

UCSF Clinical Laboratories Critical and Subcritical Values Policy (Last updated 10-17-22):

In collaboration with the clinical services, the following UCSF Clinical Laboratory results have been determined to represent a possible immediate threat to life and, as such, will be telephoned to the ordering physician's office or nursing unit whenever found.

Due to the potentially critical nature of these reports, critical results for hospital units will only be given to a licensed individual (e.g. MD, RN, NP, PA). For ambulatory clinics (including the ED), critical values will preferably be provided to a licensed individual, however, if none is immediately available the result may be reported to other clinic staff. If the recipient is not a physician or nurse, who can immediately act on the critical value he/she assumes responsibility to notify a physician or other caregiver who can immediately respond to the result. The clinical laboratory staff will ask the recipient to read back and confirm the result(s) we provide and will document this in the computer.

If a critical result is obtained for a clinic patient after the clinic has closed, we will notify the individual on-call for the clinic.

The list below includes testing performed by the UCSF Clinical Laboratories; however, if we receive a critical result from a reference laboratory it will be handled in the same way as an in-house critical result and immediately relayed to an appropriate care provider. Please refer to the relevant reference laboratory's test menu for further information on their respective critical value policy.

CHEMISTRY CRITICAL VALUES

Acetaminophen	>50 mg/L
Ammonia	>150 µmol/L (only in patients <18 years old)
Base excess	< -10 (cord samples only)
Bilirubin, total	Only applicable for infants < 30 days old: 0 days: > 6 mg/dL 1 day: > 9 mg/dL 2 days: > 12 mg/dL 3 days: > 15 mg/dL 4 days: > 18 mg/dL 5-30 days: > 21 mg/dL Note: Repeat critical values within 30 days of an initial critical report will not be called.
Calcium, Ionized**	<0.80 or >1.55 mmol/L
Calcium, Total	<6.5 or >13.5 mg/dL
Carbamazepine	>15 mg/L
Carboxyhemoglobin	≥5.0%
CO ₂ , Total	<15 or >40 mmol/L
Digoxin	>2.0 µg/L
Glucose, CSF	<30 mg/dL
Glucose, serum	<50 or >500 mg/dL
-for neonates	<30 or >170 mg/dL
Glucose, POCT	<60 or >400 mg/dL

-for neonates	<40 or >150 mg/dL
Lactate	>3.9 mmol/L
Lidocaine	>6.0 mg/L
Lithium	>2.0 mmol/L
Magnesium	<1.0 or >4.5 mg/dL
-for Birth Center	<1.0 or >8.0 mg/dL
Methemoglobin	≥2.0%
Osmolality	<240 or >320 mOsm/Kg
pCO ₂ , Arterial	<25 or >65 mmHg
pCO ₂ , Venous	>75 mmHg
pH, Arterial	<7.20 or >7.55
pH, Venous	<7.20
pH, Cord blood	<7.0
Phenobarbital	>50 mg/L
Phenytoin	>30 mg/L
Phosphorus	<1.0 mg/dL
pO ₂ , Arterial	<40 mmHg
-for neonates	<40 or >100 mmHg
Potassium	<3.0 or >6.0 mmol/L
Procainamide*	≥14 mg/L
Salicylate	>35 mg/dL
Sodium	<125 or >155 mmol/L
Theophylline	>30 mg/L
Troponin I ***	≥0.05 µg/L***
- Mt Zion POCT	>0.08 µg/L
Valproic Acid	>150 mg/L

** Panic results from post-filter samples will not be phoned

*** The first elevated troponin for a patient will be called. Subsequent elevated Troponin levels for the same patient in the next 72 hrs after the initial report will not be called.

