

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

**Blood Isolates – % Susceptible**

		<div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; background-color: #90EE90; border: 1px solid black; margin-right: 5px;"></div> <span>≥80% Susceptible</span> </div>		<div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; background-color: #FFFF00; border: 1px solid black; margin-right: 5px;"></div> <span>70-79% Susceptible</span> </div>		<div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; background-color: #FF0000; border: 1px solid black; margin-right: 5px;"></div> <span>≤69% Susceptible</span> </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>	<b>649</b>	<b>—</b>	<b>13</b>	<b>22</b>				<b>65</b>	<b>66</b>	<b>64</b>		<b>56</b>	<b>68</b>								<b>82</b>					
<b>ALL GRAM-NEGATIVE BACTERIA</b>	<b>136</b>	<b>100</b>	<b>31</b>	<b>71</b>				<b>81</b>	<b>100</b>	<b>93</b>		<b>55</b>	<b>79</b>		<b>85</b>				<b>78</b>		<b>73</b>	<b>89</b>	<b>90</b>	<b>97</b>		
<i>Escherichia coli</i>	86	63	49	76				81	100	100		64	86		86				68		71	85	86	96		
<i>Klebsiella pneumoniae</i>	22	16	0	100				95	100	100		91	100		100				100		95	100	100	100		
<i>Pseudomonas aeruginosa</i>	8	6						100	100						100				86			86	100	100		
<i>Proteus mirabilis</i>	6	4	0	100				100	100	100		0	100		100				100		83	100	100	100		
<i>Enterobacter cloacae</i>	3	2	0	0				0	100	100		0	0		0				67		67	67	67	100		
<i>Klebsiella oxytoca</i>	3	2	0	100				100	100	100		0	100		100				100		100	100	100	100		
<i>Morganella morganii</i>	2	1	0	0				0	100	100		0	0		0				100		100	100	100	100		
<i>Citrobacter freundii</i>	2	1	0	0				0	100	100		0	0		0				100		100	100	100	100		
<i>Providencia stuartii</i>	2	1	0	0				0	100	100		0	0		0				100		100	100	100	100		
<i>Moraxella catarrhalis</i> <sup>^</sup>	2	1																								
<b>ALL GRAM-POSITIVE BACTERIA</b>	<b>513</b>	<b>100</b>	<b>9</b>	<b>9</b>	<b>4</b>			<b>61</b>	<b>57</b>	<b>57</b>	<b>53</b>	<b>57</b>	<b>66</b>			<b>74</b>	<b>50</b>				<b>84</b>				<b>100</b>	
Coagulase-negative staphylococci	373	73						61	61	61	61	61				82	48	91			88				100	100
<i>Staphylococcus aureus</i> , all isolates	46	9						93	93	93	93	93				84	80	91			100				100	100
- methicillin-susceptible	43	8						100	100	100	100	100				83	79	95			100				100	100
- methicillin-resistant (MRSA)	3	1						0	0	0	0	0				100	100	33			100				100	100
Viridans group streptococci*	29	6										100														100
<i>Enterococcus faecalis</i> , all isolates	23	4	95	95				91																		100
<i>Streptococcus pneumoniae</i>	18	4										94	100					80			100					100
Group A streptococci**	12	2			100											92	80									100
Group G streptococci**	6	1			100											67	67									100
Group B streptococci**	3	1			100											0	0									100
<i>Enterococcus faecium</i> , all isolates	2	0	0	0				0																		100
<i>Enterococcus casseliflavus</i>	1	0	100	100				100																		0

**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:**

<sup>^</sup> *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.

\*\* 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.

