

**THE JOHNS HOPKINS MEDICAL INSTITUTIONS
CRITICAL ACTION VALUES**

Critical Action Values (CAV) By Laboratory

AUTOPSY DIVISION:

Meningococcal infections

Previously unsuspected child abuse (Notify police and ward staff, as well as Medical Examiner, since other children may need to be removed from the home.)

CHEMISTRY: Results are ALWAYS CALLED, except where NOTED OTHERWISE:

<u>TEST</u>	<u>UNDER</u>	<u>OVER</u>	<u>UNITS</u>
Ammonia	n/a	100 – <i>call every 72 hrs</i>	umol/L
Bicarbonate	15	40 – <i>call 1x/wk</i>	mEq/L
Bilirubin – Newborn 0-7 days	n/a	20	mg/dL
BUN	n/a	100 – <i>call 1x/wk</i>	mg/dL
Calcium	6.0	13.0	mg/dL
Calcium, ionized	0.9	1.55	mmol/L
Creatinine	See separate algorithms, page 8.		
CK-MB Index	n/a	>4% ¹	
Glucose – Inpatient	60	600	mg/dL
Outpatient	50	400	mg/dL
Newborn 0-7 days	35	600	mg/dL
Magnesium	1.0	4.0	mEq/L
Phosphorous	1.0	n/a	mg/dL
Potassium	3.0	6.1	mEq/L
Sodium	120	160	mEq/L
Troponin I	n/a	>0.50 ¹	ng/mL
pH (28d – adult)	7.25	7.55	
PO ₂ (28d – adult)	55	n/a	mmHg
PCO ₂ (28d – adult)	25	58	mmHg
pH (≤ 28 days)	7.19	7.50	
PO ₂ (≤ 28 days)	40	n/a	mmHg
PCO ₂ (≤ 28 days)	25	70	mmHg
hCG, Urine, Qualitative ²	Positive		

¹ Only first value during an Adult ED admission or clinic visit is called; Coronary Care Unit (CCU-5) excluded.

² Adult ED, OB/GYN locations, JH Community Physicians, and non-JH customers exempted and not called.

IMMUNOLOGY DIVISION:

Serology:

- RPR: Reactive in mother's serum sent from Labor & Delivery
- VDRL: Reactive CSF

DRUG ASSAY LAB:

	<u>OVER</u>
Acetaminophen	50 mg/L
Alcohols	
Ethanol ³	300 mg/dL
Isopropanol	Any detected
Methanol	Any detected
Amobarbital	10 mg/L
Butalbital	10 mg/L
Carbamazepine	15 mg/L
Cyclosporine	1000 ng/mL
Digoxin	2.5 ng/mL
Lidocaine, serum	10 mg/L
Lidocaine, epidural	4 mg/L
Lithium	2 mEq/L
Methotrexate	10 micro moles/L
Pentobarbital	10 mg/L
Phenobarbital	50 mg/L
Phenytoin	30 mg/L
Phenytoin, unbound	3 mg/L
Primidone	25 mg/L
Procainamide	20 mg/L
N-Acetylprocainamide	30 mg/L
Procainamide and NAPA	30 mg/L
Quinidine	7 mg/L
Salicylate	300 mg/L
Secobarbital	5 mg/L
Theophylline	30 mg/L
Total Tricyclics	500 ng/mL
Valproic acid	200 mg/L
Vancomycin	80 mg/L
Aminoglycosides	mcg/mL
Amikacin	1 hr post-dose: 35, pre-dose: 10
Gentamicin	1 hr post-dose: 10, pre-dose: 2.5
Tobramycin	1 hr post-dose: 10, pre-dose: 2.5

³Adult ED exempted and not called.

