V⊙€	GM	Gentamicin	→B
V⊙€	LVX	Levofloxacin	
V⊙€	TZP	Piperacillin/Tazobactam	
V⊙€	SXT	Trimethoprim/Sulfamethoxazole	

### Cascades and Reflexes



### Perform and Report Upon Request

Method	Antibiotic	Report
X⊙€	AN	Amikacin
X⊙	ATM	Aztreonam
⊙	FDC	Cefiderocol (A. b.-c. complex only)
V⊙	CRO	Ceftriaxone
V⊙€	CIP	Ciprofloxacin
S	CL	Colistin <sup>DMT</sup>
X⊙	D	Doxycycline <sup>1</sup>
X	IPM	Imipenem
V⊙€	LVX	Levofloxacin
V⊙€	MEM	Meropenem →C
X€⊙	MI	Minocycline <sup>1</sup>
X⊙€	NN	Tobramycin
V⊙€	SXT	Trimethoprim/Sulfamethoxazole
Urine	TE	Tetracycline <sup>1</sup>

### Do Not Perform or Report

Method	Antibiotic
X⊙	AMC Amoxicillin/Clavulanate
V⊙€	AM Ampicillin
V⊙	CZ Cefazolin <sup>IR</sup>
V⊙	FOX Cefoxitin <sup>IR</sup>
X⊙€	CTX Cefotaxime
X	CEFPD Cefpodoxime
€	CPT Ceftazidime
X€	CZA Ceftazidime/Avibactam
X€	CT Ceftolozane/Tazobactam
V	CEFUR Cefuroxime <sup>IR</sup>
V	CEFUR Cefuroxime, axetil <sup>IR</sup>
⊙	CC Clindamycin <sup>IR</sup>
€	DAP Daptomycin <sup>IR</sup>
X	ERV Eravacycline
V⊙€	ETP Ertapenem
⊙	E Erythromycin <sup>IR</sup>
⊙	FOSFO Fosfomycin <sup>IR</sup>
⊙	GENTH Gentamicin High Level
X	IMR Imipenem/Relebactam
	LZD Linezolid <sup>IR</sup>
X	MEV Meropenem/Vaborbactam
V⊙	FM Nitrofurantoin
⊙€	P Penicillin <sup>IR</sup>
X	PB Polymyxin B
⊙	RA Rifampin <sup>IR</sup>
X	TGC Tigecycline <sup>IR</sup>
⊙€	VA Vancomycin <sup>IR</sup>

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

Manual AST Conditions (M100):  
MHA; 35±2°C; O<sub>2</sub>: 20-24h

<sup>DMT</sup> DMT approval required.

<sup>1</sup> Tetracycline susceptibility predicts doxycycline and minocycline susceptibility, but doxycycline and/or minocycline may be susceptible if tetracycline is non-susceptible. Recommend direct testing of doxycycline or minocycline if intended to be used for therapy.

<sup>IR</sup> Intrinsically resistant. Do not perform manual AST. VITEK results automatically include intrinsic resistance considerations for reporting.

# Antimicrobial Susceptibility Testing (AST) Selection

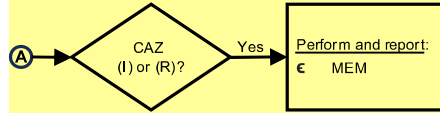
## *Burkholderia cepacia* complex<sup>1</sup>

### Perform and Report When Indicated

All Sites	€	CAZ	Ceftazidime → (A)
	€	LVX	Levofloxacin
	€	SXT	Trimethoprim/Sulfamethoxazole

Manual AST Conditions (M100):  
MHA; 35±2°C; O<sub>2</sub>: 20-24h

### Cascades and Reflexes



### Perform and Report Upon Request

All Sites	€	MI	Minocycline
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### Do Not Perform or Report

All Sites	€	AN	Amikacin
	€	AM	Ampicillin <sup>IR</sup>
	€	SAM	Ampicillin/Sulbactam <sup>IR</sup>
	€	FEP	Cefepime
	€	CTX	Cefotaxime
	€	CPT	Ceftaroline
	€	CZA	Ceftazidime/Avibactam
	€	CT	Ceftolozane/Tazobactam
	€	CIP	Ciprofloxacin
	€	DAP	Daptomycin <sup>IR</sup>
	€	ETP	Ertapenem <sup>IR</sup>
	€	GM	Gentamicin
	€	P	Penicillin <sup>IR</sup>
	€	TZP	Piperacillin/Tazobactam
	€	NN	Tobramycin
€	VA	Vancomycin <sup>IR</sup>	

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>1</sup> Report identification with comment "Susceptibility performed upon request." If generic work up is requested perform AST according to "Blood" site.

<sup>IR</sup> Intrinsically resistant. Do not perform manual AST. VITEK results automatically include intrinsic resistance considerations for reporting.

# Antimicrobial Susceptibility Testing (AST) Selection

## *Stenotrophomonas maltophilia*

### Perform and Report When Indicated

Sterile/CF	€	LVX	Levofloxacin	
	€	MEM	Meropenem (no perform)	→ (A)
	€	MI	Minocycline	
	€	TZP	Pip/Tazo (no perform)	→ (A)
€	SXT	Trimethoprim/Sulfamethoxazole		

Other  
Not routinely performed<sup>1</sup>

Manual AST Conditions (M100):  
MHA; 35±2°C; O<sub>2</sub>: 20-24h

### Cascades and Reflexes



### Perform and Report Upon Request

### Do Not Perform or Report

All Sites	€	AN	Amikacin <sup>IR</sup>
	€	AM	Ampicillin <sup>IR</sup>
	€	SAM	Ampicillin/Sulbactam
	€	FEP	Cefepime
	€	CTX	Cefotaxime <sup>IR</sup>
	€	CPT	Ceftaroline
	€	CAZ	Ceftazidime
	€	CZA	Ceftazidime/Avibactam
	€	CT	Ceftolozane/Tazobactam
	€	DAP	Daptomycin <sup>IR</sup>
	€	ETP	Ertapenem <sup>IR</sup>
	€	GM	Gentamicin <sup>IR</sup>
	€	MEM	Meropenem <sup>IR</sup>
	€	P	Penicillin <sup>IR</sup>
€	TZP	Piperacillin/Tazobactam <sup>IR</sup>	
€	NN	Tobramycin <sup>IR</sup>	
€	VA	Vancomycin <sup>IR</sup>	

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>1</sup> Report identification with comment "Susceptibility performed upon request." If generic work up is requested perform AST according to "Blood" site.

