## MSH Blood Culture Specimens: % Susceptibility

### Gram Positive Organisms

| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|---|
| *Staphylcoccus aureus* | 31 | 56 | 69 | 77 | 72 | 74 | 90 | # isolates |
| Ampicillin | | | | | | | | |
| Amoxicillin/Clavulanic acid | | | 100 | 100 | 100 | 100 | 95 | |
| Cloxacillin | 100 | 79 | 86 | 87 | 96 | 92 | 90 | |
| Cefazolin | 100 | 79 | 86 | 87 | 96 | 92 | 90 | |
| High Level Gentamycin | | | | | | | | |
| Vancomycin | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| *Coagulase Negative Staphylcoccus* | 28 | 43 | 35 | 34 | 60 | 75 | 58 | # isolates |
| Ampicillin | | | | | | | | |
| Amoxicillin/Clavulanic acid | | | | | | | | |
| Cloxacillin | 33 | 50 | 40 | 41 | 38 | 47 | 50 | |
| Cefazolin | 50 | 60 | 40 | 41 | 38 | 47 | 50 | |
| High Level Gentamycin | | | | | | | | |
| Vancomycin | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| *Enterococcus faecalis* | 9 | 19 | 29 | 21 | 19 | 42 | 35 | # isolates |
| Ampicillin | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Amoxicillin/Clavulanic acid | | | | | | | | |
| Cloxacillin | | | | | | | | |
| Cefazolin | | | | | | | | |
| High Level Gentamycin | 89 | 79 | 81 | 90 | 79 | 86 | 83 | |
| Vancomycin | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |

| | |
|---|---|
| | 90% or greater susceptible |
| | 50-89% susceptible |
| | less than 50% susceptible |
| | antibiotic not tested |
| | less than 30 organisms reported |
| R | Intrinsic/Acquired Resistance |
| | C. freundii is intrisically resistant to Amoxicillin/Clavulanic Acid |
| | E. aerogens and E. cloacae are intrisically resistant to Amoxicillin/Clavulanic Acid |
| | Results for this drug not available - as per CLSI these drugs lack efficacy and are not suitable for AST or treatment of infection |

**PLEASE NOTE**

Exercise caution in interpretation if fewer than 30 organisms are reported for a given species.
It is recommended that at least 30 organism isolates are present for a given reporting period in order to preform valid statistical comparisons.

## MSH Blood Culture Specimens: % Susceptibility

### Gram Negative Organisms

| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|---|
| *Escherichia coli (excluding ESBL)* | | 131 | 163 | 163 | 145 | 161 | 161 | # isolates |
| Ampicillin | | 61 | 64 | 53 | 57 | 57 | 60 | |
| Amoxicillin/Clavulanic acid | | | 85 | 82 | 85 | 84 | 84 | |
| Cefazolin | | 89 | 81 | 69 | 68 | 60 | 75 | |
| Ceftriaxone | | 98 | 97 | 97 | 95 | 98 | 98 | |
| Ceftazidime | | 97 | 97 | 98 | 96 | 97 | 97 | |
| Piperacillin/Tazobactam | | 96 | 98 | 96 | 97 | 94 | 97 | |
| Ertapenem | | 99 | 100 | 100 | 100 | 100 | 99 | |
| Meropenem | | 100 | 100 | 100 | 100 | 100 | 99 | |
| Gentamicin | | 92 | 91 | 90 | 92 | 93 | 92 | |
| Tobramycin | | 91 | 92 | 92 | 95 | 93 | 94 | |
| Amikacin | | 100 | 100 | 100 | | | | |
| Trimethoprim/Sulfamethoxazole | | 82 | 85 | 78 | 83 | 78 | 81 | |
| Ciprofloxacin | | 76 | 82 | 78 | 72 | 68 | 75 | |
| *Escherichia coli (ESBL)* | | | | | | | 28 | # isolates |
| Ampicillin | | | | | | | 0 | |
| Amoxicillin/Clavulanic acid | | | | | | | 50 | |
| Cefazolin | | | | | | | 0 | |
| Ceftriaxone | | | | | | | 0 | |
| Ceftazidime | | | | | | | 4 | |
| Piperacillin/Tazobactam | | | | | | | 93 | |
| Ertapenem | | | | | | | 100 | |
| Meropenem | | | | | | | 100 | |
| Gentamicin | | | | | | | 79 | |
| Tobramycin | | | | | | | 71 | |
| Trimethoprim/Sulfamethoxazole | | | | | | | 61 | |
| Ciprofloxacin | | | | | | | 25 | |
| *Escherichia coli (including ESBL)* | 61 | 159 | 189 | 201 | 172 | 184 | 188 | # isolates |
| Ampicillin | 52 | 50 | 56 | 43 | 48 | 49 | 51 | |
| Amoxicillin/Clavulanic acid | | | 82 | 79 | 82 | 85 | 80 | |
| Cefazolin | 89 | 72 | 69 | 56 | 57 | 53 | 64 | |
| Ceftriaxone | 95 | 80 | 83 | 78 | 80 | 85 | 83 | |
| Ceftazidime | 95 | 79 | 83 | 79 | 85 | 85 | 84 | |
| Piperacillin/Tazobactam | 95 | 96 | 97 | 95 | 97 | 95 | 96 | |
| Ertapenem | 100 | 99 | 100 | 100 | 100 | 100 | 99 | |
| Meropenem | 100 | 100 | 100 | 100 | 100 | 100 | 99 | |
| Gentamicin | 97 | 87 | 89 | 90 | 90 | 90 | 90 | |
| Tobramycin | 97 | 83 | 88 | 90 | 92 | 91 | 91 | |
| Amikacin | 100 | 99 | 99 | 100 | | | | |
| Trimethoprim/Sulfamethoxazole | 77 | 73 | 78 | 72 | 79 | 75 | 78 | |
| Ciprofloxacin | 79 | 67 | 74 | 70 | 66 | 60 | 68 | |

