

**Princess Margaret Hospital ANTIBIOGRAM**  
**All Inpatients and Outpatients**  
**January 1, 2019 - December 31, 2019**

**Blood 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 style="display: flex; flex-direction: column; gap: 5px;"> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>#</span> <span>%</span> </div> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>Ampicillin</span> <span>Amoxicillin-Clavulanic acid</span> <span>Penicillin</span> <span>Piperacillin-Tazobactam</span> <span>Meropenem</span> <span>Ertapenem</span> <span>Cloxacillin</span> <span>Cefazolin</span> <span>Ceftriaxone</span> <span>Ceftriaxone (meningitis)</span> <span>Ceftriaxone (non-meningitis)</span> <span>Ceftazidime</span> <span>Clindamycin</span> <span>Erythromycin</span> <span>Doxycycline</span> <span>Ciprofloxacin</span> <span>Moxifloxacin</span> <span>Trimethoprim-Sulfamethoxazole</span> <span>Gentamicin</span> <span>Tobramycin</span> <span>Amikacin</span> <span>Vancomycin</span> <span>Linezolid</span> </div> </div> </div>																						
<b>ALL BACTERIA</b>	495	—	4	16		35	41	35		25	44							49						
<b>ALL GRAM-NEGATIVE BACTERIA</b>	150	100	6	45		68	94	74		38	55			69			66		54	86	86	97		
<i>Escherichia coli</i>	60	40	13	62		70	100	100		54	75			75			45		48	83	80	98		
<i>Klebsiella pneumoniae</i>	30	20	0	80		77	97	97		80	87			87			83		70	77	83	100		
<i>Pseudomonas aeruginosa</i>	25	17				88	84							92			92		92	92	100			
<i>Stenotrophomonas maltophilia</i> <sup>†</sup>	9	6															89	100						
<i>Enterobacter cloacae</i>	8	5	0	0		0	100	100		0	0			0			88		100	100	100	100		
<i>Klebsiella oxytoca</i>	6	4	0	83		83	100	100		17	83			83			100		100	100	100	100		
<b>ALL GRAM-POSITIVE BACTERIA</b>	345	100	3	3	1	21	19	19	18	19	39					60	38		46				94	
Coagulase-negative staphylococci	207	60				20	20	20	20	20						70	40	100		50			100	100
Viridans group streptococci <sup>*</sup>	71	21									94												41	
<i>Enterococcus faecium</i> , all isolates	32	9	0	0		0																	100	
- vancomycin-susceptible	13	4	0	0		0																	100	
- vancomycin-resistant (VRE)	19	6	0	0		0																	0	89
<i>Staphylococcus aureus</i>	21	6				100	100	100	100	100						90	86	100		100			100	100
<i>Enterococcus faecalis</i>	9	3	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.

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

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**Respiratory Isolates – % Susceptible**

	#	%	Ampicillin		Amoxicillin-Clavulanic acid		Penicillin	Penicillin IV (meningitis)	Penicillin IV (non-meningitis)	Piperacillin-Tazobactam	Meropenem	Ertapenem	Cloxacillin	Cefazolin	Ceftriaxone	Ceftazidime	Clindamycin	Erythromycin	Doxycycline	Ciprofloxacin	Moxifloxacin	Trimethoprim-Sulfamethoxazole	Gentamicin	Tobramycin	Amikacin	Vancomycin	Linezolid
			≥80% Susceptible	70-79% Susceptible	≤69% Susceptible	≥80% Susceptible																					
<b>ALL BACTERIA</b>	76	—	22	32					87	87	32			21	64							65					
<b>ALL GRAM-NEGATIVE BACTERIA</b>	55	100	29	42					91	91	15			61	93					61		52	96	91	100		
<i>Haemophilus influenzae</i> <sup>^^</sup>	18	33	78																								
<i>Pseudomonas aeruginosa</i>	13	24						100	77						100					92			100	100	100		
<i>Stenotrophomonas maltophilia</i> <sup>*</sup>	9	16																			100	100					
<i>Moraxella catarrhalis</i> <sup>^</sup>	5	9																									
<i>Escherichia coli</i>	3	5	33	33					33	100	100			0	33	33				33		67	67	33	100		
<b>ALL GRAM-POSITIVE BACTERIA</b>	21	100	5	5	5				76	76	76	71	76	71		62	53					85				90	
<i>Staphylococcus aureus</i> , all isolates	17	81							88	88	88	88	88			71	59	100				100				100	100
- methicillin-susceptible	15	71							100	100	100	100	100			67	67	100				100				100	100
- methicillin-resistant (MRSA)	2	10							0	0	0	0	0			100	0	100				100				100	100
<i>Mycobacterium tuberculosis</i> complex	2	10																									
Coagulase-negative staphylococci	1	5							0	0	0	0	0			0	0	100				0				100	100
<i>Streptococcus pneumoniae</i>	1	5						100	100							100	100				100					100	