<sup>IR</sup> Intrinsically resistant. Do not perform manual AST. VITEK results automatically include intrinsic resistance considerations for reporting.



# Antimicrobial Susceptibility Testing (AST) Selection

## Other Non-Enterobacteriales<sup>1</sup>

### Perform and Report When Indicated

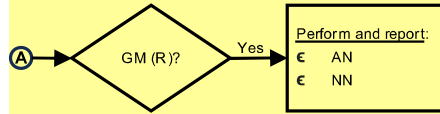
CSF	€	FEP	Cefepime
	€	CAZ	Ceftazidime
	€	GM	Gentamicin → (A)

Other	€	FEP	Cefepime
	€	GM	Gentamicin → (A)
	€	LVX	Levofloxacin
	€	MEM	Meropenem
	€	TZP	Piperacillin/Tazobactam
	€	SXT	Trimethoprim/Sulfamethoxazole

Manual AST Conditions (M100):  
MHA; 35±2°C; O<sub>2</sub>: 16-20h

### Cascades and Reflexes



### Perform and Report Upon Request

All Sites	€	AN	Amikacin
	€	CTX	Cefotaxime
	€	CAZ	Ceftazidime
	€	CIP	Ciprofloxacin
	€	LVX	Levofloxacin
	€	MI	Minocycline
	€	NN	Tobramycin

### Do Not Perform or Report

All Sites	€	AM	Ampicillin
	€	SAM	Ampicillin/Sulbactam
	€	CPT	Ceftaroline
	€	DAP	Daptomycin
	€	ETP	Ertapenem
	€	P	Penicillin
	€	VA	Vancomycin

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>1</sup> Includes *Pseudomonas* spp. and other nonfastidious, glucose-nonfermenting (oxidase positive and/or K/K TSI), gram-negative bacilli. Excludes *P. aeruginosa*, *Achromobacter* spp., *Burkholderia cepacia* complex, *Streptorhynchomonas maltophilia*, *Aeromonas* spp. (M45), and *Vibrio* spp. (M45).

# Antimicrobial Susceptibility Testing (AST) Selection

## Staphylococcus spp.

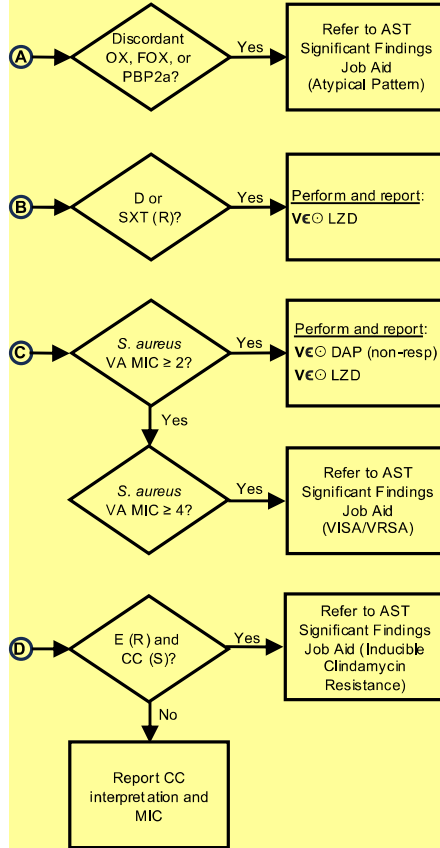
### Perform and Report When Indicated

Site	Method	Antimicrobial	Report
Sterile	V⊙	Cefoxitin (no report)	→A
	V⊙	CC Clindamycin [Erythromycin]	→D
	V⊙	D Doxycycline	→B
	V	OX Oxacillin	→A
	V⊙	RA Rifampin	
	V⊙€	SXT Trimethoprim/Sulfamethoxazole	→B
VE	VA Vancomycin	→C	
Urine	V⊙	Cefoxitin (no report)	→A
	V⊙	D Doxycycline	
	V⊙	FM Nitrofurantoin	
	V	OX Oxacillin	→A
	V⊙€	SXT Trimethoprim/Sulfamethoxazole	
VE	VA Vancomycin	→C	
Respiratory	V⊙	Cefoxitin (no report)	→A
	V⊙	CC Clindamycin [Erythromycin]	→D
	V⊙	D Doxycycline	
	VE⊙	LZD Linezolid	
	V	OX Oxacillin	→A
	V⊙€	SXT Trimethoprim/Sulfamethoxazole	
VE	VA Vancomycin	→C	
CSF/Blood	V⊙	Cefoxitin (no report)	→A
	V	OX Oxacillin	→A
	VE	VA Vancomycin	→C
Other	V⊙	Cefoxitin (no report)	→A
	V⊙	CC Clindamycin [Erythromycin]	→D
	V⊙	D Doxycycline	→B
	V	OX Oxacillin	→A
	V⊙€	SXT Trimethoprim/Sulfamethoxazole	→B
VE	VA Vancomycin	→C	

**Manual AST Conditions (M100):**

MHA; 35±2°C; O<sub>2</sub>; 16-18h (24h for FOX for spp. other than *S. aureus*, *S. lugdenensis*, *S. pseudintermedius*, and *S. schleiferi*)

### Cascades and Reflexes



### Perform and Report Upon Request

Site	Method	Antimicrobial
All Sites	€	CPT Ceftaroline (MRSA only)
	V⊙	D Doxycycline <sup>1</sup>
	V⊙€	E Erythromycin
	VE⊙	LZD Linezolid <sup>DMT</sup>
	€⊙	MI Minocycline <sup>1</sup>
	V⊙€	P Penicillin <sup>DMT,2</sup>
	V⊙€	RA Rifampin
	V⊙	TE Tetracycline <sup>1</sup>
	V	TGC Tigecycline
	Non-Blood	V⊙€
VE		DAP Daptomycin <sup>DMT</sup>
Non-Resp	V⊙	CC Clindamycin [Erythromycin] →C