| | |
|---|---|
| | 90% or greater susceptible |
| | 50-89% susceptible |
| | less than 50% susceptible |
| | antibiotic not tested |
| | less than 30 organisms reported |
| R | Intrinsic/Acquired Resistance |
| | C. freundii is intrisically resistant to Amoxicillin/Clavulanic Acid |
| | E. aerogens and E. cloacae are intrisically resistant to Amoxicillin/Clavulanic Acid |
| | Results for this drug not available - as per CLSI these drugs lack efficacy and are not suitable for AST or treatment of infection |

| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|---|
| *Klebsiella pneumoniae (excluding ESBL)* | | | | | | | 49 | # isolates |
| Ampicillin | | | | | | | R | |
| Amoxicillin/Clavulanic acid | | | | | | | 98 | |
| Cefazolin | | | | | | | 98 | |
| Ceftriaxone | | | | | | | 100 | |
| Ceftazidime | | | | | | | 100 | |
| Piperacillin/Tazobactam | | | | | | | 100 | |
| Ertapenem | | | | | | | 100 | |
| Meropenem | | | | | | | 100 | |
| Gentamicin | | | | | | | 100 | |
| Tobramycin | | | | | | | 100 | |
| Trimethoprim/Sulfamethoxazole | | | | | | | 92 | |
| Ciprofloxacin | | | | | | | 100 | |
| *Klebsiella pneuomoniae (ESBL)* | | | | | | | 5 | # isolates |
| Ampicillin | | | | | | | R | |
| Amoxicillin/Clavulanic acid | | | | | | | 40 | |
| Cefazolin | | | | | | | 0 | |
| Ceftriaxone | | | | | | | 0 | |
| Ceftazidime | | | | | | | 0 | |
| Piperacillin/Tazobactam | | | | | | | 60 | |
| Ertapenem | | | | | | | 100 | |
| Meropenem | | | | | | | 100 | |
| Gentamicin | | | | | | | 80 | |
| Tobramycin | | | | | | | 60 | |
| Amikacin | | | | | | | | |
| Trimethoprim/Sulfamethoxazole | | | | | | | 0 | |
| Ciprofloxacin | | | | | | | 20 | |
| *Klebsiella pneumoniae( inclduing ESBL)* | 17 | 33 | 36 | 58 | 51 | 51 | 54 | # isolates |
| Ampicillin | R | R | R | R | R | R | R | |
| Amoxicillin/Clavulanic acid | | | 94 | 97 | 92 | 94 | 93 | |
| Cefazolin | 82 | 94 | 86 | 86 | 84 | 78 | 89 | |
| Ceftriaxone | 88 | 94 | 92 | 93 | 96 | 94 | 91 | |
| Ceftazidime | 88 | 94 | 92 | 95 | 96 | 94 | 91 | |
| Piperacillin/Tazobactam | 88 | 100 | 92 | 100 | 92 | 96 | 96 | |
| Ertapenem | 100 | 100 | 97 | 100 | 100 | 100 | 100 | |
| Meropenem | 100 | 100 | 97 | 100 | 100 | 100 | 100 | |
| Gentamicin | 88 | 97 | 92 | 98 | 100 | 100 | 98 | |
| Tobramycin | 82 | 97 | 92 | 98 | 98 | 96 | 96 | |
| Amikacin | 100 | 100 | 100 | 100 | | | | |
| Trimethoprim/Sulfamethoxazole | 82 | 91 | 94 | 90 | 94 | 92 | 83 | |
| Ciprofloxacin | 82 | 100 | 86 | 93 | 84 | 86 | 93 | |

