

Wilson County Antimicrobial Susceptibility Summary: 2025

Clinical Microbiology
Department of Pathology, Microbiology and Immunology

Preface

This booklet contains up-to-date information to assist in decisions concerning antimicrobial therapy.

Tables summarize susceptibility data obtained for organisms isolated in the VUMC Clinical Microbiology Laboratory between January 1, 2025 – December 31, 2025.

Guidelines for Interpretation of Minimum Inhibitory Concentrations (MICs)

MICs are interpreted as susceptible, intermediate, resistant, non-susceptible or susceptible dose dependent according to Clinical and Laboratory Standards Institute (CLSI) guidelines. When deciding whether the interpretation is meaningful, one should consider the antimicrobial pharmacokinetics, taking into account dosage and route of administration, the infecting organism and site of infection, and previous clinical experience.

For additional information, please call the microbiology laboratory, or the Antimicrobial Stewardship team.

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VASP Website:

<https://medsites.vumc.org/antimicrobial-stewardship-program>

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Table 1. Most Common Gram-negative Bacteria, Urine Isolates, % Susceptible

Data represent first isolate per patient.

Organism	N	Ampicillin	Ampicillin/Sulbactam	Cefazolin*	Cefepime	Ceftazidime	Ceftriaxone	Cefuroxime axetil	Ciprofloxacin	Ertapenem	Gentamicin	Levofloxacin	Meropenem	Nitrofurantoin	Piperacillin/Tazobactam	Trimethoprim/Sulfamethoxazole
<i>Escherichia coli</i>	650	52	79	86	91	90	88	80	69	100	90	72	100	97	95	75
<i>Klebsiella pneumoniae</i>	221	R	84	80	89	83	84	81	80	100	94	81	100	18	86	83
<i>Pseudomonas aeruginosa</i>	44	R	R	R	98	98	R	R	89	R	100	84	93	R	93	R
<i>Proteus mirabilis</i>	75	71	93	73	81	91	73	73	64	100	83	64	100	R	100	60

*Cefazolin serves as the sensitivity marker for all oral cephalosporins in urine isolates. Oral cephalosporins include: cefaclor, cefdinir, cefpodoxime, cefprozil, cefuroxime, cephalexin, and loracarbef for treatment of uncomplicated urinary tract infections.

Antibiotic therapy should be narrowed once susceptibilities are known



Empiric guidance for the treatment of urinary tract infections, including pyelonephritis, can be found on the VASP website at <https://www.vumc.org/vasp/52609>. Antibiotics should be narrowed once susceptibilities are known.

Table 2. Most Common Gram-negative Bacteria, Non-Urine Isolates, % Susceptible

Data represent first isolate per patient.

Organism	N	Ampicillin	Ampicillin/Sulbactam	Cefazolin	Cefepime	Ceftazidime	Ceftriaxone	Cefuroxime axetil	Ciprofloxacin	Ertapenem	Gentamicin	Levofloxacin	Meropenem	Piperacillin/Tazobactam	Trimethoprim/Sulfamethoxazole
<i>Escherichia coli</i>	99	52	76	57	87	84	82	74	66	100	88	70	100	94	77
<i>Klebsiella pneumoniae</i>	41	R	85	76	83	83	83	83	83	100	90	83	100	88	83
<i>Pseudomonas aeruginosa</i>	52	R	R	R	90	90	R	R	96	R	100	94	96	90	R
<i>Proteus mirabilis</i>	31	81	97	6	87	94	87	87	71	100	77	71	100	100	65

R, intrinsic resistance; ND, not tested

Antibiotic therapy should be narrowed once susceptibilities are known

Table 3. Adults – *Staphylococcus aureus*, % Susceptible

Data represent first isolate per patient.

Organism	N	Clindamycin	Daptomycin	Doxycycline	Linezolid	Levofloxacin	Nitrofurantoin*	Oxacillin	Trimethoprim/sulfamethoxazole	Vancomycin
<i>Staphylococcus aureus</i>	238	85	100	92	100	69	100	56	89	100
MSSA	135	96	100	98	99	90	99	100	96	100
MRSA	106	71	100	84	100	43	100	0	80	100

*Nitrofurantoin should be used for treatment of uncomplicated urinary tract infections only
Antibiotic therapy should be narrowed once susceptibilities are known



Isolation of *S. aureus* in the urine should be followed by a blood culture to confirm the patient is not bacteremic
S. aureus bacteremia or suspected invasive infection should be treated with IV antibiotics in conjunction with ID consultation

Table 4. Adults – *Enterococcus* spp., % Susceptible

Data represent first isolate per patient.

	N	Ampicillin	Daptomycin	Doxycycline	Linezolid	Levofloxacin	Nitrofurantoin	Vancomycin
<i>Enterococcus faecalis</i>	205	100	80	28	100	82	100	96
<i>Enterococcus faecium</i>	45	33	ND	27	93	27	40	71

ND, not tested

Antibiotic therapy should be narrowed once susceptibilities are known



Drugs of choice for *E. faecalis* include penicillin and ampicillin in the absence of severe penicillin allergy.
VRE infections often require treatment with restricted antibiotics such as daptomycin, which require ID approval for use.