### Do Not Perform or Report

Site	Method	Antimicrobial
All Sites	⊙€	AN Amikacin
	⊙	AMC Amoxicillin/Clavulanate
	V⊙€	AM Ampicillin
	⊙€	SAM Ampicillin/Sulbactam
	⊙	ATM Aztreonam
	⊙€	CZ Cefazolin
	⊙€	FEP Cefepime
	⊙	FDC Cefiderocol
	⊙€	CTX Cefotaxime
	⊙€	CAZ Ceftazidime
	€	CZA Ceftazidime/Avibactam
	€	CT Ceftolozane/Tazobactam
	⊙	CRO Ceftriaxone
	V⊙€	CIP Ciprofloxacin
	⊙€	ETP Ertapenem
	⊙	FOSFO Fosfomycin
	V⊙	GENTH Gentamicin High Level
	V⊙€	LVX Levofloxacin
	⊙€	MEM Meropenem
	V	Moxifloxacin
⊙€	TZP Piperacillin/Tazobactam	
V	Streptomycin High Level	
V⊙	TE Tetracycline <sup>1</sup>	
V	TGC Tigecycline	
⊙€	NN Tobramycin	

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>DMT</sup> DMT approval required.

<sup>1</sup> Tetracycline susceptibility can predict doxycycline and minocycline susceptibility. However, doxycycline and minocycline may be susceptible even if tetracycline is non-susceptible. Recommend direct testing for doxycycline and minocycline if intended for therapy.

<sup>2</sup> Many *Staphylococcus* spp. carry a β-lactamase conferring resistance to penicillin. Special testing must be performed prior to reporting penicillin results.

# Antimicrobial Susceptibility Testing (AST) Selection

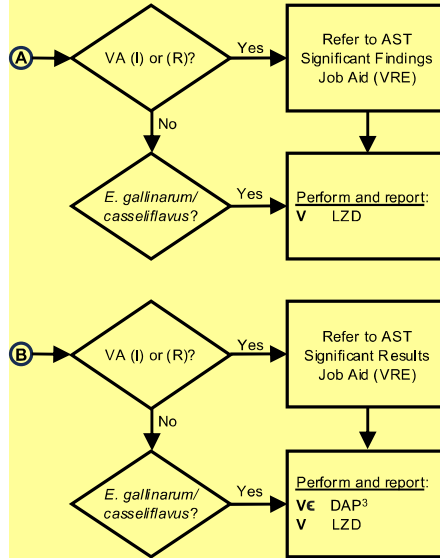
## *Enterococcus* spp.<sup>1(IR)</sup>

### Perform and Report When Indicated

Urine	V⊙€	AM	Ampicillin
	V⊙	D	Doxycycline <sup>2</sup>
	V⊙	FM	Nitrofurantoin
	V⊙€	VA	Vancomycin <sup>1,IR</sup> → (A)
Resp	Not routinely performed		
CSF	V⊙€	AM	Ampicillin
	V€	VA	Vancomycin <sup>1,IR</sup> → (A)
Blood	V⊙€	AM	Ampicillin
	V€	DAP	Daptomycin <sup>3</sup>
	V⊙	GENTH	Gentamicin High Level
	V⊙€	VA	Vancomycin <sup>1,IR</sup> → (B)
Sterile	V⊙€	AM	Ampicillin
	V⊙	GENTH	Gentamicin High Level (heart only)
	V⊙€	VA	Vancomycin <sup>1,IR</sup> → (B)
Other	V⊙€	AM	Ampicillin
	V€	VA	Vancomycin <sup>1,IR</sup> → (B)

Manual AST Conditions (M100):  
MHA; 35±2°C; O<sub>2</sub>; 16-18h (24h for VAN)

### Cascades and Reflexes



### Perform and Report Upon Request

Other	V⊙	D	Doxycycline <sup>2</sup>
	V€⊙	LZD	Linezolid
	€⊙	MI	Minocycline <sup>2</sup>
	V⊙€	P	Penicillin <sup>DMT,4</sup>
	V⊙€	RA	Rifampin
Urine	V⊙	TE	Tetracycline <sup>2</sup>
	⊙€	CIP	Ciprofloxacin
	⊙	FOSFO	Fosfomycin ( <i>E. faecalis</i> only)
Non-Resp	V⊙€	L VX	Levofloxacin
	V⊙	TE	Tetracycline
	€	DAP	Daptomycin <sup>3</sup>

### Do Not Perform or Report

All Sites	⊙€	AN	Amikacin <sup>IR</sup>
	⊙	AMC	Amoxicillin/Clavulanate
	⊙€	SAM	Ampicillin/Subactam
	⊙	ATM	Aztreonam
	⊙€	FEP	Cefepime <sup>IR</sup>
	⊙	FDC	Cefiderocol <sup>IR</sup>
	⊙€	CTX	Cefotaxime <sup>IR</sup>
	€	CPT	Ceftaroline <sup>IR</sup>
	⊙€	CAZ	Ceftazidime <sup>IR</sup>
	€	CZA	Ceftazidime/Avibactam <sup>IR</sup>
	€	CT	Ceftolozane/Tazobactam <sup>IR</sup>
	⊙	CRO	Ceftriaxone <sup>IR</sup>
	V⊙	CC	Clindamycin <sup>IR</sup>
	⊙€	ETP	Ertapenem
	V⊙	E	Erythromycin
	V⊙€	GM	Gentamicin <sup>IR</sup>
	⊙€	MEM	Meropenem
	V		Moxifloxacin
	⊙€	TZP	Piperacillin/Tazobactam
	V		Streptomycin High Level
V	TGC	Tigecycline	
⊙€	NN	Tobramycin <sup>IR</sup>	
V⊙€	SXT	Trimethoprim/Sulfamethoxazole <sup>IR</sup>	

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>DMT</sup> DMT approval required.

