

Critical Laboratory Test Results – British Columbia

LifeLabs is committed to the confidential timely release of accurate results consistent with the requirements of our patients, Health Care Providers (HCP) and public health.

A critical value is identified as a result that may indicate that a patient is in a life-threatening condition in which immediate medical action is necessary. These critical reporting limits have been defined specifically for a community laboratory environment and are based on published literature as well as laboratory experience.

Laboratories are obligated to communicate laboratory critical results. The ordering Health Care Provider has the professional responsibility to receive critical laboratory results. The Health Care Provider must provide the laboratory with contact information, which allows direct telephone communication of critical results to the HCP (or delegate providing coverage during absences) both during and after office hours. Health Care Providers can contact LifeLabs at 604-431-7206 or toll free 1-800-431-7206 to provide contact information or to update existing contact information.

Laboratory test results defined as critical are communicated as soon as they are available to the ordering physician 24 hours a day.

Recurrent Critical Values

There may be situations when a markedly abnormal result is not unexpected. Certain critical values may be frequently expected in certain types of specialist practice. Under these circumstances an exception to the critical result calling protocol may be made; subject to approval by the LifeLabs Medical Director. The HCP must complete the *Doctors Special Handling Request Form*. Contact LifeLabs at 604-431-7206 or toll free 1-800-431-7206 for more information.

Reporting Exceptions: Microbiology

When a preliminary report which is considered critical is successfully communicated by the laboratory, further preliminary and the final microbiology report will not be communicated as a second critical value. It is the responsibility of the ordering Health Care Provider to obtain additional information from the final report to confirm the appropriateness of treatment.

Critical Values are updated periodically and may change without notification. Critical values on the patient report are deemed to be correct.

Chemistry and Urinalysis Routine			
Test	Low Critical	High Critical	Units
AM Cortisol	<100 if <1 y		nmol/L
Bilirubin		>260 if <4 d >290 if ≥4 d and ≤28 d	µmol/L
Calcium, Total	<1.50	>3.25	mmol/L
Calcium, Ionized	<0.80	>1.60	mmol/L
CO2	<10	>40	mmol/L
Glucose	<2.5	>11.1 if <17 y >30.0 if ≥17 y	mmol/L
Lactate		>4.00	mmol/L
Magnesium	<0.3	>3.0	mmol/L
Phosphate	<0.32		mmol/L
Potassium	<2.8	>6.5 if <3 m >6.2 if ≥3 m	mmol/L
Sodium	<120	>160	mmol/L
Troponin		>50.0	ng/L
TSH		>10 if <1 y	mU/L
Urinalysis Glucose and Ketones		Glucose ≥28 if ≤29 y Ketones ≥2	mmol/L

Chemistry Therapeutic Drug			
Test	Low Critical	High Critical	Units
Carbamazepine		>65	µmol/L
Digoxin		>3.5	nmol/L
Lithium		>2.0 if <66 y >1.0 if ≥66 y	mmol/L
Phenobarbital		>260	µmol/L
Phenytoin		>120	µmol/L
Theophylline		>110	µmol/L
Valproic Acid		>1000	µmol/L

Hematology and Coagulation					
Test	Low Critical		High Critical		Units
Hemoglobin	<80	if 1d – 29 d	>250	if 1d – 29 d	g/L
	<60	if >30 d	>200	if > 30 d	
Platelet count	<20				10 ⁹ /L
Neutrophils	<0.5		>99.9		10 ⁹ /L
Lymphocytes			>300		10 ⁹ /L
PT (INR)			>6.0		
PTT			≥70		sec
Fibrinogen	<0.80				g/L
Joint Fluid Neutrophils			>25,000		mega/L
Blood Film Review	New findings of malaria				

Microbiology List of Results Phoned (alphabetical order)
<i>Aeromonas</i> spp.
Bioterrorism or biosafety level 3 organisms (potential)
<i>Campylobacter</i> spp.
Carbapenemase-producing Enterobacteriaceae
<i>Chlamydia trachomatis</i>
<i>Clostridium difficile</i> (positive by NAAT)
<i>Clostridium perfringens</i>
<i>Corynebacterium diphtheriae</i> from eye, nose and throat
<i>Cryptosporidium</i> species
<i>Cyclospora</i> species
<i>Cystoisospora</i>
<i>Entamoeba histolytica/dispar</i>
<i>E. coli</i> O157 or ST-pos <i>E. coli</i>
Enteroinvasive <i>E.coli</i>
<i>Giardia lamblia</i>
Group A Streptococcus from non-sterile sites
MRSA (confirmed: first time isolated from a non-screen site)
<i>N. gonorrhoeae</i>
<i>N. meningitidis</i> from eye
<i>Plesiomonas</i> spp.
Positive <i>Chlamydia trachomatis</i> / <i>N. gonorrhoeae</i> , Trichomonas for patients < 16 years from any site
<i>Pseudomonas aeruginosa</i> from eye
<i>Salmonella</i> spp.
<i>Sarcoptes scabiei</i>
<i>Shigella</i> spp.
Sterile site (blood culture, joint fluid, etc) - positive Gram stain or culture
Strongyloides (only new cases, i.e. not positive before)
<i>Vibrio cholerae</i>
VRE
VRSA
<i>Yersinia enterocolitica</i>

References:

- ISO 15189:2012 clause 5.9.1b
- College of Physicians and Surgeons of British Columbia Practice Standard: Care Coverage Outside of Office Hours Version 5.0 June 4, 2018