

UCSF Clinical Laboratories Critical and Subcritical Values Policy (Last updated 9-18-18):

In collaboration with the clinical services, the following 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.

If the UCSF Clinical Laboratory receives 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.

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
Ethosuximide*	>150 mg/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 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
Primidone*	>15 mg/L
Procainamide*	≥14 mg/L
-or Procainamide + NAPA total	>30 mg/L
Quinidine*	≥10 µg/mL
Salicylate	>35 mg/dL
Sodium	<125 or >155 mmol/L
Theophylline	>30 mg/L
Troponin I ***	≥0.05 µg/L ***

- Mt Zion POCT	>0.80 µg/L
Valproic Acid	>150 mg/L

* Reference lab test

** 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 (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* (does not apply to infants < 6 days old, ie. 0-5 days)
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.

All STAT gram stain requests on specimens from the OR will be called.

In addition, the following results will be called:

BACTERIOLOGY

Positive Gram stains of samples from normally sterile sites; first positive smear only
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
Stool cultures positive with <i>E coli</i> O157:H7, <i>Vibrio cholerae</i> , <i>Salmonella typhi</i> , <i>Salmonella paratyphi A</i> or <i>Salmonella cholerasuis</i> *
Shiga toxin detected*
Positive USP Sterility cultures
<i>Bacillus anthracis</i>
<i>Bordetella spp.</i> DNA detected by PCR
Botulism
<i>Brucella spp.</i>
First <i>Burkholderia cepacia</i> isolate on a CF patient
<i>Burkholderia mallei</i> and <i>pseudomallei</i>
<i>Corynebacterium diphtheriae</i>
<i>Franciscella tularensis</i>
Group B streptococci from patients in Labor and Delivery
<i>Legionella spp.</i>
<i>Neisseria gonorrhoeae</i> from sterile sites
<i>Neisseria meningitidis</i> from sterile sites
<i>Yersinia pestis</i>

* **Inpatient results only. After hours outpatient results will be phoned the following morning.**

MYCOBACTERIOLOGY*

First positive AFB smear; first positive AFB culture if smear negative or no smear; first isolate of <i>M. tuberculosis</i> ; positive <i>M. tuberculosis</i> PCR (called again if subsequent positive specimen is from a different site or if >2 months since last call)
Positive AFB culture on CSF

* **Inpatient results only. After hours outpatient results will be phoned the following morning.**

MYCOLOGY

Biphasic fungi isolated (e.g., <i>Coccidioides immitis</i>)
Zygomycetes (e.g., mucormycosis)

KOH if <i>C. immitis</i> spherules present or non-septate hyphae suggestive of Zygomycetes
Positive fungal culture on CSF
Positive CSF cryptococcal antigen
Positive fungal culture on samples submitted for sterility testing

PARASITOLOGY

Parasites identified from normally sterile sites
Entamoeba histolytica, except from stool or intestinal specimens

VIROLOGY

Positive <i>Clostridium difficile</i> toxin assay from inpatients & patients currently in the ED
Positive VZV DFA from inpatients & patients currently in the ED
HSV from CSF
VZV from CSF
Influenza A and B from inpatients & patients currently in the ED
RSV from inpatients & patients currently in the ED
Enterovirus from CSF

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