

**Toronto General Hospital ANTIBIOGRAM
Emergency Department
January 1, 2023 - December 31, 2023**

Blood Isolates – % Susceptible

	#	%	Antibiotics																					
			Ampicillin	Amoxicillin-Clavulanic acid	Penicillin	Penicillin IV (meningitis)	Penicillin IV (non-meningitis)	Piperacillin-Tazobactam	Meropenem	Ertapenem	Cloxacillin	Cefazolin	Ceftriaxone	Ceftriaxone (meningitis)	Ceftriaxone (non-meningitis)	Ceftazidime	Clindamycin	Erythromycin	Doxycycline	Ciprofloxacin	Moxifloxacin	Trimethoprim-Sulfamethoxazole	Gentamicin	Tobramycin

ALL BACTERIA	1055	—	12	22			61	65	64		53	62									80						
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ALL GRAM-NEGATIVE BACTERIA	260	100	20	62			74	99	92		47	71			75				62		63	91	90	97			
<i>Escherichia coli</i>	140	54	37	64			73	100	100		51	76			76				51		60	88	85	98			
<i>Klebsiella pneumoniae</i>	58	22	0	81			82	100	100		75	86			86				72		70	93	93	100			
<i>Pseudomonas aeruginosa</i>	14	5					86	100							86				86			93	100	93			
<i>Proteus mirabilis</i>	14	5	7	83			93	100	100		7	93			93				79		71	86	100	93			
<i>Klebsiella oxytoca</i>	12	5	0	100			100	100	100		50	100			100				92		92	100	100	100			
<i>Enterobacter cloacae</i>	7	3	0	0			0	100	100		0	0			0				86		100	100	100	100			
<i>Serratia marcescens</i>	7	3	0	0			0	100	100		0	0			0				86		100	100	100	100			
<i>Stenotrophomonas maltophilia</i> [†]	6	2																			83	83					
<i>Pseudomonas putida</i>	2	1					100		0						100						0	100	100				

ALL GRAM-POSITIVE BACTERIA	795	100	10	10	4		57	55	55	49	55	59			67	37					85						100	
Coagulase-negative staphylococci	597	75					53	53	53	53	53				71	32	81				88						100	100
<i>Staphylococcus aureus</i> , all isolates	83	10					86	86	86	86	86				76	68	92				100						100	100
- methicillin-susceptible	71	9					100	100	100	100	100				77	74	94				100						100	100
- methicillin-resistant (MRSA)	12	2					0	0	0	0	0				67	33	83				100						100	100
Viridans group streptococci [*]	34	4										97															100	
<i>Enterococcus faecalis</i> , all isolates	25	3	100	100			100																				100	
Group A streptococci ^{**}	15	2			100												87	83									100	
<i>Streptococcus pneumoniae</i>	14	2												93	100				83		100						100	
Group C streptococci ^{**}	9	1			100												22	22									100	
<i>Enterococcus faecium</i> , all isolates	7	1	71	71			71																				100	
Group B streptococci ^{**}	7	1			100												86	86									100	
Group G streptococci ^{**}	4	1			100												50	50									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. maltophilia*: Susceptibility to moxifloxacin was predicted based on levofloxacin susceptibility testing results.

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Respiratory Isolates – % Susceptible

	#	%	Antibiotics																			
			Ampicillin	Amoxicillin-Clavulanic acid	Penicillin	Penicillin IV (meningitis)	Penicillin IV (non-meningitis)	Piperacillin-Tazobactam	Meropenem	Ertapenem	Cloxacillin	Cefazolin	Ceftriaxone	Cefazidime	Clindamycin	Erythromycin	Doxycycline	Ciprofloxacin	Moxifloxacin	Trimethoprim-Sulfamethoxazole	Gentamicin	Tobramycin

ALL BACTERIA	27	—	4	7			88	92	30			30	31						38						
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ALL GRAM-NEGATIVE BACTERIA	17	100	6				93	100				6	88				88		12	100	94	87			
<i>Pseudomonas aeruginosa</i>	15	88					93	100					93				93			100	100	93			
<i>Klebsiella pneumoniae</i>	1	6	0	100			100	100					100	100			100		100	100					
<i>Stenotrophomonas maltophilia</i> ¹	1	6															100	100							

