

Northwestern Medicine  
Palos Hospital

**Emergency Department**

ANTIMICROBIAL  
SUSCEPTIBILITY REPORT  
(ANTIBIOGRAM)

January 1, 2021 through  
December 31, 2021

Antimicrobial Stewardship  
Committee

3/2022

## NM PALOS EMERGENCY DEPARTMENT 2021

GRAM POSITIVE ISOLATE SUSCEPTIBILITY (%)										
Organism (number of isolates)	Ampicillin	Penicillin	Oxacillin*	Clindamycin	Daptomycin (ID Restricted)	Linezolid (ID/Pulm/Crit Care Restricted)	Tetracycline	Tigecycline (ID Restricted)	Trimethoprim/ Sulfamethoxazole	Vancomycin
Enterococcus group (206)	83	---	---	---	100	99	0	100	---	82
Staphylococcus aureus Group (222)	---	---	60	66	100	100	80	100	85	100
Staphylococcus epidermidis (Coagulase Negative) (38)	---	---	52	42	100	100	78	100	71	100
--- Denotes not recommended for treatment or not tested * Oxacillin reflects methicillin for laboratory testing										

## NM PALOS EMERGENCY DEPARTMENT 2021

GRAM NEGATIVE ISOLATE SUSCEPTIBILITY (%)															
Organism (number of isolates)	Amikacin	Ampicillin	Ampicillin/ sulbactam	Aztreonam	Cefazolin	Cefepime	Ceftriaxone	Ciprofloxacin	Ertapenem (ID Restricted)	Gentamicin	Meropenem (ID Restricted)	Piperacillin/ tazobactam	Tigecycline (ID Restricted)	Tobramycin	Trimethoprim/ sulfamethoxazole
Enterobacter Group (37)	100	---	---	86	---	94	86	97	100	100	100	86	100	100	94
E. coli Group (954) ESBL: 10.7% (102/954)	99	52	62	89	53	89	88	77	99	91	100	96	100	90	77
Klebsiella Group (275) ESBL: 8.7% (24/275)	99	0	77	86	49	89	88	91	99	95	98	93	100	92	86
Proteus Group (139)	99	72	84	89	37	91	92	71	100	89	100	100	0	90	77
Pseudomonas aeruginosa (122)	97	---	---	67	---	95	---	90	---	90	93	95	0	95	---

### **Antibiogram background:**

- An antibiogram is a collection of data that summarizes the percent of individual bacterial pathogens that are susceptible to tested antimicrobial agents and is designed to help direct empiric therapy.
- This antibiogram is specific to microbiology cultures obtained in the Emergency Department.
- Unless otherwise specified, organisms are grouped per genus.
- Organism groups with 30 or more isolates are reported. If less than 30 isolates are reported, use caution extrapolating results: data may be inconclusive for therapeutic efficacy and empiric therapy selection.

### **Antimicrobial Stewardship Pearls**

- Initiate empiric therapy based on the most likely pathogen.
- Beta-lactam therapy (e.g. penicillins, cephalosprins) is preferred.
- Evaluate patients' allergy history: most patients with a penicillin allergy will tolerate a cephalosporin or carbapenem.
  - Aztreonam is not a preferred first-line agent due to poor susceptibility.
  - Beta lactams exhibit more rapid bactericidal activity compared to Vancomycin.
  - Avoid empiric use of Fluoroquinolones when possible. due to their safety profile and decreased susceptibility.
- For select organisms, amoxicillin susceptibility can be inferred from ampicillin and cephalexin susceptibility can be inferred from cefazolin.
- Document a clear plan of care regarding antibiotic therapy including anti-infective agent names, indication/assessment of condition and anti-infective plan.

### **COVID Pneumonia:**

Due to the low incidence of bacterial co-infection (1.55 – 5%), antibiotics are not recommended unless leukocytosis, focal lobar infiltrate, or clinical decompensation are present. If considering antibiotics, consider serial procalcitonin.