



## Memorial Hospital Central / North Critical Values

| Department | Test                                                                    | Age Range | Critical Value            |                            |
|------------|-------------------------------------------------------------------------|-----------|---------------------------|----------------------------|
|            |                                                                         |           | Low                       | High                       |
| Hematology | Hematocrit                                                              | n/a       | <18%                      | >60%                       |
|            | Hemoglobin<br>(including Arterial, Venous, Capillary<br>and Cord Blood) | n/a       | <6.0 g/dL                 | >20.0 g/dL                 |
|            | Platelet Count                                                          | n/a       | < 25 X 10 <sup>9</sup> /L | >1000 X 10 <sup>9</sup> /L |
|            | White Blood Cell Count                                                  | n/a       | <1.5 X 10 <sup>9</sup> /L | >70 X 10 <sup>9</sup> /L   |
|            | CSF                                                                     | n/a       | n/a                       | Any organism               |

| Department | Test                                                              | Age Range            | Critical Value | Critical Value    |
|------------|-------------------------------------------------------------------|----------------------|----------------|-------------------|
|            |                                                                   |                      | Low            | High              |
| Chemistry  | Bilirubin, Total                                                  | 0-28 days            | n/a            | ≥15 mg/dL         |
|            | Calcium                                                           | < 3 months           | ≤7.0 mg/dL     | ≥12 mg/dL         |
|            |                                                                   | ≥ 3 months           | ≤6.0 mg/dL     | ≥13.0 mg/dL       |
|            | Calcium, Ionized<br>(Whole Blood: Arterial and Venous)            | n/a                  | <0.83 mmol/L   | >1.55 mmol/L      |
|            | CK (CPK)                                                          | n/a                  | n/a            | ≥10,000 IU/L      |
|            | CO <sub>2</sub> (Serum/Plasma)                                    | n/a                  | ≤10mmol/L      | n/a               |
|            | Creatinine                                                        | 0-17 yrs             | n/a            | ≥3.0 mg/dL        |
|            |                                                                   | ≥18 yrs              | n/a            | ≥10.0 mg/dL       |
|            | CSF Glucose                                                       | n/a                  | ≤40 mg/dL      | n/a               |
|            | CSF Protein                                                       | n/a                  | n/a            | ≥100 mg/dL        |
|            | Glucose<br>(Serum, Plasma, and Arterial,<br>Venous and Capillary) | 0-3 yrs <sup>i</sup> | ≤40 mg/dL      | ≥150 mg/dL        |
|            |                                                                   | 4-17 yrs             | ≤40 mg/dL      | ≥200 mg/dL        |
|            |                                                                   | ≥18 yrs              | ≤40 mg/dL      | ≥ 500 mg/dL       |
|            | HIV                                                               | n/a                  | n/a            | Reactive/Positive |
|            | Magnesium                                                         | n/a                  | ≤1.0 mg/dL     | ≥7.0 mg/dL        |
|            | Phosphorus                                                        | n/a                  | ≤1.0 mg/dL     | ≥8.0 mg/dL        |
|            | Potassium<br>(Serum, Plasma, Arterial, Venous<br>and Capillary)   | n/a                  | ≤2.5 mmol/L    | ≥6.4 mmol/L       |
|            | Sodium<br>(Serum, Plasma, Arterial, Venous<br>and Capillary)      | n/a                  | ≤120 mmol/L    | ≥160 mmol/L       |

