



Lethbridge and Area Critical Value Results (CVR)

CHEMISTRY

ANALYTE		UNITS	CRITICAL VALUE(S)
Acetaminophen		umol/L	>250
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	>65
Digoxin	Adult >6h post dose	nmol/L	>2.6
Ethanol		mmol/L	>65
Gentamicin	Trough	mg/L	>1.9
	Post		>14.9
	Other		>14.9
	Interval		>10.9
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)	0-3 months	umol/L	>80
	>3 months		>120
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
Salicylate		mmol/L	>2.2
Sodium		mmol/L	<120 or >155
Tobramycin	Trough	mg/L	>1.9
	Post		>14.9
	Interval		>14.9
Troponin T		ng/L	>52
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

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 ⁹ /L	<0.6 or >99.9
	Newborn	x 10 ⁹ /L	<0.6 or >99.9
Platelet Count		x 10 ⁹ /L	< 20
Neutrophils		x 10 ⁹ /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)	All gram stain results (positive, negative and unable to test) Positive culture
Bacteria	Positive Acid fast bacilli stain (ZN, AR) or culture
Blood Culture	Positive gram stain Positive preliminary culture
Eye cultures - other	Positive culture for Neisseria gonorrhoeae Positive culture for Pseudomonas aeruginosa
Eye cultures – sterile (vitreous, corneal scrapings)	Positive gram stain Positive culture
RSV / Influenza A and/or B / COVID-19	Positive result on Inpatients and transplant patients
Sterile Body Sites (sterile fluids and tissues)	Positive gram stain Positive culture

CRITICAL DIAGNOSES FOR SURGICAL PATHOLOGY

Cases that have immediate clinical consequences:
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
Unexpected or discrepant findings:
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)

Infections:
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

Unexpected or discrepant findings:
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)
Infections:
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