


Non-Urine <48 Hr from Admission	 Southern Colorado Region INPATIENT Adult (Age ≥18) Antibigram February 2024 – December 2024	Ampicillin	Amoxicillin/Clavulanic Acid (Augmentin)	Ampicillin/Sulbactam (Unasyn)	Cefazolin	Cefepime	Ceftriaxone	Ciprofloxacin	Clindamycin	Doxycycline (Gram Pos)/ Tetracycline (Gram Negs)	Erythromycin (Use Azithromycin)	Gentamicin †	Levofloxacin	Meropenem	Oxacillin	Piperacillin/Tazobactam (Zosyn)	Tobramycin	Trimethoprim/Sulfamethoxazole (Bactrim)	Vancomycin	COLLECTED <48 HOURS FROM ADMISSION (Community-Onset)
	<i>Enterobacter</i> spp. (36)	R	R	R	R	91	86	88		94		98	97	97		88	100	88		<i>Enterobacter</i> spp. (36)
	<i>Enterococcus faecalis</i> (92)	100			R	R	R		R						R			R	100	<i>Enterococcus faecalis</i> (92)
	<i>Escherichia</i> spp. (227)	52	89	60	75	87	85	69		73		88	80	100		97	88	76		<i>Escherichia</i> spp. (227)
	<i>Klebsiella</i> spp. (90)	R	93	70	76	95	95	83		85		97	91	98		93	97	93		<i>Klebsiella</i> spp. (90)
	MRSA (117)	R	R	R	R	R	R		74	88	13	99		R	R	R		94	100	MRSA (117)
	MSSA (278)				100				82	97	71	98			100			98	100	MSSA (278)
	<i>Proteus mirabilis</i> (36)	100	100	72	3	81	83	61		R		77	66	100		100	77	66		<i>Proteus mirabilis</i> (36)
	<i>Pseudomonas aeruginosa</i> (52)	R	R	R	R	96	R	84		R			86	94		90	98*	R		<i>Pseudomonas aeruginosa</i> (52)
	<i>Staphylococcus epidermidis</i> (36)				36				57	77	30	91			34				94	<i>Staphylococcus epidermidis</i> (36)
	<i>Streptococcus pneumoniae</i> (56)						100		98		62		96					92	100	<i>Streptococcus pneumoniae</i> (56)
	All Enterobacterales (409)	35	77	56	58	89	88	75				89	84	99		96	88	79		All Enterobacterales (409)
Non-Urine <48 Hr from Admission																				

Organism (# of isolates)
 R = Intrinsically resistant.

% susceptible
 spp = species

* = Due to breakpoint limitation % susceptible & intermediate shown for *Pseudomonas aeruginosa* only
 † = For synergy for gram-positive infections, not appropriate as monotherapy for gram-positives.

Notes:


- Includes inpatients at MHN, MHC, Grandview, and PPRH, it does **NOT** include inpatient rehab
- S. pneumoniae* meningitis MIC for ceftriaxone (≤0.5 mg/L instead of ≤1 mg/L) is 100%

Non-Susceptible Isolate Frequencies % (N)

All **adults**, All Sources, All Regional Locations
 N/N → Erta/Mero [often mero same isolate as erta]

CRE = 0.97% (36)
 27/1 *Enterobacter* spp.
 5/1 *E. coli*
 3/1 *K. pneumoniae*
 1/0 *C. freundii*

MRSA = 29% (234)
 VRE = 5.23% (23)
 CRPA = 4.86% (12)
 CRAsp = 0% (0)

Non-Urine ≥48 Hr from Admission	 Southern Colorado Region INPATIENT Adult (Age ≥18) Antibigram February 2024 – December 2024	Ampicillin	Amoxicillin/Clavulanic Acid (Augmentin)	Ampicillin/Sulbactam (Unasyn)	Cefazolin	Cefepime	Ceftriaxone	Ciprofloxacin	Clindamycin	Doxycycline (Gram Pos)/ Tetracycline (Gram Negs)	Erythromycin (Use Azithromycin)	Gentamicin ‡	Levofloxacin	Meropenem	Oxacillin	Piperacillin/Tazobactam (Zosyn)	Tobramycin	Trimethoprim/Sulfamethoxazole (Bactrim)	Vancomycin	COLLECTED ≥48 HOURS FROM ADMISSION (Hospital-Onset)
	<i>Enterobacter</i> spp. (32)	R	R	R	R	88	56	87		87		96	93	100		59	96	90		<i>Enterobacter</i> spp. (32)
	<i>Enterococcus faecalis</i> (37)	100			R	R	R		R						R			R	100	<i>Enterococcus faecalis</i> (37)
	<i>Escherichia</i> spp. (55)	50	76	60	66	85	85	63		83		90	81	100		89	90	70		<i>Escherichia</i> spp. (55)
	<i>Klebsiella</i> spp. (33)	R	87	66	66	90	90	78		81		93	93	100		84	93	93		<i>Klebsiella</i> spp. (33)
	MRSA (54)	R	R	R	R	R	R		70	92	11	94		R	R	R		94	100	MRSA (54)
	MSSA (125)				100				78	96	68	99			100			99	100	MSSA (125)
	<i>Pseudomonas aeruginosa</i> (44)	R	R	R	R	88	R	88		R			84	88		79	100 *	R		<i>Pseudomonas aeruginosa</i> (44)
	All Enterobacterales (136)	21	53	42	40	89	77	77				91	88	100		80	91	80		All Enterobacterales (136)
Non-Urine ≥48 Hr from																				