| | |
|---|---|
| | 90% or greater susceptible |
| | 50-89% susceptible |
| | less than 50% susceptible |
| | antibiotic not tested |
| | less than 30 organisms reported |
| R | Intrinsic/Acquired Resistance |
| | C. freundii is intrisically resistant to Amoxicillin/Clavulanic Acid |
| | E. aerogens and E. cloacae are intrisically resistant to Amoxicillin/Clavulanic Acid |
| | Results for this drug not available - as per CLSI these drugs lack efficacy and are not suitable for AST or treatment of infection |

| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|---|
| *Enterobacter spp* | 7 | 13 | 16 | 17 | 17 | 13 | 10 | # isolates |
| Ampicillin | | R | R | R | R | R | R | |
| Amoxicillin/Clavulanic acid | | | 6 | 6 | 0 | 0 | 0 | |
| Cefazolin | R | R | R | R | R | R | R | |
| Ceftriaxone | 71 | 62 | 63 | 76 | 65 | 92 | 50 | |
| Ceftazidime | 71 | 62 | 63 | 82 | 63 | 92 | 50 | |
| Piperacillin/Tazobactam | 83 | 67 | 64 | 88 | 71 | 92 | 50 | |
| Ertapenem | 100 | 100 | 81 | 88 | 76 | 92 | 80 | |
| Meropenem | 100 | 100 | 94 | 100 | 100 | 100 | 100 | |
| Gentamicin | 86 | 85 | 100 | 94 | 100 | 100 | 100 | |
| Tobramycin | 86 | 85 | 100 | 94 | 100 | 100 | 100 | |
| Amikacin | 100 | 100 | 100 | 100 | | | | |
| Trimethoprim/Sulfamethoxazole | 86 | 92 | 94 | 94 | 100 | 92 | 100 | |
| Ciprofloxacin | 86 | 92 | 100 | 100 | 100 | 100 | 100 | |
| *Klebsiella aerogenes* | | | | | | | 4 | # isolates |
| Ampicillin | | | | | | | R | |
| Amoxicillin/Clavulanic acid | | | | | | | 0 | |
| Cefazolin | | | | | | | R | |
| Ceftriaxone | | | | | | | 100 | |
| Ceftazidime | | | | | | | 100 | |
| Piperacillin/Tazobactam | | | | | | | 100 | |
| Ertapenem | | | | | | | 75 | |
| Meropenem | | | | | | | 100 | |
| Gentamicin | | | | | | | 100 | |
| Tobramycin | | | | | | | 100 | |
| Trimethoprim/Sulfamethoxazole | | | | | | | 100 | |
| Ciprofloxacin | | | | | | | 100 | |
| *Pseudomonas aeruginosa* | 9 | 21 | 23 | 21 | 22 | 23 | 28 | # isolates |
| Ampicillin | | | | | | | | |
| Amoxicillin/Clavulanic acid | | | R | R | R | R | R | |
| Cefazolin | | | | | | | | |
| Ceftriaxone | | | | | | | | |
| Ceftazidime | 89 | 95 | 91 | 81 | 91 | 91 | 89 | |
| Piperacillin/Tazobactam | 89 | 100 | 91 | 90 | 91 | 91 | 89 | |
| Ertapenem | | | | | | | | |
| Meropenem | 100 | 100 | 87 | 86 | 100 | 91 | 93 | |
| Gentamicin | 100 | 100 | 100 | 100 | 95 | 100 | 100 | |
| Tobramycin | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Amikacin | 100 | 100 | 100 | 100 | | | | |
| Trimethoprim/Sulfamethoxazole | | | | | | | | |
| Ciprofloxacin | 100 | 100 | 100 | 95 | 95 | 100 | 96 | |