7/6/09

HEMATOLOGY

Oncology Call Protocol

Non-Oncology Call Protocol

<u>Analyte</u>	<u>Age</u>	<u>Value</u>	<u>Inpatients1</u>	<u>Outpatients2</u>	<u>Inpatients</u>	<u>Outpatients</u>
<u>HEME-8</u>						
WBC	<2 weeks	<6000/cu mm			once/72 hrs	every time
	= /> 2 weeks	<1200			once/72 hrs	every time
	all ages	>30,000			once/72 hrs	every time
HGB	0-2 weeks	<12.0 g/dl	every time	every time	every time	every time
	2-4 weeks	<10.0	every time	every time	every time	every time
	4-8 weeks	<8.0	every time	every time	every time	every time
	>8 weeks	<6.0	every time	every time	every time	every time
	all ages	>22.0	once/week	every time	once/week	every time
HCT	all ages	<18.0%	every time	every time	every time	every time
		>60.0	once/week	every time	once/week	every time
PLTS	all ages	<30K/cu mm			once/72 hrs	every time
		<10K	once/72 hrs	every time	once/72 hrs	every time
NEUTRO #	all ages	<500/cu mm			once/72 hrs	every time
ANC	all ages	<500/cu mm			once/72 hrs	every time

1 Includes patients on WGA-5, WGB-5, WGC-5, WGD-5, WGB-4, CMC-8 (pediatric onc. patients may be on other ped. units)

2 Includes patients in 257, 379, 383, 393, 449, GSONC clinics

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Oncology Call Protocol

Non-Oncology Call Protocol

<u>Analyte</u>	<u>Age</u>	<u>Value</u>	<u>Inpatients</u> ³	<u>Outpatients</u> ⁴	<u>Inpatients</u>	<u>Outpatients</u>
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MANUAL / ELECTRONIC DIFF

BANDS	all ages	>10%			once/week	every time
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BLASTS	all ages	>1.0%			once/72 hrs	every time
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CSF DIFF

CSF POLY-MORPHS	all ages	>3/cu mm	every time	every time	every time	every time
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CSF MONO-NUCLEARS	<2 weeks =/>2 weeks	>30/cu mm >5	every time every time	every time every time	every time every time	every time every time
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COAGULATION

INR	all ages	>5.0	every time	every time	every time	every time
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APTT	all ages	>79.9 sec	every time	every time	every time	every time
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URINALYSIS

KETONES	all ages	Positive	every time	every time	every time	every time
MYOGLBN	all ages	Positive	every time	every time	every time	every time
PORPHOBIL.	all ages	Positive	every time	every time	every time	every time

3 Includes patients on WGA-5, WGB-5, WGC-5, WGD-5, WGB-4, CMC-8 (pediatric onc. patients may be on other ped. units)

4 Includes patients in 257, 379, 383, 393, 449, GSONC clinics

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<u>Analyte</u>	<u>Age</u>	<u>Value</u>	<u>Oncology Call Protocol</u>		<u>Non-Oncology Call Protocol</u>	
			<u>Inpatients</u> ⁵	<u>Outpatients</u> ⁶	<u>Inpatients</u>	<u>Outpatients</u>
<u>VISCOSITY</u>						
PLASMA/ SERUM VISC.	all ages	>3.0	every time	every time	every time	every time
WHOLE BLD VISCOSITY	all ages	Viscosity equal to that of normal blood with a hematocrit of 60% or higher	every time	every time	every time	every time

5 Includes patients on WGA-5, WGB-5, WGC-5, WGD-5, WGB-4, CMC-8 (pediatric onc. patients may be on other ped. units)

6 Includes patients in 257, 379, 383, 393, 449, GSONC clinics

MICROBIOLOGY:

Positive direct examinations (Gram, calcofluor, fluorochrome, KOH):

All (positive and negative) results from STAT gram stains

All positives from sterile body sites

Any body site positive for: *Legionella*, Pathogenic fungi, Pathogenic parasites, *Pneumocystis*

Antigen tests positives for: viral pathogens, cryptococcal polysaccharide (first time per patient only), *Legionella* urinary antigen, *Giardia* antigen

Positive cultures for:

Transfusion reaction blood specimens

All sterile body sites for bacteria, fungi, mycobacteria and viral pathogens

Any cultures positive for: Specific Pathogenic bacteria: including *Neisseria meningitidis*, *Salmonella*, *Shigella*, *Campylobacter*, *Vibrio*, *Yersinia*, *Aeromonas*, *Enteropathogenic E. coli*

Major Pathogenic fungi including: *Histoplasma capsulatum*, *Blastomyces dermatitidis*, *Coccidioides immitis*, *Cryptococcus neoformans*, *Paracoccidioides brasiliensis*, *Pseudallescheria boydii* (*Scedosporium apiospermum*) and *Aspergillus* spp fro BAL's

All positive molecular detection assays except BKV, HCV, HBV, HPV or STD assays

Microbiology Critical Action Values are divided into Red and Orange Category conditions as defined in the attached table.

Microbiology Critical Action Values – Red/Orange Alerts

Testing Area	Alerting Category	Test	Red Category Conditions	Orange Category Conditions
Microbiology	All Specimens	Positive direct exams	Quellung positives, fluorochrome, DFA Gram stains, calcofluor, KOH from critical body sites All STAT Gram stains, positive or negative	Calcofluor and KOH for filamentous from respiratory sites only
		Positive Sterile Body Sites	From sterile body sites for bacteria, fungi, and Malaria Mycobacterium tuberculosis	Mycobacteria other than tuberculosis and viral pathogens Positive cultures from cornea, tissue, brain, placenta and bone.
		Antigen tests positive for organisms	Viral pathogens, legionella urinary antigen, Strep pneumo urinary ag, cryptococcal polysaccharide first time per patient/source only	Giardia antigen STEC Cryptococcal antigen (repeat positive on same patient, same source)
		Positive cultures from non-sterile sites	Pathogenic bacteria: Bordetella pertussis Pathogenic mycobacteria: Mycobacterium tuberculosis	Pathogenic bacteria: Neisseria meningitidis from pediatric respiratory sites and adult sputum Salmonella, Shigella, Vibrio, Campylobacter, Yersinia, Aeromonas, STEC, Legionella Pathogenic parasites, Pneumocystis Mycobacteria other than tuberculosis TB susceptibilities on resistant organisms only Pathogenic fungi first time only: Histoplasma capsulatum, Blastomyces dermatitidis, Coccidioides immitis, Cryptococcus neoformans, Paracoccidioides Pseudallescheria boydii and Aspergillus spp from BAL's (first time per patient)
		Positive molecular assays	CMV, HSV, Parvo B19, Enterovirus, Ehrlichia, JC, EBV, VZV, Adenovirus, Mycoplasma, Legionella, Chlamydia pneumonia Bordetella pertussis, CMV genotype	

TRANSFUSION MEDICINE:

Evidence of an acute hemolytic transfusion reaction or a septic transfusion reaction.

Serum Creatinine Critical Action Value Algorithms:

Critical Action Values are determined by the Pathology Data System lab computer using the following algorithms:

1. No previous creatinine at Hopkins OR last previous creatinine >6 months ago at Hopkins not above the reference range AND creatinine of (See **Table 1**) or greater.

Table 1. Age Based Insertion Values for Algorithm 1

0-28 Days	1.4	mg/dL
29 Days – 24 Months	1.0	mg/dL
25 Months – 11 Years	1.1	mg/dL
12 Years – 18 Years	1.4	mg/dL
19 Years and Up	1.8	mg/dL

2. Previous creatinine ≤ 2.0 within last 6 months AND increase of more than 0.5.
3. Previous creatinine > 2.0 within last 6 months AND increase of more than 50%.

For Outpatient Locations Only:

Do not call back creatinine CAV's after 5:00 P.M. Call by 11:00 A.M. next day.

Note: At the request of unit Directors, some locations do not participate in creatinine CAV determinations. The complete list of these locations exists in the Core Lab Creatinine procedure.