



# ALBERTA PRECISION LABORATORIES

Leaders in Laboratory Medicine

## Antibiotic % Susceptibility Patterns North Sector - Fort McMurray January - December 2022

Data derived from routine susceptibility tests performed by Northern Lights Regional Hospital Centre

|   |          | N   | Penicillin (IV) | Ampicillin / Amoxicillin | Cloxacillin | Amoxicillin-Clavulanate | Piperacillin-Tazobactam | Cephalexin      | Cefazolin | Cefixime | Ceftriaxone | Ceftazidime | Clindamycin | Trimethoprim-Sulfamethoxazole | Vancomycin | Tetracycline <sup>c</sup> | Nitrofurantoin <sup>b</sup> | Ciprofloxacin   | Gentamicin | Tobramycin | Ertapenem | Meropenem |
|---|----------|-----|-----------------|--------------------------|-------------|-------------------------|-------------------------|-----------------|-----------|----------|-------------|-------------|-------------|-------------------------------|------------|---------------------------|-----------------------------|-----------------|------------|------------|-----------|-----------|
| <b>Gram-positive</b>                        |          |     |                 |                          |             |                         |                         |                 |           |          |             |             |             |                               |            |                           |                             |                 |            |            |           |           |
| Enterococcus faecalis                       |          | 123 |                 | 100                      |             |                         |                         | R               | R         | R        | R           | R           | R           | R                             | 100        | 18                        | 99                          | 92 <sup>b</sup> |            |            |           |           |
| Staphylococcus aureus                       | MSSA     | 177 |                 | 100                      |             |                         |                         | 100             |           |          |             |             | 85          | 98                            | 100        | 97                        |                             |                 |            |            |           |           |
|   | MRSA     | 77  |                 | R                        |             |                         |                         | R               |           |          |             |             | 94          | 98                            | 100        | 97                        |                             |                 |            |            |           |           |
| Staphylococcus lugdunensis <sup>d</sup>     |          | 50  |                 | 96                       |             |                         |                         | 96              |           |          |             |             | 88          | 100                           | 100        | 97                        |                             |                 |            |            |           |           |
| Streptococcus, group A <sup>d</sup>         |          | 52  | 100             | 100                      |             |                         |                         | 100             |           |          |             |             | 90          |                               | 100        |                           |                             |                 |            |            |           |           |
| Streptococcus, group B <sup>d</sup>         |          | 41  | 100             | 100                      |             |                         |                         | 100             |           |          |             |             | 43          |                               | 100        |                           |                             |                 |            |            |           |           |
| <b>Gram-negative</b>                        |          |     |                 |                          |             |                         |                         |                 |           |          |             |             |             |                               |            |                           |                             |                 |            |            |           |           |
| Enterobacter cloacae complex <sup>a,d</sup> |          | 47  |                 | R                        |             | R                       | R                       | R               | R         | R        | R           |             |             | 87                            |            |                           | 42                          | 95              | 100        | 100        | 93        | 100       |
| Escherichia coli                            | non-ESBL | 476 |                 | 61                       |             | 88                      | 97                      | 97 <sup>b</sup> |           | 98       | 99          |             |             | 81                            |            |                           | 98                          | 78              | 94         | 95         |           |           |
|   | ESBL     | 42  |                 | R                        |             | R                       | R                       | R               | R         | R        | R           |             |             | 54                            |            |                           | 90                          | 16              | 71         | 76         | 100       | 100       |
| Klebsiella pneumoniae complex               |          | 44  |                 | R                        |             | 97                      | 100                     | 97 <sup>b</sup> |           | 100      | 100         |             |             | 97                            |            |                           | 36                          | 84              | 97         | 100        |           |           |
| Proteus mirabilis <sup>d</sup>              |          | 41  |                 | 80                       |             | 87                      | 100                     | 95 <sup>b</sup> |           | 95       | 100         |             |             | 92                            |            |                           | R                           | 100             | 100        | 100        |           |           |
| Pseudomonas aeruginosa                      |          | 34  |                 | R                        |             | R                       | 93                      |                 |           |          | R           | 94          |             | R                             |            | R                         |                             | 82              |            | 100        | R         | 91        |

<sup>a</sup> These organisms usually produce  $\beta$ -lactamase which can cause failure of 3rd generation cephalosporin therapy, despite in vitro susceptibility

<sup>b</sup> Urine isolates only

<sup>c</sup> Susceptibility to doxycycline can be inferred from susceptibility to tetracycline

<sup>d</sup> Combined data (January - December 2021 and January - December 2022) due to the small number of isolates in 2022

**Note:** Percent susceptible for each organism/antimicrobial combination was generated by including the first isolate of that organism recovered from a given patient during the time period analyzed.

**Abbreviations:** MSSA - methicillin-susceptible Staphylococcus aureus; MRSA - methicillin-resistant Staphylococcus aureus; ESBL - Extended Spectrum Beta-Lactamase; R - intrinsic resistance