| | |
|---|---|
| | 90% or greater susceptible |
| | 50-89% susceptible |
| | less than 50% susceptible |
| | antibiotic not tested |
| | less than 30 organisms reported |
| R | Intrinsic/Acquired Resistance |
| | C. freundii is intrisically resistant to Amoxicillin/Clavulanic Acid |
| | E. aerogens and E. cloacae are intrisically resistant to Amoxicillin/Clavulanic Acid |
| | Results for this drug not available - as per CLSI these drugs lack efficacy and are not suitable for AST or treatment of infection |

## MSH Urine Culture Specimens: % Susceptibility

### Gram Negative Organisms

| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|---|
| *Escherichia coli (excluding ESBL)* | | 975 | 951 | 869 | 814 | 923 | 1,019 | # isolates |
| Ampicillin | | 58 | 57 | 58 | 57 | 62 | 57 | |
| Amoxicillin/Clavulanic acid | | | 84 | 83 | 82 | 86 | 85 | |
| Cefazolin | | 97 | 96 | 96 | 95 | 96 | 94 | |
| Ceftriaxone | | 98 | 99 | 98 | 98 | 98 | 98 | |
| Ceftazidime | | 98 | 98 | 98 | 98 | 98 | 97 | |
| Piperacillin/Tazobactam | | 96 | 96 | 96 | 96 | 97 | 97 | |
| Ertapenem | | 100 | 100 | 100 | 100 | 100 | 100 | |
| Meropenem | | 100 | 100 | 100 | 100 | 100 | 100 | |
| Gentamicin | | 91 | 92 | 92 | 93 | 91 | 92 | |
| Tobramycin | | 91 | 93 | 93 | 93 | 92 | 93 | |
| Amikacin | | 100 | 100 | 100 | | | | |
| Nitrofurantoin | | 98 | 97 | 97 | 98 | 98 | 98 | |
| Trimethoprim/Sulfamethoxazole | | 78 | 78 | 80 | 78 | 82 | 78 | |
| Ciprofloxacin | | 83 | 85 | 85 | 70 | 74 | 71 | |
| *Escherichia coli (ESBL)* | | | | | | | 126 | # isolates |
| Ampicillin | | | | | | | 0 | |
| Amoxicillin/Clavulanic acid | | | | | | | 61 | |
| Cefazolin | | | | | | | 0 | |
| Ceftriaxone | | | | | | | 0 | |
| Ceftazidime | | | | | | | 10 | |
| Piperacillin/Tazobactam | | | | | | | 87 | |
| Ertapenem | | | | | | | 99 | |
| Meropenem | | | | | | | 100 | |
| Gentamicin | | | | | | | 76 | |
| Tobramycin | | | | | | | 68 | |
| Nitrofurantoin | | | | | | | 94 | |
| Trimethoprim/Sulfamethoxazole | | | | | | | 52 | |
| Ciprofloxacin | | | | | | | 12 | |
| *Escherichia coli (including ESBL)* | 598 | 1083 | 1054 | 996 | 927 | 1019 | 1,139 | # isolates |
| Ampicillin | 57 | 52 | 51 | 51 | 50 | 56 | 51 | |
| Amoxicillin/Clavulanic acid | | | 82 | 81 | 80 | 84 | 83 | |
| Cefazolin | | 87 | 86 | 83 | 83 | 87 | 84 | |
| Ceftriaxone | 97 | 89 | 89 | 85 | 86 | 89 | 87 | |
| Ceftazidime | 97 | 89 | 89 | 86 | 89 | 90 | 88 | |
| Piperacillin/Tazobactam | 96 | 95 | 95 | 95 | 96 | 96 | 96 | |
| Ertapenem | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Meropenem | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Gentamicin | 91 | 89 | 91 | 90 | 91 | 89 | 90 | |
| Tobramycin | 91 | 87 | 91 | 89 | 90 | 90 | 90 | |
| Amikacin | 100 | 100 | 100 | 100 | | | | |
| Nitrofurantoin | 99 | 98 | 96 | 95 | 97 | 97 | 97 | |
| Trimethoprim/Sulfamethoxazole | 78 | 75 | 74 | 75 | 75 | 79 | 76 | |
| Ciprofloxacin | 85 | 77 | 79 | 79 | 65 | 68 | 65 | |
| Cephalothin | 50 | | | | | | | |