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

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**Skin, Wound and Abscess 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 style="display: flex; flex-direction: column; gap: 5px;"> <div style="border: 1px solid black; padding: 2px;">Ampicillin</div> <div style="border: 1px solid black; padding: 2px;">Amoxicillin-Clavulanic acid</div> <div style="border: 1px solid black; padding: 2px;">Penicillin</div> <div style="border: 1px solid black; padding: 2px;">Piperacillin-Tazobactam</div> <div style="border: 1px solid black; padding: 2px;">Meropenem</div> <div style="border: 1px solid black; padding: 2px;">Ertapenem</div> <div style="border: 1px solid black; padding: 2px;">Cloxacillin</div> <div style="border: 1px solid black; padding: 2px;">Cefazolin</div> <div style="border: 1px solid black; padding: 2px;">Ceftriaxone</div> <div style="border: 1px solid black; padding: 2px;">Ceftazidime</div> <div style="border: 1px solid black; padding: 2px;">Clindamycin</div> <div style="border: 1px solid black; padding: 2px;">Erythromycin</div> <div style="border: 1px solid black; padding: 2px;">Doxycycline</div> <div style="border: 1px solid black; padding: 2px;">Ciprofloxacin</div> <div style="border: 1px solid black; padding: 2px;">Moxifloxacin</div> <div style="border: 1px solid black; padding: 2px;">Trimethoprim-Sulfamethoxazole</div> <div style="border: 1px solid black; padding: 2px;">Gentamicin</div> <div style="border: 1px solid black; padding: 2px;">Tobramycin</div> <div style="border: 1px solid black; padding: 2px;">Amikacin</div> <div style="border: 1px solid black; padding: 2px;">Vancomycin</div> <div style="border: 1px solid black; padding: 2px;">Linezolid</div> </div> </div>																		
#	%																			
<b>ALL BACTERIA</b>	218	—	5	13	75	85	65		49	56					69					
<b>ALL GRAM-NEGATIVE BACTERIA</b>	92	100	2	21	61	92	46		7	22	60			78	45	94	89	96		
<i>Pseudomonas aeruginosa</i>	40	43			85	90					88			88		95	95	95		
<i>Escherichia coli</i>	17	18	9	41	47	88	78		0	47	47			47	53	82	67	89		
<i>Enterobacter cloacae</i>	12	13	0	0	0	92	75		0	0	0			75	83	100	92	100		
<i>Klebsiella pneumoniae</i>	6	7	0	100	100	100	100		100	100	100			100	100	100	100	100		
<i>Serratia marcescens</i>	5	5	0	0	0	100	100		0	0	0			100	100	100	80	100		
<b>ALL GRAM-POSITIVE BACTERIA</b>	126	100	8	8	2	86	79	79	78	79	79		69	61					98	
<i>Staphylococcus aureus</i> , all isolates	105	83				92	92	92	92	92			80	70	97				100	100
- methicillin-susceptible	97	77				100	100	100	100	100			79	74	97				100	100
- methicillin-resistant (MRSA)	8	6				0	0	0	0	0			88	25	100				100	100
<i>Enterococcus faecium</i> , all isolates	8	6	0	0	0														63	
- vancomycin-susceptible	5	4	0	0	0														100	
- vancomycin-resistant (VRE)	3	2	0	0	0														0	100
<i>Enterococcus faecalis</i>	8	6	100	100	100														100	
Coagulase-negative staphylococci	3	2				33	33	33	33	33			67	67	33				100	100
Viridans group streptococci <sup>o</sup>	2	2			100						100								100	

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

**Organism-Specific Notes:**

- <sup>o</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.

