

ALLINA HEALTH LABORATORY

Memo

To: Allina Health Laboratory outreach clients

From: Allina Health Laboratory outreach services

Date: December 28, 2022

Re: Updated Results that Require Action

Allina Health Laboratory has reviewed and updated the Results that Require Action list that will go into effect January 3, 2023. This will replace the current document listed on the [Reference ranges/Critical values - Allina Health Laboratory](#).

Allina Health laboratory staff will make the required result calls per this list. Results that were once deemed “courtesy calls” have been eliminated and are no longer documented by laboratory staff.

Included in this message is the revised version.

If you have any questions about this transition, please contact your Allina Health Laboratory Account Representative.

Results that require action

CHEMISTRY

Test name/number	Age/sex	Low	High
Ammonia 27			>110 µmol/L
Bilirubin, total 46	<17 yrs		> 14.9 mg/dL
Calcium 56		< 6.0 mg/dL	> 13.0 mg/dL
Calcium, ionized 8141		< 0.80 mmol/L **Excludes POCT	> 1.55 mmol/L **Excludes POCT
CK, Total 80			> 1500 IU/L ambulatory only
CO2 (bicarbonate) 73		< 10 mmol/L	> 40 mmol/L
Creatinine 82	< 4 yrs		> 1.5 mg/dL
	5 – 9 yrs		> 2.4 mg/dL
	10 – 14 yrs		> 3.0 mg/dL
	15 yrs - Adult		> 7.0 mg/dL ambulatory only
*Glucose, newborn	0 – 4 hrs	< 35 mg/dL	>300 mg/dL
*Glucose, pediatric	5 hrs- 17 yrs	<54 mg/dL	>400 mg/dL
*Glucose, adult	>18 yrs	<54 mg/dL	>500 mg/dL
Glucose, CSF 9110		< 40 mg/dL	> 250 mg/dL
Lactate, venous 12616			>2.0 mmol/L (First time in 24 hour) **Excludes POCT
Lactate, arterial 12603			>1.8 mmol/L (First time in 24 hour) **Excludes POCT
Magnesium 175		< 1.2 mg/dL	> 5.9 mg/dL
Phosphorous 205		< 1.0 mg/dL	> 10.0 mg/dL
Potassium 211		< 2.8 mmol/L	> 6.0 mmol/L
Sodium 233		<120 mmol/L	>160 mmol/L

* No call if collected within 30 minutes of a glucose meter result.

**Examples of Point-of-Care Testing (POCT) include iSTAT testing within the emergency department and hospital units. POCT does NOT include urgent care and ambulatory clinic laboratories. Point-of-Care Testing (POCT) is defined as tests designed to be used at or near the site where the patient is located, that do not require permanent dedicated space, and that are performed outside the physical facilities of the clinical laboratories.

Results that require action

BLOOD GASES AND CO-OXIMETRY

Test name	Age/sex	Low	High
pH, cord (arterial/venous)		<7.00 **Excludes POCT	
Base excess, cord (arterial/venous)		≤ -16 **Excludes POCT	
pH		<7.20 **Excludes POCT	>7.60 **Excludes POCT
pO ₂ , arterial		<40 mmHg **Excludes POCT	
pCO ₂		<20 mmHg (First time in 24 hour) **Excludes POCT	>70 mmHg (First time in 24 hour) **Excludes POCT
Bicarbonate HCO ₃ (Art/venous)		<11 mmol/L (First time in 24 hour) **Excludes POCT	
Carboxyhemoglobin			>20 %

BLOOD BANK

Emergency issuance of blood – crossmatch is subsequently positive	Urgently called
Inability to procure blood or blood components	

COAGULATION

Test name/number	Age/sex	Low	High
APTT, newborn 490	0-28 days		> 60 seconds
APTT, inpatient 490			>149 seconds
APTT, ambulatory 490			>60 seconds
Factor X Chromogenic 5767		<10%	

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Results that require action

COAGULATION *continued*

Test name/number	Age/sex	Low	High
Fibrinogen 101		<100 mg/dL	
Heparin antibodies 8771 8775			Positive, indeterminate
INR 487	0 – 2 months		> 1.3
	3 – 5 months		>1.7
	6 months - adult		>6.0

