

Physician Alert Value (PAV)

ANALYTE	UNIT	REFERENCE RANGE	PHYSICIAN ALERT VALUE (PAV)	Dept.
Blood Analysis				
ALCOHOL, ETHYL	mg/dL	<10	>300	AL
Hematology/Coagulation				
HEMATOCRIT	%	0 – 3 days: 45 – 67 4 – 29 days: 31 – 66 1 month – 4 years: 28 – 40 5 – 13 years: 34 – 49 >13 years (male): 40 – 54 >13 years (female): 37 – 47	<21 & >68 <21 & >60	CI
HEMOGLOBIN	g/dL	0 – 3 days: 14.5 – 22.6 4 – 29 days: 10.0 – 21.5 1 month – 4 years: 9.5 – 13.5 5 – 13 years: 11.5 – 16.0 >13 years (male): 13.5 – 18.0 >13 years (female): 11.5 – 15.0	<7 & >23 <7 & >20	CI
PLATELET COUNT	$\times 10^9$ L	150 – 400	<40 or >1000	CI
WBC	$\times 10^9$ L	0 – 13 years: 6.0 – 17.5 >13 years: 4.0 – 11.0	<1.0 & >100	CI
D-DIMER		Not detected	Detected	CO
FACTOR VIII, IX, XI, XII	%	75 – 150	<5	CO
FIBRINOGEN	mg/dL	185 - 434	<50	CO
INT'L NORMALIZED RATIO		0.90 – 1.12	≥ 8.0	CO
PT	Sec	10.4 – 13.5		CO
PTT	Sec	27.0 – 38.0	≥ 90.0	CO
HEPARIN-PF4 ANTIBODIES (HIT)		Negative	Positive	CO
Maternal Serum Screening				
NEURAL TUBE DEFECTS		Negative	Positive	GE
DOWNS' SYNDROME		Negative	Positive	GE
TRISOMY 18		Negative	Positive	GE

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Chemistry				
ALT (SGPT)	U/L	0 – 1 year: Not established 2 – 18 years: 3 – 30 >18 years (male): 10 – 40 >18 years (female): 7 – 35	>400	AL
AMYLASE	U/L	20 – 120	>200	AL
AST (SGOT)	U/L	0 – 1 year: Not established 2 – 18 years: 2 – 40 >18 years (male): 14 – 40 >18 years (female): 13 – 35	>400	AL
BICARBONATE	mmol/L	22 – 29	<10 & >40	AL
BILIRUBIN	mg/dL	0 – 1 year: Not established 2 – 18 years: 0.3 – 1.2 >18 years: <1.4	>12.0	AL
CALCIUM	mg/dL	0 – 1 year: 7.6 – 11.0 2 – 18 years: 8.4 – 10.5 >18 years: 8.5 – 10.2	<6.0 & >14.0	AL
CALCIUM (IONIZED)	mg/dL	4.8 – 5.5	<3.0 & >7.5	AL
CHLORIDE	mmol/L	0 – 1 year: Not established 2 – 18 years: 99 – 108 >18 years: 98 – 107	<80 & >120	AL
CHOLINESTERASE PLASMA	U/L	3100 – 6500	<2500	AL
CHOLINESTERASE RBC	U/L	6000 – 13000	<3500	AL
CHOLINESTERASE SERUM	U/L	3500 – 7000	<2500	AL
CK	U/L	0 – 1 year: Not established 2 – 18 years (male): <175 2 – 18 years (female): <152 >18 years (male): <195 >18 years (female): <170	>1700	AL
			>1950	
			>1700	

