

**Lethbridge and Area Critical Value Results  
(CVR)**

Effective Date: 2020MAR10

Version: 2.11

## Lethbridge and Area Critical Value Results (CVR)

**CHEMISTRY**

| ANALYTE                   |                     | UNITS  | CRITICAL VALUE(S) |
|---------------------------|---------------------|--------|-------------------|
| Acetaminophen             |                     | umol/L | ≥ 300             |
| Ammonia                   | <17 years           | umol/L | >110              |
|                           | ≥ 17 years          |        | >200              |
| Total Bilirubin           | <30 days            | umol/L | >300              |
| Calcium                   |                     | mmol/L | <1.65 or >3.25    |
| Carbamazepine             | Trough              | umol/L | ≥ 60              |
| Digoxin                   | Adult >6h post dose | nmol/L | >2.6              |
| Ethanol                   |                     | mmol/L | >65               |
| Glucose (fasting)         | <30 days            | mmol/L | < 2.0 or > 24.9   |
|                           | >30 days            |        | < 2.6 or > 24.9   |
| Iron                      | <12 years           | umol/L | > 54              |
| Lactate (arterial/venous) |                     | mmol/L | > 4.0             |
| Lithium                   | Trough              | mmol/L | ≥ 1.50            |
| Magnesium                 |                     | mmol/L | <0.40 or >1.90    |
| Phenytoin                 | Trough              | umol/L | ≥ 160             |
| Phosphate                 |                     | mmol/L | <0.40             |
| Potassium                 | 0 – 28 days         | mmol/L | <3.0 or >6.4      |
|                           | 29 days – 17 years  |        | <3.0 or >6.0      |
|                           | ≥18 years           |        | <2.6 or >6.2      |
| Salicylates               |                     | mmol/L | >2.9              |
| Sodium                    |                     | mmol/L | <120 or >155      |
| Valproic Acid             | Trough              | umol/L | >1040             |
| Vancomycin                | Trough              | mg/L   | ≥ 25.1            |
|                           | Random              |        | ≥ 60.1            |

**BLOOD GASES**

| ANALYTE         |                        | UNIT   | CRITICAL VALUE(S) |
|-----------------|------------------------|--------|-------------------|
| pH              | Venous                 | N/A    | <7.20 or >7.60    |
|                 | Cord (Arterial/Venous) |        | <7.15             |
| pCO2            | Venous                 | mmHg   | <20.0 or >70.0    |
| HC03            | Venous                 | mmol/L | <10.0 or >40.0    |
| C0Hb            | Venous                 | %      | >15.0             |
| MetHb           | Venous                 | %      | >10.0             |
| BE              | Cord (Arterial/Venous) | mmol/L | < -10             |
| Ionized Calcium | Venous                 | mmol/l | <0.80 or >1.50    |

**HEMATOLOGY/COAGULATION**

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| ANALYTE        |         | UNITS                | CRITICAL VALUE(S) |
|----------------|---------|----------------------|-------------------|
| I.N.R.         |         | N/A                  | >5.0              |
| A.P.T.T.       |         | seconds              | ≥ 120             |
| Fibrinogen     |         | g/L                  | < 1.0             |
| Hemoglobin     |         | g/L                  | ≤ 70              |
| WBC            | Adult   | x 10 <sup>9</sup> /L | <0.6 or >99.9     |
|                | Newborn | x 10 <sup>9</sup> /L | <0.6 or >99.9     |
| Platelet Count |         | x 10 <sup>9</sup> /L | < 20              |
| Neutrophils    |         | x 10 <sup>9</sup> /L | <0.6              |

**Notifiable Results**

|                 |
|-----------------|
| Blasts present  |
| Malaria present |

**TRANSFUSION MEDICINE (BLOOD BANK)**

| TEST  | CRITICAL VALUE     |
|---|--------------------|
| DAT (Transfusion Reaction Investigation)                    | Positive*          |
| Serum/Plasma Hemolysis (Transfusion Reaction Investigation) | Visible Hemolysis* |
| Kleihauer Betke Fetal Bleed (KBFB)                          | ≥30 mL             |

\*When compared to Pre-Transfusion Samples

**MICROBIOLOGY**

| SPECIMEN   | CRITICAL RESULT   |
|--|---|
| Cerebrospinal Fluid (C.S.F )                         | <b>All</b> gram stain results (positive, negative and unable to test)<br><b>Positive</b> culture        |
| Bacteria   | <b>Positive</b> Acid fast bacilli stain (ZN, AR) or culture   |
| Blood Culture  | <b>Positive</b> gram stain<br><b>Positive</b> preliminary culture                                       |
| Eye cultures - other                                 | <b>Positive</b> culture for Neisseria gonorrhoeae<br><b>Positive</b> culture for Pseudomonas aeruginosa |
| Eye cultures – sterile (vitreous, corneal scrapings) | <b>Positive</b> gram stain<br><b>Positive</b> culture   |
| RSV / Influenza A and/or B                           | <b>Positive</b> result on Inpatients and transplant patients  |
| Sterile Body Sites (sterile fluids and tissues)      | <b>Positive</b> gram stain<br><b>Positive</b> culture   |

**CRITICAL DIAGNOSES FOR SURGICAL PATHOLOGY**

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| <b>Cases that have immediate clinical consequences:</b>  |
| Crescents in greater than 50% of glomeruli in a kidney biopsy  |
| Vasculitis and arteritis   |
| Absence of chorionic villi or trophoblast in uterine contents when clinically expected (potential ectopic pregnancy)                                       |
| Fat in an endometrial curettage  |
| Fat in colonic endoscopic polypectomies  |
| Transplant rejection   |
| Malignancy in superior vena cava syndrome  |
| Neoplasms causing paralysis  |
| <b>Unexpected or discrepant findings:</b>  |
| Significant disagreement between frozen section and final diagnosis  |
| Unexpected malignancy including in an uncommon location or specimen type   |
| Significant disagreement and/or change between primary pathologist and outside pathologist consultation (at either the original or consulting institution) |
| <b>Infections:</b>   |
| Pneumocystis, fungi, or viral cytopathic changes in pulmonary biopsy specimens in immunocompromised or immunocompetent patients                            |
| Acid-fast bacilli in immunocompromised or immunocompetent patients   |
| Fungi in biopsies of immunocompromised patients  |
| Bacteria in bone marrow  |
| Any invasive organism in surgical pathology specimens of immunocompromised patients  |

## CRITICAL DIAGNOSES FOR CYTOPATHOLOGY

|  |
|--|
| <b>Unexpected or discrepant findings:</b>  |
| Significant disagreement between immediate interpretation and final Fine Needle Aspirate (FNA) diagnosis   |
| Unexpected malignancy including in an uncommon location or specimen type   |
| Significant disagreement and/or change between primary pathologist and outside pathologist consultation (at either the original or consulting institution)                     |
| <b>Infections:</b>   |
| Bacteria or fungi in cerebrospinal fluid cytology in immunocompromised or immunocompetent patients   |
| Pneumocystis, fungi, or viral cytopathic changes in bronchoalveolar lavage, bronchial washing, or brushing cytology specimens in immunocompromised or immunocompetent patients |
| Acid-fast bacilli in immunocompromised or immunocompetent patients   |
| Fungi in Fine Needle Aspirate (FNA) of immunocompromised patients  |

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