

ANTIBIOTIC PROFILE

January - December 2020

ANTIBIOGRAM Q&A

Laboratory Medicine Division
Microbiology Section

Total Patients

GRAM NEGATIVE		Total Isolates	Ampicillin	Amoxicillin/ Clavulanate	Cefazolin Nonurine	Cefoxitin	Ceftazidime	Ceftriaxone	Cefepime	Piperacillin/ Tazobactam	Ertapenem	Meropenem	Ciprofloxacin	Levofloxacin	Amikacin	Gentamicin	Tobramycin	Minocycline	Tetracycline	Trimethoprim/ Sulfamethoxazole	Nitrofurantoin Urine Isolates Only ^	Cefazolin Urine Isolates Only **	
ORGANISMS	#	% SUSCEPTIBILITY																					
Achromobacter Xylosoxidans	30					83		17	100		93	17	50					67	7	93			
Citrobacter Freundii	26					69	69	92	77	100	100	85	85	100	100	100				81	85	88	
Enterobacter Aerogenes	43					81	79	93	84	98	98	93	95	100	98	98				93	93	5	
Enterobacter Cloacae	142					68	67	91	76	94	100	86	83	99	85	85				85	84	28	
Escherichia Coli	1737	43	74	9	88	94	90	96	91	100	100	77	68	100	88	87				69	65	96	82
Klebsiella Oxytoca	70		86		83	90	90	94	86	100	100	92	86	99	93	92				87	86	65	
Klebsiella Pneumoniae	271		83	11	83	88	86	94	90	100	100	85	83	100	88	86				76	84	23	71
Proteus Mirabilis	131	85	98		97	98	98	98	98	92	100	97	97	99	95	95					85	1	90
Pseudomonas Aeruginosa	365					90		94	87		97	93	83	98	95	98							
Salmonella Species Not Typhi	37	100				100	100					100	97							100			
Serratia Marcescens	67					97	96	97	94	97	99	96	87	100	91	85				45	91		
Stenotrophomonas Maltophilia	55					31							88					100		96			
Cystic Fibrosis Isolates																							
Pseudomonas Aeruginosa (CF)	156					86		87	84		92	90	79	86	68	83							
Pseudomonas Aeruginosa, Mucoicid (CF)	59					88		88	80		93	58		63	54	75							
Stenotrophomonas Maltophilia (CF)	37					19							76					95		92			

The cumulative susceptibility data report is based on the inclusion of only the first isolate of a given species from an individual patient.

This data is presented with the aim of guiding the clinician in the selection of initial empirical antimicrobial therapy for infection.

- ** URINE ISOLATES ONLY: Cefazolin can be used to predict susceptibility to certain oral Cephalosporins.
- ^ Not recommended for pyelonephritis, even if susceptible
- o Organisms that are susceptible to tetracycline are also susceptible to doxycycline and minocycline. However, some organisms that are intermediate or resistant to tetracycline may be susceptible to doxycycline, minocycline, or both.
- † Susceptibility data for coagulase negative Staphylococcus is not for treatment purposes, Vancomycin is the therapy of choice.

- GRAY shading indicates drug/bug combination generally not recommended for therapy.
- Red shading indicates intrinsic resistance.
- TOC = Therapy of Choice; no resistance has been reported.

GRAM POSITIVE		Total Count	Ampicillin	Ceftriaxone	Ceftriaxone Meningitis	Ceftriaxone Nonmeningitis	Clindamycin	Doxycycline	Levofloxacin	Linezolid	Meropenem	Oxacillin	Penicillin	Penicillin Meningitis	Penicillin Nonmeningitis	Tetracycline o	Tigecycline	Trimethoprim/ Sulfamethoxazole	Vancomycin	Nitrofurantoin Urine Isolates Only ^		
ORGANISMS	#	% SUSCEPTIBILITY																				
Alpha Streptococcus Not Streptococcus Pneumoniae	49	53	88										45						100			
Enterococcus Faecalis	284	100							95	100			99				25	100		100	99	
Enterococcus Faecium	33	48							31	100			41				71			86		
Staphylococcus Aureus, Methicillin Resistant	416						75	100		100		0					95	100	95	100	100	
Staphylococcus Aureus, Methicillin Sensitive	808						84	100		100		100					95	100	95	100	100	
Staphylococcus Epidermidis†	154						49			100		32					81		60	100		
Streptococcus Agalactiae [Group B Streptococcus]	132						27						TOC*									
Streptococcus Anginosus	52	98	98										96							100		
Streptococcus Constellatus	56	59	96										86							100		
Streptococcus Intermedius	41	95	98										98							100		
Streptococcus Pneumoniae	121				87	95	82		99	100	76				49	95	80		58	100		
Streptococcus Pyogenes [Group A Streptococcus]													TOC*									
Cystic Fibrosis Isolates																						
Staphylococcus Aureus, Methicillin Resistant (CF)	65						55	100		100		0					91	100	95	100	98	
Staphylococcus Aureus, Methicillin Sensitive (CF)	258						77	100		100		100					93	100	99	100	98	

