

➤ Antimicrobial Stewardship and Laboratory Services



Find antimicrobial stewardship resources.

- **The Antimicrobial Stewardship Website** — A single source for the latest guidelines, care process models, and other resources. Go to intermountain.net, and find “**Antimicrobial Stewardship**” in the A-to-Z Index or by typing “[abx/](#)” in the address bar. From the left navigation, select:
 - “Tracking and Reporting” for online antibiograms
 - “Guidelines and Education” for related care process models
- **GermWatch** — The best resource for finding out “what’s going around.” Click on “**GermWatch**” in the A-to-Z Index on intermountain.net. Scroll down to select “Antibiogram Pocket Cards” under Resources.
- **Formulary** — Go to intermountain.net, hover over “Clinical,” and click on “Pharmacy” listed under Clinical Support Services. Select “Formulary Resources” within the left navigation.
- **Antibiogram Tool** — Access this online, interactive reporting tool by typing “[antibiogram/](#)” in the address bar of either your Google or Internet Explorer browser.



Consult with infectious disease experts.

Infectious diseases experts can answer your patient-related questions. Consider a full infectious diseases consult for:

- Home IV antibiotic therapy
- *S. aureus* and *Candida* bloodstream infections
Note: never bloodstream contaminants
- Endocarditis
- Central nervous system infections
- Resistant organisms
- Herpes simplex virus in children < 60 days old
- Pediatric bone and joint infections
- Non-formulary and these restricted antimicrobials (see formulary):
 - Ceftazidime/avibactam
 - Ceftolozane/tazobactam
 - Isavuconazole
 - Posaconazole
 - Voriconazole

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Antibiograms are internal tools for inpatient use only and represent all sample types. Please do not share with commercial vendors.

For organisms with less than 30 isolates, interpret cautiously as they may not be accurate.

2018 Antibiogram

Primary Children's Hospital

Antibiograms help clinicians select empiric antibiotics until organism susceptibility has been determined. Percentages are based on isolates processed in the microbiology lab over the previous one-year period. Determine definitive antibiotic therapy based on the susceptibility profile of the identified organism(s) and the infection site.

Percent Susceptibility														
# Tests	Species / Organism	Amikacin	Ampicillin	Cefepime	Ceftazidime	Cefazolin	Ceftriaxone	Cephalexin	Ciprofloxacin	Meropenem	Gent/Tobra	Piper/Tazo	Trimeth/Sulfa	Nitrofurantoin (only cystitis)
Non-Urine Gram-Negative Isolates														
17	Acinetobacter species	94		82	76				94	100	82			
28	Enterobacter cloacae	100	0	96	86	0	86		100	96	100	88	100	
73	Escherichia coli	100	40	88	88	86	88		78	100	77	90	63	
14	Klebsiella oxytoca	100	0	100	100	86	100		100	100	93	93	100	
28	Klebsiella pneumoniae	100	0	93	93	93	93		100	100	100	96	82	
100	Pseudomonas aeruginosa, NOT CF patients	95		94	96				93	86	95	97		
118	P. aeruginosa, CF Patients	79		87	91				86	86	87	92		
Gram-Negative Urine Isolates														
602	Escherichia coli		52					92	90				79	97
106	Enterococcus species		95						88					93
64	Klebsiella pneumoniae		0				94	94				84	42	
49	Pseudomonas aeruginosa								92					
27	Klebsiella oxytoca		0				59	100				77	88	
25	Enterobacter cloacae		0				0	96				79	29	

Percent Susceptibility										
# Tests	Species / Organism	Ampicillin	Ceftriaxone	Clindamycin	Levofloxacin	Linezolid	Gentamicin (synergy)	Nafcillin/cefazolin	Penicillin	Vancomycin
Gram-Positive Non-Urine Isolates										
37	Enterococcus faecalis	100					86			100
6	Enterococcus faecium	80					100			83
499	Staphylococcus aureus			86			99	73		100
154	Staph aureus, Methicillin Resistant			92		100	97	0		100
53	Staphylococcus epidermidis			42			68	17		100
11	Staphylococcus, coagulase neg			64			90	45		100
77	Streptococcus pneumoniae, non-meningitis	96	99	86	99				96	100
76	Streptococcus pneumoniae, meningitis	76	91						76	100
14	Viridans Group Streptococcus	50	100	100	100				50	100

BASIC COVERAGE TIPS

- Aminoglycoside monotherapy is not recommended to treat any infection except for plague and tularemia.
- Certain organisms, including Serratia spp., Citrobacter spp., Enterobacter spp., and Klebsiella aerogenes can become resistant to 3rd-generation cephalosporins (ceftriaxone, cefotaxime, ceftazidime) during treatment for severe infections despite initial in vitro susceptibilities. Consult infectious diseases or antibiotic stewardship if use is desired.
- 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.

- Beta-lactamase positive Haemophilus spp. are resistant to penicillin, ampicillin, and amoxicillin.
- β -hemolytic streptococci (Groups A, B, C, G) are universally susceptible to β -lactams (penicillins, cephalosporins) and vancomycin, so routine susceptibility testing is not indicated. Resistance to clindamycin and azithromycin can be present.
- Methicillin-susceptible Staphylococcus aureus (MSSA) are resistant to penicillin and ampicillin/amoxicillin. First-line agents are nafcillin/dicloxacillin and cefazolin/cephalexin. Second-line agents include: amoxicillin/clavulanate, ampicillin/sulbactam, cefuroxime, ceftriaxone, cefepime, piperacillin/tazobactam, and carbapenems. 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.