

Cache 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
808	<i>Escherichia coli</i>	82	65	85	90	90	90	83	100	93	86	100	94	99	76	93	79
155	<i>Klebsiella pneumoniae</i>	87	81	84	88	88	87	84	100	99	94	100	43	99	76	96	85
69	<i>Pseudomonas aeruginosa</i>				96		90		100	90	96		93		99		
44	<i>Enterobacter cloacae</i> cmplx		11		93	75	68	95	89	93	100	100	48	82	88	95	98
42	<i>Proteus mirabilis</i>	98	88	85	100	100	100	79	100	88	81	100		100		88	81
41	<i>Klebsiella oxytoca</i>	80	63	12	88	88	85	90	100	95	93	100	90	88	83	93	95
33	<i>Klebsiella aerogenes</i> (Entero)				97	82	82	91	94	100	97	100	14	85	100	100	97
16	<i>Citrobacter koseri</i>	100	100	100	100	100	100	100	100	100	100	100	70	100	100	100	100
12	<i>Serratia marcescens</i>				92	58	58	92	100	100	92	100		100	30	100	100
11	<i>Citrobacter freundii</i>				91	45	45	100	100	91	100	100	100	100	100	91	91

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
167	<i>Enterococcus faecalis</i>	99		55	88	100		99	99	25		100	
144	MSSA			84	97	100	100	100	22	95	98	100	
52	MRSA			84	100	100		100		87	100	100	
49	<i>Staphylococcus epidermidis</i>			62	100	100	41	100	7	82	61	100	
33	<i>Staph. sp. coag</i> (-) not <i>S. epi</i>			77	100	100	81	100	31	88	89	100	
31	<i>Streptococcus anginosus</i> group	100	100	79		100			100			100	
14	<i>Streptococcus viridans</i> group		100	83		100			71			93	
14	<i>Streptococcus sp.</i> Group A	100	100	93		100			100			100	
13	<i>Streptococcus sp.</i> Group B		100	77		100			100			100	
12	<i>Enterococcus faecium</i>	33			73	44	100		89	33	80		67

* For cystitis only

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

- In 2024, 9% of *E. coli*, 12% of *K. oxytoca*, and 11% 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.**