| Department  | Test                | Age Range  | Critical Value |           |
|-------------|---------------------|------------|----------------|-----------|
|             |                     |            | Low            | High      |
| Blood Gases | Arterial Blood Gas  |            |                |           |
|             | CO                  | n/a        | n/a            | >12%      |
|             | pCO2                | ≤ 18 years | <20 mmHg       | >75mmHg   |
|             | tCO <sub>2</sub>    | ≤ 18 years | <9 mmol/L      | n/a       |
|             | pH                  | ≤ 18 years | <7.00          | ≥7.60     |
|             |                     | >18 years  | ≤7.15          | ≥7.65     |
|             | pO2                 | 0-28 days  | <45 mmHg       | >250 mmHg |
|             |                     | ≥29 days   | <40 mmHg       | n/a       |
|             | Venous Blood Gas    |            |                |           |
|             | CO                  | n/a        | n/a            | >12 %     |
|             | pCO2                | ≤ 18 years | <20 mmHg       | >75mmHg   |
|             | tCO <sub>2</sub>    | ≤ 18 years | <9 mmol/L      | n/a       |
|             | pH                  | ≤ 18 years | <7.00          | ≥7.60     |
|             |                     | >18 years  | ≤7.15          | ≥7.65     |
|             | Capillary Blood Gas |            |                |           |
|             | CO                  | n/a        | n/a            | >12%      |
|             | pCO2                | ≤ 18 years | <20 mmHg       | >75mmHg   |
|             | tCO <sub>2</sub>    | ≤ 18 years | <9 mmol/L      | n/a       |
|             | pH                  | ≤ 18 years | <7.00          | ≥7.60     |
|             |                     | >18 years  | ≤7.15          | ≥7.65     |

| Department  | Test              | Age Range | Critical Value | Critical Value |
|-------------|-------------------|-----------|----------------|----------------|
|             |                   |           | Low            | High           |
| Coagulation | Anti-Xa (Heparin) | n/a       | n/a            | >1.0 IU/mL     |
|             | Factor VIII Assay | n/a       | <30%           | n/a            |
|             | Fibrinogen        | n/a       | <100 mg/dL     | n/a            |
|             | INR (PT)          | n/a       | n/a            | > 5.0          |

| Department            | Test                 | Critical Value |
|-----------------------|----------------------|----------------|
| Tox-Therapeutic Drugs | Acetaminophen        | ≥150 mcg/mL    |
|                       | Alcohol (Ethanol)    | ≥400 mg/dL     |
|                       | Carbamazepine        | ≥15 mcg/mL     |
|                       | Digoxin              | ≥2.1 ng/mL     |
|                       | Gentamicin (Peak)    | ≥10 mcg/mL     |
|                       | Gentamicin (Trough)  | ≥4 mcg/mL      |
|                       | Lithium              | ≥2 mmol/L      |
|                       | Phenobarb            | ≥50 mcg/mL     |
|                       | Phenytoin (Dilantin) | ≥25 mcg/mL     |
|                       | Salicylate           | ≥30 mg/dL      |
|                       | Theophylline         | ≥25 mcg/mL     |
|                       | Tobramycin (Peak)    | ≥10.1 mcg/mL   |
|                       | Tobramycin (Trough)  | ≥4 mcg/mL      |
|                       | Valproic acid        | ≥150 mcg/mL    |
|                       | Vancomycin (Peak)    | ≥50 mcg/mL     |
|                       | Vancomycin (Trough)  | ≥30 mcg/mL     |

| Department   | Test                                                               | Critical Value Criteria                     |
|--------------|--------------------------------------------------------------------|---------------------------------------------|
| Microbiology | Blood Cultures                                                     | Any initial positive gram stain             |
|              | CSF or Amniotic Fluid                                              | Any positive Gram Stain or Culture Growth   |
|              | Methicillin-Resistant Staphylococcus aureus (MRSA)                 | Initial positive result on an inpatient     |
|              | Vancomycin-Resistant Enterococci (VRE)                             | Initial positive result on an inpatient     |
|              | Group A or Group B Streptococcus                                   | Any positive result on a neonatal inpatient |
|              | Cryptococcal Antigen                                               | Any CSF positive result*                    |
|              | Meningo-Encephalitis Panel (CSF)*                                  | Any targets detected*                       |
|              | Herpes Simplex Virus PCR*                                          | Any CSF positive result on inpatients*      |
|              | Varicella-Zoster Virus PCR*                                        | Any CSF positive result on inpatients*      |
|              | * indicates critical values called by Memorial Sendouts Department |                                             |



