

## ➤ Antimicrobial Stewardship and Laboratory Services



### Find antimicrobial stewardship resources.

- **The Antimicrobial Stewardship Website** — A single source for the latest guidelines, care process models, frequently asked questions, and other resources. Go to [intermountain.net](http://intermountain.net), and find “**Antimicrobial Stewardship**” in the A-to-Z Index. 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](http://intermountain.net). Scroll down to select “Antibiogram Pocket Cards” under Resources.
- **Formulary** — Go to [intermountain.net](http://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

#### Contact information:

##### Stewardship Pharmacists

Camron Eliason – Delta  
Meghann Smith – Fillmore  
Tim Smith – Garfield  
Wes Crouch – Sanpete  
Brady Smith – Sevier

##### Infectious Diseases Pharmacist

John Veillette (385) 228-9549

##### ID Telehealth Consults

(801) 50-SCORE

##### Micro Lab Supervisor

(technical questions)

George Hinde (801) 507-2280

Micro Lab (801) 507-2244

**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.**

# 2017 Antibioqram

## Delta, Fillmore, Garfield, Sanpete & Sevier Hospitals

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.

Gram Negative Bacilli % Susceptible																			
# Tests	Species / Organism	Amikacin	Ampicillin/Sulbactam	Aztreonam	Cefazolin	Cefepime	Ceftazidime	Ceftriaxone	Cefuroxime	Ciprofloxacin	Ertapenem	Gentamicin	Levofloxacin	Meropenem	Nitrofurantoin (CYSTITIS ONLY)	Piperacillin/Tazobactam	Tetracycline	Tobramycin	Trimethoprim/Sulfamethoxazole
33	<i>Citrobacter freundii</i>	97	0	91	0	100	76	76	0	97	100	91	97	100	100	100	0	97	94
44	<i>Enterobacter cloacae</i>	95	0	75	0	91	77	77	0	93	100	91	93	100	26	82	50	91	77
30	<i>Klebsiella aerogenes</i>	100	0	87	0	100	80	80	0	100	100	100	100	100	11	93	100	100	100
1237	<i>Escherichia coli</i>	99	62	94	87	94	94	94	90	81	100	92	81	100	96	98	74	93	78
48	<i>Klebsiella oxytoca</i>	98	67	92	60	90	90	90	81	96	100	88	96	100	72	98	100	92	90
190	<i>Klebsiella pneumoniae</i>	100	77	93	86	92	92	92	87	94	100	96	98	100	37	99	83	95	85
46	<i>Proteus mirabilis</i>	100	83	96	89	100	98	98	96	69	100	93	70	100	0	98	0	93	65
76	<i>Pseudomonas aeruginosa</i>	97		89		93	99			80		75	76	89		99		96	

Gram Positive Cocci % Susceptible																
# Tests	Species / Organism	Ampicillin	Ceftriaxone	Clindamycin (NOT FOR UTI)	Daptomycin	Levofloxacin (CYSTITIS ONLY)	Linezolid	Nafcillin	Nitrofurantoin (CYSTITIS ONLY)	Penicillin	Tetracycline	Trimethoprim/Sulfamethoxazole	Vancomycin			
200	<i>Enterococcus faecalis</i>	100			100	82	99		100	99	24		99			
28	<i>Enterococcus faecium</i>	14			89	4	100		18	11	15		37			
442	<i>Staphylococcus aureus</i>							68								
137	<i>Staphylococcus aureus</i> MRSA	0	72	100		100	0	100	0	97	98	100				
305	<i>Staphylococcus aureus</i> MSSA	100	83	99		100	100	100	0	95	99	100				
70	<i>Staphylococcus epidermidis</i>	41	63	100		100	41	100	0	91	69	100				
27	<i>Staphylococcus sp coag neg</i>	67	69	100		100	67	100	0	96	88	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., 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.
- $\beta$ -hemolytic streptococci (Groups A, B, C, G) are universally susceptible to  $\beta$ -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  $\beta$ -lactam treatment for MSSA are better than vancomycin. ***S. aureus* in the blood is never a contaminant.**