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ANTIBIOTIC PROFILE

January - December 2020

ANTIBIOGRAM Q&A

Laboratory Medicine Division
Microbiology Section

Inpatients

GRAM NEGATIVE		# Isolates	Amoxicillin Clavulanic Acid	Ampicillin	Cefazolin Nonurine	Cefoxitin	Ceftazidime	Ceftriaxone	Cefepime	Piperacillin/ Tazobactam	Ertapenem	Meropenem	Ciprofloxacin	Levofloxacin	Amikacin	Gentamicin	Tobramycin	Minocycline	Tetracycline	Trimethoprim/ Sulfamethoxazole	Nitrofurantoin Urine Isolates Only ^	Cefazolin Urine Isolates Only **
ORGANISMS	#	% SUSCEPTIBILITY																				
Enterobacter Cloacae	54					51	51	85	62	93	100	83	77	99	78	78			86	87	33	
Escherichia Coli	209	64	33	10	76	84	80	90	85	99	100	65	54	99	84	80			57	61	94	69
Klebsiella Oxytoca	31	93				86	93	93	97	93	100	97	93	100	93	93			90	90	69	
Klebsiella Pneumoniae	109	80		9	78	83	83	92	88	99	100	80	78	100	82	81			72	80	25	81
Pseudomonas Aeruginosa	197					86		91	81		96	92	83	99	94	98						
Serratia Marcescens	40					97	94	97	92	97	100	94	86	100	89	81			39	92		
Stenotrophomonas Maltophilia	43					29							88					100		95		

GRAM POSITIVE		# Isolates	Ampicillin	Ceftriaxone	Ceftriaxone Meningitis	Ceftriaxone Nonmeningitis	Clindamycin	Doxycycline	Levofloxacin	Linezolid	Ertapenem	Meropenem	Oxacillin	Penicillin	Penicillin Meningitis	Penicillin Nonmeningitis	Tetracycline ^o	Tigecycline	Trimethoprim/ Sulfamethoxazole	Vancomycin	Nitrofurantoin Urine Isolates Only ^	
GRAM POSITIVE	#	% SUSCEPTIBILITY																				
Enterococcus Faecalis	95	99							95	100				99				24	100		100	99
Staphylococcus Aureus, Methicillin Resistant	184						69	100		100			0					94	100	96	100	99
Staphylococcus Aureus, Methicillin Sensitive	360						83	100		100			100					97	100	97	100	100
Staphylococcus Epidermidis [†]	105					46			57	100			25				83		58	100	100	
Streptococcus Anginosus	33	100	100											100							100	
Streptococcus Constellatus	38	70	96											85							100	
Streptococcus Intermedius	29	95	95											95							100	
Streptococcus Mitis/Oralis	28	30	78											30							100	
Streptococcus Pneumoniae	65		100	87	94	89			100	100	94	72			53	94	83		60	100		
Streptococcus Pyogenes														TOC*								

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This data is presented with the aim of guiding the clinician in the selection of initial empirical antimicrobial therapy for infection.

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o Organisms that are susceptible to tetracycline are also susceptible to doxycycline and minocycline. However, some organisms that are intermediate or resistant to tetracycline may be susceptible to doxycycline, minocycline, or both.

† Susceptibility data for coagulase negative Staphylococcus is not for treatment purposes, Vancomycin is the therapy of choice.

GRAY shading indicates drug/bug combination generally not recommended for therapy.

Red shading indicates intrinsic resistance.

* TOC = Therapy of Choice; no resistance has been reported.

The inpatient antibiogram includes Main Campus, West Campus, and The Woodlands campus isolates, but does not include isolates from the Pavilion for Women.

