1. **Critical Alert Notification:**

A critical value is defined as a value that presents a Patho-physiological state at such variance with normal or expected values that it is considered life threatening unless a corrective action is undertaken. Critical values do not necessarily correspond with normal reference ranges, toxic range or therapeutic ranges but are based on level at which medical action is considered necessary. All possible critical value limits will be informed within 60 minutes to the concerned client/ customer's representative.

SPL will document all informed critical values and verification of the "read back" of these values. The documentation includes the name of the laboratory individual placing the call, the first initial, last name and professional title of the clinical individual who was notified, the date and time at which the notified individual read back the critical values. Any problem, including refusal to accept the values, that may be encountered in making the call in a timely manner is recorded in the comments field.

Upon completion of the critical value notification, the doctor or the listener **Must** verbally read back **ALL** of the reported critical values(s) and properly identify themselves (at minimum with the first initial of their name and their entire last name), **including their professional title (MD, LVN, RN, NP, PharmD)**.

"Request the doctor or the listener to "Please read back the critical value and Patient name / age/ sex/ barcode + registration number that I just reported to you, and please provide me with your name and professional title".

All clients/ customers nominated representative are requested to comply with the critical alert notification and the read back policy of the laboratory. Critical values for all the departments are listed below and the same are decided in consultation with the prescribing physicians.

CRITICAL VALUES-CLINICAL BIOCHEMISTRY

Sr. No.	Parameter	Units	Lower Limit	Upper Limit	Comments
1	Albumin (1-12 Years)	g/dL	1.7	6.8	Serum or Plasma
2	Ammonia (1-12 Years)	µmol/L	-	109	Plasma
3	Bilirubin (0-1 month)	mg/dL	-	15	Serum or Plasma
4	Calcium	mg/dL	6.0	13	Serum or Plasma
5	Calcium (1-12 Years)	mg/dL	6.5	12.7	Serum or Plasma
6	Calcium,ionized	mmol/L	0.75	1.6	Plasma
7	Corbon dioxide ,total	mmol/L	10	40	Serum or Plasma
8	Chloride	mmol/L	80	120	Serum or Plasma
9	Creatinine	mg/dL	-	5.0	Serum or Plasma
10	Creatinine. (1-12 Years)	mg/dL	-	3.8	Serum or Plasma
11	Glucose	mg/dL	40	450	Serum or Plasma
12	Glucose (1-12 Years)	mg/dL	46	445	Serum or Plasma
13	Glucose , (0-1 month)	mg/dL	30	325	Serum or Plasma
14	Glucose CSF	mg/dL	40	200	CSF
15	Glucose CSF (1-12 Years)	mg/dL	31	-	CSF
16	Lactate	mmol/L	-	3.4	Plasma
17	Lactate (1-12 Years)	mmol/L	-	4.1	Plasma
18	Magnisium	mg/dL	1.0	4.7	Serum or Plasma

19	Osmalality	mOsm/kg	250	325	Serum or Plasma
20	Phophorus	mg/dL	1.0	8.9	Serum or Plasma
21	Potassium	mmol/L	2.8	6.2	Serum or Plasma
22	Potassium (0-1 month)	mmol/L	2.8	7.8	Serum or Plasma
23	Protein (1-12 Years)	g/dL	3.4	9.5	Serum or Plasma
24	Protein CSF (1-12 Years)	mg/dL	-	188	CSF
25	Sodium	mmol/L	120	160	Serum or Plasma
26	Urea Nitrogen	mg/dL	-	80	Serum or Plasma
27	Urea Nitrogen (1-12 Years)	mg/dL	-	55	Serum or Plasma
28	Uric acid	mg/dL	-	13	Serum or Plasma
29	Uric acid (1-12 Years)	mg/dL	-	12	Serum or Plasma

Reference: TEITZ Textbook of Clinical Chemistry and molecular Diagnostics, 4th edition, page No.2317-8

CRITICAL VALUES FOR CLINICAL PATHOLOGY

Sr. No.	Parameter	Critical Alert Values	When to call
1.	Urine Routine	**Microscopic:** Presence of pathological crystals (Urate, cysteine, Leucine or tyrosine). **Chemical:** Strongly positive glucose and ketones abnormality.	1st time same day

Test		Units	Lower Limit	Upper Limit	Comments
Hematocrit	Adult	%	20	60	First Report Only
	Newborn	%	33	71	
Hemoglobin	Adult	g/dL	7	20	First Report Only
	Newborn	g/dL	10	22	
WBC	Adult	$\times 10^3$ /µL	2.0	30	First Report Only
	Newborn	$\times 10^3$ /µL	2.0	43	
Platelets		$\times 10^3$ /µL	40	1000	
Blasts	Any seen (first report only)				
Drapanocytes	Presence of sickle cells or aplastic crisis				
Cerebrospinal Fluid					
WBC (0-1yr)	Cells per µL	-	>30		
WBC (1-4 yr)	Cells per µL	-	>20		
WBC (5-7 yr)	Cells per µL	-	>10		
WBC (>17 yr)	Cells per µL	-	>5		
Malignants cells, blasts, or microorganisms		Any	Applies to other sterile body fludies		

References: TIETZ Textbook of clinical Chemistry and molecular Diagnostic 4th edition, page No 2317-18

CRITICAL VALUES FOR IMMUNOLOGY

Parameter	Critical Alert values
Cryptococcus Antigen	**Positive**

CRITICAL VALUES FOR MICROBIOLOGY

Parameter	Critical Alert values
Blood culture	Positive
Cerebro Spinal fluid gram stain or culture	Positive
Sreptococcus pyogenes (Group A Streptococcus) in surgical wound	Positive
Gram stain suggestive of gas gangrene	Positive
Detection of a significant pathogen (VSRA)	Positive
Negative stain in CSF	Positive

CRITICAL VALUES FOR HISTOPATHOLOGY

Parameter	Critical Alert values
Biopsy Specimens	• Fat in colonic Polypectomies • Uterine contents in pregnancy woman without villi/trophoblastic tissue • Fat in endometrial curettage • Leucocytoclastic vasculitis • Suspected Pemphigus. • Neoplasm causing paralysis • Unexpected or discrepant findings. • Unexpected malignancy. • Significant disagreement and /or change between primary and outside Pathologist consultation. • Presence of secondaries in bone marrow biopsy (At either at original or consulting institution)
Cytopathology Specimens	• Known primary malignancy, new diagnosis of metastasis. • New diagnosis of high-grade squamous intraepithelial lesion • The finding of organisms (bacteria and fungi) in non-gynecologic specimens • Bacteria or fungi in CSF Cytology in immuno comprised patient. • Pneumocystis, fungi, or viral cytopathic changes in

	Branchoalveolar Lavage (BAL), Bronchial washing brush cytology specimens in immuno comprised or immune competent patients. • Fungi in FNA of immune comprised patients. • Herpes in PAP smear of near team pregnant patients.