

# Marshfield Clinic Health System

## 2023 INPATIENT Antibiogram

| Gram-negative<br>Enterobacteriales<br>% Susceptible | No. Tested | Ampicillin | Amoxicillin-clav | Piperacillin-tazo | Ceftriaxone | Cefepime | Ertapenem | Meropenem | Amikacin | Gentamicin | Tobramycin | Ciprofloxacin | Levofloxacin | Tetracycline | Trimeth-Sulfa | Nitrofurantoin [U] |
|---|------------|------------|------------------|-------------------|-------------|----------|-----------|-----------|----------|------------|------------|---------------|--------------|--------------|---------------|--------------------|
| <i>Citrobacter freundii</i>                         | 83         | R          | R                | -                 | -           | 100      | 100       | 100       | 100      | 95         | 95         | 87            | 83           | 86           | 83            | 92                 |
| <i>Enterobacter cloacae</i>                         | 195        | R          | R                | -                 | -           | 93       | 90        | 99        | 100      | 98         | 98         | 96            | 94           | 92           | 94            | 45                 |
| <i>Escherichia coli</i>                             | 2955       | 65         | 89               | 97                | 94          | 98       | 100       | 100       | 100      | 95         | 95         | 87            | 84           | 83           | 85            | 98                 |
| <i>Klebsiella aerogenes</i>                         | 63         | R          | R                | -                 | -           | 100      | 100       | 100       | 100      | 100        | 100        | 100           | 95           | 92           | 100           | 14                 |
| <i>Klebsiella oxytoca</i>                           | 145        | R          | 92               | 91                | 91          | 100      | 100       | 100       | 100      | 98         | 98         | 98            | 99           | 94           | 97            | 88                 |
| <i>Klebsiella pneumoniae</i>                        | 500        | R          | 97               | 92                | 97          | 99       | 100       | 100       | 100      | 99         | 98         | 95            | 93           | 86           | 96            | 28                 |
| <i>Morganella morganii</i>                          | 53         | R          | R                | 96                | 91          | 100      | 98        | 100       | 100      | 94         | 96         | 89            | 87           | 58           | 89            | R                  |
| <i>Proteus mirabilis</i>                            | 229        | 90         | 95               | 100               | 97          | 97       | 90        | 100       | 100      | 91         | 91         | 84            | 82           | R            | 85            | R                  |
| <i>Serratia marcescens</i>                          | 55         | R          | R                | -                 | 95          | 100      | 95        | 100       | 100      | 100        | 89         | 98            | 95           | 33           | 100           | R                  |

| Gram-negative<br>Non-Enterobacteriales<br>% Susceptible | No. Tested | Piperacillin-tazo | Ceftazidime | Cefepime | Meropenem | Tobramycin | Ciprofloxacin | Levofloxacin | Minocycline | Trimeth-Sulfa |
|---|------------|-------------------|-------------|----------|-----------|------------|---------------|--------------|-------------|---------------|
| <i>P. aeruginosa</i>                                    | 378        | 92                | 93          | 93       | 93        | 99         | 89            | 85           | R           | R             |
| <i>S. maltophilia</i> [1]                               | 44         | R                 | 66          | -        | -         | R          | -             | 89           | 100         | 89            |

| Susceptibility |
|----------------|
| ≥ 90%          |
| 60-89%         |
| < 60%          |

| Analysis Key |   |
|--------------|---|
| R            | Isolate is intrinsically resistant      |
| -            | Not tested or is clinically ineffective |

### Notes

[U] Breakpoints exist only for urinary isolates

[1] Inpatient and outpatient isolates combined

### Contact Information

- For susceptibility test questions and data analysis please contact: Dr. Thomas Novicki, Dr. Sophi Arbefeville, or Dr. Taylor Wahlig at 715-387-6300 or ext. 16300
- For antimicrobial stewardship questions please contact: Philip (Logan) Whitfield at 715-387-7578 or ext. 77578
- For urgent questions regarding specific patient cases, please consult your local infectious diseases physician.