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CREATININE	mg/dL	0 – 1 year: Not established 2 – 18 years (male): 1.0 – 1.4 2 – 18 years (female): 0.8 – 1.3 >18 years (male): 0.9 – 1.3 >18 years (female): 0.6 – 1.1	>7.5	AL
CORTISOL	ug/dL	0 – 23 months (am): 1.0 – 34.0 0 – 23 months (pm): 1.0 – 30.0 2 – 10 years (am): 1.0 – 33.0 2 – 10 years (pm): 1.0 – 24.0 11 – 18 years (am): 1.0 – 28.0 11 – 18 years (pm): 1.0 – 22.0 >18 years (am): 4.3 – 22.4 >18 years (pm): 3.0 – 16.7	<3.0	AL
GLUCOSE	mg/dL	0 – 1 day: 40 – 60 2 days – 1 year: 50 – 80 2 - 14 years: 60 – 100 >14 years: 74 – 106	<30 & >450	AL
			<40 & >450	
IRON	ug/dL	0 – 1 year: Not established 2 – 18 years: 60 – 175 >18 years (male): 65 – 175 >18 years (female): 50 – 170	>280	AL
			>308	
LACTIC ACID	mmol/L	0.50 – 2.22	>3.3	AL
LIPASE	U/L	<45	>500	AL
MAGNESIUM SERUM	mg/dL	0 – 4 months: 1.6 – 2.5 5 months – 6 years: 1.5 – 2.4 7 – 12 years: 1.7 – 2.2 13 – 20 years: 1.6 – 2.3 >20 years: 1.6 – 2.6	<1.4 & >3.2	AL
OSMOLALITY SERUM	mosm/kg	260 – 310	<240 & >321	RIA
PHOSPHORUS (INORGANIC)	mg/dL	0 – 1 year: Not established 2 – 18 years: 2.9 – 5.0 >18 years: 2.7 – 5.0	<1.0 & >10.0	AL
POTASSIUM	mmol/L	0 – 1 year: Not established	<2.8 & >6.2	AL

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		2 – 18 years: 3.0 – 4.3 >18 years: 3.5 – 5.1		
POTASSIUM RBC	mmol/L	55 – 85	>94	TE
SODIUM	mmol/L	0 – 1 year: Not established 2 – 18 years: 138 – 148 >18 years: 136 – 145	<120 & >160	AL
TROPONIN I	ng/mL	<1.5	>3.0	AL
UREA NITROGEN	mg/dL	0 – 1 year: Not established 2 – 18 years: 5 – 11 >18 years: 5 – 15	>50	AL
URIC ACID	mg/dL	0 – 1 year: Not established 2 – 18 years: 2.6 – 6.8 >18 years (male): 2.6 – 6.8 >18 years (female): 2.6 – 6.0	>12.5	AL
Trace and Heavy Metals				
ALUMINUM SERUM	ug/L	<40	>100	TE
ARSENIC URINE	ug/24hr	<50	>150	TE
ARSENIC URINE (random)	ug/L		>150	TE
ARSENIC W.B.	ug/L	<11	>150	TE
CADMIUM URINE	ug/24hr	<3	>15	TE
CADMIUM W.B.	ug/L	<5	>15	TE
LEAD W.B.	ug/dL	<10	<15 years: >20 ≥15 years: >40	TE
LITHIUM SERUM	mEq/L	0.8 – 1.2	>1.5	AL
MAGNESIUM RBC	mmol/L	1.3 – 2.5	<1.0 & >4.0	TE
MANGANESE SERUM	ug/L	0.5 – 2.0	>10	TE
MANGANESE W.B.	ug/L	7 – 16	>30	TE
MANGANESE RBC	ug/L	10 – 60	>60	TE
MERCURY URINE	ug/24hr	<10	>35	TE
MERCURY URINE (random)	ug/L		>35	TE