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ANTIBIOTIC PROFILE January - December 2020

ANTIBIOGRAM Q&A

Laboratory Medicine Division
Microbiology Section

EC

GRAM NEGATIVE		# Isolates	Amoxicillin Clavulanic Acid	Ampicillin	Cefoxitin	Ceftazidime	Ceftriaxone	Cefepime	Piperacillin/ Tazobactam	Ertapenem	Meropenem	Ciprofloxacin	Levofloxacin	Amikacin	Gentamicin	Tobramycin	Tetracycline	Trimethoprim/ Sulfamethoxazole	Nitrofurantoin Urine Isolates Only [^]	Cefazolin ^{**} Urine Isolates Only
ORGANISMS	#	% SUSCEPTIBILITY																		
Enterobacter Cloacae	45				79	81	95	88	98	100	89	87	100	93	93	89	81	34		
Escherichia Coli	1241	77	45	92	96	93	97	93	100	100	80	71	100	89	89	72	67	97	88	
Klebsiella Oxytoca	31	81		81	87	90	94	81	100	100	87	84	97	90	87	81	84	65		
Klebsiella Pneumoniae	111	90		89	94	93	97	93	100	100	91	89	100	93	92	83	87	24	81	
Proteus Mirabilis	84	100	88	99	100	100	100	100	93	100	98	98	100	95	94		86		97	
Pseudomonas Aeruginosa	93				95		97	92		98	95	87	100	100	100					

GRAM POSITIVE		# Isolates	Ampicillin	Ceftriaxone Meningitis	Ceftriaxone Nonmeningitis	Ciprofloxacin	Clindamycin	Doxycycline	Levofloxacin	Linezolid	Ertapenem	Meropenem	Oxacillin	Penicillin	Penicillin Meningitis	Penicillin Nonmeningitis	Tetracycline ^o	Tigecycline	Trimethoprim/ Sulfamethoxazole	Vancomycin	Nitrofurantoin Urine Isolates Only [^]	
GRAM POSITIVE	#	% SUSCEPTIBILITY																				
Enterococcus Faecalis	122	100			97			96	100				99				26	100		100	99	
Staphylococcus Aureus, Methicillin Resistant	189					79	100		100				0					96	100	95	100	99
Staphylococcus Aureus, Methicillin Sensitive	333					86	100		100				99					93	100	92	100	99
Staphylococcus Epidermidis [†]	31				90	55		90	100				45				71		71	100	100	
Streptococcus Pneumoniae	33		97	100		82		97	100	100	85				58	100	82		64	100		
Streptococcus Pyogenes (Group A Streptococcus)													TOC*									

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GRAY shading indicates drug/bug combination generally not recommended for therapy.

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Green shading ***TOC = Therapy of Choice;** no resistance has been reported.

The EC antibiogram includes Main Campus, West Campus, and The Woodlands campus emergency centers.

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ANTIBIOGRAM Q&A

Laboratory Medicine Division
Microbiology Section

Neonatology

GRAM NEGATIVE																		
ORGANISMS	# Isolates	Amoxicillin Clavulanic Acid	Ampicillin	Cefazolin	Cefoxitin	Ceftazidime	Ceftriaxone	Cefepime	Piperacillin/ Tazobactam	Ertapenem	Meropenem	Ciprofloxacin	Levofloxacin	Amikacin	Gentamicin	Tobramycin	Tetracycline	Trimethoprim/ Sulfamethoxazole
Escherichia Coli	30	50	14	43	68	77	81	90	87	100	100	65	57	100	81	74	68	61
Klebsiella Pneumoniae	29	96			96	93	97	100	89	100	100	97	93	100	93	93	86	93

GRAM POSITIVE									
ORGANISMS	# Isolates	Clindamycin	Doxycycline	Linezolid	Oxacillin	Tetracycline	Tigecycline	Trimethoprim/ Sulfamethoxazole	Vancomycin
Coagulase Negative Staphylococcus [†]									100
Staphylococcus Aureus	47	77	100	100	83	91	100	98	100

The NICU antibiogram is comprised of patient isolates from the level 2 and level 3 newborn centers as well as the newborn centers at the Pavilion for Women and The Woodlands.

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ANTIBIOGRAM Q&A

Q: What is an antibiogram?

A: An antibiogram is a summary of *microbial* susceptibility data for a given patient population *summarized in a manner that can readily aid physicians in selecting initial empiric antimicrobial therapy.*

Q: Why is the Antibiogram only available for the prior year?

A: *Typically 12 months of accumulated data are required to achieve an appropriate level of statistical significance. Hence the presentation of the prior year is common practice.*

Q: Why are some organisms not represented in the data?

A: Not all drug/bug combinations are presented in an antibiogram because a minimum of thirty patient isolates are required to provide reliable indication of susceptibility.

Q: If a patient has multiple isolates throughout a year, are all of them included in the antibiogram data?

A: No, only the first isolate of a species from an individual patient is included to ensure that the antibiogram most closely represents the likelihood of an organism being susceptible to a given drug on first presentation.

For questions or additional information, please contact:

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