

**Toronto General Hospital ANTIBIOGRAM  
Emergency Department  
January 1, 2018 - December 31, 2018**

**Blood Isolates – % Susceptible**

		≥80% Susceptible		70-79% Susceptible		≤69% 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	
<b>ALL BACTERIA</b>	765	—	17	34			63	70	67		49	63									71						
<b>ALL GRAM-NEGATIVE BACTERIA</b>	307	100	18	60			74	99	92		48	70		74					77		70	88	90	99			
<i>Escherichia coli</i>	167	54	28	66			78	100	100		52	80		80					66		63	85	88	100			
<i>Klebsiella pneumoniae</i>	66	21	0	85			89	98	97		85	89		89					89		85	88	88	100			
<i>Enterobacter cloacae</i>	20	7	0	0			0	100	100		0	0		0					100		90	100	100	100			
<i>Pseudomonas aeruginosa</i>	15	5					100	93						93					100			100	100	100			
<i>Proteus mirabilis</i>	9	3	56	100			100	100	100		25	100		100					78		78	89	89	100			
<i>Klebsiella oxytoca</i>	8	3	0	100			100	100	100		25	100		100					100		100	100	100	100			
<i>Serratia marcescens</i>	7	2	0	0			0	100	100		0	0		0					100		100	100	100	100			
<b>ALL GRAM-POSITIVE BACTERIA</b>	458	100	16	16	11		56	50	50	39	50	59				61	34				72					100	
Coagulase-negative staphylococci	269	59					44	44	44	44	44					61	22	89			72					100	100
<i>Staphylococcus aureus</i> , all isolates	71	16					87	87	87	87	87					73	64	97			100					100	100
- methicillin-susceptible	62	14					100	100	100	100	100					72	70	97			100					100	100
- methicillin-resistant (MRSA)	9	2					0	0	0	0	0					78	22	100			100					100	100
Viridans group streptococci *	39	9										100														100	
<i>Enterococcus faecalis</i> , all isolates	26	6	100	100			100																			100	
- vancomycin-susceptible	26	6	100	100			100																			100	
- vancomycin-resistant (VRE)	0	0																									
<i>Streptococcus pneumoniae</i>	20	4			91	100							95	100		91	70			100						100	
Group A streptococci**	14	3		100												79	86									100	
Group B streptococci**	9	2		100												56	56									100	
Group G streptococci**	5	1		100												80	80									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.

**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.

**Toronto General Hospital ANTIBIOGRAM  
Emergency Department  
January 1, 2018 - December 31, 2018**

**Respiratory Isolates – % Susceptible**

		<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>≥80% Susceptible <span style="color: green;">■</span></p> <p>70-79% Susceptible <span style="color: yellow;">■</span></p> <p>≤69% Susceptible <span style="color: red;">■</span></p> </div> </div>																								
#	%	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
<b>ALL BACTERIA</b>	41	—	24	27			79	71	7		7	34									23					
<b>ALL GRAM-NEGATIVE BACTERIA</b>	30	100	30	33			92	89				37			87				50		10	82	88	88		
<i>Pseudomonas aeruginosa</i>	17	57					88	82							94				59			82	88	88		
<i>Haemophilus influenzae</i> <sup>^^</sup>	10	33	90																							
<i>Stenotrophomonas maltophilia</i> <sup>†</sup>	3	10																		100	67					
<b>ALL GRAM-POSITIVE BACTERIA</b>	11	100	9	9	27		45	27	27	18	27	27				55	45				67					82
<i>Staphylococcus aureus</i> , all isolates	4	36					50	50	50	50	50					50	50	100			100				100	100
- methicillin-susceptible	2	18					100	100	100	100	100					100	100	100			100				100	100
- methicillin-resistant (MRSA)	2	18					0	0	0	0	0					0	0	100			100				100	100
<i>Streptococcus pneumoniae</i>	4	36			50	50							0	50		75	50			100					100	
<i>Mycobacterium tuberculosis</i> complex	2	18																								
Group A streptococci <sup>**</sup>	1	9			100											100	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.

