Northwestern Medicine Palos Hospital

Facility Wide

ANTIMICROBIAL SUSCEPTIBILTY REPORT (ANTIBIOGRAM)

January 1, 2021 through December 31, 2021

Antimicrobial Stewardship Committee

3/2022

NM Palos Hospital Facility Wide 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 (345)	81	---	---	---	99	98	---	100	---	82
Staphylococcus aureus Group (502)	---	---	56	60	99	100	76	100	84	100
Staphylococcus epidermidis (Coagulase Negative) (64)	---	---	46	31	100	100	81	100	62	100
--- Denotes not recommended for treatment or not tested * Oxacillin reflects methicillin for laboratory testing										

	STREPTOCOCCUS PNEUMONIAE ISOLATE SUSCPETIBILITY (%) (intermediate and resistant isolates are not delineated)			
	Number of isolates* *Less than 30 isolates are reported, use caution extrapolating results: data may be inconclusive for therapeutic efficacy and empiric therapy selection.	**Penicillin**	**Ceftriaxone**	**Levofloxacin**
	6 (all sources)	100	100	Not reported
	0 (Cerebral spinal fluid)	n/a	n/a	n/a

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	GRAM NEGATIVE ISOLATE SUSCEPTIBILITY (%)															
Organism (number of isolates)	**Amikacin**	**Ampicillin**	**Ampicillin/ sulbactam**	**Aztreonam**	**Cefazolin**	**Cefepime**	**Cefoxitin**	**Ceftriaxone**	**Ciprofloxacin**	**Ertapenem (ID Restricted)**	**Gentamicin**	**Meropenem (ID Restricted)**	**Piperacillin/ tazobactam**	**Tigecycline (ID Restricted)**	**Tobramycin**	**Trimethoprim/ sulfamethoxazole**
Acinetobacter baumannii Complex (25)	66	---	28	---	---	20	---	8	20	---	64	28	20	75	64	64
Citrobacter freundii (32)	100		---	84	---	100	---	87	100	100	100	100	90	100	100	78
Enterobacter Group (70)	100	---	---	75	---	87	---	77	92	98	98	100	75	98	98	94
E. coli Group (1307) ESBL: 9.6% (125/1307)	99	52	61	90	52	90	---	89	78	99	91	100	95	100	90	77
Klebsiella Group (421) ESBL: 8% (34/421)	99	0	77	86	50	90	---	87	92	99	95	98	91	99	92	87
Proteus Group (196)	98	72	84	90	33	92	---	92	74	100	89	98	98	0	91	79
Pseudomonas aeruginosa (259)	96	---	---	75	---	95	---	---	92	---	90	94	94	0	95	---
Serratia marcescens (30)	100	---	---	90	0	96	---	96	96	100	96	93	96	100	90	96

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 cumulative antibiogram is hospital wide and not separated per individual units.
- 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.
- Incorporate a TIME OUT.
    - Re-evaluate therapy by day 3.
    - De-escalate / discontinue therapy per susceptibility data or identification of non-infectious cause.
- 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.