<sup>1</sup> *E. casseliflavus* and *E. gallinarum* are intrinsically resistant to vancomycin due to carriage of *vanC*. Refer to the AST Significant Findings Job Aid for instructions regarding these *Enterococcus* spp. and reflex according to VA (R).

<sup>2</sup> Tetracycline susceptibility can predict doxycycline and minocycline susceptibility. However, doxycycline and minocycline may be susceptible even if tetracycline is non-susceptible. Recommend direct testing for doxycycline and minocycline if intended for therapy.

<sup>3</sup> *E. faecium* with a daptomycin MIC ≤ 4 should be reported as susceptible, dose-dependent (SDD). Refer to CLSI M100 for details.

<sup>4</sup> Ampicillin susceptibility predicts susceptibility to amoxicillin, amoxicillin/clavulanate, ampicillin/subactam, and piperacillin/tazobactam. Penicillin susceptibility predicts the same and to ampicillin, however, ampicillin does not predict penicillin. Penicillin must be tested if intended for therapy.

<sup>IR</sup> Intrinsically resistant. Do not perform manual AST. VITEK results automatically include intrinsic resistance considerations for reporting.

# Antimicrobial Susceptibility Testing (AST) Selection

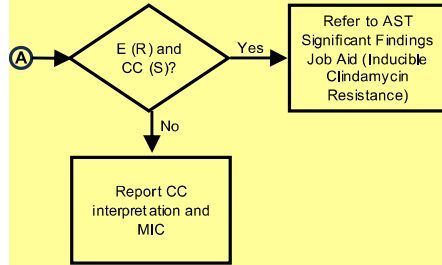
## *Streptococcus pneumoniae*

### Perform and Report When Indicated

Blood	VE	P	Benzylpenicillin
	V	CRO	Ceftriaxone
	V⊙€	LVX	Levofloxacin
	V⊙€	VA	Vancomycin
CSF	VE	P	Benzylpenicillin (meningitis)
	V	CRO	Ceftriaxone (meningitis)
	V⊙€	VA	Vancomycin
Urine	VE	P	Benzylpenicillin (nonmeningitis)
	V	CRO	Ceftriaxone (nonmeningitis)
	⊙	CC	Clindamycin [Erythromycin] <sup>3</sup> → A
	V⊙€	LVX	Levofloxacin
	V⊙€	VA	Vancomycin
Other	VE	P	Benzylpenicillin (nonmeningitis)
	V	CRO	Ceftriaxone (nonmeningitis)
	⊙	CC	Clindamycin [Erythromycin] <sup>3</sup> → A
	V⊙	E	Erythromycin <sup>1</sup>
	V⊙€	LVX	Levofloxacin
V⊙€	VA	Vancomycin	

Manual AST Conditions (M100):  
BMHA; 35±2°C; 5% CO<sub>2</sub>; 20-24h

### Cascades and Reflexes



### Perform and Report Upon Request

All Sites	VE	P	Benzylpenicillin (nonmeningitis)
	⊙	CC	Clindamycin [Erythromycin] <sup>3</sup> → A
	V⊙	D	Doxycycline <sup>2</sup>
	⊙€	ETP	Ertapenem
	V⊙€	LVX	Levofloxacin
	VE⊙	LZD	Linezolid
	⊙€	MEM	Meropenem
	V⊙€	RA	Rifampin
	V⊙	TE	Tetracycline <sup>1</sup>
	V⊙€	SXT	Trimethoprim/Sulfamethoxazole
V⊙€	VA	Vancomycin	
Non-CSF	€	AMC	Amoxicillin/Clavulanate (nonmeng)
	€	FEP	Cefepime (nonmeningitis)
	VE	CTX	Cefotaxime (nonmeningitis)
	€	CPT	Ceftaroline (nonmeningitis)
CSF	VE	P	Penicillin V (oral)
	V⊙€	FEP	Cefepime (meningitis)
V⊙€	CTX	Cefotaxime (meningitis)	

### Do Not Perform or Report

All Sites	⊙€	AN	Amikacin
	V⊙€	AM	Ampicillin
	⊙€	SAM	Ampicillin/Sulbactam
	⊙	ATM	Aztreonam
	⊙	CZ	Cefazolin
	⊙	FDC	Cefiderocol
	⊙	FOX	Cefoxitin
	⊙€	CAZ	Ceftazidime
	€	CZA	Ceftazidime/Avibactam
	€	CT	Ceftolozane/Tazobactam
	⊙€	CIP	Ciprofloxacin
	€	DAP	Daptomycin
	⊙	GENTH	Gentamicin High Level
	€⊙	MI	Minocycline
	V	MXF	Moxifloxacin
	⊙	FM	Nitrofurantoin
	⊙€	TZP	Piperacillin/Tazobactam
	V	TGC	Tigecycline
	⊙€	NN	Tobramycin

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

[ ] Fill in value or select from options shown when reporting.

<sup>1</sup> Erythromycin susceptibility and resistance can predict azithromycin and clarithromycin. Separate testing of these agents is not indicated per CLSI M100.

<sup>2</sup> Tetracycline susceptibility can predict doxycycline susceptibility. However, doxycycline may be susceptible even if tetracycline is non-susceptible. Recommend direct testing for doxycycline if intended for therapy.

<sup>3</sup> When setting up Clindamycin disk, set up manual D test and interpret Clindamycin resistance inducibility based on this.