Organism (# of isolates)
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% susceptible
 spp = species


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 ‡ = For synergy for gram-positive infections, not appropriate as monotherapy for gram-positives.

Notes:

- Includes inpatients at MHN, MHC, Grandview, and PPRH, it does NOT include inpatient rehab

Non-Susceptible Isolate Frequencies % (N)
All adults, All Sources, All Regional Locations
N/N → Erta/Mero [often mero same isolate as erta]

CRE = 0.97% (36)	MRSA = 29% (234)
27/1 <i>Enterobacter</i> spp.	VRE = 5.23% (23)
5/1 <i>E. coli</i>	CRPA = 4.86% (12)
3/1 <i>K. pneumoniae</i>	CRAsp = 0% (0)
1/0 <i>C. freundii</i>	

Urine <48 Hr from Admission	 Southern Colorado Region INPATIENT Adult (Age ≥18) Antibrogram February 2024 – December 2024	Ampicillin	Amoxicillin/Clavulanic Acid (Augmentin)	Ampicillin/Sulbactam (Unasyn)	Cefazolin	Cefepime	Ceftriaxone	Ciprofloxacin	Gentamicin ‡	Levofloxacin	Meropenem	Nitrofurantoin	Oxacillin	Piperacillin/Tazobactam (Zosyn)	Tobramycin	Trimethoprim/Sulfamethoxazole (Bactrim)	Vancomycin	COLLECTED <48 HOURS FROM ADMISSION (Community-Onset)
	<i>Citrobacter</i> spp. (29)	R	31	36		96	79	72	100	86	100	62		86	100	89		<i>Citrobacter</i> spp. (29)
	<i>Enterobacter</i> spp. (42)	R	R	R	R	92	71	90	100	97	100	30		78	100	95		<i>Enterobacter</i> spp. (42)
	<i>Enterococcus faecalis</i> (76)	100			R	R	R			86		100	R			R	98	<i>Enterococcus faecalis</i> (76)
	<i>Escherichia</i> spp. (416)	58	89	64	84	86	85	58	91	77	100	97		98	91	80		<i>Escherichia</i> spp. (416)
	<i>Klebsiella</i> spp. (168)	R	92	77	90	89	88	75	96	92	100	60		94	92	86		<i>Klebsiella</i> spp. (168)
	<i>Proteus mirabilis</i> (42)	73	100	81	86	86	86	66	76	73	100	R		100	80	78		<i>Proteus mirabilis</i> (42)
	<i>Pseudomonas aeruginosa</i> (52)	R	R	R	R	90	R	78		78	92	R		82	94*	R		<i>Pseudomonas aeruginosa</i> (52)
	All Enterobacterales (662)	39	82	61	85	88	85	64	92	82	100	77		96	92	82		All Enterobacterales (662)
Urine <48 Hr from Admission		Urine <48 Hr from Admission																

Organism (# of isolates)

R = Intrinsically resistant.

% susceptible

spp = species

‡ = For synergy for gram-positive infections, not appropriate as monotherapy for gram-positives.

* = Due to breakpoint limitation % susceptible & intermediate shown for *Pseudomonas aeruginosa* only

Notes:

- Routine testing of urine isolate of *Staph saprophyticus* is not advised because infections respond to concentrations achieved in urine of antimicrobial agents commonly used to treat acute, uncomplicated UTIs (e.g. cephalexin, nitrofurantoin, trimethoprim/sulfamethoxazole, or fluoroquinolones). It is intrinsically resistant to fosfomycin.
- Includes inpatients at MHN, MHC, Grandview, and PPRH, it does NOT include inpatient rehab.