## Pikes Peak Regional Hospital Critical Values

| Department            | Test                      | Age Range  | Critical Value             |                            |
|-----------------------|---------------------------|------------|----------------------------|----------------------------|
|                       |                           |            | Low                        | High                       |
| Hematology            | Hematocrit                |            | <18%                       | >60%                       |
|                       | Hemoglobin                |            | <6.0 g/dL                  | >20.0 g/dL                 |
|                       | Platelet Count            |            | < 25 X 10 <sup>9</sup> /L  | >1000 X 10 <sup>9</sup> /L |
|                       | White Blood Cell Count    |            | <1.5 X 10 <sup>9</sup> /L  | >70 X 10 <sup>9</sup> /L   |
|                       | Absolute Neutrophil Count |            | <1.5 X x10 <sup>9</sup> /L |                            |
| Chemistry             | Bilirubin, Neonatal       | 0-28 days  |                            | ≥15 mg/dL                  |
|                       | Calcium                   | < 3 months | ≤7.0 mg/dL                 | ≥12 mg/dL                  |
|                       |                           | ≥ 3 months | ≤6.0 mg/dL                 | ≥13.0 mg/dL                |
|                       | Calcium, Ionized          |            | <0.83 mmol/L               | >1.55 mmol/L               |
|                       | CK (CPK)                  |            |                            | ≥10,000 IU/L               |
|                       | CO2                       |            | ≤10mmol/L                  |                            |
|                       | Creatinine                | 0-17 yrs   |                            | ≥3.0 mg/dL                 |
|                       |                           | ≥18 yrs    |                            | ≥10.0 mg/dL                |
|                       | Glucose                   | 0-3 yrs    | ≤40 mg/dL                  | ≥150 mg/dL                 |
|                       |                           | 4-17 yrs   | ≤40 mg/dL                  | ≥200 mg/dL                 |
|                       |                           | ≥18 yrs    | ≤40 mg/dL                  | ≥ 500 mg/dL                |
|                       | Magnesium                 |            | ≤1.0 mg/dL                 | ≥7.0 mg/dL                 |
|                       | Phosphorus                |            | ≤1.0 mg/dL                 | ≥8.0 mg/dL                 |
|                       | Potassium                 |            | ≤2.5 mmol/L                | ≥6.4 mmol/L                |
|                       | Sodium                    |            | ≤120 mmol/L                | ≥160 mmol/L                |
| Blood Gases           | Arterial BG               |            |                            |                            |
|                       | pCO <sub>2</sub>          | 0-28 days  |                            | >50 mmHg                   |
|                       | pH                        | 0-28 days  | ≤7.05                      | ≥7.55                      |
|                       |                           | ≥29 days   | ≤7.15                      | ≥7.65                      |
|                       | pO <sub>2</sub>           | 0-28 days  | ≤45                        | ≥250 mmHg                  |
|                       |                           | ≥29 days   | ≤40 mmHg                   |                            |
|                       | Venous BG                 |            |                            |                            |
|                       | pCO <sub>2</sub>          | 0-28 days  |                            | >50 mmHg                   |
|                       | pH                        | 0-28 days  | ≤7.05                      | ≥7.55                      |
|                       |                           | ≥29 days   | ≤7.15                      | ≥7.65                      |
| Coagulation           | INR (PT)                  |            |                            | > 5.0                      |
|                       | PTT                       |            |                            | >80 seconds                |
| Tox-Therapeutic Drugs | Acetaminophen             |            |                            | ≥150 mcg/mL                |
|                       | Alcohol (Ethanol)         |            |                            | ≥400 mg/dL                 |
|                       | Salicylate                |            |                            | ≥30 mg/dL                  |
|                       | Vancomycin (Peak)         |            |                            | ≥50 mcg/mL                 |
|                       | Vancomycin (Trough)       |            |                            | ≥30 mcg/mL                 |