HEMATOLOGY

Test name	Age/sex	Low	High
Anaplasma/Ehrlichia			Any seen
Hemoglobin	0 – 7 days	<13.5 g/dL <small>**Excludes POCT</small>	>24 g/dL <small>**Excludes POCT</small>
	8 – 30 days	<7.0 g/dL <small>**Excludes POCT</small>	>24 g/dL <small>**Excludes POCT</small>
	≥ 31 days	<7.0 g/dL <small>**Excludes POCT</small>	>20 g/dL <small>**Excludes POCT</small>
Platelet count		<20,000 /mm ³	>1 million
White blood cell count	0 – 28 days	<5.0 x 10 ³ /mm ³	>35.0 x 10 ³ /mm ³
	≥ 29 days	<1.0 x 10 ³ /mm ³	>50.0 x 10 ³ /mm ³
White blood cell count, CSF			>25 /mm ³

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Results that require action



MICROBIOLOGY

Organism/Test	Result
Test Results	
Clostridium difficile toxin PCR	Positive or invalid Inpatients only
Cryptococcal antigen, CSF	Positive
Meningitis/Encephalitis (ME) Pathogen Multiplex PCR panel, CSF	Positive or invalid
Mycobacterium TB PCR	Positive or invalid
Streptococcus pneumoniae antigen positive, CSF only	Positive (CSF only)
Shiga toxin, stool PCR (E. coli O157:H7)	Positive
Vibrio, stool PCR	Positive
Gram stain and cultures	
Amniotic fluid	Positive/ growth (First time only)
Blood	
Bone Marrow	
Normally sterile explanted hardware such as pacemaker, screws, and plates	
CSF	
Normally sterile deep tissue such as brain/heart/liver	
Normally sterile body fluids	
Eye - vitreous fluid, cornea, surgical eye specimens (excluding eye swab samples)	Positive/growth (First time only) No lab calls for eye swab cultures.
Highly pathogenic organisms	
Bacillus anthracis	Positive/growth
Blastomyces	
Brucella	
Burkholderia mallei	
Burkholderia pseudomallei	
Clostridium botulinum	
Coccidioides immitis/posadasii	
Francisella tularensis	
Highly significant unusual pathogens (discretion by Micro Technical Advisor)	
Histoplasma capsulatum	
Paracoccidioides	
Yersinia pestis	



Results that require action

MICROBIOLOGY continued

Zygomycete from sinus, eye, nose	Positive/growth (First time only)
MRSA, VRE, ESBL, and Carbapenemase production	First isolation from culture on inpatients only
Acid fast bacilli	Positive/growth (First time only)
Acid fast bacilli on culture	
Acid fast smear positive	
Mycobacterium TB identification	

TOXICOLOGY

Test name/number	Low	High
Acetaminophen 920		>100 µg/mL
Carbamazepine 952		> 15.0 µg/mL
Digoxin 92		> 2.5 ng/mL
Gentamicin, peak 826		> 12.0 µg/mL
Gentamicin, random 832		> 12.0 µg/mL
Gentamicin, trough 827		> 1.5 µg/mL
Lithium 169		> 1.5 meq/L
Phenobarbital 207		> 50 µg/mL
Phenytoin, free 1993		> 3.0 µg/mL If total phenytoin is >30 no call
Phenytoin, total 91		> 30 µg/mL
Salicylate 228		> 35 mg/dL (First time in 24 hour)
Tobramycin, peak 849		> 12.0 µg/mL
Tobramycin, random 833		> 12.0 µg/mL
Tobramycin, trough 829		> 1.5 µg/mL
Valproic acid, free 6539		> 40 µg/mL If total valproic acid is >150 no call
Valproic acid, total 949		> 150 µg/mL

Results that require action



TOXICOLOGY continued

Test name/number		Low	High
Vancomycin, Peak	964		> 60 µg/mL
Vancomycin, Trough	963		>25 µg/mL