| | |
|---|---|
| | 90% or greater susceptible |
| | 50-89% susceptible |
| | less than 50% susceptible |
| | antibiotic not tested |
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| R | Intrinsic/Acquired Resistance |
| | C. freundii is intrisically resistant to Amoxicillin/Clavulanic Acid |
| | E. aerogens and E. cloacae are intrisically resistant to Amoxicillin/Clavulanic Acid |
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| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|---|
| Klebsiella pneumoniae (excluding ESBL) | | | | | | | 164 | # isolates |
| Ampicillin | | | | | | | R | |
| Amoxicillin/Clavulanic acid | | | | | | | 96 | |
| Cefazolin | | | | | | | 96 | |
| Ceftriaxone | | | | | | | 99 | |
| Ceftazidime | | | | | | | 99 | |
| Piperacillin/Tazobactam | | | | | | | 98 | |
| Ertapenem | | | | | | | 99 | |
| Meropenem | | | | | | | 100 | |
| Gentamicin | | | | | | | 99 | |
| Tobramycin | | | | | | | 99 | |
| Nitrofurantoin | | | | | | | 30 | |
| Trimethoprim/Sulfamethoxazole | | | | | | | 92 | |
| Ciprofloxacin | | | | | | | 92 | |
| Klebsiella pneumoniae (ESBL) | | | | | | | 12 | # isolates |
| Ampicillin | | | | | | | R | |
| Amoxicillin/Clavulanic acid | | | | | | | 50 | |
| Cefazolin | | | | | | | 0 | |
| Ceftriaxone | | | | | | | 0 | |
| Ceftazidime | | | | | | | 0 | |
| Piperacillin/Tazobactam | | | | | | | 50 | |
| Ertapenem | | | | | | | 83 | |
| Meropenem | | | | | | | 100 | |
| Gentamicin | | | | | | | 83 | |
| Tobramycin | | | | | | | 67 | |
| Nitrofurantoin | | | | | | | 0 | |
| Trimethoprim/Sulfamethoxazole | | | | | | | 17 | |
| Ciprofloxacin | | | | | | | 8 | |
| *Klebesiella pneumoniae (including ESBL)* | 97 | 169 | 129 | 150 | 157 | 133 | 176 | # isolates |
| Ampicillin | | R | R | R | R | R | R | |
| Amoxicillin/Clavulanic acid | | | 91 | 91 | 95 | 93 | 93 | |
| Cefazolin | | 92 | 86 | 89 | 91 | 89 | 90 | |
| Ceftriaxone | 98 | 92 | 88 | 91 | 92 | 91 | 92 | |
| Ceftazidime | 98 | 92 | 87 | 91 | 93 | 92 | 92 | |
| Piperacillin/Tazobactam | 94 | 96 | 92 | 94 | 97 | 98 | 94 | |
| Ertapenem | 99 | 99 | 98 | 99 | 99 | 99 | 98 | |
| Meropenem | 99 | 99 | 98 | 99 | 99 | 100 | 100 | |
| Gentamicin | 99 | 94 | 93 | 97 | 99 | 97 | 98 | |
| Tobramycin | 99 | 91 | 91 | 97 | 98 | 96 | 97 | |
| Amikacin | 100 | 99 | 100 | 99 | | | | |
| Nitrofurantoin | 45 | 39 | 35 | 29 | 28 | 27 | 28 | |
| Trimethoprim/Sulfamethoxazole | 95 | 87 | 85 | 89 | 90 | 90 | 87 | |
| Ciprofloxacin | 97 | 91 | 91 | 90 | 87 | 82 | 86 | |