# Antimicrobial Susceptibility Testing (AST) Selection

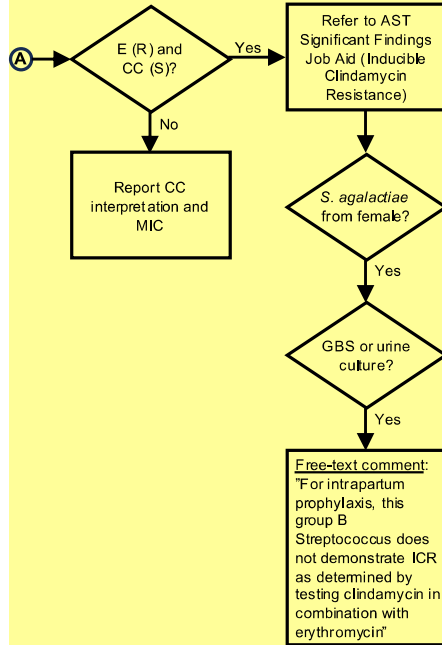
## *Streptococcus* spp., $\beta$ -hemolytic Group<sup>1</sup>

### Perform and Report When Indicated

CSF	V O E	P	Benzylpenicillin <sup>2,3</sup>
	V O E	VA	Vancomycin
GBS Screen	V O E	P	Benzylpenicillin <sup>2,3</sup>
	V O	CC	Clindamycin [Erythromycin] → A
	V O E	VA	Vancomycin
Other	V O E	P	Benzylpenicillin <sup>2,3</sup>
	V O	CC	Clindamycin [Erythromycin] → A
	V O E	VA	Vancomycin

Manual AST Conditions (M100):  
BMHA; 35±2°C; 5% CO<sub>2</sub>; 20-24h

### Cascades and Reflexes



### Perform and Report Upon Request

All Sites	V O E	AM	Ampicillin <sup>2,3</sup>
	O E	FEP	Cefepime <sup>3</sup>
	V O E	CTX	Cefotaxime <sup>3</sup>
	E	CPT	Ceftaroline <sup>3</sup>
	V O	CRO	Ceftriaxone
	E	ETP	Ertapenem
	V O E	LVX	Levofloxacin
	V E O	LZD	Linezolid
	E	MEM	Meropenem
	V O E	RA	Rifampin
Non-Resp	V O	TE	Tetracycline <sup>5</sup>
	E	DAP	Daptomycin

### Do Not Perform or Report

All Sites	O E	AN	Amikacin
	O	AMC	Amoxicillin/Clavulanate
	O E	SAM	Ampicillin/Sulbactam
	O	ATM	Aztreonam
	O	CZ	Cefazolin
	O	FDC	Cefiderocol
	O	COX	Cefoxitin
	O E	CAZ	Ceftazidime
	E	CZA	Ceftazidime/Avibactam
	E	CT	Ceftolozane/Tazobactam
	O E	CIP	Ciprofloxacin
	O	D	Doxycycline <sup>5</sup>
	V O	E	Erythromycin
	O E	GM	Gentamicin
	O	GENTH	Gentamicin High Level
	E O	MI	Minocycline <sup>5</sup>
	V	MXF	Moxifloxacin
O	FM	Nitrofurantoin	
O E	TZP	Piperacillin/Tazobactam	
V	TGC	Tigecycline	
O E	NN	Tobramycin	
V O E	SXT	Trimethoprim/Sulfamethoxazole	

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>1</sup>  $\beta$ -hemolytic streptococci include only large-colony (>0.5 mm) *S. pyogenes* (A), *S. agalactiae* (B), and *S. dysgalactiae* (A/C/G/L), *S. equi* (C), *S. canis* (G), and *S. porcinus* (E/P/U/N/none).

<sup>2</sup> Resistance to  $\beta$ -lactam agents is extremely rare in  $\beta$ -hemolytic streptococci. Testing  $\beta$ -lactam agents is therefore not recommended. Isolates that test nonsusceptible should be reisolated, reidentified, and retested.

<sup>3</sup> Penicillin predicts ampicillin, amoxicillin, amoxicillin/clavulanate, ampicillin/sulbactam, cefazolin, cefepime, ceftaroline, cephalothin, cefotaxime, ceftriaxone, ertapenem, and imipenem in  $\beta$ -hemolytic streptococci, as well as cefuroxime in *S. pyogenes*.

<sup>4</sup> Erythromycin susceptibility and resistance can predict azithromycin and clarithromycin. Separate testing of these agents is not indicated per CLSI M100.

<sup>5</sup> Tetracycline susceptibility can predict doxycycline and minocycline susceptibility, but resistance to doxycycline and minocycline cannot be inferred from tetracycline. There are no breakpoints to determine doxycycline and minocycline susceptibility. Refer to CLSI M100 for details.

# Antimicrobial Susceptibility Testing (AST) Selection

## *Streptococcus* spp., Viridans Group<sup>1,2</sup>

### Perform and Report When Indicated

All Sites	VE	P	Benzylpenicillin
	V⊖	CRO	Ceftriaxone
	V⊖€	VA	Vancomycin

Manual AST Conditions (M100):  
BMHA; 35±2°C; 5% CO<sub>2</sub>; 20-24h

### Cascades and Reflexes

### Perform and Report Upon Request

All Sites	V⊖€	AM	Ampicillin
	⊖€	FEP	Cefepime
	V⊖€	CTX	Cefotaxime
	€	E	Ertapenem
	V⊖€	L VX	Levofloxacin
	V€⊖	LZD	Linezolid
	€	MEM	Meropenem
	V⊖	TE	Tetracycline <sup>3</sup>

Non-Urine/Non-CSF	V⊖	CC	Clindamycin
	V⊖	E	Erythromycin <sup>4</sup>

Non-Resp	€	DAP	Daptomycin
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### Do Not Perform or Report

All Sites	⊖€	AN	Amikacin
	⊖	AMC	Amoxicillin/Clavulanate
	⊖€	SAM	Ampicillin/Sulbactam
	⊖	ATM	Aztreonam
	⊖	CZ	Cefazolin
	⊖	FDC	Cefiderocol
	⊖	FOX	Cefoxitin
	€	CPT	Ceftaroline
	⊖€	CAZ	Ceftazidime
	€	CZA	Ceftazidime/Avibactam
	€	CT	Ceftolozane/Tazobactam
	⊖€	CIP	Ciprofloxacin
	⊖	D	Doxycycline <sup>3</sup>
	V⊖	E	Erythromycin
	⊖€	GM	Gentamicin
	⊖	GENTH	Gentamicin High Level
	€⊖	MI	Minocycline <sup>3</sup>
	V	MXF	Moxifloxacin
	⊖	FM	Nitrofurantoin
	⊖€	TZP	Piperacillin/Tazobactam
V⊖€	RA	Rifampin	
V	TGC	Tigecycline	
⊖€	NN	Tobramycin	
V⊖€	SXT	Trimethoprim/Sulfamethoxazole	
V⊖€	VA	Vancomycin	

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>1</sup> Viridans streptococci include only small-colony (<0.5mm) *S. mutans* group, *S. salivarius* group, *S. equinus* group, *S. anginosus* group, and *S. mitis* group. This includes β-hemolytic *S. anginosus* group (group A/C/F/G antigens).