ALL GRAM-POSITIVE BACTERIA	10	100	10	10	10		80	80	80	70	80	70		70	70				89					90	
<i>Staphylococcus aureus</i> , all isolates	8	80					88	88	88	88	88			75	75	88			100					100	100
- methicillin-susceptible	7	70					100	100	100	100	100			86	86	100			100					100	100
- methicillin-resistant (MRSA)	1	10					0	0	0	0	0			0	0	0			100					100	100
<i>Streptococcus pneumoniae</i>	1	10				100	100							100	100			100						100	100
<i>Mycobacterium tuberculosis complex</i>	1	10																							

General Notes:

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- 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.

Organism-Specific Notes:

- ¹ *S. maltophilia*: Susceptibility to moxifloxacin was predicted based on levofloxacin susceptibility testing results.

Toronto General Hospital ANTIBIOGRAM Emergency Department January 1, 2023 - December 31, 2023

All Urine Isolates – % Susceptible

		<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>≥80% Susceptible ■</p> <p>70-79% Susceptible ■</p> <p>≤69% Susceptible ■</p> </div> </div>																				
#	%	Ampicillin	Amoxicillin-Clavulanic acid	Penicillin	Piperacillin-Tazobactam	Meropenem	Ertapenem	Cloxacillin	Cefazolin	Cephalexin	Ceftriaxone	Ceftazidime	Doxycycline	Ciprofloxacin	Trimethoprim-Sulfamethoxazole	Nitrofurantoin	Gentamicin	Tobramycin	Amikacin	Vancomycin	Linezolid	
ALL BACTERIA	1224	—	19	67	79	80	74	9	3	60			28	69	57	78						
ALL GRAM-NEGATIVE BACTERIA	951	100	3	65	76	99	91		8		73	79	25	66	70	75	91	49	94			
<i>Escherichia coli</i>	592	62	4	74	82	100	98		12	0	84	84	33	58	70	98	90	36	96			
<i>Klebsiella pneumoniae</i>	151	16	0	80	81	99	88		0	0	86	86	25	72	76	35	93	53	82			
<i>Pseudomonas aeruginosa</i>	55	6			93	87						96		80			82	89	89			
<i>Proteus mirabilis</i>	44	5	11	86	93	100	100		0		95	95		82	82	2	89	86	100			
<i>Klebsiella oxytoca</i>	32	3	0	77	77	100	100		12		77	77		88	88	87	91	40	100			
<i>Enterobacter cloacae</i>	31	3	0	0	0	100	100		0	0	0	0		87	84	55	97	100	100			
<i>Citrobacter koseri</i>	22	2	0	0	0	100	100		0	0	0	0		100	95	95	100	100	100			
<i>Citrobacter freundii</i>	7	1	0	0	0	100	100		0	0	0	0		86	86	100	100	100	100			
<i>Morganella morganii</i>	5	1	0	0	0	100	100		0	0	0	0		80	80	0	100	100	100			
<i>Serratia marcescens</i>	4	0	0	0	0	100	100		0	0	0	0		100	100	0	100	100	100			
<i>Providencia rettgeri</i>	3	0	0	0	0	100	100		0	0	0	0		67	100	33	100	100	100			
<i>Stenotrophomonas maltophilia</i> ¹	2	0													100	0						
<i>Acinetobacter baumannii</i> complex	1	0			100	100				0	0	100		100	100	0	100	100	100			
<i>Citrobacter braakii</i>	1	0	0	0	0	100	100		0	0	0	0		0	100	100	100	100	100			
<i>Citrobacter amalonaticus</i>	1	0	0	0	0	100	100		0	0	0	0		100	100	0	100	100	100			
ALL GRAM-POSITIVE BACTERIA	273	100	75	75	89	14	14	14	14	14	14			40	79	12	91				98	99
<i>Enterococcus faecalis</i> , all isolates	201	74	99	99	99									32	86		100				100	100
<i>Staphylococcus aureus</i> , all isolates	33	12			85	85	85	85	85	85				91	85	97	100				100	100
- methicillin-susceptible	28	10			100	100	100	100	100	100				96	100	100	100				100	100
- methicillin-resistant (MRSA)	5	2			0	0	0	0	0	0				60		80	100				100	100
<i>Enterococcus faecium</i> , all isolates	27	10	19	19	19									37	15		19				78	94
- vancomycin-susceptible	21	8	24	24	24									48	19		19				100	92
- vancomycin-resistant (VRE)	6	2	0	0	0									0	0		17				0	100
<i>Staphylococcus saprophyticus</i> ²	12	4																				

