

## Beaumont Laboratory

Farmington Hills – Grosse Pointe – Royal Oak – Troy

### CRITICAL (PANIC) VALUES (Excluding Outreach Nursing Homes)

**Red Alerts** are called within 1 hour; 24 hours/7 days a week.

**Blue Alerts** will be called between 7 a.m. and 11 p.m.

Critical values effective for Farmington Hills on 01/15/2017

CHEMISTRY	CRITICAL VALUES		Unit of measure	Inpatient	Outpatient/ Outreach	Outpatient/ Outreach
	Greater Than	Less Than		(RED Alerts)	(RED Alerts)	(BLUE Alerts)
Ammonia	120	--	mcmol/L	X	X	
Amylase	300	--	U/L	X	X	
AST (Aspartate Aminotransferase)	2000		U/L	X		X
Bilirubin, Total & Neonatal	0-1 day	7.9	--	mg/dL	X	X
	2 days	13.9	--	mg/dL	X	X
	3-21 days	17.9	--	mg/dL	X	X
Bilirubin, Direct, Neonatal	5-28 days	2	--	mg/dL	X	X
BUN	103	--	mg/dL	X		X
<i>Results will not be called to designated Royal Oak nephrologists</i>						
Calcium, Total	13	6.5	mg/dL	X	X	
Calcium, Ionized	6.5	3	mg/dL	X	X	
Creatine Kinase-MB	4.9	--	ng/mL	X	X	
<i>Results on patients from 6-East (Royal Oak) will NOT be called to the physician or nursing unit</i>						
Creatine Kinase-MB Index	2.2			X	X	
Creatine Kinase	20,000	--	U/L	X	X	
Creatinine	0 - 16 years	2.8	--	mg/dL	X	X
Creatinine	17-116 years	14.7	--	mg/dL	X	X
<i>Results will not be called to designated Royal Oak nephrologists</i>						
Creatinine	17-116 years <i>Grosse Pointe Only</i>	10	--	mg/dL	X	X
Creatinine	≥117 years	2.8	--	mg/dL	X	X
Glucose, FBS or Random	0–23 mos	180	45	mg/dL	X	X
<b>IP, EC or POC:</b>	24 months – 16 yrs	300	50	mg/dL	X	
<b>OP/Outreach:</b>	2 yrs–16 yrs	300	40	mg/dL		X
<b>IP, EC or POC:</b>	17-116 years	500		mg/dL	X	
<b>IP, EC or POC:</b>	17-116 years		50	mg/dL	X	
<b>OP/Outreach:</b>	17-116 years	500		mg/dL		X
<b>OP/Outreach:</b>	17-116 years		40	mg/dL		X
Glucose, All Sites	≥117 years	300	50	mg/dL	X	X
Glucose, CSF	0-24 months	200	--	mg/dL	X	X
	>24 months	300	--	mg/dL	X	X
HAV IgM	Critical value reported if test is positive			X		X
Lactic Acid	3.9	--	mmol/L	X		X

