

MDRO PROTOCOL: An automatic infectious disease consult will occur for **CRE/CRPA from ANY site** and **blood specimens positive for S. aureus, 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 Reflex Culture Guidelines:

A urine sample will be cultured when:

- Positive leukocyte esterase AND/OR
- Positive nitrite and leukocytes > 10/hpf

No culture will be done when:

- Epithelial cells > 10/hpf (indicative of contaminated specimen, unsatisfactory for culture)

Asymptomatic bacteriuria does not require therapy

If the patient has UTI symptoms, please re-submit a clean catch or catheterized urine.

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.

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 [2010-2012 % Susceptible]

	Amp/Sulb	Pip/Tazo	Cefoxitin	Meropenem	Clindamycin	Metronidazole
Anaerobic GPC*	- [88]	99 [99]	- [94]	100 [98]	97 [79]	100 [96]
<i>Bacteroides fragilis</i>	84 [90]	96 [98]	100 [87]	93 [96]	26 [72]	100 [96]
<i>B. fragilis</i> group	74 [82]	94 [87]	70 [65]	95 [96]	33 [48]	100 [98]
<i>Clostridium perfringens</i>	100 [100]	100 [100]	- [99]	100 [100]	83 [86]	100 [100]
<i>Fusobacterium</i> spp	100 [100]	96 [100]	- [94]	100 [100]	77 [100]	95 [100]

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

- = no data available GPC = Gram Positive Cocci

Inducible Resistance [All ages/sources/locations]:

MRSA inducible clindamycin resistance 14%

MSSA inducible clindamycin resistance 14%

Grp B Strep Clinda = 56% Sensitive; 0% are resistant due to "inducible mechanism" during this time period from 18 isolates tested. Last reporting period was 18% from 22 isolates.

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 (Frequency of Pathogen Isolated):

1. *E. coli* (14)
2. MSSA (9)
3. *Kleb. pneumoniae* (6)
4. *Strep. pneumoniae* (5)
5. *Staph. epidermidis* (5)
6. MRSA (3)
7. *Enterococcus faecalis* (3)
8. *Pseudo. aeruginosa* (1)

Types of Isolation and Associated Organisms

Isolation	Require d PPE	Organisms/ Diseases (active or r/o)	Comments
Contact Adult Unit	Gowns & gloves	MRSA, VRE, MDROs and draining abscesses	MRSA can be cleared with nares/axilla/groin cultures.
Special Contact Adult Unit	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 Adult Unit	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 Adult Unit	PAPR or N95, gowns & gloves as needed per standard precaution	Tuberculosis	3 negative AFB <u>AND</u> 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



Memorial Hospital System & Grandview Hospital

PEDIATRIC (Age <18) Antibiogram

July 2016 – November 2017

MICROBIOLOGY

719-365-5686

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	<div></div> <div>MHS & GVH Pediatric (Age <18) Antibiogram</div> <div>July 2016 – November 2017</div>	Amoxicillin/Clavulanic Acid (Augmentin)	Ampicillin	Ampicillin/Sulbactam (Unasyn)	Cefazolin *	Cefepime	Ceftriaxone (Non-Meningitis/Meningitis)	Ciprofloxacin	Clindamycin	Erythromycin (Use Azithromycin)	Gentamicin †	Levofloxacin	Meropenem	Nitrofurantoin	Oxacillin	Penicillin (Non-meningitis /Meningitis/Oral)	Piperacillin/Tazobactam (Zosyn)	Tetracycline (Use Doxycycline)	Tobramycin	Trimethoprim/ Sulfamethoxazole (Bactrim)	Vancomycin			
Non-Urine	<i>Escherichia</i> spp. (28)	79	61	78	93	96	96	89			89	89	100				96	84	89	86		<i>Escherichia</i> spp. (28)	Non-Urine	
	MSSA (89)				100				89	79	100				100	R		97		98	100	MSSA (89)		
	MRSA (35)	R	R	R	R	R	R		89	14	97		R		R	R	R	94		100	100	MRSA (35)		
	<i>Strep. pneumoniae</i> (22)						100/95			91	68		100			100/86/86			86		86	100		<i>Strep. pneumoniae</i> (22)
Urine	<i>Escherichia</i> spp. (414)	91	57	60	98	100	100	96			95	96	100	100				100	80	95	80		<i>Escherichia</i> spp. (414)	Urine
	<i>Kleb. pneumoniae</i> (42)	100	R	95	100	100	100	100			100	100	100	67				100	91	100	100		<i>Kleb. pneumoniae</i> (42)	
All Sources	<i>Enterobacter</i> spp. (31)	R	R	R	R	100	90	100			100	100	100	29				90	100	100	100		<i>Enterobacter</i> spp. (31)	All Sources
	<i>Enterococcus faecalis</i> (48)		98		R	R	R	100	R			100		98	R				35		R	100	<i>Enterococcus faecalis</i> (48)	
	<i>Escherichia</i> spp. (434)	90	57	62	98	100	100	96			94	96	100	100				99	80	95	80		<i>Escherichia</i> spp. (434)	
	<i>Kleb. pneumoniae</i> (51)	100	R	96	100	100	100	100			100	100	100	67				100	91	100	98		<i>Kleb. pneumoniae</i> (51)	
	<i>Pseudo. aeruginosa</i> (24)	R	R	R	R	96	R	96				92	96	R				96	R	100	R		<i>Pseudo. aeruginosa</i> (24)	
	MSSA (95)				100				89	79	100			100	100	R			96		98	100	MSSA (95)	
	MRSA (36)	R	R	R	R	R	R		89	14	97		R	100	100	R	R	R	94		100	100	MRSA (36)	
	<i>Staph. epidermidis</i> (37)				46				50	0	89			100	46	R			92		78	100	<i>Staph. epidermidis</i> (37)	

Organism (# of isolates)

% susceptible

R = Intrinsically resistant.

spp = species

* = Due to breakpoint limitation % susceptible & intermediate shown for non-urine and all source samples

† = For synergy for gram-positive infections, not appropriate monotherapy for those organisms.

Data shown includes both inpatient and outpatient.

Nitrofurantoin only for urine isolates.

Clindamycin and Erythromycin only for non-urine isolate.

MSSA = Methicillin-susceptible *Staphylococcus aureus*

MRSA = Methicillin-resistant *Staphylococcus aureus*

Notes:

- **Susceptibilities for organisms with <30 isolates should be interpreted with caution, as these can be significantly affected by outliers.**
- Reporting of ampicillin/sulbactam susceptibility was replaced with amoxicillin/clavulanic acid susceptibility in Dec 2016.
- 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 inpatient and outpatient data for Memorial North, Memorial Central, Grandview Hospital, Children's Hospital of Colorado in Colorado Springs, as well as any outpatient clinic, urgent care, or freestanding emergency department who sent specimens to Memorial microbiology lab.

Resistant Isolate Frequencies

[All age/source/location]:

MRSA = 38.5% (441)

VRE = 4.9% (25)

CRE = 0.7% (32)

17, *Enterobacter* spp.

10, *Escherichia coli*

3, *Klebsiella* spp.

2, *Hafnia alvei*

CRPA = 5% (13)