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MERCURY W.B.	ug/L	<5	≥40	TE
SELENIUM SERUM	ug/L	80 – 150	>500	TE
Therapeutic Drugs				
ALPRAZOLAM	ng/mL	10 – 40	>60	SC
AMIKACIN	ug/mL	peak: 20 – 25 trough: 1.0 – 8.0	>45	AL
AMIODARONE	ug/mL	0.5 – 2.0	>2.5	SC
AMITRIPTYLINE + NORTRIPTYLINE	ng/mL	100 – 250 (A + NT)	>500 (A + NT)	SC
CARBAMAZEPINE	ug/mL	4 – 12	>20	AL
CHLORDIAZEPOXIDE	ng/mL	500 – 1000	>5000	SC
CLOMIPRAMINE + DESMETHYLCLOMIPRAMINE	ng/mL	302 – 795 (C+DC)	>800 (C + DC)	SC
CLONAZEPAM	ng/mL	25 – 75	>80	SC
CLOZAPINE	ng/mL	100 – 700	>1000	SC
CODEINE FREE, SERUM	ng/mL	10 – 100	>200	SC
CYCLOSPORINE A W.B. (FPIA)	ng/mL	100 – 400	<25 & >400	AL
CYCLOSPORINE A W.B. (HPLC)				SC
DESETHYLAMIODARONE	ug/mL	0.25 – 3.5	>3.5	SC
DESIPRAMINE	ng/mL	150 – 250	>500	SC
DIAZEPAM + NORDIAZEPAM	ng/mL	100 – 1500 (D + ND)	>3000 (D + ND)	SC
DIHYDROCODEINE, SERUM	ng/mL	60 – 84	>800	SC
DOXEPIN + NORDOXEPIN	ng/mL	110 – 250 (D + ND)	>500 (D + ND)	SC
ETHOSUXIMIDE	ug/mL	40 – 100	>150	AL
FLECAINIDE	ug/mL	peak: 0.44 – 1.00 trough: 0.24 – 0.74	>1.0	SC
FLUOXETINE + NORFLUOXETINE	ng/mL	300 – 1150 (F + NF)	>2000 (F + NF)	SC
GABAPENTIN	ug/mL	2.0 – 10.0	>25	SC
GENTAMICIN	ug/mL	peak: 5 – 10 trough: <2	>12	AL
HALOPERIDOL	ng/mL	0.8 – 33.0	>34	SC

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		(1 – 14 mg/day)		
HYDROCODONE, SERUM	ng/mL	5 – 24	>100	SC
HYDROMORPHONE, SERUM	ng/mL	5 – 30	>100	SC
IMIPRAMINE + DESIPRAMINE	ng/mL	150 – 300 (I + D)	>500 (I + D)	SC
LAMOTRIGINE	ug/mL	1 – 14 (50 – 400 mg/day)	>20	SC
METHOTREXATE	umol/L	24 hr ≥ 5.0 48 hr ≥ 0.5 72 hr ≥ 0.05	≥0.5 (48 hours after high dose therapy)	AL
MORPHINE, SERUM	ng/mL	10 – 80	>200	SC
NORDIAZEPAM	ng/mL	100 – 500	>2000	SC
NORTRIPTYLINE	ng/mL	50 – 150	>500	SC
OXYCODON	ng/mL	10 – 100	>200	SC
PHENYTOIN FREE	ug/mL	1 – 2	>3	AL
PHENYTOIN TOTAL	ug/mL	10 – 20	>30	AL
PRIMIDONE	ug/mL	5 – 12	>15	AL
PROCAINAMIDE	ug/mL	4 – 10	>16	AL
PROCAINAMIDE + N - ACETYLPROCAINAMIDE	ug/mL	5 – 30 (P + NP)	>30 (P + NP)	AL
QUINIDINE	ug/mL	2 – 6	>10	AL
TRAZODONE	ng/mL	800 – 1600	>5000	SC
TOBRAMYCIN	ug/mL	peak: 5 – 10 trough: 1 – 2	>12	AL
VANCOMYCIN	ug/mL	peak: 30 – 40 trough: 5 – 10	>40	AL
VALPROIC ACID	ug/mL	50 – 100	>100	AL
VALPROIC ACID FREE	ug/mL	5 – 10	>15	AL
ZONISAMIDE	ug/mL	10 – 35	>45	SC
Microbiology				

