

Utah County, UT

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	Tetracycline	Tobramycin	TMP/SMX
43	<i>Citrobacter freundii</i> complex				93	77	63	93	100	98	91	100	80	95	94	98	95
42	<i>Citrobacter koseri</i>	98	100	100	100	100	98	93	100	100	98	100	65	100	100	100	100
157	<i>Enterobacter cloacae</i> complex				92	83	75	89	89	99	92	99	35	89	85	96	89
2507	<i>Escherichia coli</i>	79	61	81	88	88	87	77	100	91	81	100	94	98	73	91	74
76	<i>Klebsiella aerogenes</i> (Entero)				99	75	74	95	99	97	96	100	23	88	94	99	96
138	<i>Klebsiella oxytoca</i>	88	74	22	95	95	92	92	100	94	97	100	84	98	88	94	92
436	<i>Klebsiella pneumoniae</i>	88	82	85	89	89	89	84	100	94	92	100	39	97	81	93	87
38	<i>Morganella morganii</i>				92	66	76	71	100	89	74	100		100		92	76
197	<i>Proteus mirabilis</i>	94	85	82	98	97	98	72	100	87	73	99		100		88	71
348	<i>Pseudomonas aeruginosa</i>				92	91		83			79	93		91		99	
45	<i>Serratia marcescens</i>				98	64	78	93	100	98	93	100		84	25	96	100

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

N (#)	Species / Organism	Ampicillin	Ceftriaxone†	Clindamycin Not For UTI	Daptomycin	Levofloxacin	Linezolid	Nafcillin	Nitrofurantoin*	Penicillin†	Tetracycline	TMP/SMX	Vancomycin
623	<i>Enterococcus faecalis</i>	99			60	87*	99		99	23		100	
69	<i>Enterococcus faecium</i>	38			87	26*	94		52	36	38		75
237	MRSA			81	97		100	0	100	1	83	97	100
654	MSSA			85	99		100	100	100	25	94	100	100
220	<i>Staphylococcus epidermidis</i>			52	97		100	34	100	9	72	63	100
97	<i>Staphylococcus</i> sp. coag neg			84	100		100	84	100	31	90	87	100
36	<i>Staphylococcus lugdunensis</i>			94	100		100	97	100	46	94	97	100
167	<i>Streptococcus anginosus</i> group	100	100	77			0			98		100	99
33	<i>Streptococcus pneumoniae</i>		100	94		100	100			90	96	92	100
36	<i>Streptococcus viridans</i> group	100	97	89						75			100

* For cystitis only

† Not for meningitis

TMP/SMX=
trimethoprim
sulfamethoxazole

- In 2024, 11% of *E. coli*, 5% of *K. oxytoca*, 3% of *P. mirabilis*, and 9% 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.**