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**Respiratory Isolates – % Susceptible**

	#	%	Antibiotics																						
			Ampicillin	Amoxicillin-Clavulanic acid	Penicillin	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>	14	—				85	69	14		14	14								14						
<b>ALL GRAM-NEGATIVE BACTERIA</b>	12	100				83	64						92				75			67	83	82			
<i>Pseudomonas aeruginosa</i>	12	100				83	64						92				75			67	83	82			
<b>ALL GRAM-POSITIVE BACTERIA</b>	2	100				100	100	100	100	100	100				50	50				100					100
<i>Staphylococcus aureus</i> , all isolates	2	100				100	100	100	100	100					50	50	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
- > 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
- > 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
- > Susceptibility to doxycycline was predicted based on tetracycline susceptibility testing results.

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**All Urine Isolates – % Susceptible**

		≥80% Susceptible <span style="color: green;">■</span> 70-79% Susceptible <span style="color: yellow;">■</span> ≤69% Susceptible <span style="color: red;">■</span>			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>	517	–	20	66		77	80	70			7	2	57			22	72	61	72					
<b>ALL GRAM-NEGATIVE BACTERIA</b>	407	100	5	63		75	100	87			7		70	77	19	73	74	68	94	52	89			
<i>Escherichia coli</i>	234	57	9	71		78	100	96			4		82	82	33	63	75	97	92	39	87			
<i>Klebsiella pneumoniae</i>	62	15	0	89		89	100	100			29					84	89	32	97	75	100			
<i>Pseudomonas aeruginosa</i>	29	7				100	93								100		90			100	100	100		
<i>Proteus mirabilis</i>	25	6	0	96		96	100	100			0		96	96		88	76	0	88	0	100			
<i>Klebsiella oxytoca</i>	13	3	0	100		100	100						100	100		92	100	92	100					
<i>Morganella morganii</i>	11	3	0	0		0	100	100			0	0	0	0		73	73	0	91	100	100			
<i>Citrobacter koseri</i>	11	3	0	0		9	100	100			0	0	0	0	0	0	100	100	82	100	100	100		
<i>Enterobacter cloacae</i>	10	2	0	0		0	100	90			0	0	0	0		90	90	60	100	100	100			
<i>Providencia stuartii</i>	5	1	0	0		0	100	100			0	0	0	0		80	100	0	100	100	100			
<i>Serratia marcescens</i>	2	0	0	0		0	100	100			0	0	0	0		100	100	0	100	100	100			
<i>Stenotrophomonas maltophilia</i>	1	0															100	0						
<i>Citrobacter freundii</i>	1	0	0	0		0	100	100			0	0	0	0		100	100	100	100	100	100			
<i>Providencia rettgeri</i>	1	0	0	0		0	100	100			0	0	0	0		100	100	0	100	100	100			
<i>Citrobacter braakii</i>	1	0	0	0		0	100	100			0	0	0	0		100	100	100	100	100	100			
<i>Citrobacter amaloniticus</i>	1	0	0	0		0	100	100			0	0	0	0		100	100	100	100	100	100			
<b>ALL GRAM-POSITIVE BACTERIA</b>	110	100	77	77		84	7	7	7	7	7	7				31	67	10	86				95	
<i>Enterococcus faecalis</i> , all isolates	83	75	99	99		99										28	87		96				100	
- vancomycin-susceptible	83	75	99	99		99										28	87		96				100	
<i>Enterococcus faecium</i> , all isolates	14	13	0	0		0										0	0		21			64	100	
- vancomycin-susceptible	9	8	0	0		0										0	0		22			100	100	
- vancomycin-resistant (VRE)	5	5	0	0		0										0	0		20			0	100	
<i>Staphylococcus aureus</i> , all isolates	11	10				73	73	73	73	73	73					91		100	100				100	100
- methicillin-susceptible	8	7				100	100	100	100	100	100					88		100	100				100	100
- methicillin-resistant (MRSA)	3	3				0	0	0	0	0	0					100		100	100				100	100
<i>Enterococcus species</i>	1	1	100	100		100										0	100		0				100	
<i>Enterococcus casseliflavus</i>	1	1	100	100		100										100	100		100				100	#N/A

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

**Organism-Specific Notes:**

<sup>1</sup> *S. maltophilia*: Susceptibility to moxifloxacin was predicted based on levofloxacin susceptibility testing results.