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AFB CULTURE			Positive smears	MC
			Positive culture: preliminary report	
			Preliminary report: <i>M. tuberculosis</i> complex	
			Final report: <i>Mycobacterium tuberculosis</i>	
			Primary susceptibility results for <i>M. tuberculosis</i>	
			Positive <i>Mycobacterium avium</i> Complex from sterile site (CSF & Blood)	
<i>Mycobacterium tuberculosis</i> DNA		Not detected	Detected	MC
BACTERIOLOGY			Positive smear for CSF	MC
			Positive preliminary smear for blood cultures	
			Positive final blood culture	
			Positive preliminary report for CSF	
			Positive final report on CSF /urine esp. <i>Neisseria meningitidis</i> , <i>Streptococcus pneumoniae</i> , <i>Haemophilus influenzae</i>	
			Positive report of <i>Salmonella</i> , <i>Shigella</i> , <i>Yersinia</i> , <i>Campylobacter</i> , <i>Vibrio</i> , <i>Brucella</i> , <i>Legionella</i> , <i>Bordetella pertussis</i> , <i>E. coli</i> 0157:H7, <i>Listeria monocytogenes</i>	
			Methicillin-resistant <i>Staphylococcus aureus</i>	
			Positive identification of <i>Ureaplasma urealyticum</i> and <i>Mycoplasma hominis</i> on pediatric patients (<18yrs)	
			<i>Escherichia coli</i> culture	
<i>Pneumocystis carinii</i> DFA		Not detected	Detected	MC
<i>Legionella</i> DFA		Not detected	Detected	MC
<i>Bordetella</i> DFA		Not detected	Detected	MC

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<i>Legionella spp.</i> DNA PCR		Not detected	Detected	MB
MYCOLOGY	Notification by Department		Positive stain on CSF	MC
			Positive stain on blood	
			Final identification of <i>Coccidioides immitis</i> <i>Histoplasma capsulatum</i> , <i>Blastomyces dermatitidis</i>	
<i>Coccidioides</i> Abs CSF		Negative	Positive	MC
<i>Histoplasma</i> Abs CSF		Negative	Positive	MC
<i>Blastomyces</i> Abs CSF		Negative	Positive	MC
<i>Cryptococcus</i> Ag CSF		Negative	Positive	MC
<i>Cryptococcus</i> Ag Serum		Negative	1:4 or greater	MC
<i>Candida</i> Ag		<1:2	1:4 or greater	MC
PARASITOLOGY			Positive malaria smear	MC
SEXUALLY TRANSMITTED DISEASES (STD)	Notification by Department		Positive identification of <i>N. gonorrhoeae</i> , <i>T. pallidum</i> or <i>C. trachomatis</i>	MC
			Non reactive	
Neisseria Gonorrhoeae Ag Detection [RRNA] Neisseria Gonorrhoeae RRNA [TMA] Urine Neisseria Gonorrhoeae RRNA [TMA] Swab Chlamydia Trachomatis Detection [RRNA] Chlamydia Trachomatis RRNA Detection [TMA] Urine Chlamydia Trachomatis RRNA Detection [TMA] Swab	none	Not detected	Detected	MC

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Virology				
VIROLOGY	Notification by Department		Positive preliminary or final on CSF and Blood	MC
CMV CULTURE		Not isolated	Isolated	MC
RSV DETECTION DFA		Not detected	Detected	MC
RSV ANTIGEN DETECTION IC		Not detected	Detected	MC
HERPES 1 & 2 DNA PCR		Not detected	Detected	MB
HERPES DNA ULTRAQUANT PCR	copies/mL	<80	>80	MB
HERPES ANTIGEN DETECTION DFA		Not detected	Detected (Pediatric Only)	MC
HERPES SIMPLEX CULTURE		Not isolated	Isolated (Pediatric Only)	MC
HERPES SIMPLEX CULTURE		Not isolated	Isolated	MC
Reflex: HSV Culture Typing			Herpes Simplex Virus Type 1	MC
Reflex: HSV Culture Typing			Herpes Simplex Virus Type 2	MC
Viral Culture		Not isolated	Herpes Simplex Virus Isolated	MC
RAPID CSF PRIORITY-CMV	copies/mL	<200	>200	MB
RAPID CSF PRIORITY-HSV I/II	copies/mL	<80	>80	MB
RAPID CSF PRIORITY-JCV	copies/mL	<80	>80	MB
RAPID CSF PRIORITY-EBV	copies/mL	<150	>150	MB
RAPID CSFPRIORITY-VZV	copies/mL	<100	>100	MB
SARS (CORONAVIRUS) DETECTR PCR		Not detected	Detected	MB
WEST NILE VIRUS RNA PCR		Not detected	Detected	MB
Enterovirus DetectR – PCR		Not Detected	Detected	MB
Dengue	Titer	<1:16	>=1:64	IF