

LMH Health AntibioGram January - December 2023

Gram Positive (All Sources)

Percent Susceptible 2023	Number of Isolates	% Inducible Clindamycin Resistance	Penicillins					Cephalosporins	Folate Pathway Inhibitor	Macrolides	Glycopeptides	Lincosamides	Streptogramins	Tetracyclines	Mupirocin	Nitroimidazole
			Gentamicin	Rifampin ¹	Ampicillin ²	Oxacillin ³	Penicillin									
<i>Enterococcus faecium</i> ⁵	33	100 ²		45										73	89	97
<i>Enterococcus faecalis</i> ⁵	398	87 ¹		100										99	91	98
<i>Staphylococcus aureus</i> (MSSA)	356	14	99	100		100		98	90	91	100	78		63	100	
<i>Staphylococcus aureus</i> (MRSA)	118	7	99	99		0		92			100	78	100	19	100	
<i>Coagulase negative staphylococcus</i>	194	94				60		87	76	77	100	64	100	42	100	
<i>Staphylococcus epidermidis</i>	376	8	96	99		49		85	77	77	100	67	100	35	100	
<i>Staphylococcus lugdunensis</i>	54	8	98	100		83		98	98	100	100	89		88	100	
<i>Staphylococcus saprophyticus</i>	35	8	100	100		43		94	100	100	100	43		37	100	
<i>Streptococcus agalactiae</i> (GBS)	241	11	NA				100	100			98	100	39	27	100	
<i>Streptococcus anginosus</i> group ⁶	89							98	99		96	100	76	48		
<i>Streptococcus pneumoniae</i>	44		NA					100 ²	100 ²		98	100	86	56	100	
<i>Streptococcus pyogenes</i> (GAS) ⁷	14 ¹							100 ²	100 ²		100 ²		79 ¹	71 ¹		
<i>Streptococcus viridans</i> group ⁷	248							79	96		93	100	75	54		

Gram Positive Table Key
 1) Rifampin to be used in combination only
 2) Ampicillin predicts amoxicillin susceptibility
 3) Isolate numbers <30 may be statistically unreliable
 4) Erythromycin predicts azithromycin or clarithromycin susceptibility
 5) Gentamicin for synergy
 6) S. anginosus group includes anginosus, constellatus, intermedius
 7) S. viridans group includes mitis, saniois, mutans, bovis, oralis
 8) S. pneumoniae meningitis / non-meningeal breakpoint rates
 9) Oxacillin predicts nafcillin, S. lactium combo agents, oral & parenteral cephalosporins

Gram Negative (All Sources)

Percent Susceptible 2023	Number of Isolates	% ESBL Isolates	Aminoglycosides		Penicillins	B Lactam/ inhibitor Combo	Cephalosporins				Carbapenems	Folate Pathway Inhibitor	Fluoroquinolones	Tetracycline	Monobactams			
			Gentamicin	Tobramycin			1st	2nd	3rd	4th								
<i>Acinetobacter baumannii</i> ¹	12 ¹		92 ¹	82 ¹		100 ²	82 ¹			47 ¹		91 ¹	83 ¹	80 ¹	83 ¹			
<i>Citrobacter freundii</i> complex ⁴	41		98	98			78			76 ¹	76 ¹	98	97	92 ¹	88	90 ¹	93	
<i>Enterobacter cloacae</i> ⁴	143		99	99			81			83 ¹	79 ¹	96	95	97	90	91	92	
<i>Escherichia coli</i>	2033	5	94	84	62	71	97	91	92	96/100 ¹	97	95	97	100	100	84	85	83
<i>Klebsiella aerogenes</i> ⁴	66		100	100			86			86 ¹	83 ¹	98	100	100	98	100	97	83
<i>Klebsiella oxytoca</i>	114	4	96	97		82	95		94 ¹	94/94 ¹	99	96	99	98	98	93	98	98
<i>Klebsiella pneumoniae</i>	400	6	98	97		91	96		92	94/100 ¹	98	97	98	100	100	95	95	95
<i>Morganella morganii</i>	49		92	96			100			50/100 ¹	94	100 ¹	100 ¹	100	100	88	92	90
<i>Proteus mirabilis</i>	242		92	93	87	90	100			95/100 ¹	99	98	99	100	100	86	84	86
<i>Pseudomonas aeruginosa</i>	259		98	98		96				97	97	97	97	96	91	87		
<i>Serratia marcescens</i>	43		98	93						100	98	100	100	100	98	88	88	100
<i>Stenotrophomonas maltophilia</i>	43													95		88	100	

