

## CHEMISTRY CRITICAL VALUES

| TEST                                     | LOW  | POSSIBLE EFFECT   | HIGH   | POSSIBLE EFFECT   |
|--|--|---|--|---|
| 24 hour Urine Protein for O.B.           |  |   | >300mg/24hr                                    | Pre-eclampsia   |
| Bicarbonate (Serum)                      | <10 MEG/L                                  | Complex interwoven pattern of acidosis, alkalosis and anoxemia  | >40 MEG/L                                      | Complex interwoven pattern of acidosis, alkalosis and anoxemia  |
| Bilirubin, Neonatal                      |  |   | ≥ 15 mg/dl                                     |   |
| Calcium                                  | <6 mg/dL                                   | Tetany and convulsions  | >14 mg/dL<br>Newborn (0-3 mos.) >12 mg/dL      | Coma  |
| Ionized Calcium                          | <0.75 mmol/L                               |   | >1.57 mmol/L                                   |   |
| Glucose                                  | <40 mg/dL (0-3 months)<br><54 mg/dL        | Brain damage  | >200 mg/dL<br>Newborn (0-3 mos.)<br>>500 mg/dL | Diabetic coma   |
| Magnesium                                | <1 mg/dL                                   | Tetany  | >5 mg/dL                                       | Increase in atrioventricular conduction                         |
| Phosphorus                               | <1.0 mg/dl                                 | Coma  | > 9.0 mg/dl                                    | Tetany and convulsions  |
| Potassium                                | <2.5 mEq/L                                 | Muscle weakness, paralysis, cardiac arrhythmia's                | >6.5 mEq/L<br>Newborn (0-3 mos.) >7 mEq/L      | Cardiotoxicity with arrhythmia's                                |
| Sodium                                   | <120 mEq/L                                 | Dehydration and vascular collapse                               | >160 mEq/L                                     | Edema, hypervolemia, heart failure                              |
| pH (arterial capillary)                  | <7.2                                       | Severe acidosis, life threatening                               | >7.6   | Severe alkalosis, life threatening                              |
| pO <sub>2</sub> (arterial or capillary)  | <40 mmHg                                   | Complex interwoven pattern of acidosis, alkalosis, and anoxemia |  |   |
| PCO <sub>2</sub> (arterial or capillary) | <20 mmHg<br>Newborn (0-3 mos.)<br><30 mmHg | Complex interwoven pattern of acidosis, alkalosis, and anoxemia | >70 mmHg                                       | Complex interwoven pattern of acidosis, alkalosis, and anoxemia |
| Qualitative HCG on Trauma Patients       |  |   | Positive Borderline                            |   |
| Vitamin D                                |  |   | >150 ng/ml                                     |   |
| Lactic Acid                              |  |   | ≥ 4.0 ,mmol.L                                  |   |
| Troponin T                               |  |   | >50 ng/L                                       | If none within the last 72 hrs                                  |

### THERAPEUTIC DRUG CRITICAL LEVELS

| TEST                 | LOW | POSSIBLE EFFECT | HIGH  | POSSIBLE EFFECT  |
|----------------------|-----|-----------------|---|--|
| Carbamezapine        |     |                 | >20 ug/mL                                     |  |
| Digoxin              |     |                 | >3.0 ng/mL                                    | Gastrointestinal and CNS symptoms, disturbance of cardiac rhythm |
| Dilantin (Phenytoin) |     |                 | >40 ug/mL                                     |  |
| Gentamicin trough    |     |                 | >2 ug/mL                                      | Hypoventilation, ototoxicity, nephrotoxicity                     |
| Lithium              |     |                 | >2.0 mmol/L                                   |  |
| Phenobarbital        |     |                 | >50 ug/mL                                     | nausea, vomiting, diplopia, dizziness, ataxia, lethargy, coma    |
| Theophylline         |     |                 | >24 ug/mL (>31 days)<br>>15 ug/mL (0-31 days) | Nausea, insomnia, nervousness, headaches, arrhythmia's, seizures |
| Valproic Acid        |     |                 | >150 ug/mL                                    |  |
| Vancomycin trough    |     |                 | >35 ug/mL                                     |  |
| Vancomycin peak      |     |                 | >50 ug/mL                                     |  |

### TOXICOLOGY DRUG CRITICAL LEVELS

|               | LOW | POSSIBLE EFFECT | HIGH       | POSSIBLE EFFECT                                  |
|---------------|-----|-----------------|------------|--|
| Acetaminophen |     |                 | >150 ug/mL | (potentially toxic if >12 hours since ingestion) |
| Alcohol       |     |                 | >400 mg/dL |  |
| Salicylate    |     |                 | >30 mg/dL  |  |