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**All Specimens – % Susceptible**

	#	%	Legend																												
			≥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>	<b>899</b>	<b>—</b>	<b>25</b>	<b>51</b>					<b>74</b>	<b>76</b>	<b>70</b>				<b>38</b>	<b>64</b>										<b>67</b>					
<b>ALL GRAM-NEGATIVE BACTERIA</b>	<b>535</b>	<b>100</b>	<b>19</b>	<b>62</b>					<b>76</b>	<b>99</b>	<b>88</b>				<b>35</b>	<b>69</b>			<b>79</b>					<b>75</b>	<b>72</b>	<b>94</b>	<b>86</b>	<b>96</b>			
<i>Escherichia coli</i>	293	55	34	72					79	100	99				43	83			83				64	75	92	80	94				
<i>Klebsiella pneumoniae</i>	81	15	0	91					90	100	100				77	94			94				86	91	98	96	100				
<i>Pseudomonas aeruginosa</i>	57	11							96	89									98				86		93	96	96				
<i>Proteus mirabilis</i>	30	6	0	97					97	100	100				0	97			97				90	80	90	71	100				
<i>Klebsiella oxytoca</i>	16	3	0	100					100	100	100				0	100			100				94	100	100	100	100				
<i>Enterobacter cloacae</i>	14	3	0	0					0	100	93				0	0			0				86	79	93	93	100				
<i>Citrobacter koseri</i>	13	2	0	0					8	100	100				0	0			0				100	100	100	100	100				
<i>Morganella morganii</i>	11	2	0	0					0	100	100				0	0			0				82	82	91	100	100				
<i>Serratia marcescens</i>	6	1	0	0					0	100	100				0	0			0				100	100	100	100	100				
<i>Providencia stuartii</i>	5	1	0	0					0	100	100				0	0			0				80	100	100	100	100				
<i>Citrobacter freundii</i>	4	1	0	0					0	100	100				0	0			0				100	100	100	100	100				
<i>Moraxella catarrhalis</i> <sup>^</sup>	3	1																													
<i>Citrobacter braakii</i>	2	0	0	0					0	100	100				0	0			0				100	100	100	100	100				
<b>ALL GRAM-POSITIVE BACTERIA</b>	<b>364</b>	<b>100</b>	<b>35</b>	<b>35</b>	<b>7</b>				<b>71</b>	<b>43</b>	<b>43</b>	<b>37</b>	<b>43</b>	<b>56</b>						<b>47</b>	<b>42</b>				<b>57</b>				<b>99</b>		
<i>Staphylococcus aureus</i> , all isolates	129	35							86	86	86	86	85							81	68	94		98				100	100		
- methicillin-susceptible	111	30							100	100	100	100	99							82	72	95		100				100	100		
- methicillin-resistant (MRSA)	18	5							0	0	0	0	0							78	44	89		89				100	100		
<i>Enterococcus faecalis</i> , all isolates	105	29	98	98					97																				100		
Coagulase-negative staphylococci	42	12							54	54	54	54	54							83	49	93		88				100	100		
Viridans group streptococci <sup>*</sup>	30	8													100														100		
<i>Streptococcus pneumoniae</i>	20	5																	95	100			100						100		
<i>Enterococcus faecium</i> , all isolates	14	4	0	0					0																				64		
- vancomycin-susceptible	9	2	0	0					0																				100		
- vancomycin-resistant (VRE)	5	1	0	0					0																				0	100	
Group A streptococci <sup>**</sup>	13	4							100											92	82								100		
Group G streptococci <sup>**</sup>	6	2							100											67	67								100		
Group B streptococci <sup>**</sup>	3	1							100											0	0								100		
Group C streptococci <sup>**</sup>	2	1							100											100	100								100		

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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:**

<sup>^</sup> *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.

<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> 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.