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CHEMISTRY continued	CRITICAL VALUES		Unit of measure	Inpatient	Outpatient/ Outreach	Outpatient/ Outreach
	Greater Than	Less Than		(RED Alerts)	(RED Alerts)	(BLUE Alerts)
Magnesium	6	1	mg/dL	X	X	
Osmolality	320	240	mOsmol/kg	X	X	
pH, Venous	7.6	7.2		X	X	
Phosphorus	--	1	mg/dL	X	X	
Troponin I	0.29	--	ng/mL	X	X	
<i>Results on patients from 6-East (Royal Oak) will NOT be called to the physician or nursing unit</i>						
Troponin I <i>Farmington Hills</i>	0.49		ng/mL	X	X	
Troponin I <i>Grosse Pointe</i>	0.19		ng/mL	X	X	
Uric Acid	15	--	mg/dL	X		X
Uric Acid – Rasburicase	15	--	mg/dL	X	X	
<b>Electrolytes:</b>						
Sodium	0-1 day	166	120	mmol/L	X	X
	2 Days – 17 years	155	125	mmol/L	X	X
	18-116 years	160	120	mmol/L	X	X
	≥ 117 years	155	125	mmol/L	X	X
Potassium	0-1 day	7.5	2.7	mmol/L	X	X
	2 days – 3 months	6.2	2.7	mmol/L	X	X
	4 months - Adult	6.1	2.7	mmol/L	X	X
Chloride		130	76	mmol/L	X	X
CO <sub>2</sub>						
	<i>Farmington Hills, Royal Oak, Troy</i>	40	10	mmol/L	X	X
	<i>Grosse Pointe Only 17-116 years</i>	40	10	mmol/L	X	X
<b>Gases:</b>						
Oxyhemoglobin (arterial specimen only)		--	85	%	X	X
PO <sub>2</sub> (arterial specimens only)		--	50	mmHg	X	X
PCO <sub>2</sub> (arterial & capillary specimens)		70	--	mmHg	X	X
pH		7.6	7.2		X	X
Total CO <sub>2</sub>						
	<i>Farmington Hills, Royal Oak, Troy</i>	40	10	mmol/L	X	X
	<i>Grosse Pointe Only</i>	40	15	mmol/L	X	X
Hemoglobin	0 - 14 days	25	10	g/dL	X	X
	15 - 28 days	20	9	g/dL	X	X
	29 days – 2 years	20	8	g/dL	X	X
<i>EC &amp; Inpatients Only</i> 3 years–Adult		20	<6.5	g/dL	X	X
<i>Outpatients</i> 3 years - Adult		20	<7	g/dL	X	X
Carboxyhemoglobin		20	--	%	X	X

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	Greater Than	Less Than		(RED Alerts)	(RED Alerts)	(BLUE Alerts)
Methemoglobin	9.9	--	%	X	X	
Sulfhemoglobin	Positive			X	X	
CHEMISTRY	CRITICAL VALUES		Unit of measure	Inpatient	Outpatient/ Outreach	Outpatient/ Outreach
Toxicology/TDM	Greater Than	Less Than		(RED Alerts)	(RED Alerts)	(BLUE Alerts)
Acetaminophen	50	--	mcg/mL	X	X	
Acetone	50	--	mg/dL	X	X	
Allobarbitol	50	--	mcg/mL	X		X
Amikacin (peak)	35	--	mcg/mL	X		X
Amikacin (trough)	10	--	mcg/mL	X		X
Amiodarone	5	--	mcg/mL	X	X	
Amitriptyline	500 (+ metabolite)	--	ng/mL	X	X	
Amobarbital	20	--	mcg/mL	X		X
Aprobarbital	40	--	mcg/mL	X		X
Barbital	70	--	mcg/mL	X		X
Butabarbital	20	--	mcg/mL	X		X
Butalbital	30	--	mcg/mL	X		X
Caffeine	30	--	mcg/mL	X		X
Carbamazepine	15	--	mcg/mL	X		X
Carbamazepine, unbound	5	--	mcg/mL	X		X
Carbamazepine epoxide	4	--	mcg/mL	X		X
Clomipramine	1000 (+ metabolite)	--	ng/mL	X		X
Clonazepam	100	--	ng/mL	X		X
Cyclosporine A	500	--	ng/mL	X		X
Desipramine	500	--	ng/mL	X	X	
Digoxin	0-70 years	2.5	ng/mL	X	X	
	> 70 years	2	ng/mL	X	X	
Doxepin	500 (+ metabolite)	--	ng/mL	X	X	
Ethanol	0-12 years	50	mg/dL	X	X	
	13 - 20 years	250	mg/dL	X	X	
	≥21 years	400	mg/dL	X	X	
	≥100 years	250	mg/dL	X	X	
Ethosuximide	100	--	mcg/mL	X		X
Fluoxetine	2000 (+ metabolite)	--	ng/mL	X		X