<sup>2</sup> Viridans streptococci may be nonviable for VITEK AST. Termination of tigecycline is an informal indicator of such. Perform manual AST if tigecycline or any agent terminates on the first VITEK AST attempt.

<sup>3</sup> Tetracycline susceptibility can predict doxycycline and minocycline susceptibility, but resistance to doxycycline and minocycline cannot be inferred from tetracycline. There are no breakpoints to determine doxycycline and minocycline susceptibility. Refer to CLSI M100 for details.

<sup>4</sup> Erythromycin susceptibility and resistance can predict azithromycin and clarithromycin. Separate testing of these agents is not indicated per CLSI M100.

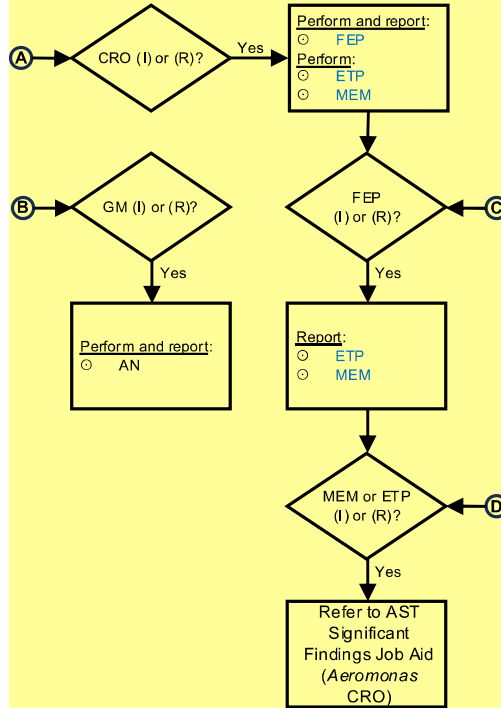
# Antimicrobial Susceptibility Testing (AST) Selection

## *Aeromonas* spp.<sup>1,2</sup>

### Perform and Report When Indicated

- All Sites**
- CRO Ceftriaxone → **A**
  - CIP Ciprofloxacin
  - GM Gentamicin → **B**
  - LVX Levofloxacin
  - SXT Trimethoprim/Sulfamethoxazole

### Cascades and Reflexes



### Perform and Report Upon Request

- All Sites**
- AN Amikacin
  - ATM Aztreonam
  - FEP Cefepime → **C**
  - CTX Cefotaxime
  - FOX Cefoxitin
  - CAZ Ceftazidime
  - ETP Ertapenem → **D**
  - MEM Meropenem → **D**
  - TZP Piperacillin/Tazobactam
  - TE Tetracycline

### Do Not Perform or Report

- All Sites**
- AMC Amoxicillin/Clavulanate<sup>IR</sup>
  - AM Ampicillin<sup>IR</sup>
  - SAM Ampicillin/Sulbactam
  - CZ Cefazolin<sup>IR</sup>
  - CC Clindamycin
  - D Doxycycline
  - E Erythromycin
  - FOSFO Fosfomycin
  - GENTH Gentamicin High Level
  - FM Nitrofurantoin
  - P Penicillin
  - RA Rifampin
  - NN Tobramycin
  - VA Vancomycin

Manual AST Conditions (M45):  
MHA; 35±2°C; O<sub>2</sub>; 16-18h  
**Confirm QC requirements**

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>1</sup> Includes members of *Aeromonas caviae* complex, *A. hydrophila* complex, and *A. veronii* complex.

<sup>2</sup> Some *Aeromonas* spp. may carry inducible β-lactamases, including OXA-type penicillinase (Class D), AmpC cephalosporinase (Class C), and CphA, VIM, and IMP metallo-β-lactamases (Class B).

<sup>IR</sup> Intrinsically resistant. Do not perform manual AST.

# Antimicrobial Susceptibility Testing (AST) Selection

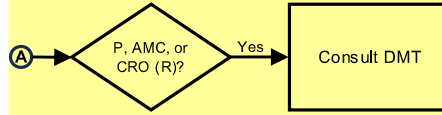
## *Pasteurella* spp.<sup>1</sup>

### Perform and Report When Indicated

- All Sites**
- AMC Amoxicillin/Clavulanate → (A)
  - CRO Ceftriaxone → (A)
  - D Doxycycline
  - E Erythromycin
  - LVX Levofloxacin
  - P Penicillin → (A)
  - SXT Trimethoprim/Sulfamethoxazole

Manual AST Conditions (M45):  
**BMHA:** 35±2°C; O<sub>2</sub>: 16-18h  
**Confirm QC requirements**

### Cascades and Reflexes



### Perform and Report Upon Request

- All Sites**
- AM Ampicillin
  - TE Tetracycline

### Do Not Perform or Report

- All Sites**
- AN Amikacin
  - SAM Ampicillin/Sulbactam
  - ATM Aztreonam
  - CZ Cefazolin
  - FEP Cefepime
  - FDC Cefiderocol
  - CTX Cefotaxime
  - FOX Cefoxitin
  - CAZ Ceftazidime
  - CIP Ciprofloxacin
  - CC Clindamycin
  - ETP Ertapenem
  - FOSFO Fosfomycin
  - GM Gentamicin
  - GENTH Gentamicin High Level
  - MEM Meropenem
  - MI Minocycline
  - FM Nitrofurantoin
  - TPZ Piperacillin/Tazobactam
  - RA Rifampin
  - NN Tobramycin
  - VA Vancomycin

*Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.*

<sup>1</sup> Isolates that do not demonstrate satisfactory growth with the disk diffusion test should be referred to a reference laboratory.



