

ELLIOT HOSPITAL SYSTEMIC ANTIBIOGRAM

January – December 2025

Percent Susceptible

This antibiogram is based on data generated for patients of all ages.

Gram Negative Organisms	# Isolates	Ampicillin	Ampicillin-sulbactam	Amoxicillin-clavulanate	Cefepime	Ceftriaxone	Ceftazidime	Ciprofloxacin	Ertapenem for ESBL	Gentamicin	Levofloxacin	Piperacillin-tazobactam	Tobramycin	Trimethoprim-sulfamethoxazole
<i>Escherichia coli</i> β	333	57	63	85	90	89		78	99	89			90	73
<i>Citrobacter freundii</i> complex	17*	0	0	0	100	71		100		100			100	100
<i>Enterobacter cloacae</i> complex	63	0	0	0	98	81		98		100			100	97
<i>Klebsiella pneumoniae</i> β	85	0	79	90	85	85		79	100	95			91	77
<i>Proteus mirabilis</i> β	96	87	95	99	99	99		81		94			94	86
<i>Pseudomonas aeruginosa</i>	168						92	89			91	93	98	
<i>Raoultella ornithinolytica</i>	42	0	81	95	98	95		98		100			98	95
<i>Serratia marcescens</i>	40	0	0	0	98	72		95		100			90	100
<i>Stenotrophomonas maltophilia</i> **	35						34				97			100
<i>Morganella morganii</i>	26*	0	12	0	100	88		73		88			92	85
<i>Haemophilus influenzae</i>	78	74% of isolates are beta lactamase negative												

β Includes ESBL isolates

* Please exercise discretion when data are reviewed for species with fewer than the standard recommendation of 30 isolates.

**Monotherapy is not recommended for treatment of moderate to severe infections with *Stenotrophomonas maltophilia*. ID consultation should be considered.

Gram Positive Organisms	# Isolates	Ampicillin	Ampicillin-sulbactam	Ceftriaxone	Clindamycin ¥	Erythromycin	Gentamicin Synergy	Levofloxacin	Oxacillin	Penicillin	Tetracycline	Trimethoprim-sulfamethoxazole	Vancomycin	Daptomycin Δ	Linezolid Δ
<i>Staphylococcus aureus</i> (MSSA)	597	0	99		80	72			100		89	99	100	◇ 99	
<i>Staphylococcus aureus</i> (MRSA)	402	0	0		33	14			0		82	91	100	◇ 99	
<i>Staphylococcus</i> spp., coagulase negative	196	0	59		66	54			62		79	69	100		
<i>Enterococcus faecalis</i> §	112	99					85				24		95	◇ 99	100
<i>Enterococcus faecium</i> §	18*	28					100				28		39	◇ 94	100
<i>Streptococcus pneumoniae</i>	71			80 M 96 NM				100		96 IV 74 Oral 74 M					

§ Includes VRE isolates

¥ Clindamycin result reflects inducible resistance.

Δ ID restricted

M Meningitis MIC

NM Non-Meningitis MIC

◇ All systemic sources other than lower respiratory tract.

* Please exercise discretion when data are reviewed for species with fewer than the standard recommendation of 30 isolates.

Tetracycline results can be used to represent doxycycline results.

Oxacillin results can be used to represent nafcillin results.

Antibiogram Notes 2025

Antibiogram interpretation: The antibiogram is generated from data on patients of all ages, both inpatient and outpatient, within the Elliot Health System. The number associated with each organism and drug cross section indicates the percent of organism isolates that were susceptible to that drug. Higher percentages indicated better empiric coverage.

- **Intrinsic Resistance to Antibiotics.** The following organisms have an “intrinsic resistance” to the antibiotics described. Intrinsic resistance is defined as an innate or inherent antimicrobial resistance, as opposed to an acquired resistance.
 - *Citrobacter freundii*, *Klebsiella aerogenes*, *Enterobacter cloacae*, *Serratia marcescens*:
 - Ampicillin, Ampicillin-Sulbactam, Cefazolin, Cefoxitin
 - *Klebsiella pneumoniae*, *Klebsiella oxytoca*:
 - Ampicillin
 - *Morganella morganii*:
 - Ampicillin, Amoxicillin-Clavulanate, Cefazolin, Nitrofurantoin
 - *Proteus mirabilis*:
 - Nitrofurantoin
 - *Raoultella spp.*:
 - Ampicillin
- **Induced Resistance to Antibiotics.**
 - *Enterobacteriaceae* and AmpC β -lactamase: *Enterobacter cloacae*, *Klebsiella aerogenes*, and *Citrobacter freundii* are the Enterobacterales with moderate to high risk for clinically significant AmpC production.
 - Exposure to β -lactams can trigger AmpC production and β -lactam resistance, even if initially susceptible
 - Recommended to avoid third-generation cephalosporins even if susceptible in vitro
- **Systemic Infections**
 - *S. maltophilia* susceptibility for levofloxacin has increased to 97%, and Bactrim remains 100% susceptible
 - *E. faecium* is more often resistant to vancomycin (only 39% susceptible) and ampicillin (only 28% susceptible) than *E. faecalis* (of which only 5 % are resistant to vancomycin)
- **Urinary Tract Infections**
 - *E. coli* remains the most common pathogen at 64% isolates, 99% susceptible to nitrofurantoin
 - *E. faecalis* remains 99% susceptible to ampicillin and nitrofurantoin
 - *Proteus mirabilis* susceptibility for cefazolin has increased to 73%
 - MRSA susceptibility for Bactrim has increased 74%, and nitrofurantoin remains at 100% susceptible