| | |
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| | 90% or greater susceptible |
| | 50-89% susceptible |
| | less than 50% susceptible |
| | antibiotic not tested |
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| R | Intrinsic/Acquired Resistance |
| | C. freundii is intrisically resistant to Amoxicillin/Clavulanic Acid |
| | E. aerogens and E. cloacae are intrisically resistant to Amoxicillin/Clavulanic Acid |
| | Results for this drug not available - as per CLSI these drugs lack efficacy and are not suitable for AST or treatment of infection |

| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|---|
| *Enterobacter spp* | 24 | 27 | 47 | 38 | 34 | 34 | 35 | # isolates |
| Ampicillin | | R | R | R | R | R | R | |
| Amoxicillin/Clavulanic acid | | | 2 | 0 | 0 | 3 | 0 | |
| Cefazolin | | R | R | R | R | R | R | |
| Ceftriaxone | 83 | 74 | 77 | 68 | 62 | 71 | 74 | |
| Ceftazidime | 83 | 74 | 79 | 79 | 71 | 74 | 83 | |
| Piperacillin/Tazobactam | 83 | 76 | 79 | 71 | 71 | 74 | 80 | |
| Ertapenem | 96 | 100 | 87 | 89 | 81 | 76 | 94 | |
| Meropenem | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Gentamicin | 100 | 96 | 100 | 97 | 100 | 100 | 100 | |
| Tobramycin | 100 | 96 | 100 | 97 | 100 | 100 | 100 | |
| Amikacin | 100 | 100 | 100 | 100 | | | | |
| Nitrofurantoin | 50 | 52 | 43 | 42 | 32 | 47 | 49 | |
| Trimethoprim/Sulfamethoxazole | 96 | 96 | 96 | 97 | 91 | 91 | 97 | |
| Ciprofloxacin | 96 | 100 | 96 | 97 | 97 | 97 | 97 | |
| *Klebsiella aerogenes* | | | | | | | 20 | # isolates |
| Ampicillin | | | | | | | R | |
| Amoxicillin/Clavulanic acid | | | | | | | 0 | |
| Cefazolin | | | | | | | R | |
| Ceftriaxone | | | | | | | 85 | |
| Ceftazidime | | | | | | | 85 | |
| Piperacillin/Tazobactam | | | | | | | 85 | |
| Ertapenem | | | | | | | 100 | |
| Meropenem | | | | | | | 100 | |
| Gentamicin | | | | | | | 100 | |
| Tobramycin | | | | | | | 100 | |
| Nitrofurantoin | | | | | | | 25 | |
| Trimethoprim/Sulfamethoxazole | | | | | | | 95 | |
| Ciprofloxacin | | | | | | | 90 | |
| *Proteus mirabilis* | 46 | 68 | 79 | 90 | 80 | 69 | 111 | # isolates |
| Ampicillin | 83 | 91 | 80 | 82 | 81 | 72 | 75 | |
| Amoxicillin/Clavulanic acid | | | 99 | 98 | 95 | 94 | 89 | |
| Cefazolin | | 96 | 91 | 98 | 94 | 94 | 92 | |
| Ceftriaxone | 96 | 97 | 95 | 100 | 98 | 99 | 96 | |
| Ceftazidime | 96 | 97 | 95 | 98 | 98 | 97 | 95 | |
| Piperacillin/Tazobactam | 98 | 100 | 99 | 100 | 98 | 100 | 99 | |
| Ertapenem | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Meropenem | 100 | 100 | 100 | 100 | 100 | 99 | 100 | |
| Gentamicin | 89 | 94 | 90 | 93 | 89 | 96 | 93 | |
| Tobramycin | 89 | 96 | 94 | 96 | 93 | 99 | 95 | |
| Amikacin | 100 | 100 | 100 | 100 | | | | |
| Nitrofurantoin | | R | R | R | R | R | 0 | |
| Trimethoprim/Sulfamethoxazole | 76 | 91 | 90 | 86 | 90 | 80 | 86 | |
| Ciprofloxacin | 96 | 96 | 95 | 88 | 80 | 87 | 87 | |

