

# Clinical Laboratories

Colorado, USA

## 117809.77 Critical Values

### Copy of version 3.0 (approved and current)

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### Comments for version 3.0

Inverness MEC approval 5/10/22

### Approval and Periodic Review Signatures

| Type            | Description  | Date      | Version | Performed By   | Notes |
|-----------------|--------------|-----------|---------|--|-------|
| Approval        | Lab Director | 5/31/2022 | 3.0     | Carol Dittmann MD, MT(ASCP)  |       |
| Approval        | Lab Manager  | 5/16/2022 | 3.0     | Sarah Miller   |       |
| Periodic review | Lab Manager  | 6/4/2021  | 2.0     | Sarah Miller   |       |
| Approval        | Lab Director | 6/7/2019  | 2.0     | Carol Dittmann   |       |
| Approval        | Lab Director | 5/16/2019 | 2.0     | <br>Edward Ashwood |       |
| Approval        | Lab Manager  | 5/9/2019  | 2.0     | Sarah Miller   |       |
| Approval        | Lab Director | 4/11/2019 | 1.0     | <br>Edward Ashwood |       |
| Approval        | Lab Manager  | 1/2/2019  | 1.0     | Sarah Miller   |       |

### Version History

| Version | Status               | Type            | Date Added | Date Effective | Date Retired |
|---------|----------------------|-----------------|------------|----------------|--------------|
| 3.0     | Approved and Current | Major revision  | 5/16/2022  | 5/31/2022      | Indefinite   |
| 2.0     | Retired              | Major revision  | 5/9/2019   | 5/16/2019      | 5/31/2022    |
| 1.0     | Retired              | Initial version | 12/2/2018  | 4/11/2019      | 5/16/2019    |

117809.77.Critical Values, Version 3.0.

### Hematology

|     |                           |  |
|-----|---------------------------|--|
| HGB | Hemoglobin (0-1month)     | <7 g/dL<br>>23 g/dL                                  |
| HGB | Hemoglobin (1M-150Y)      | <7 g/dL<br>>20 g/dL                                  |
| HCT | Hematocrit (0-1month)     | <21%<br>>70%   |
| HCT | Hematocrit (1M-150Y)      | <21%<br>>60%   |
| PLT | Platelet count            | <25 x10 <sup>9</sup> /L<br>>1000 x10 <sup>9</sup> /L |
| WBC | White Blood Cell count    | <1.50 x10 <sup>9</sup> /L<br>>70 x10 <sup>9</sup> /L |
| ANC | Absolute Neutrophil Count | <1.0 x10 <sup>9</sup> /L                             |

### Hematology Oncology Patients Only

|  |                           |  |
|--|---------------------------|--|
| Results for WBC and ANC are called when the following criteria is met:   |                           |  |
| <ol style="list-style-type: none"> <li>1. It is the first time the critical value is detected on the patient.</li> <li>2. The patient has not had a similar critical value within the previous 24 hours.</li> <li>3. The test was not ordered in the previous 24 hours.</li> <li>4. Previous results within 24 hours was not a critical value. (Patient result changed from critical to non-critical, then back to critical).</li> </ol> |                           |  |
| WBC  | White Blood Cell count    | <1.50 x10 <sup>9</sup> /L<br>>70 x10 <sup>9</sup> /L |
| ANC  | Absolute Neutrophil Count | <1.0 x10 <sup>9</sup> /L                             |

### Coagulation

|         |                                       |                                      |
|---------|---------------------------------------|--------------------------------------|
| INR     | Prothrombin Time (Prottime) INR       | >5.0                                 |
| PTT     | Activated Partial Thromboplastin Time | ≥160 seconds                         |
| D DIMER | Fibrin Degradation Units              | ≥500 ng FEU/mL (OP only excludes ED) |
| FIB     | Fibrinogen                            | <100 mg/dL                           |