# Antimicrobial Susceptibility Testing (AST) Selection

## Vibrio spp.<sup>1</sup>

### Perform and Report When Indicated

- |                                  |   |
|----------------------------------|---|
| <b>V. Cholerae<sup>DMT</sup></b> | <input type="radio"/> AM Ampicillin                     |
|                                  | <input type="radio"/> TE Tetracycline                   |
|                                  | <input type="radio"/> SXT Trimethoprim/Sulfamethoxazole |
| <b>Other Vibrio spp.</b>         | <input type="radio"/> CTX Cefotaxime                    |
|                                  | <input type="radio"/> CAZ Ceftazidime                   |
|                                  | <input type="radio"/> CIP Ciprofloxacin                 |
|                                  | <input type="radio"/> LVX Levofloxacin                  |
|                                  | <input type="radio"/> TE Tetracycline                   |

### Cascades and Reflexes

### Perform and Report Upon Request

- |   |   |
|---|---|
| <b>All Vibrio spp.</b>                                  | <input type="radio"/> AN Amikacin                 |
|   | <input type="radio"/> AM Ampicillin               |
|   | <input type="radio"/> SAM Ampicillin/Sulbactam    |
|   | <input type="radio"/> FEP Cefepime                |
|   | <input type="radio"/> CTX Cefotaxime              |
|   | <input type="radio"/> FOX Cefoxitin               |
|   | <input type="radio"/> CAZ Ceftazidime             |
|   | <input type="radio"/> CIP Ciprofloxacin           |
|   | <input type="radio"/> GM Gentamicin               |
|   | <input type="radio"/> LVX Levofloxacin            |
|   | <input type="radio"/> MEM Meropenem               |
|   | <input type="radio"/> TZP Piperacillin/Tazobactam |
|   | <input type="radio"/> TE Tetracycline             |
| <input type="radio"/> SXT Trimethoprim/Sulfamethoxazole |   |
| <b>Non-V. cholerae</b>                                  | <input type="radio"/> AMC Amoxicillin/Clavulanate |

### Do Not Perform or Report

- |                                     |   |
|-------------------------------------|---|
| <b>All Sites</b>                    | <input type="radio"/> ATM Aztreonam               |
|                                     | <input type="radio"/> CZ Cefazolin                |
|                                     | <input type="radio"/> FDC Cefiderocol             |
|                                     | <input type="radio"/> CRO Ceftriaxone             |
|                                     | <input type="radio"/> CC Clindamycin              |
|                                     | <input type="radio"/> D Doxycycline               |
|                                     | <input type="radio"/> ETP Ertapenem               |
|                                     | <input type="radio"/> E Erythromycin              |
|                                     | <input type="radio"/> FOSFO Fosfomycin            |
|                                     | <input type="radio"/> GENTH Gentamicin High Level |
|                                     | <input type="radio"/> MI Minocycline              |
|                                     | <input type="radio"/> FM Nitrofurantoin           |
|                                     | <input type="radio"/> P Penicillin                |
|                                     | <input type="radio"/> RA Rifampin                 |
| <input type="radio"/> NN Tobramycin |   |
| <input type="radio"/> VA Vancomycin |   |

**Manual AST Conditions (M45):**

MHA; 35±2°C; O<sub>2</sub>: 16-18h

**Inoculum prepared in 0.85% NaCl (normal saline)**

**Confirm QC requirements**

*Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.*

<sup>DMT</sup> DMT notification required.

<sup>1</sup> Testing is usually limited to isolates from extraintestinal sites.

# Antimicrobial Susceptibility Testing (AST) Selection

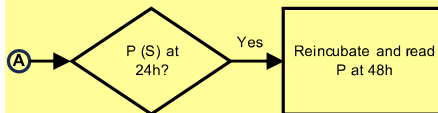
## *Corynebacterium* spp.<sup>1</sup>

### Perform and Report When Indicated

All Sites	€	CIP	Ciprofloxacin
	€	P	Penicillin → A
	€	VA	Vancomycin

Manual AST Conditions (M45+Validation):  
BMHA; 35±2°C; O<sub>2</sub>; 24-48h  
Confirm QC requirements

### Cascades and Reflexes



### Perform and Report Upon Request<sup>2</sup>

All Sites	FEP	Cefepime
	CTX	Cefotaxime
	CRO	Ceftriaxone
	CC	Clindamycin
	D	Doxycycline
	E	Erythromycin
	GM	Gentamicin
	LZD	Linezolid
	MEM	Meropenem
	RA	Rifampin
TE	Tetracycline	
SXT	Trimethoprim-Sulfamethoxazole	

### Do Not Perform or Report

All Sites	€	AN	Amikacin
	€	AM	Ampicillin
	€	SAM	Ampicillin/Sulbactam
	€	CAZ	Ceftazidime
	€	CZA	Ceftazidime/Avibactam
	€	CT	Ceftolozane/Tazobactam
	€	CIP	Ciprofloxacin
	€	DAP	Daptomycin
	€	ETP	Ertapenem
	€	LVX	Levofloxacin
€	MI	Minocycline	
€	TZP	Piperacillin/Tazobactam	
€	NN	Tobramycin	

Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>1</sup> *Corynebacterium* spp. have been validated in-house for the Etest method utilizing the MIC interpretive criteria (breakpoints) in CLSI M45. Refer to CLSI M45 for interpretation of results.

<sup>2</sup> Antimicrobial agents other than ciprofloxacin, penicillin, and vancomycin must be performed by a reference laboratory. The ARUP "Antimicrobial Susceptibility – Gram Positive Rod" test (0060346) is preferred, though, individual antimicrobials listed may also be requested from ARUP.

# Antimicrobial Susceptibility Testing (AST) Selection

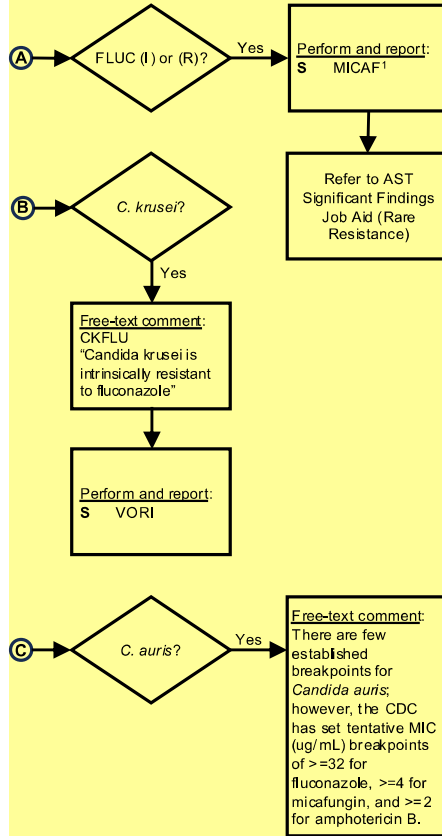
## *Candida* spp.