Gram Negative Table Key
 1) Ampicillin predicts amoxicillin susceptibility
 2) Ampicillin/Sulbactam generally predicts amoxicillin/clavulanate susceptibility (except for A. baumannii)
 3) Isolate numbers <30 may be statistically unreliable
 4) Klebsiella aerogenes, Enterobacter cloacae complex, and Citrobacter freundii complex may develop resistance during prolonged therapy with 3rd generation cephalosporins as a result of despression of AmpC Beta lactamase
 5) Carbapenems: Ceftazidime/Ceftazidime-avopivoxil

Urinary Source Only - Gram Positive and Gram Negative

Percent Susceptible 2023	Number of Isolates	% ESBL Isolates	Aminoglycosides		Penicillins	B Lactam/ inhibitor Combo	Cephalosporins				Carbapenems	Folate Pathway Inhibitor	Fluoroquinolones	Monobactams	Nitroimidazole	Glycopeptides	Fosfomycin		
			Gentamicin	Tobramycin			1st	2nd	3rd	4th									
Gram Positive																			
<i>Enterococcus faecium</i> ⁷	22 ¹		42 ¹												20 ¹	20 ¹	43 ¹	70 ¹	
<i>Enterococcus faecalis</i>	263				100										89	90	100	100	
<i>Staphylococcus saprophyticus</i>	35		100											94	100	100	100	100	
Gram Negative																			
<i>Escherichia coli</i> ⁴	1898	5	94	94	62	72	97	93	91	96/100 ¹	97	95	97	100	100	84	83	96	97
<i>Klebsiella aerogenes</i> ⁴	55		100	100													83	80 ¹	38
<i>Klebsiella oxytoca</i> ⁴	74	6	96	96		86	96		100	100/100 ¹	100	96	100	99	100 ¹	92	99	100 ¹	95
<i>Klebsiella pneumoniae</i> ⁴	340	6	98	98		91	96		92	92/100 ¹	98	96	97	100	100	96	95	96	93
<i>Citrobacter freundii</i> complex ⁴	33		100	100			76				72 ¹	72 ¹	97	97 ¹	84 ¹	88	94	79 ¹	94
<i>Enterobacter cloacae</i> ⁴	81		100	100			73				72 ¹	72 ¹	100	92	95	93	91	72	67
<i>Morganella morganii</i> ⁴	34		100	100			100				67/100 ¹	94	100 ¹	100 ¹	100 ¹	94	97	100 ¹	
<i>Proteus mirabilis</i> ⁴	195		92	93	87	90	99	96	94	94/100 ¹	99	97	98	100	100	86	85	99	
<i>Pseudomonas aeruginosa</i>	127		98	96		97					96	96	97	97	96		83		
<i>Serratia marcescens</i> ⁷	17 ¹		94 ¹	94 ¹							100 ¹	94 ¹	100 ¹	100 ¹	100 ¹	94 ¹		76 ¹	100 ¹

Urinary Source Table Key
 1) Ampicillin predicts amoxicillin susceptibility
 2) Klebsiella aerogenes, Enterobacter cloacae complex, and Citrobacter freundii complex may develop resistance during prolonged therapy with 3rd generation cephalosporins as a result of despression of AmpC Beta lactamase
 3) Isolate numbers <30 may be statistically unreliable
 4) Enterobacter cloacae complex