| | |
|---|---|
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| | C. freundii is intrisically resistant to Amoxicillin/Clavulanic Acid |
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| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|---|
| *Pseudomonas aeruginosa* | 48 | 77 | 65 | 88 | 84 | 77 | 103 | # isolates |
| Ampicillin | | | | | | | | |
| Amoxicillin/Clavulanic acid | | | R | R | R | R | R | |
| Cefazolin | | | | | | | | |
| Ceftriaxone | | | | | | | | |
| Ceftazidime | 85 | 86 | 89 | 92 | 93 | 97 | 93 | |
| Piperacillin/Tazobactam | 90 | 92 | 92 | 94 | 92 | 99 | 94 | |
| Ertapenem | | | | | | | | |
| Meropenem | 92 | 91 | 92 | 88 | 94 | 99 | 94 | |
| Gentamicin | 94 | 94 | 97 | 98 | 98 | 100 | 97 | |
| Tobramycin | 98 | 100 | 98 | 99 | 99 | 100 | 99 | |
| Amikacin | 98 | 100 | 97 | 98 | | | | |
| Nitrofurantoin | | | | | | | | |
| Trimethoprim/Sulfamethoxazole | | | | | | | | |
| Ciprofloxacin | 94 | 96 | 89 | 94 | 94 | 90 | 87 | |

| | |
|---|---|
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## MSH Urine Culture Specimens: % Susceptibility

### Gram Positive Organisms

| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|---|
| *Staphylococcus Aureus* | 11 | 21 | 30 | 29 | 31 | 34 | 29 | # isolates |
| Ampicillin | | | | | | | | |
| Amoxicillin/Clavulanic Acid | | | 100 | 96 | 100 | 100 | 93 | |
| Cefazolin | 100 | 65 | 83 | 93 | 84 | 85 | 93 | |
| Cloxacillin | 100 | 62 | 83 | 93 | 84 | 85 | 93 | |
| Trimethoprim/Sulfamethoxazole | 100 | 100 | 100 | 100 | 97 | 100 | 100 | |
| Ciprofloxacin | 100 | 62 | 80 | 83 | 71 | 74 | 93 | |
| Nitrofurantoin | 100 | 100 | 100 | 97 | 97 | 100 | 100 | |
| Tetracyclin | 91 | 86 | 93 | 100 | 97 | 97 | 100 | |
| Rifampin | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Vancomycin | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| *Enterococcus Species* | 144 | 221 | 246 | 222 | 264 | 255 | 265 | # isolates |
| Ampicillin | 88 | 86 | 88 | 87 | 88 | 90 | 92 | |
| Amoxicillin/Clavulanic Acid | | | | | | | | |
| Cefazolin | | | | | | | | |
| Cloxacillin | | | | | | | | |
| Trimethoprim/Sulfamethoxazole | | | | | | | | |
| Ciprofloxacin | 72 | 72 | 73 | 75 | 80 | 78 | 82 | |
| Nitrofurantoin | 90 | 90 | 87 | 86 | 86 | 89 | 91 | |
| Tetracyclin | 26 | 29 | 26 | 31 | 27 | 21 | 24 | |
| Rifampin | | | | | | | | |
| Vancomycin | 97 | 100 | 99 | 100 | 100 | 100 | 100 | # isolates |
| *Enterococcus faecalis* | | | 5 | 10 | 10 | 6 | 9 | |
| Ampicillin | | | 100 | 100 | 100 | 100 | 100 | |
| Amoxicillin/Clavulanic Acid | | | | | | | | |
| Cefazolin | | | | | | | | |
| Cloxacillin | | | | | | | | |
| Trimethoprim/Sulfamethoxazole | | | | | | | | |
| Ciprofloxacin | | | 60 | 80 | 90 | 67 | 100 | |
| Nitrofurantoin | | | 100 | 100 | 100 | 100 | 100 | |
| Tetracyclin | | | 20 | 20 | 50 | 33 | 22 | |
| Rifampin | | | | | | | | |
| Vancomycin | | | 100 | 100 | 100 | 100 | 100 | |
| *Enterococcus faecium* | | | 4 | 3 | 5 | 0 | 2 | # isolates |
| Ampicillin | | | 0 | 0 | 0 | 0 | 0 | |
| Amoxicillin/Clavulanic Acid | | | | | | | | |
| Cefazolin | | | | | | | | |
| Cloxacillin | | | | | | | | |
| Trimethoprim/Sulfamethoxazole | | | | | | | | |
| Ciprofloxacin | | | 0 | 0 | 0 | 0 | 0 | |
| Nitrofurantoin | | | 0 | 0 | 40 | 0 | 0 | |
| Tetracyclin | | | 50 | 67 | 0 | 0 | 0 | |
| Rifampin | | | | | | | | |
| Vancomycin | | | 100 | 100 | 100 | 0 | 100 | |

