

**Toronto General Hospital ANTIBIOGRAM
Emergency Department
January 1, 2021 - December 31, 2021**

Blood Isolates – % Susceptible

	#	%	Ampicillin	Amoxicillin-Clavulanic acid	Penicillin	Penicillin V (non-meningitis)	Piperacillin-Tazobactam	Meropenem	Ertapenem	Cloxacillin	Cefazolin	Ceftriaxone	Ceftriaxone (meningitis)	Ceftriaxone (non-meningitis)	Ceftazidime	Clindamycin	Erythromycin	Doxycycline	Ciprofloxacin	Moxifloxacin	Trimethoprim-Sulfamethoxazole	Gentamicin	Tobramycin	Amikacin	Vancomycin	Linezolid	
≥80% Susceptible ■ 70-79% Susceptible ■ ≤69% Susceptible ■																											
ALL BACTERIA	823	—	16	27			70	75	71		58	71									81						

ALL GRAM-NEGATIVE BACTERIA	257	100	30	65			74	100	89		45	70			75					86	75	96	95	98		
<i>Escherichia coli</i>	131	51	47	73			79	100	100		60	79			79					79	73	95	92	97		
<i>Klebsiella pneumoniae</i>	47	18	0	91			87	98	98		79	94			94					91	89	98	96	100		
<i>Proteus mirabilis</i>	17	7	80	100			100	100	100		6	100			100					100	88	94	100	100		
<i>Pseudomonas aeruginosa</i>	17	7					88	100							88					88		100	100	100		
<i>Enterobacter cloacae</i>	10	4	0	0			0	100	100		0	0			0					100	90	100	100	100		
<i>Klebsiella oxytoca</i>	10	4	0	80			80	100	100		0	80			80					100	70	90	90	100		
<i>Klebsiella aerogenes</i>	5	2	0	0			0	100	100		0	0			0					100	100	100	100	100		
<i>Serratia marcescens</i>	5	2	0	0			0	100	100		0	0			0					100	100	100	100	100		

ALL GRAM-POSITIVE BACTERIA	566	100	10	10	5		68	63	63	57	63	72			72	38				84					99	
Coagulase-negative staphylococci	378	67					69	69	69	69	69				77	31	91			89					100	100
<i>Staphylococcus aureus</i> , all isolates	73	13					90	90	90	90	90				85	77	95			98					100	100
- methicillin-susceptible	66	12					100	100	100	100	100				85	79	95			98					100	100
- methicillin-resistant (MRSA)	7	1					0	0	0	0	0				86	57	100			100					100	100
Viridans group streptococci*	37	7										97													100	
<i>Enterococcus faecalis</i>	23	4	100	100			100																		100	
Group B streptococci**	14	2			100										86	71									100	
Group A streptococci**	13	2			100										77	77									100	
<i>Streptococcus anginosus</i> group**	13	2			0							100													100	
<i>Enterococcus faecium</i> , all isolates	6	1	0	0			0																		50	
- vancomycin-susceptible	3	1	0	0			0																		100	
- vancomycin-resistant (VRE)	3	1	0	0			0																		0	100
<i>Streptococcus pneumoniae</i>	6	1					100						100	100			67			100					100	

General Notes:

- Statistical validity of estimates of percent susceptibility for organisms for which there are fewer than 30 isolates reported is limited. Please take this into consideration when interpreting the reported results.
- Some organisms for which there were only very small numbers have been excluded from this report; however the total number of "ALL BACTERIA", "ALL GRAM-NEGATIVE BACTERIA", and "ALL GRAM-POSITIVE BACTERIA" listed includes these organisms.
- Reported susceptibilities for "ALL BACTERIA", "ALL GRAM-NEGATIVE BACTERIA", and "ALL GRAM-POSITIVE BACTERIA" reflect estimates only based on the weighted average of susceptibilities for all organisms included on this report as well as those that have been excluded, with assumptions made for those drugs for which susceptibilities were not tested.
- Susceptibility to doxycycline was predicted based on tetracycline susceptibility testing results.

Year-Specific Notes:

- Only a limited number of coagulase negative staphylococci isolates were tested for susceptibilities. The vast majority of coagulase-negative staphylococci are susceptible to vancomycin. If you have any questions, please contact the UHN/MSH Department of Microbiology.

Organism-Specific Notes:

- ** Beta-hemolytic streptococci: Susceptibility testing to penicillin is not routinely performed since resistant strains have not been recognized. All isolates are considered susceptible to penicillin.
- * Viridans group streptococci: Please note that only a small proportion of these isolates were tested for susceptibilities. Please take this into consideration when interpreting the reported results.
- ** S. anginosus group: Please note that only a small proportion of these isolates were tested for susceptibilities. Please take this into consideration when interpreting the reported results.