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	Greater Than	Less Than		(RED Alerts)	(RED Alerts)	(BLUE Alerts)
Toxicology/TDM continued						
Gabapentin	20	--	mcg/mL	X		X
Gentamicin (peak)	12	--	mcg/mL	X		X
Gentamicin (trough)	2.5	--	mcg/mL	X		X
Imipramine	500 (+ metabolite)	--	ng/mL	X	X	
Isopropanol	50	--	mg/dL	X	X	
Lamotrigine	25	--	mcg/mL	X		X
Levetiracetam	70	--	mcg/mL	X		X
Lidocaine	7	--	mcg/mL	X	X	
Lithium	1.5	--	mmol/L	X	X	
Mephobarbital	15	--	mcg/mL	X		X
Methanol	15	--	mg/dL	X	X	
Metharbital	10	--	mcg/mL	X		X
Mycophenolic Acid	≥ 10.10	≤ -1.00	mcg/mL	X		X
Nortriptyline	500	--	ng/mL	X	X	
Oxcarbazepine Metabolite (MHD)	50	--	mcg/mL	X		X
Pentobarbital	20	--	mcg/mL	X	X	
Phenobarbital	50	--	mcg/mL	X	X	
Phenytoin	25	--	mcg/mL	X	X	
Phenytoin, Free	3	--	mcg/mL	X	X	
Primidone	15	--	mcg/mL	X		X
Procainamide	16	--	mcg/mL	X		X
Procainamide and NAPA	30	--	mcg/mL	X		X
Propafenone	8	--	mcg/mL	X		X
Quinidine	8	--	mcg/mL	X		X
Salicylate	30	--	mg/dL	X	X	
Secobarbital	15	--	mcg/mL	X		X
Sirolimus	30	--	ng/mL	X		X
Tacrolimus/FK 506	30	--	ng/mL	X		X
Theophylline	25	--	mcg/mL	X	X	
Thiocyanate	15	--	mcg/mL	X		X
Thiopental	30	--	mcg/mL	X		X
Tobramycin (peak)	12	--	mcg/mL	X		X
Tobramycin (trough)	2.5	--	mcg/mL	X		X

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<b>Toxicology/TDM continued</b>						
Trazodone	5	--	mcg/mL	X		X
Topiramate	50	--	mcg/mL	X		X
Trimipramine	500 (+ metabolite)	--	ng/mL	X		X
Valproic acid	150	--	mcg/mL	X		X
Vancomycin (peak)	50	--	mcg/mL	X		X
Vancomycin (trough )	20	--	mcg/mL	X		X
<b>Urinalysis</b>						
Ketones All Ages ≥8 days	79	--	mg/dL	X		X
<i>Results will not be called to Emergency Centers (Grosse Pointe, Royal Oak and Troy)</i>						
Ketones Newborn - 7 days	14	--	mg/dL	X		X
<i>Results will not be called to Emergency Centers (Grosse Pointe, Royal Oak and Troy)</i>						
Ketones Newborn - 7 days <i>Farmington Hills</i>	20			X		X
Porphobilinogen	Positive	--		X		X
<b>HEMATOLOGY</b>	<b>CRITICAL VALUES</b>		<b>Unit of measure</b>	<b>Inpatient</b>	<b>Outpatient/ Outreach</b>	<b>Outpatient/ Outreach</b>
	<b>Greater Than</b>	<b>Less Than</b>		<b>(RED Alerts)</b>	<b>(RED Alerts)</b>	<b>(BLUE Alerts)</b>
Hematocrit 0-14 days	70	15	%	X	X	
Hematocrit ≥ 15 days	60	15	%	X	X	
Hemoglobin 0 - 14 days	25	10	g/dL	X	X	
15 - 28 days	20	9	g/dL	X	X	
29 days – 2 years	20	8	g/dL	X	X	
<i>EC &amp; Inpatients Only</i> 3 years–Adult	20	<6.5	g/dL	X	X	
<i>Outpatients</i> 3 years - Adult	20	<7	g/dL	X	X	
Platelets 0 - 30 days	1,000	50	bill/L	X	X	
31 days - Adult	1,000	20	bill/L	X	X	
WBC, Total	100	2	bill/L	X	X	
<i>Grosse Pointe Only</i>	25	2	bill/L	X	X	
Blasts >5%	If previously unknown	--	%	X	X	
Blasts <5%	If previously unknown	--	%	X		X
Blasts, CSF	≥ 1	--	per mcL	X*		X
<i>*X: Troy &amp; Grosse Pointe will call during dayshift only</i>						
Neutrophils	--	0.5	bill/L	X	X	