| | |
|---|---|
| | 90% or greater susceptible |
| | 50-89% susceptible |
| | less than 50% susceptible |
| | antibiotic not tested |
| | less than 30 organisms reported |
| R | Intrinsic/Acquired Resistance |
| | C. freundii is intrisically resistant to Amoxicillin/Clavulanic Acid |
| | E. aerogens and E. cloacae are intrisically resistant to Amoxicillin/Clavulanic Acid |
| | Results for this drug not available - as per CLSI these drugs lack efficacy and are not suitable for AST or treatment of infection |

**All locations *S. pneumoniae* Specimens: % Susceptibility**

**Gram Positive Organisms**

| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|---|
| Blood culture and spinal fluid specimens | 33 | 38 | 34 | 41 | 8 | 17 | 39 | # isolates |
| Penicillin V (oral) | | | | | | | | |
| Penicillin G (parenteral) | | | | | | | | |
| Ceftriaxone | | | | | | | | |
| Levofloxacin | 100 | 100 | 100 | 100 | 100 | 100 | 97 | |
| Meropenem | 100 | 94 | 94 | 95 | 100 | 94 | 98 | |
| Vancomycin | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Trimethoprim/Sulfamethoxazole | | | | | | | | |
| Erythromycin | | | | | | | | |
| Meningeal interpretation | 33 | 42 | 38 | 41 | 8 | 18 | 39 | # isolates |
| Penicillin V (oral) | | | | | | | | |
| Penicillin G (parenteral) | 85 | 90 | 89 | 90 | 88 | 78 | 79 | |
| Ceftriaxone | 97 | 95 | 95 | 98 | 100 | 94 | 89 | |
| Levofloxacin | | | | | | | | |
| Meropenem | | | | | | | | |
| Vancomycin | | | | | | | | |
| Trimethoprim/Sulfamethoxazole | | | | | | | | |
| Erythromycin | | | | | | | | |
| Non-meningeal interpretation | 33 | 42 | 38 | 41 | 8 | 18 | 39 | # isolates |
| Penicillin V (oral) | | | | | | | | |
| Penicillin G (parenteral) | 100 | 100 | 97 | 100 | 100 | 94 | 97 | |
| Ceftriaxone | 100 | 100 | 100 | 100 | 100 | 94 | 97 | |
| Levofloxacin | | | | | | | | |
| Meropenem | | | | | | | | |
| Vancomycin | | | | | | | | |
| Trimethoprim/Sulfamethoxazole | | | | | | | | |
| Erythromycin | | | | | | | | |
| All specimens except blood cultures and spinal fluid specimens | 29 | 40 | 30 | 30 | 24 | 14 | 15 | # isolates |
| Penicillin V (oral) | 79 | 72 | 90 | 83 | 75 | 57 | 87 | |
| Penicillin G (parenteral) | 100 | 91 | 100 | 100 | 100 | 83 | 100 | |
| Ceftriaxone | 100 | 92 | 100 | 100 | 100 | 86 | 100 | |
| Levofloxacin | 97 | 97 | 97 | 100 | 100 | 100 | 100 | |
| Meropenem | | | | | | | | |
| Vancomycin | | | | | | | | |
| Trimethoprim/Sulfamethoxazole | 90 | 88 | 86 | 80 | 79 | 79 | 93 | |
| Erythromycin | 66 | 60 | 76 | 57 | 50 | 64 | 79 | |

| | |
|---|---|
| | 90% or greater susceptible |
| | 50-89% susceptible |
| | less than 50% susceptible |
| | antibiotic not tested |
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| R | Intrinsic/Acquired Resistance |
| | C. freundii is intrisically resistant to Amoxicillin/Clavulanic Acid |
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