## Grandview Hospital Critical Values

| Department         | Test                                                | Critical Value                                         |
|--------------------|-----------------------------------------------------|--------------------------------------------------------|
| Hematology         | Absolute Neutrophil Count                           | $<1.0 \times 10^9/L$                                   |
|                    | Hematocrit                                          | $<18\%$ or $>60\%$                                     |
|                    | Hemoglobin                                          | $<6.0 \text{ g/dL}$ or $>20.0 \text{ g/dL}$            |
|                    | Platelets                                           | $<25 \times 10^9/L$ or $>1000 \times 10^9/L$           |
|                    | WBC                                                 | $<1.5 \times 10^9/L$ or $>70 \times 10^9/L$            |
| Chemistry          | Calcium                                             | $\leq 6.0 \text{ mg/dL}$ or $\geq 12 \text{ mg/dL}$    |
|                    | CO <sub>2</sub>                                     | $\leq 9 \text{ mmol/L}$ or $\geq 40 \text{ mmol/L}$    |
|                    | Glucose- Age 17 years and older                     | $\leq 40 \text{ mg/dL}$ or $\geq 500 \text{ mg/dL}$    |
|                    | Glucose - Age 4 to 16 years old                     | $\leq 40 \text{ mg/dL}$ or $\geq 200 \text{ mg/dL}$    |
|                    | Glucose - Age 3 years and younger                   | $\leq 40 \text{ mg/dL}$ or $\geq 150 \text{ mg/dL}$    |
|                    | Magnesium                                           | $\leq 1.2 \text{ mg/dL}$ or $\geq 6.0 \text{ mg/dL}$   |
|                    | Phosphorus                                          | $\leq 1.0 \text{ mg/dL}$                               |
|                    | Potassium                                           | $\leq 2.5 \text{ mmol/L}$ or $\geq 6.4 \text{ mmol/L}$ |
|                    | Sodium                                              | $\leq 120 \text{ mmol/L}$ or $\geq 160 \text{ mmol/L}$ |
|                    | Triglycerides                                       | $\geq 1500 \text{ mg/dL}$                              |
| Toxicology         | Acetaminophen                                       | $\geq 40 \text{ ug/dL}$                                |
|                    | Ethyl Alcohol                                       | $\geq 400 \text{ mg/dL}$                               |
|                    | Salicylate                                          | $\geq 40.0 \text{ mg/dL}$                              |
| Therapeutic Drug   | Digoxin                                             | $\geq 3.0 \text{ ng/mL}$                               |
|                    | Phenytoin                                           | $>30 \text{ ug/mL}$                                    |
|                    | Valproic Acid                                       | $\geq 150 \text{ ug/mL}$                               |
|                    | Vancomycin, Random and Peak                         | $\geq 80.0 \text{ ug/mL}$                              |
|                    | Vancomycin, trough                                  | $\geq 35.0 \text{ ug/mL}$                              |
| Coagulation        | aPTT                                                | $\geq 90 \text{ seconds}$                              |
|                    | INR                                                 | $>5.0$                                                 |
| Urinalysis         | Ketones (Infants under 6 months old)                | 3+                                                     |
| Arterial Blood Gas | Bicarbonate (HCO <sub>3</sub> ), Arterial Blood Gas | $\leq 12 \text{ mmol/L}$ or $\geq 40 \text{ mmol/L}$   |
|                    | pH                                                  | $\leq 7.2$ or $\geq 7.6$                               |
|                    | pO <sub>2</sub>                                     | $\leq 39 \text{ mmHg}$                                 |
|                    | pCO <sub>2</sub>                                    | $\leq 20 \text{ mmHg}$ or $\geq 70 \text{ mmHg}$       |
| Venous Blood Gas   | pCO <sub>2</sub>                                    | $\leq 20 \text{ mmHg}$ or $\geq 70 \text{ mmHg}$       |
| Blood Bank         | Antibody Screen                                     | Positive                                               |