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Respiratory Isolates – % Susceptible

	#	%	Ampicillin	Amoxicillin-Clavulanic acid	Piperacillin-Tazobactam	Meropenem	Ertapenem	Cefazolin	Ceftriaxone	Ceftazidime	Ciprofloxacin	Trimethoprim-Sulfamethoxazole	Gentamicin	Tobramycin	Amikacin

ALL BACTERIA	22	—	5	18	77	86	5		23			17			
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ALL GRAM-NEGATIVE BACTERIA	#	%	Ampicillin	Amoxicillin-Clavulanic acid	Piperacillin-Tazobactam	Meropenem	Ertapenem	Cefazolin	Ceftriaxone	Ceftazidime	Ciprofloxacin	Trimethoprim-Sulfamethoxazole	Gentamicin	Tobramycin	Amikacin
<i>Pseudomonas aeruginosa</i>	14	67		86	85				86	86		71	93	85	
<i>Haemophilus influenzae</i> ^{^^}	3	14	33												
<i>Acinetobacter baumannii</i> complex	1	5		0	100			0	100	100	100	100	100	100	100
<i>Klebsiella pneumoniae</i>	1	5	0	100	100	100		100	100	100	100	100			
<i>Moraxella catarrhalis</i> [^]	1	5													
<i>Serratia marcescens</i>	1	5	0	0	0	100	100	0	0	0	100	100	100	100	100

ALL GRAM-POSITIVE BACTERIA	#	%	Ampicillin	Amoxicillin-Clavulanic acid	Piperacillin-Tazobactam	Meropenem	Ertapenem	Cefazolin	Ceftriaxone	Ceftazidime	Ciprofloxacin	Trimethoprim-Sulfamethoxazole	Gentamicin	Tobramycin	Amikacin
<i>Mycobacterium tuberculosis</i> complex	1	100													

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- Susceptibility to doxycycline was predicted based on tetracycline susceptibility testing results.

Organism-Specific Notes:

- [^] *M. catarrhalis*: Susceptibility testing is not routinely performed. Most isolates are resistant to ampicillin and amoxicillin but are generally susceptible to other antibiotics commonly used for respiratory infections.
- ^{^^} *H. influenzae* and *H. parainfluenzae*: Susceptibility to ampicillin was determined using beta-lactamase testing. Beta-lactamase-positive isolates are resistant to ampicillin but are generally susceptible to amoxicillin-clavulanic acid and cefuroxime.

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Urine Isolates – % Susceptible

≥80% Susceptible ■ 70-79% Susceptible ■ ≤69% Susceptible ■	#	%	Ampicillin	Amoxicillin-Clavulanic acid	Piperacillin-Tazobactam	Meropenem	Ertapenem	Cloxacillin	Cefazolin	Cephalexin	Ceftriaxone	Ceftazidime	Doxycycline	Ciprofloxacin	Trimethoprim-Sulfamethoxazole	Nitrofurantoin	Gentamicin	Tobramycin	Amikacin	Vancomycin	Linezolid
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ALL BACTERIA	1008	—	16	65	78	82	75		11	56	60		9	75	58	74					
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ALL GRAM-NEGATIVE BACTERIA	782	100	1	65	75	100	91		8	67	72	77		78	68	71	93	60	95		
<i>Escherichia coli</i>	471	60	0	75	82	100	98		6	79	85	85	0	72	66	97	91	53	97		
<i>Klebsiella pneumoniae</i>	112	14	0	88	88	100	100		17	88	91	91		90	81	37	96	33	100		
<i>Proteus mirabilis</i>	46	6	25	93	93	100	100		25	89	93	93		83	85	0	93	100	67		
<i>Pseudomonas aeruginosa</i>	46	6			93	96						93		87			89	98	89		
<i>Enterobacter cloacae</i>	26	3	0	0	0	100	96		0	0	0	0		73	81	54	100	88	100		
<i>Klebsiella aerogenes</i>	15	2	0	0	0	100	100		0	0	0	0		87	93	33	100	100	100		
<i>Klebsiella oxytoca</i>	15	2	0	87	87	100	100		0	73	87	87		100	93	87	93	50	100		
<i>Citrobacter koseri</i>	11	1	0	0	0	100	100		0	0	0	0		100	100	100	100	100	100		
<i>Morganella morganii</i>	10	1	0	0	0	100	100		0	0	0	0		90	90	10	100	100	100		
<i>Citrobacter freundii</i>	7	1	0	0	0	100	100		0	0	0	0		100	86	86	100	100	100		
<i>Serratia marcescens</i>	5	1	0	0	0	100	100		0	0	0	0		100	100	0	100	100	100		

ALL GRAM-POSITIVE BACTERIA	226	100	65	65	86	21	21	21	21	20	21			42	63	18	87				96	97
<i>Enterococcus faecalis</i>	143	63	100	100	100									29	89		99				100	100
<i>Staphylococcus aureus</i> , all isolates	39	17			85	85	85	85	85	85				95		97	97				100	100
- methicillin-susceptible	33	15			100	100	100	100	100	100				100		100	97				100	100
- methicillin-resistant (MRSA)	6	3			0	0	0	0	0	0				67		83	100				100	100
<i>Enterococcus faecium</i> , all isolates	21	9	9	9	9									19	5		5				86	100
- vancomycin-susceptible	18	8	11	11	11									17	6		6				100	100
- vancomycin-resistant (VRE)	3	1	0	0	0									33	0		0				0	100
<i>Staphylococcus saprophyticus</i>	17	8																				
<i>Enterococcus gallinarum</i>	4	2	100	100	100									100	75		100				25	

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Organism-Specific Notes:

" *S. saprophyticus*: Susceptibility testing is not routinely performed. Most urinary tract infections due to this organism respond to nitrofurantoin, trimethoprim/sulfamethoxazole or fluoroquinolones.