### Blood Gas/Whole Blood Testing

|                  |   |                              |
|------------------|---|------------------------------|
| pH               | pH units, arterial blood gas                                      | ≤7.200<br>≥7.600             |
| HCO <sub>3</sub> | Bicarbonate, arterial blood gas                                   | ≤12 mmol/L<br>≥40 mmol/L     |
| TCO <sub>2</sub> | Total carbon dioxide, arterial blood gas                          | ≤12 mmol/L<br>≥40 mmol/L     |
| pCO <sub>2</sub> | Partial carbon dioxide, arterial, capillary, and venous blood gas | ≤20 mmHg<br>≥70 mmHg         |
| pO <sub>2</sub>  | Partial pressure of oxygen, arterial blood gas                    | ≤39 mmHg                     |
| K WB             | Whole blood potassium   | ≤2.5 mmol/L<br>≥6.4 mmol/L   |
| NA WB            | Whole blood sodium  | ≤120 mmol/L<br>≥160 mmol/L   |
| GLU WB           | Whole blood glucose   | ≤40 mg/dL<br>≥500 mg/dL      |
| MET HGB          | Methemoglobin   | ≥3.0%                        |
| CO HGB           | Carboxyhemoglobin   | ≥ 12%                        |
| ICA WB           | Calcium, ionized  | ≤0.75 mmol/L<br>≥1.66 mmol/L |

### Blood Bank

|   |          |
|---|----------|
| Transfusion reaction investigation, hemolytic | Positive |
|---|----------|

Chemistry

|           |                            |                            |
|-----------|----------------------------|----------------------------|
| ACETA BLD | Acetaminophen              | ≥40.0 µg/mL                |
| ASA       | Salicylate (Aspirin)       | ≥40.0 mg/dL                |
| BILI      | Total Bilirubin (0-1 year) | ≥17.0 mg/dL                |
| CA        | Calcium                    | <6.0 mg/dL<br>≥13.0 mg/dL  |
| CO2       | Carbon Dioxide             | ≤9 mmol/L<br>≥40 mmol/L    |
| ETOH      | Blood ethanol/alcohol      | ≥400 mg/mL                 |
| GLU       | Glucose                    | ≤40 mg/dL<br>≥500 mg/dL    |
| K         | Potassium                  | ≤2.5 mmol/L<br>≥6.4 mmol/L |
| LI        | Lithium                    | ≥1.5 mmol/L                |
| MG        | Magnesium                  | ≤1.2 mg/dL<br>≥6.0 mg/dL   |
| NA        | Sodium                     | ≤120 mmol/L<br>≥160 mmol/L |
| PHOS      | Phosphorus                 | ≤1.0 mg/dL                 |

| Therapeutic Drugs |                             |             |
|-------------------|-----------------------------|-------------|
| DIGOXIN           | Digoxin                     | ≥3.0 ng/mL  |
| GENT R            | Gentamicin (Random)         | ≥12.0 µg/mL |
| GENT P            | Gentamicin (Peak)           | ≥12.0 µg/mL |
| GENT T            | Gentamicin (Trough)         | ≥2.00 µg/mL |
| PHENY TOT         | Phenytoin, Total (Dilantin) | ≥30 µg/mL   |
| VANC R            | Vancomycin (Random)         | ≥80.0 µg/mL |
| VANC P            | Vancomycin (Peak)           | ≥80.0 µg/mL |
| VANC T            | Vancomycin (Trough)         | ≥35.0 µg/mL |

Point of Care Testing

|                  |   |                              |
|------------------|---|------------------------------|
| GLUC             | Glucose                                 | ≤40 mg/dL<br>≥500 mg/dL      |
| tHB              | Total Hemoglobin                        | <7 g/dL<br>>20 g/dL          |
| INR              | Protime International Normalizing Ratio | >5.0                         |
| NA               | Sodium                                  | ≤120 mmol/L<br>≥160 mmol/L   |
| K                | Potassium                               | ≤2.5 mmol/L<br>≥6.4 mmol/L   |
| ICA WB           | Ionized Calcium                         | ≤0.75 mmol/L<br>≥1.66 mmol/L |
| pO <sub>2</sub>  | Partial oxygen, arterial blood gas      | ≤39 mmHg                     |
| pCO <sub>2</sub> | Partial carbon dioxide, blood gas       | ≤20 mmHg<br>≥70 mmHg         |
| HCO <sub>3</sub> | Bicarbonate, arterial gas (calculated)  | ≤12 mmol/L<br>≥40 mmol/L     |
| pH               | pH – arterial blood gas                 | ≤7.200<br>≥7.600             |

Microbiology

|       |  |   |
|-------|--|---|
| C BLD | Blood Culture  | Positive  |
| GS    | Gram stain for bacteria/fungus                           | Positive for:<br><br>body fluids (ascites, CSF, paracentesis, peritoneal);<br><br>blood products associated with transfusion reaction;<br><br>Specimens submitted from surgery. |
|       | Positive blood cultures and normally sterile sites only. |   |