

Central Utah

Antibiograms summarize local antimicrobial resistance profiles, supporting clinicians in selecting appropriate empiric antibiotics prior to the availability of organism-specific susceptibility. The tables below show the **percentage of microbial isolates susceptible to various antibiotics**. The data was collected in 2024 from Intermountain Health emergency departments and inpatient facilities within the stated geographical region.

Definitive antibiotic therapy should be based on the causative organism(s) susceptibility profile and clinical context once identified.

Susceptibility Rates (%) of Gram-Negative Isolates to Common Antimicrobials

N (#)	Species/Organism	Amoxicillin/Clavulanate	Ampicillin/Sulbactam	Cefazolin	Cefepime	Ceftazidime	Ceftriaxone	Ciprofloxacin	Ertapenem	Gentamicin	Levofloxacin	Meropenem	Nitrofurantoin *	Piperacillin / Tazobactam	Tobramycin	Trimethoprim / Sulfamethoxazole
450	<i>Escherichia coli</i>	86	65	90	93	93	93	83	100	94	85	100	97	96	93	82
83	<i>Klebsiella pneumoniae</i>	93	85	87	94	94	93	89	99	95	94	99	51	96	94	92
41	<i>Pseudomonas aeruginosa</i>				98	100		90			90	98		100	100	
39	<i>Proteus mirabilis</i>	95	95	77	100	100	100	74	100	95	77	100		100	92	77
23	<i>Klebsiella oxytoca</i>	78	61	17	87	87	83	83	100	96	87	100	65	96	100	87
19	<i>Enterobacter cloacae</i> complx		11		95	89	74	100	100	100	95	100	36	100	95	95
18	<i>Klebsiella aerogenes</i> (Enter)				100	67	61	100	100	100	100	100	44	94	100	100

Susceptibility Rates (%) of Gram-Positive Isolates to Common Antimicrobials

N (#)	Species/Organism	Ampicillin	Clindamycin	Not For UTI	Daptomycin	Levofloxacin	Linezolid	Nafcillin	Nitrofurantoin *	Penicillin	Tetracycline	Trimethoprim / Sulfamethoxazole	Vancomycin
93	<i>Enterococcus faecalis</i>	100		47	92*	100		100	98	25		100	
70	MSSA		86	100		100	99	100		97	99	100	
42	MRSA		79	86		100		100		85	98	100	
12	<i>Staphylococcus epidermidis</i>		44	100		100	33	100		92	70	100	
11	<i>Streptococcus anginosus</i> group		80						100			100	

* For cystitis only

Interpret the data cautiously in organisms with ≤30 isolates, as they may not be accurate.

- In 2024, 4% of *E. coli*, 13% of *K. oxytoca*, and 5% of *K. pneumoniae* screened positive for extended spectrum β-lactamase (ESBL).
- Aminoglycoside monotherapy is not recommended for most infections. Gentamicin is no longer recommended for *P. aeruginosa*.
- Certain organisms, including *Enterobacter cloacae*, *Klebsiella aerogenes*, and *Citrobacter freundii* can become resistant to 3rd-generation cephalosporins (ceftriaxone, cefotaxime, ceftazidime) during treatment of severe infections despite initial *in vitro* susceptibility. Cefepime may be an alternative option and higher doses may be required.
- Enterococcus* spp. are intrinsically resistant to cephalosporins. Fluoroquinolones (e.g., ciprofloxacin, levofloxacin) should not be used to treat any enterococcal infection except uncomplicated cystitis in patients with severe penicillin allergy.
- Ertapenem is not active against *Pseudomonas*, *Acinetobacter*, or *Enterococcus* spp.

- Beta-lactamase positive *Haemophilus* spp. are resistant to penicillin, ampicillin, and amoxicillin.
- Beta-hemolytic streptococci (Groups A, B, C, G) are universally susceptible to β-lactams (penicillins, cephalosporins) and vancomycin; therefore routine susceptibility testing is not needed for these agents. However, resistance to clindamycin and azithromycin can be present.
- Methicillin-susceptible *Staphylococcus aureus* (MSSA) are resistant to penicillin, ampicillin, and amoxicillin. First-line agents are nafcillin/dicloxacillin and cefazolin/cephalexin. Second-line agents include: amoxicillin/clavulanate, ampicillin/sulbactam, cefuroxime, and ceftriaxone.
- S. aureus* bacteremia in adults must be treated with intravenous antibiotics and infectious diseases should be consulted. Outcomes with β-lactam treatment for MSSA are better than vancomycin. ***S. aureus* in the blood is never a contaminant.**