

Antibiogram, based on blood culture results – Shaare Zedek Medical Center (2020-2024)

Table 1: Enterobacterales (% susceptibility)

Group	n	Penicillins				Carbap.		Cephalosporins					Aminogly.		Other			
		Aug	Tim	Azt	Tzp	Ert	Mer	Cef	Cxm ¹	Cro	Caz	Cpm	Gen	Amk	Chl	Sep	Cip	Col
≤72 hr	5038	60	68	74	93	99	99	39	61	70	69	71	85	99	83	61	64	48
>72 hr	3018	42	52	50	79	93	94	25	42	53	52	56	80	97	72	52	55	75
Total	8056	52	60	59	87	97	97	34	43	39	63	66	83	98	79	58	61	67

Extended Spectrum β-lactamase (ESBL) producing Enterobacterales (32%). Ceftazidime-avibactam, (Total n=112, 63%S; ≤72hrs n=18, 39%S; >72 hrs n=30, 0% S). Ceftolozane-tazobactam, Total n=30, 0% sensitive. Tigecycline, Total n=172, 71% sensitive.

Aminogly-Aminoglycosides; **Amk**-Amikacin; **Aug**-Amoxycillin-clavulanate, **Azt**-Azteronam; **Carbap**-Carbapenems; **Caz**-Ceftazidime; **Cef**-Cefazolin; **Chl**-Chloramphenicol; **Cip**-Ciprofloxacin; **Col**-colistin (polymyxin-B); **Cpm**,-Cefepime, **Cro**-Ceftriaxone; **Cxm**-Cefuroxime, **Cxm¹**-parenteral; **Ert**-Ertapenem (since 2005); **Gen**-Gentamicin; **Mer**-Meropenem; **Mez**-Mezlocillin; **Pip**-Piperacillin; **Meth**-Methicillin; **Sep**-Cotrimoxazole; **Tim**-Ticarcillin-clavulanate; **Tzp**-Piperacillin-Tazobactam; **Van**-Vancomycin. NA, not available.

Table 2: Susceptibility (%) of *S. aureus* to other anti-staphylococcal agents (2020-2024)*

Group	n	Rif	Cip	Clin	Chlor	Linez	Sept	Vanc	Fus
MSSA	647	100	98	68	96	100	99	100	22
MRSA	275	98	16	47	70	100	99	100	30

* MSSA/MRSA-Methicillin Sensitive/Resistant Staphylococcus aureus; Rif-Rifampicin; Cip-Ciprofloxacin; Clin-Clindamycin; Chlor-Chloramphenicol; Line-linezolid Sept-Cotrimoxazole (=trimethorpin-sulfamethoxazole); Vanc-Vancomycin; Fus-Fusidic acid. *Daptomycin is available in SZMC; however, systematic susceptibility testing of all strains is not performed.

Table 3: Antimicrobial susceptibilities (%) of the most frequently isolated organisms (in alphabetical order)

Organism‡	N	Amk	Aug	Azt	Caz	Cef	Chl	Cip	Col	Cpm	Cro	Cxm	Ert	Gen	Mer	Sep	Tim	Tzp
<i>A. baumannii</i>	176	27	§		21			16	99					31	26	22		21
<i>Citrobacter</i> spp.	173	100	46		79	46	95	90		92	79	68	98	97	98	93	80	88
<i>E. coli</i>	3410	99	61	61	68	36	88	62	91	69	69	65	99	86	99	61	66	93
<i>E. cloacae</i>	253	95	0		60	0	68	75	85	70	60	43	85	78	91	66	52	68
<i>E. faecalis</i> #	1123						80	68										
<i>K. oxytoca</i>	193	100	76		80		88	83		79	77	74	98	89	98	77	57	91
<i>K. pneumoniae</i>	2120	97	56	48	44	65	73	50	82	45	45	42	95	78	96	43	43	78
<i>M. morgani</i>	170	96	0		74	38	44	59		92	86		98	78	98	100	94	95
<i>P. mirabilis</i>	474	98	85	80	69	0	42	47		69	69	66	99	76	99	66	86	98
<i>P. aeruginosa</i> ##	566	98		75	88	58		89						92	90		83	88
<i>Salmonella</i> *	95						99	85			100					88		
<i>S. marcescens</i>	728	100	0	90	100		88	97		100	100	5	100	96	100	96	97	100
<i>S. aureus</i> **																		
<i>Stenotrophomonas</i> §§	48				56		57									93		
<i>S. pneumoniae</i> ***														(50)				

‡ Organisms: *Acinetobacter baumannii*, *Escherichia coli*, *Enterobacter cloacae*, *Enterococcus faecalis*, *Enterococcus faecium*, *Klebsiella oxytoca*, *Klebsiella pneumoniae*, *Morganella morgani*, *Proteus mirabilis*, *Pseudomonas aeruginosa*, *Serratia marcescens*, *Staphylococcus aureus*, *Streptococcus pneumoniae*.

* Salmonella includes: *Salmonella enteritidis* (5), group B (40), group C (89), group D (229), group E, *Salmonella* species (50), *S. typhi* (30), *S. typhimurium* (25). 99% were ampicillin sensitive.

** S. aureus: 72% methicillin susceptible (=MSSA). Rate varies from Pediatric isolates (78%); through ED isolates (71%) and Medical Departments' isolates (58%) to ICU isolates (50%). 100% of isolates were Vancomycin-susceptible. See table 3 below.

*** S. pneumoniae (n=471): Below, respectively, age 10 years (158, 33%) and above 10 years (313, 67%). 98% of pediatric isolates and 98% of adult isolates had MICs to penicillin ≤ 2 $\mu\text{g/ml}$ (=susceptible). In comparison, 34 CSF pneumococcal strains were isolated, of which 23 in children <10 years of age. Of the 23 strains in children 52% had MIC ≤ 0.06 (S) and 48% were resistant (MIC ≥ 0.12). Of the 11 adults isolates, 86% had an MIC ≤ 0.06 (S), 14% were resistant (MIC ≥ 0.12).

Enterococcus: 1040/1049 isolates of *Enterococcus faecalis* were susceptible to vancomycin, 98% were sensitive to ampicillin, 77% to daptomycin, linezolid 100%. High level gentamicin resistance was detected in 28% of isolates. Of 414 isolates of *Enterococcus faecium* 43% were vancomycin susceptible, 14% to ampicillin, 50% to daptomycin, 89% to chloramphenicol, 98% to linezolid, 50% to tetracycline.

Pseudomonas aeruginosa: 86% were susceptible to piperacillin, 97% to ceftazidime-avibactam, 97% to ceftolozane-tazobactam, 76% to levofloxacin, and 78% to ticarcillin.

§ Ampicillin-sulbactam 35% susceptible.

§§ Levofloxacin 38/42 (90%).