Non-Susceptible Isolate Frequencies % (N)
All adults, All Sources, All Regional Locations
N/N → Erta/Mero [often mero same isolate as erta]

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MDRO PROTOCOL: An automatic infectious disease consult will occur at MHN, MHC, and GVH for **CRE/CRPA/CRAB/CRO/C. auris** from **ANY site** and **blood specimens positive for S. aureus, S. lugdunensis, Enterococcus, or Yeast** in inpatient adult patients age 15 and over. Unless there are extenuating circumstances, the patient will be seen within 24 hours.

Urine Culture Guidance (Inpatient):

- Inpatient orders are limited to UA Reflex to Microscopic.
- Providers are responsible for ordering culture, as indicated. Refer to UTI guidance on stewardship website for more details. Any patient <13 years will automatically have a culture added.
- Asymptomatic bacteriuria does not require therapy.** If the patient does not have UTI symptoms, urine culture is not indicated unless the patient is pregnant, pediatric, undergoing invasive urinary tract procedures, or immunocompromised.
- If culture is indicated; re-submit a clean catch or catheterized urine if it has been >24 hours from initial collection of UA, otherwise add-on from UA.
- The negative chemical and/or microscopic urinalysis has a very high specificity and a very high negative predictive value for absence of a UTI.

United States Anaerobic Susceptibility Data 2013-2016 % Susceptible

	Amp/Sulb	Pip/Tazo	Cefoxitin	Meropenem	Clindamycin	Metronidazole
Anaerobic GPC*	-	99	-	100	97	100
<i>Bacteroides fragilis</i>	84	96	100	93	26	100
<i>B. fragilis</i> group	74	94	70	95	33	100
<i>Clostridium perfringens</i>	100	100	-	100	83	100
<i>Fusobacterium</i> spp	100	96	-	100	77	95

*Anaerobic gram-positive cocci = *Peptococcus*, *Peptostreptococcus*, *Fingoldia*, *Peptoniphilus*, and *Anaerococcus* species

- = no data available GPC = Gram Positive Cocci

Gram-Positive Inducible Resistance: All ages/sources/locations:
2023 Grp B Strep Clinda = 48% sensitive, 14% of the total resistance was inducible from 64 isolates tested

While susceptibility testing may indicate that bacteria are susceptible to an antibiotic, some bacteria may have enzymes that can be "turned on" or induced (thus inducible resistance) in vitro resulting in antibiotic resistance.

Blood Cultures (Inpatient) Frequency of Pathogen Isolation:

- E. coli* (159)
- MSSA (119)
- K. pneumoniae* (44)
- 4/5. *E. faecalis*, *S. pneumoniae* (39 each)
- MRSA (37)
- P. aeruginosa* (18)
- Enterobacter* spp., *P. mirabilis* (17 each)

Types of Isolation and Associated Organisms

Isolation	Required PPE	Organisms/ Diseases (active or r/o)	Comments
Contact	Gowns & gloves	MRSA, VRE, MDROs and draining abscesses	MRSA can be cleared with nares/axilla/groin cultures.
Special Contact	Gowns & gloves, soap & water for hand hygiene	<i>C. diff</i>	Isolate until discontinued by physician or Infection Preventionist.
		Diapered or incontinent pts with: Shigella, Shigella, & Norovirus	Isolate for duration of illness.
Droplet	Mask, eye protection rec'd; gowns & gloves as necessary	Influenza	Isolate for 7 days from onset of sx or 24 hrs after resolution of fever & resp sx whichever is longer.
		<i>Neisseria meningitidis</i> , meningitis	Isolation until pt on abxs for 24 hrs. Viral or aseptic meningitis → Standard precautions.
Airborne	PAPR or N95, gowns & gloves as needed per standard precaution	Tuberculosis	3 negative AFB AND 2 negative PCR required to rule out.
		Varicella (Chickenpox)	Airborne/contact until lesions dry and crusted over.
		Varicella Zoster (Shingles)	Airborne/contact for immunocomp'd pts or disseminated shingles infection. For non-immunocomp'd pts and/or shingles confined to one area on body → Standard precautions.
Droplet/ Contact Peds Units	Gowns, gloves, & mask	RSV, Enterovirus, Acute respiratory illness, Bronchiolitis	Isolate for duration of illness.

Questions? Possible Employee Exposure?

Call Infection Prevention at 719-365-6612

For more information search, "isolation guidelines" on The Source



Southern Colorado Region

INPATIENT Adult (Age ≥18) Antibiogram

February 2024 – December 2024

MICROBIOLOGY

719-365-5686

Nathan D. Johnston, DO – Medical Director

Elizabeth Kleiner, MD – Infectious Disease Physician

Alex Novin, PharmD, BCPS, BCIDP
Infectious Disease Clinical Pharmacist

Amery Vilander, MLS (ASCP) – Microbiology Manager

Krenza Ortiz, MLS (ASCP)^{CM} – Microbiology Medical Laboratory Scientist, Molecular Lead