### Perform and Report When Indicated

Sterile, Non- <i>C. auris</i>	S	FLUC	Fluconazole <sup>1,IR</sup>	→ A → B
	S	FLUC	Fluconazole	} C
<i>C. auris</i> , All Sites <sup>2</sup>	S	MICAF	Micafungin	
	Other	Not routinely performed <sup>3</sup>		

Manual AST Conditions (M27+Validation):  
YO11; 35±2°C; O<sub>2</sub>; 24h  
Confirm QC requirements

### Cascades and Reflexes



### Perform and Report Upon Request

All Sites	S	AMPHO	Amphotericin B <sup>DMT</sup>
	S	ANIDUL1	Anidulafungin
	S		Isavuconazole <sup>DMT</sup>
	S	ITRA	Itraconazole
	S	MICAF	Micafungin <sup>1</sup>
	S	POSA	Posaconazole
	S	VORI	Voriconazole <sup>1</sup>

### Do Not Perform or Report

All Sites	S	CASP	Caspofungin
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Antimicrobial agents not listed should be considered as non-reportable. Consult DMT if a provider repeatedly requests an unlisted test.

<sup>1</sup> Interpretive breakpoints are not available for all *Candida* spp. Refer to CLSI M100 to determine if antimicrobial agent may be interpreted prior to testing. Consult DMT if an antimicrobial agent MIC is requested for *Candida* spp. without an interpretive breakpoint.  
<sup>2</sup> *C. auris*: report MIC and tentative breakpoints comment only. Do not report interpretations.  
<sup>3</sup> Not routinely performed for isolates from yeast (throat, urine, and genital\*), respiratory, and superficial fungal (skin, hair, and nail) cultures, \*except from genital cultures for patients with recurrent vulvovaginal candidiasis.  
<sup>IR</sup> Intrinsic resistance may exist for certain species. Refer to the *AST Significant Findings Job Aid* for organism-specific intrinsic resistance prior to performing AST.

## Antimicrobial Susceptibility Testing (AST) Selection Carbapenem Resistant Organism (CRO) Reporting

Carbapenem Resistant Organism	KPC	OXA-48-like	VIM	IMP	NDM	No Carbapenemase Detected
<b>Enterobacterales, AmpC (CRE)</b>	X⊙€ AN Amikacin X€ CZA Ceftazidime/Avibactam X⊙€ NN Tobramycin	X⊙€ AN Amikacin X€ CZA Ceftazidime/Avibactam X⊙€ NN Tobramycin	X⊙€ AN Amikacin ⊙ FDC Cefiderocol X⊙€ NN Tobramycin	X⊙€ AN Amikacin ⊙ FDC Cefiderocol X⊙€ NN Tobramycin	X⊙€ AN Amikacin ⊙ FDC Cefiderocol X⊙€ NN Tobramycin	X⊙€ AN Amikacin X€ CZA Ceftazidime/Avibactam X€ CT Ceftolozane/Tazobactam X⊙€ NN Tobramycin
<b>Enterobacterales, non-AmpC (CRE)</b>	X⊙€ AN Amikacin X€ CZA Ceftazidime/Avibactam X⊙€ NN Tobramycin	X⊙€ AN Amikacin X€ CZA Ceftazidime/Avibactam X⊙€ NN Tobramycin	X⊙€ AN Amikacin X⊙ ATM Aztreonam ⊙ FDC Cefiderocol X⊙€ NN Tobramycin	X⊙€ AN Amikacin X⊙ ATM Aztreonam ⊙ FDC Cefiderocol X⊙€ NN Tobramycin	X⊙€ AN Amikacin X⊙ ATM Aztreonam ⊙ FDC Cefiderocol X⊙€ NN Tobramycin	X⊙€ AN Amikacin X⊙ ATM Aztreonam X€ CZA Ceftazidime/Avibactam X€ CT Ceftolozane/Tazobactam X⊙€ NN Tobramycin
<b>Pseudomonas aeruginosa (CRPA)</b>	X€ CZA Ceftazidime/Avibactam X⊙€ NN Tobramycin	X€ CZA Ceftazidime/Avibactam X⊙€ NN Tobramycin	X⊙ ATM Aztreonam ⊙ FDC Cefiderocol X⊙€ NN Tobramycin	X⊙ ATM Aztreonam ⊙ FDC Cefiderocol X⊙€ NN Tobramycin	X⊙ ATM Aztreonam ⊙ FDC Cefiderocol X⊙€ NN Tobramycin	X⊙ ATM Aztreonam X€ CZA Ceftazidime/Avibactam X€ CT Ceftolozane/Tazobactam X⊙€ NN Tobramycin
<b>Acinetobacter baumannii (CRAB)</b>	X⊙ D Doxycycline X€⊙ MI Minocycline X⊙€ NN Tobramycin	X⊙ D Doxycycline X€⊙ MI Minocycline X⊙€ NN Tobramycin	X⊙ ATM Aztreonam ⊙ FDC Cefiderocol X⊙ D Doxycycline X€⊙ MI Minocycline X⊙€ NN Tobramycin	X⊙ ATM Aztreonam ⊙ FDC Cefiderocol X⊙ D Doxycycline X€⊙ MI Minocycline X⊙€ NN Tobramycin	X⊙ ATM Aztreonam ⊙ FDC Cefiderocol X⊙ D Doxycycline X€⊙ MI Minocycline X⊙€ NN Tobramycin	X⊙ ATM Aztreonam X⊙ D Doxycycline X€⊙ MI Minocycline X⊙€ NN Tobramycin