### HEMATOLOGY CRITICAL LEVELS

| TEST           | LOW                          | POSSIBLE EFFECT            | HIGH                          | POSSIBLE EFFECT        |
|----------------|------------------------------|----------------------------|-------------------------------|------------------------|
| Hemoglobin     | ≤ 6 gm<br>≤8 (0-31 days old) | Heart failure and anoxemia | ≥ 20.0<br>≥24 (0-31 days old) |                        |
| Hematocrit     | ≤18<br>≤25 (0-31 days old)   |                            | ≥70 (0-31 days old)           |                        |
| Platelet Count | ≤ 20,000                     | Hemorrhage                 | ≥ 1,000,000                   | Hemorrhage, thrombosis |
| INR            |                              |                            | ≥ 5.0 INR                     | Hemorrhage             |
| PFA            |                              |                            | ADP > 300                     | Hemorrhage             |

### OTHER SIGNIFICANT RESULTS

| TEST   | ACTION TAKEN  |
|--|---|
| HIV from Source of Body/Blood fluid exposure           | All are called to Deaconess Hospital Comp Center for DH/GWH exposures or to the phone number provided ASAP after screen results are obtained.             |
| Hepatitis A Antibody                                   | Positives are faxed to ordering physician and called to Infection Control (3449) on day shift Monday – Friday or to Vanderburgh County Health Department. |
| Hepatitis B Surface Antigen                            | Positives are faxed to the ordering physician Monday – Friday and are reported to Indiana State Department of Health (ISDH) weekly.                       |
| Hepatitis C Antibody                                   | Positives are faxed to the ordering physician Monday – Friday and are reported to Indiana State Department of Health (ISDH) weekly.                       |
| HIV  | Confirmed positives are faxed to ordering physician Monday – Friday and are reported to Indiana State Department of Health (ISDH) weekly.                 |
| BHCG (ER Trauma only)                                  | Positives are called immediately to ER nurse.   |
| WBC – (ED or OP once every 90 days)                    | Values ≤0.5 are called immediately to the ordering physician.   |
| Absolute Neutrophil Counts (Evansville State Hospital) | Values ≤ 1.0 are called immediately to the State Hospital Laboratory personnel.   |

Updated:12/2021

## **CRITICAL AND SIGNIFICANT RESULTS IN MICROBIOLOGY**

The following **positive** cultures, stains or serological results are called to the physician OR to the unit where the patient is assigned. **INPATIENTS:** results are given to nurse caring for patient. They will notify physician. **OUTPATIENT:** results are given to office staff, nurse preferred. Critical values are called within 15 minutes of test result being known. Significant results are called within an hour of result.

| <b>Critical Value - Call within 15 minutes of result</b> |  |
|--|--|
| <b>TEST</b>  | <b>RESULT CALLED</b>   |
| Blood Culture  | Bacteria or yeast seen on stain, positive rapid coagulase.             |
| Blood Parasite Smear                                     | First positive smear with % parasitemia.                               |
| CSF  | Bacteria or yeast present in stain, growth in culture and sensitivity. |

| <b>Significant Result – Call within 1 hour of result</b> |  |
|--|--|
| <b>TEST</b>  | <b>RESULT CALLED</b>   |
| AFB  | Positive results   |
| Bordetella pertussis                                     | Positive culture, DFA, PCR   |
| Candida auris  | Recovery   |
| Clostridium difficile toxins A & B                       | First positive test  |
| Cryptococcal antigen                                     | Positive Cryptococcal Antigen (CSF or serum)   |
| Dimorphic fungus   | Recovery of dimorphic fungus isolated from any culture   |
| E. coli O157H7   | Positive E. coli O157H7 from stool from a negative sxt1/stx2 reported sample   |
| Eye Culture  | Positive culture if aspirate/scraping  |
| Fungal exam  | Positive fungal direct exam on sterile body sites  |
| Fungal culture   | Positive fungal culture on sterile body site from negative direct exam   |
| Herpes Simplex   | Positive culture from eye, sterile body site, tissue or any site for neonate/newborn   |
| Joint Fluid  | Positive gram stain  |
| Legionella Urinary Antigen                               | Positive   |
| M/E panel  | Positive test result on the Biofire M/E panel  |
| Multi Drug Resistant Organism                            | KPC, VISA, VRSA, Acinetobacter, Burkholderia and others considered MDRO (first isolate)  |
| Mycobacterium tuberculosis                               | Recovery of Mycobacterium tuberculosis from a negative reported smear or negative GeneXpert and detection of Mycobacterium tuberculosis by GeneXpert |
| Neisseria meningitidis                                   | Blood, sterile body site stain and/or culture  |
| Pseudomonas species                                      | Recovery of Pseudomonas species from eye cultures  |
| Select agent   | Recovery of select agent isolated from any culture*  |
| Shiga Toxin  | Positive Shiga toxin stx1/stx2 from stool  |
| Sterile body sites                                       | Stain or positive culture  |
| Streptococcus pneumoniae urinary antigen                 | Positive   |
| Zygomycete   | Recovery of Zygomycete from nasal/sinus culture  |