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

Organism-Specific Notes:

- ¹ *S. saprophyticus*: Susceptibility testing is not routinely performed. Most urinary tract infections due to this organism respond to nitrofurantoin, trimethoprim/sulfamethoxazole or fluoroquinolones.
- ² *S. maltophilia*: Susceptibility to moxifloxacin was predicted based on levofloxacin susceptibility testing results.

Toronto General Hospital ANTIBIOGRAM
Emergency Department
January 1, 2023 - December 31, 2023

All Specimens – % Susceptible

	#	%	Ampicillin	Amoxicillin-Clavulanic acid	Penicillin	Penicillin IV (meningitis)	Penicillin IV (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

ALL BACTERIA	1958	—	22	53				77	79	72		36	63									63					
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ALL GRAM-NEGATIVE BACTERIA	1221	100	12	61				76	99	88		30	69		79					67	67	91	79	97		
<i>Escherichia coli</i>	688	56	20	72				81	100	99		33	84			84				57	69	90	70	97		
<i>Klebsiella pneumoniae</i>	199	16	0	81				84	99	97		59	87			87				73	77	93	84	96		
<i>Pseudomonas aeruginosa</i>	122	10						92	92							94				85		89	95	93		
<i>Proteus mirabilis</i>	56	5	10	85				93	100	100		5	93			93				80	77	88	95	94		
<i>Enterobacter cloacae</i>	46	4	0	0				0	100	100		0	0			0				89	89	98	100	100		
<i>Klebsiella oxytoca</i>	43	4	0	83				83	100	100		35	83			83				88	88	93	83	100		
<i>Citrobacter koseri</i>	24	2	0	0				0	100	100		0	0			0				100	96	100	100	100		
<i>Serratia marcescens</i>	18	1	0	0				0	100	100		0	0			0				94	100	100	100	100		
<i>Stenotrophomonas maltophilia</i> [†]	10	1																			78	90				
<i>Citrobacter freundii</i>	8	1	0	0				0	100	100		0	0			0				75	86	100	100	100		
<i>Morganella morganii</i>	7	1	0	0				0	100	100		0	0			0				86	86	100	100	100		

ALL GRAM-POSITIVE BACTERIA	737	100	40	40	8			78	46	46	38	46	52			47	38			57				99	
<i>Staphylococcus aureus</i> , all isolates	290	39						82	82	82	82	82				78	66	96		99				100	100
- methicillin-susceptible	237	32						100	100	100	100	100				79	72	97		100				100	100
- methicillin-resistant (MRSA)	53	7						0	0	0	0	0				72	38	89		96				100	100
<i>Enterococcus faecalis</i> , all isolates	226	31	99	99				99																	100
Coagulase-negative staphylococci	84	11						52	52	52	52	52				70	37	84		86				100	100
Viridans group streptococci [*]	43	6															98								100
<i>Enterococcus faecium</i> , all isolates	36	5	27	27				27																	81
- vancomycin-susceptible	29	4	34	34				34																	100
- vancomycin-resistant (VRE)	7	1	0	0				0																	0
Group A streptococci**	22	3																							100
<i>Streptococcus pneumoniae</i>	15	2																							100
Group C streptococci**	9	1																							100
Group B streptococci**	8	1																							100
Group G streptococci**	4	1																							100

General Notes:

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

Year-Specific Notes:

- > All specimens exclude surveillance samples.

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. maltophilia: Susceptibility to moxifloxacin was predicted based on levofloxacin susceptibility testing results.