HEMATOLOGY CRITICAL VALUES

Absolute Neutrophil Count (ANC)	see Neutrophils below
Argatroban	> 2.0 µg/mL
Cell Count & Differential Body Fluid	Samples positive for microorganisms from normally sterile sites
Fibrinogen	≤100 mg/dl if new finding within previous 24 hours ≤50 mg/dL is always phoned
Fondaparinux	>1.26 µg/mL
Hematocrit, Spun	< 25% (all ages) or > 67% (0-14 days old) or >65% (≥ 15 days old)
Hemoglobin (includes POCT)	≤7.0 g/dL
Heparin, Unfractionated	> 0.7 Anti-Xa U/mL

Heparin, Low Molecular Weight	> 2.0 U/mL
INR (includes POCT)	≥5.0
Peripheral Smear	Blasts ≥20% (first time) Microorganisms identified
Platelets	≤25,000 /μL (25 x10 ⁹ /L)**
Neutrophils (ANC)	≤1,000 /μL (1.0 x10 ⁹ /L)**
PTT	≥60 sec* (<i>does not apply to infants < 6 days old, ie. 0-5 days</i>)
Rivaroxaban	>500 ng/mL
WBC	≤1,500 or ≥100,000 /μL (<1.5 or >100 x10 ⁹ /L)**

* PTT results from 60.0-79.9 seconds are phoned only if no previous critical value in last 24 hours; PTT ≥ 80.0 seconds are always called

** Platelet results from 11-25 x10⁹/L are phoned only if no previous critical value in the last 24 hours. Platelet counts <10 x10⁹/L are always called.

*** WBC and ANC criticals are not called if a prior critical value was reported in the preceding 24 hours.

MICROBIOLOGY CRITICAL VALUES

(established in collaboration with the Infectious Disease Management Program Committee) The Microbiology and Virology Laboratories will call initial results for life-threatening infections and those that are of public health concern. All results are promptly entered into the laboratory information system and are available in the electronic health record.

Critical Results - Microbiology	
Bacteriology	Positive Gram stains of samples from normally sterile sites (first positive smear only)
	All STAT Gram stains (positive and negative) from the OR
	¹ Blood Cultures: only Gram stain results from the first positive blood culture for each patient (called again if a different organism is isolated on same or subsequent culture or if >7 days since last call)
	Positive CSF Cultures
	Positive USP Sterility cultures
	<i>Bordetella</i> spp
	Botulism
	<i>Burkholderia mallei</i> or <i>B. pseudomallei</i>
	<i>Corynebacterium diphtheria</i>
	<i>E.coli</i> O157:H7
	Group B streptococci from patients in Labor and Delivery
	<i>Legionella</i> spp
	<i>Neisseria gonorrhoeae</i> from sterile sites
	<i>N.meningitidis</i> from sterile sites
<i>Salmonella typhi</i> , <i>S.paratyphi A</i> , or <i>S. cholera-suis</i>	

	<i>Vibrio cholerae</i>
Mycology	Biphasic fungi (e.g. <i>Coccidioides immitis</i>)
	Positive Cryptococcal antigen
	Zygomycetes (e.g. mucormycosis)
	Positive fungal culture on CSF
	Positive fungal culture on a sample submitted for sterility testing
Parasitology	Parasites from normally sterile sites
	<i>Entamoeba histolytica</i> , except from stool or intestinal specimens
Virology/ Molecular Micro	Enterovirus from CSF
	HSV from CSF
	VZV from CSF

¹ Results for inpatient and patients currently in the ED only. After hours (outside 08:00-17:00), outpatient results will be phoned the following morning.

SUBCRITICAL VALUES

In addition, the results of some tests, while not immediately life threatening, are considered to pose a significant risk if not addressed in a timely fashion (i.e. subcritical values). While these results are readily available to UCSF providers through the APeX EMR, the UCSF Clinical Labs makes every effort to also communicate these results to outside (non-UCSF) providers within one business day:

IMMUNOLOGY SUBCRITICAL VALUES:

- Rapid Protein Reagin (RPR)
- Hepatitis B surface Antigen (confirmed positives)
- Hepatitis B core IgM antibody
- Hepatitis C antibody
- Hepatitis A IgM antibody
- HIV (confirmed positives)
- VDRL, CSF
- Coccidioides immitis* antibody

CHEMISTRY SUBCRITICAL VALUES:

- Triglyceride levels greater than 2000 mg/dL

MICROBIOLOGY SUBCRITICAL VALUES:

- Positive cultures from sterile sites (not including blood and CSF which are 'critical' values)
- Diseases reportable to San Francisco Department of Public Health
- CMV quantitative PCR