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HEMATOLOGY continued	CRITICAL VALUES		Unit of measure	Inpatient	Outpatient/ Outreach	Outpatient/ Outreach
	Greater Than	Less Than		(RED Alerts)	(RED Alerts)	(BLUE Alerts)
Fibrinogen	--	100	mg/dL	X	X	
INR	≥ 5			X	X	
PTT	110	--	sec	X	X	
Outpatient CBC						
Hemoglobin	--	7	g/dL	X	X	
Platelets	--	20	bill/L	X	X	
WBC	--	2	bill/L	X	X	
Outpatient CBCD						
Hemoglobin	--	7	g/dL	X	X	
Platelets	--	20	bill/L	X	X	
WBC	--	2	bill/L	X	X	
Neutrophils	--	0.5	bill/L	X	X	
Chemo CBC (No critical WBC or PLT)						
Hemoglobin	--	5.5	g/dL	X	X	
Chemo CBCD (No critical WBC, neut or PLT)						
Hemoglobin	--	5.5	g/dL	X	X	
Outpatient Chemo CBC (no critical WBC)						
Hemoglobin	--	6	g/dL	X	X	
Platelets	--	20	bill/L	X	X	
Outpatient Chemo CBCD (no critical WBC or neut)						
Hemoglobin	--	6	g/dL	X	X	
Platelets	--	20	bill/L	X	X	

SPECIAL TESTING	CRITICAL VALUES		Unit of measure	Inpatient	Outpatient/ Outreach	Outpatient/ Outreach
	Greater Than	Less Than		(RED Alerts)	(RED Alerts)	(BLUE Alerts)
Heparin Platelet Factor 4 Antibody	1.999	--	OD	X		X

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<b>MICROBIOLOGY</b>	<b>Inpatient</b>	<b>Outpatient/ Outreach</b>	<b>Outpatient/ Outreach</b>
Critical values reported if test is <b>positive</b> on the following tests:	<b>(RED Alerts)</b>	<b>(RED Alerts)</b>	<b>(BLUE Alerts)</b>
Acanthamoeba/Naegleria culture	X	X	
Acid-Fast smear, culture, PCR	X		X
Bacterial antigen test	X	X	
Blood culture - smear or culture	X	X	
Blood parasite smear	X	X	
Bordetella pertussis – culture or PCR	X		X
Brain Abscess - smear or culture	X	X	
Bronchoalveolar lavage - influenza, RSV	X		X
Brucella, Francisella, Bacillus anthracis, Yersinia pestis culture, Burkholderia mallei or pseudomallei, pox viruses, novel viruses	X	X	
Clostridium difficile			X
Cryptococcal antigen	X	X	
CSF positive – smear, culture or PCR for bacteria, fungi, or viruses	X	X	
Fungus (Blastomyces, Histoplasma, Coccidioides)	X		X
Gram stain (STAT)	X	X	
Group A Strep (wound, skin, soft tissue) – culture or PCR			X
Internal Organ Tissue – smear or culture (excludes GI and Autopsy specimens)	X		X
Legionella Ag, Strep. pneumoniae Ag	X		X
N. gonorrhoeae culture, PCR (< 12 years)	X	X	
Ova and parasite	X		X
Pneumocystis smear	X	X	
Sterile Body Fluid positive - smear, culture or PCR for bacteria, fungi, or viruses (includes amniotic, bone marrow, organ preservation, pancreatic, pericardial, pleural, synovial, and ocular - aqueous or vitreous)	X	X	
Stool culture (Shigella, Vibrio ≤ 18 years)	X		X
Stool culture, E. coli Shigatoxin	X		X
Strep screen (STAT only)		X	

<b>TRANSFUSION MEDICINE / BLOOD BANK</b>	<b>Inpatient</b>	<b>Outpatient/ Outreach</b>	<b>Outpatient/ Outreach</b>
	<b>(RED Alerts)</b>	<b>(RED Alerts)</b>	<b>(BLUE Alerts)</b>
Positive Direct Antiglobulin Test (DAT) on a neonate (regardless of strength of reaction)	X	NA	NA
Suspected acute hemolytic transfusion reaction	X	X	NA

Document control: Revisions made through the Royal Oak Clinical Pathology Administration office.

Document Control Distribution: External online link sent to Beaumont Laboratory (FH, GP, Outreach, RO, Troy) medical, administrative and supervisory staff.