**Organism-Specific Notes:**

- <sup>^^</sup> *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.
- <sup>\*\*</sup> 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.
- <sup>†</sup> *S. maltophilia*: Susceptibility to moxifloxacin was predicted based on levofloxacin susceptibility testing results.



# Toronto General Hospital ANTIBIOGRAM Emergency Department January 1, 2018 - December 31, 2018

## Urine Isolates – % Susceptible

	#	%	Ampicillin	Amoxicillin-Clavulanic acid	Penicillin	Piperacillin-Tazobactam	Meropenem	Ertapenem	Cloxacillin	Cefazolin	Cephalexin	Ceftriaxone	Ceftazidime	Doxycycline	Ciprofloxacin	Trimethoprim-Sulfamethoxazole	Nitrofurantoin	Gentamicin	Tobramycin	Amikacin	Vancomycin	Linezolid	
<b>ALL BACTERIA</b>	<b>976</b>	<b>—</b>	<b>33</b>	<b>65</b>		<b>79</b>	<b>84</b>	<b>79</b>		<b>5</b>	<b>61</b>	<b>62</b>		<b>73</b>	<b>72</b>	<b>57</b>	<b>76</b>						
<b>ALL GRAM-NEGATIVE BACTERIA</b>	<b>785</b>	<b>100</b>	<b>24</b>	<b>64</b>		<b>76</b>	<b>100</b>	<b>93</b>		<b>1</b>	<b>70</b>	<b>73</b>	<b>77</b>	<b>80</b>	<b>74</b>	<b>66</b>	<b>71</b>	<b>90</b>	<b>89</b>	<b>100</b>			
<i>Escherichia coli</i>	514	65	32	72		81	100	100		1	81	83	83	100	67	66	94	88	88	100			
<i>Klebsiella pneumoniae</i>	111	14	0	80		84	99	97		0	86	86	86	100	84	72	30	89	86	99			
<i>Pseudomonas aeruginosa</i>	40	5				88	95						90		90			98	100	100			
<i>Proteus mirabilis</i>	32	4	72	94		100	100	100			91	100	100		94	69	0	94	94	100			
<i>Enterobacter cloacae</i>	27	3	0	0		0	100	96		0	0	0	0		93	78	37	100	100	100			
<i>Citrobacter koseri</i>	17	2	0	0		0	100	100		0	0	0	0		100	100	94	100	100	100			
<i>Klebsiella oxytoca</i>	12	2	0	100		100	100	100			75	100	100		100	100	100	100	100	100			
<i>Morganella morganii</i>	8	1	0	0		0	100	100		0	0	0	0		62	75	0	75	100	100			
<i>Serratia marcescens</i>	6	1	0	0		0	100	100		0	0	0	0		100	100	0	100	83	100			
<i>Citrobacter freundii</i>	5	1	0	0		0	100	100		0	0	0	0		100	60	100	100	80	100			
<b>ALL GRAM-POSITIVE BACTERIA</b>	<b>191</b>	<b>100</b>	<b>70</b>	<b>70</b>		<b>92</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>			<b>43</b>	<b>61</b>	<b>19</b>	<b>93</b>				<b>98</b>	
<i>Enterococcus faecalis</i> , all isolates	129	68	100	100		100									26	81		98				100	
- vancomycin-susceptible	129	68	100	100		100									26	81		98				100	
- vancomycin-resistant (VRE)	0	0																					
<i>Staphylococcus aureus</i> , all isolates	34	18				94	94	94	94	94	94				100		100	100				100	100
- methicillin-susceptible	32	17				100	100	100	100	100	100				100		100	100				100	100
- methicillin-resistant (MRSA)	2	1				0	0	0	0	0	0				100		100	100				100	100
<i>Enterococcus faecium</i> , all isolates	12	6	8	8		8									41	0		33				75	100
- vancomycin-susceptible	9	5	0	0		0									44	0		33				100	100
- vancomycin-resistant (VRE)	3	2	33	33		33									33	0		33				0	100
- vancomycin-susceptible (vanA+)	0	0																					
<i>Staphylococcus saprophyticus</i> "	11	6																					
<i>Enterococcus gallinarum</i>	2	1	100	100		100									100	50		100				100	
<i>Enterococcus casseliflavus</i>	2	1	100	100		100									100	100		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.

### 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.