| Gram-positive<br>Streptococci and Enterococci<br>% Susceptible | No. Tested | Ampicillin | Amoxicillin | Penicillin | Ceftriaxone | Meropenem | Clindamycin | Erythromycin | Levofloxacin | Ciprofloxacin | Linezolid  | Nitrofurantoin | Tetracycline | Trimeth/Sulfa | Vancomycin |
|--|------------|------------|-------------|------------|-------------|-----------|-------------|--------------|--------------|---------------|------------|----------------|--------------|---------------|------------|
| <b>Streptococci</b>  |            |            |             |            |             |           |             |              |              |               |            |                |              |               |            |
| <i>Grp. B Streptococcus agalactiae</i>                         | 181        | 100        | SP          | 100        | -           | -         | 38          | 36           | 99           | -             | 100        | -              | 13           | -             | 100        |
| <i>Grp. A Streptococcus pyogenes</i>                           | 69         | 100        | SP          | 100        | -           | -         | 90          | 90           | 100          | -             | 100        | -              | 90           | -             | 100        |
| <i>Grp. G Streptococci</i>                                     | 43         | 100        | SP          | 100        | -           | -         | 79          | 84           | 98           | -             | 100        | -              | 77           | -             | 100        |
| <i>S. pneumoniae (Non-meningeal)[3]</i>                        | 73         | SP[1]      | SP[1]       | 97         | 100         | 91        | -           | 65           | 95           | -             | -          | -              | 62           | 87            | 100        |
| <i>S. pneumoniae (Meningeal)[3]</i>                            | 73         | -          | -           | 75         | 97          | 91        | -           | -            | -            | -             | -          | -              | -            | -             | 100        |
| <i>S. anginosus</i>  | 65         | 100        |             | 100        |             |           | 84          | 78           | 98           |               | 100        |                | 65           |               | 100        |
| <i>S. constellatus</i>   | 37         | 100        | -           | 95         | -           | -         | 75          | 81           | 100          | -             | 100        | -              | 86           | -             | 100        |
| <b>Enterococci</b>   |            |            |             |            |             |           |             |              |              |               |            |                |              |               |            |
| <i>Enterococcus faecalis</i>                                   | 505        | 100        | -           | 99         | R           | -         | R           | 10           | 85[U]83[U]   | 97            | 100[U]     | 28[U]          | R            | 100           |            |
| <i>Enterococcus faecium</i>                                    | 103        | 25         | -           | 25         | R           | -         | R           | R            | 26[U]26[U]   | 97            | 15[U]26[U] | R              | 53           |               |            |

| Gram-positive<br>Staphylococci<br>% Susceptible | No. Tested | Penicillin | Oxacillin | Ceftaroline | Vancomycin | Erythromycin | Clindamycin | Gentamicin[2] | Trimeth/Sulfa | Linezolid | Daptomycin | Nitrofurantoin | Rifampicin[2] | Tetracycline |
|---|------------|------------|-----------|-------------|------------|--------------|-------------|---------------|---------------|-----------|------------|----------------|---------------|--------------|
| <i>Staphylococcus aureus</i>                    | 950        | 19         | 71        | 100         | 100        | 58           | 80          | 99            | 96            | 100       | 100        | 100[U]         | 100           | 91           |
| <i>Staphylococcus lugdunensis</i>               | 43         | -          | 84        | -           | 100        | 84           | 81          | 100           | 100           | 100       | 100        | 100[U]         | 100           | 98           |
| <i>Staphylococcus epidermidis</i>               | 280        | -          | 35        | -           | 99         | 32           | 58          | 91            | 59            | 100       | 100        | 100[U]         | 100           | 79           |
| <i>Staphylococcus hominis</i>                   | 32         | -          | 50        | -           | 100        | 28           | 50          | 100           | 81            | 100       | 100        | 100[U]         | 100           | 56           |

| Susceptibility | ≥ 90%  | Analysis Key | R | Isolate is intrinsically resistant               |  |  |
|----------------|--------|--------------|---|--|--|--|
|                | 60-89% |              |   | Antimicrobial is not tested                      |  |  |
|                | < 60%  |              |   | Susceptibility inferred from testing other agent |  |  |

## Notes

- [1] Based on susceptibility to standard dose IV penicillin, susceptibility to oral penicillin, and studies of clinical efficacy, nearly all non-meningeal pneumococcal infections can be effectively treated with IV ampicillin or with high dose oral amoxicillin (in children: 80-100 mg/kg/day divided TID; adult dose and maximum dose in children: 1 g TID)
- [2] Should only be used in combination with other active agents
- [3] Inpatient and Outpatient isolates combined
- [U] Breakpoints exist only for urinary isolates. Other sources of infection are not tested