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**All Urine 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	Piperacillin-Tazobactam	Meropenem	Ertapenem	Cloxacillin	Cefazolin	Cephalexin	Ceftriaxone	Ceftazidime	Doxycycline	Ciprofloxacin	Trimethoprim-Sulfamethoxazole	Nitrofurantoin	Gentamicin	Tobramycin	Amikacin	Vancomycin	Linezolid
<b>ALL BACTERIA</b>		595	—	33	62		75	75	68		3	50	54		8	74	54	70																			
<b>ALL GRAM-NEGATIVE BACTERIA</b>		436	100	21	60		75	99	90		2	66	71	78		80	71	68	90	87	99																
<i>Escherichia coli</i>		253	58	29	68		80	100	100		3	79	86	86		72	70	98	86	83	99																
<i>Klebsiella pneumoniae</i>		64	15	0	88		88	100	100		0	86	88	88		88	88	27	92	87	100																
<i>Pseudomonas aeruginosa</i>		32	7				91	91					97		94			97	100	97																	
<i>Enterobacter cloacae</i>		27	6	0	0		0	96	74		0	0	0	0	0	93	89	33	93	89	100																
<i>Proteus mirabilis</i>		23	5	75	95		100	100	100			91	100	100		91	78	0	96	91	100																
<i>Klebsiella oxytoca</i>		14	3	0	86		86	100	100		0	79	86	86		100	100	86	100	100	100																
<i>Citrobacter koseri</i>		6	1	0	0		0	100	100		0	0	0	0		100	83	50	100	83	100																
<i>Citrobacter freundii</i>		5	1	0	0		0	100	100		0	0	0	0		80	80	100	100	100	100																
<b>ALL GRAM-POSITIVE BACTERIA</b>		159	100	67	67		75	8	8	8	8	8	8		30	59	9	77				89	99														
<i>Enterococcus faecalis</i>		105	66	100	100		100								20	89		99				100	100														
<i>Enterococcus faecium</i> , all isolates		38	24	6	6		6								32	3	6	6				55	97														
- vancomycin-susceptible		21	13	10	10		10								29	5	10					100	100														
- vancomycin-resistant (VRE)		17	11	0	0		0								35	0	0					0	94														
<i>Staphylococcus aureus</i> , all isolates		15	9				80	80	80	80	80	80			100		100	100				100	100														
- methicillin-susceptible		12	8				100	100	100	100	100	100			100		100	100				100	100														
- methicillin-resistant (MRSA)		3	2				0	0	0	0	0	0			100		100	100				100	100														
<i>Enterococcus gallinarum</i>		1	1	0	0		0								0	0		100				0															

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**All Non-Urine 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>	975	—	6	16			62	68	55		43	60									68					
<b>ALL GRAM-NEGATIVE BACTERIA</b>	347	100	10	37			71	93	55		23	46			74					73	50	90	88	99		
<i>Pseudomonas aeruginosa</i>	99	29					88	84							92					90		95	95	99		
<i>Escherichia coli</i>	90	26	14	58			67	98	97		46	71			71					48	55	84	77	97		
<i>Klebsiella pneumoniae</i>	44	13	0	84			79	98	100		79	91			91					88	74	81	84	100		
<i>Enterobacter cloacae</i>	23	7	0	0			0	96	87		0	0		0	0					83	91	100	96	100		
<i>Stenotrophomonas maltophilia</i> <sup>†</sup>	22	6																			86	100				
<i>Haemophilus influenzae</i> <sup>^^</sup>	19	5	79																							
<i>Klebsiella oxytoca</i>	12	3	0	92			92	100	100		17	92			92					100	100	100	100	100		
<i>Serratia marcescens</i>	10	3	0	0			0	100	100		0	0			0					100	100	100	80	100		
<i>Proteus mirabilis</i>	8	2	50	88			88	100	100		0	88			88					100	88	88	100	100		
<i>Moraxella catarrhalis</i> <sup>^</sup>	6	2																								
<b>ALL GRAM-POSITIVE BACTERIA</b>	628	100	4	4	1		58	55	55	54	55	67			63	47					78				96	
Coagulase-negative staphylococci	258	41					51	51	51	51	51				64	36	92				78				100	100
<i>Staphylococcus aureus</i> , all isolates	224	36					92	92	92	92	92				78	72	97				100				100	100
- methicillin-susceptible	206	33					100	100	100	100	100				79	76	98				100				100	100
- methicillin-resistant (MRSA)	18	3					0	0	0	0	0				67	22	89				94				100	100
Viridans group streptococci <sup>°</sup>	80	13										95													100	
<i>Enterococcus faecium</i> , all isolates	41	7	0	0			0																		46	
- vancomycin-susceptible	19	3	0	0			0																		100	
- vancomycin-resistant (VRE)	22	4	0	0			0																		0	91
<i>Enterococcus faecalis</i>	18	3	100	100			100																		100	

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