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Owner: *Kandy Robinson: Lab Manager*
Policy Area: *Laboratory-General*
References:

Laboratory Test Menu

Test Name	Abbrev.	Sample Requirements	Tube Color	Specimen Stability	Reference Intervals
Chemistry					
Acetaminophen	ACET	Serum/Lithium Hep. Plasma	Red-no gel/ Green	Separated specimens are stable for 2 weeks at 2-8°C	Therapeutic 10-30 µg/mL
Albumin	Alb	Serum/Lithium Hep. Plasma	Red-Gel/ Green	2 days at 2-8°C	3.5-5.0 g/dL
Alcohol	ETOH	Serum/Lithium Hep. Plasma	Red-Gel/ Green	2 weeks at 2-8°C	Negative = <10 mg/dL Toxic = 50-100 mg/dL Depression of CNS= >100 mg/dL Fatalities reported= >400 mg/dL
Alkaline phosphatase	ALPI	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 days at 2-8°C	38-126 U/L
Alanine Aminotransferase	ALT/SGPT	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 days at 2-8°C	**F**: 14-59 U/L **M**: 16-63 U/L
Ammonia	NH3	Lithium Heparin Plasma	Green-**ON ICE**	Separated specimens are stable for 2 hours at 2-8°C	11-32 µmol/L
Amylase	Amy	Serum/Lithium Hep. Plasma	Red-Gel/ Green	Separated specimens are stable 6 months at 2-8°C	25-115 U/L
Aspartate Aminotransferase	AST/ SGOT	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 days at 2-8°C	**F**: 14-36 **M**: 17-59 U/L
Bilirubin Direct	DBIL	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 days at 2-8°C	0.00-0.20 mg/dL
Bilirubin Total	TBIL	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 days at 2-8°C	**Neonatal (2 days):** 0.20-15.00 mg/dL **3-5 days:** 0.20-18.0 mg/dL **7-8 Days:** 0.20-15.0 mg/dL **Adult:** 0.2-1.3 mg/dL
Blood Urea Nitrogen	BUN	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 Days at 4°C	**F**: 7-18 mg/dL **M**: 9-20 mg/dL
Urea Nitrogen-Urine	Urine Urea Nitrogen	Urine	Sterile screw-cap container	4 Days at 4-8°C	7-20g/24hr
B-Type Peptide (pro-NT BNP) II	NT-proBNP II	Lithium Heparin Plasma/Serum	Green Li Hep SST Marble Red		*Emergency Department Settings* For patients presenting to the ED settings with acute or worsening dyspnea and clinical suspicion of HF, the VITROS NT-proBNP II test results should be interpreted as indicated in the table below.

VITROS NT-proBNP II Test Results (pg/mL)	Age Group (Years)	Interpretation of Results
<300	All	Negative: Heart Failure Unlikely
≥300 to <450	22–<50	Gray Zone: Result Indeterminate – Consider other causes of NT-proBNP elevation*
≥300 to <900	50–<75	
≥300 to <1800	≥75	
≥450	22–<50	Positive: Heart Failure Likely
≥900	50–<75	
≥1800	≥75	

* Natriuretic peptides values in the gray zones could also be caused by several conditions other than heart failure. Clinical conditions such as acute coronary syndrome, pulmonary embolism, pulmonary hypertension, sepsis, stroke, and renal dysfunction will elevate NT-proBNP levels; obesity, flash pulmonary edema, cardiac tamponade, and pericardial constriction are conditions associated with reduced NT-proBNP. [2, 36, 37]

Outpatient Settings
In the outpatient settings, the optimal use of natriuretic peptides is to exclude HF. Therefore, a lower rule-out cutoff which increases sensitivity and negative predictive value is needed, as patients can present with limited, less acute HF symptoms. [1]

For ambulatory patients presenting to outpatient facilities with clinical suspicion of HF not previously diagnosed and at least one sign, symptom or risk factor for HF, the VITROS NT-proBNP II test results should be interpreted as indicated in the table below:

VITROS NT-proBNP II Test Results (pg/mL)	Age Group	Interpretation of Results
<125	All	Negative: Heart Failure Unlikely
≥125	All	Consider Heart Failure as well as other causes of NT-proBNP elevation.

* Natriuretic peptides values elevations could also be caused by several conditions other than heart failure such as acute coronary syndrome, pulmonary embolism, pulmonary hypertension, sepsis, stroke, and renal dysfunction. [1, 2, 3]

B-Type Peptide (pro-NT BNP)- Back up	B-Peptide	Lithium Heparin Plasma	Green	3 days at 2-8°C	<50 yoa 0-450pg/ml 50-75yoa 0 - 900pg/ml >75yoa 0-1800pg.ml
Calcium	Ca	Serum/Lithium Hep. Plasma	Red-Gel/ Green	2 days at 2-8°C	8.6-10.3 mg/dL
Chloride	CL	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 days at 2-8°C	98-107 mmol/L
Chloride urine	Cl-Urine	Urine	Sterile screw-cap container	7 days at 2-8°C	Range not established
Cholesterol	Chol	Serum/Lithium Hep. Plasma	Red-Gel/ Green	2 days at 2-8°C	0-200 mg/dL
C- Reactive Protein	CRP	Serum/Lithium Hep. Plasma	Red-Gel/ Green	3 days at 4°C	0.0-0.9 mg/dL
Creatine Kinase	CK	Serum/Lithium Hep. Plasma	Red-Gel/ Green	Separated specimens are stable for 7 days at 2-8°C	**M**: 39-308 U/L **F**: 26-192 U/L

Creatinine	Cret	Serum/Lithium Hep. Plasma	Red-Gel/ Green	Separated specimens are stable for 7 days at 2-8°C	**M**: 0.66-1.25 mg/dL **F**: 0.52-1.04 mg/dL
Creatinine, Urine, Quantitative	Cret Ur	24 Hour Urine	Sterile screw-cap container	4 Days at 2-8°C	**M**:0.95-2.49 g/24 hr **F**: 0.6-1.8 g/24hr
D-Dimer, Back up	DDMR	Lithium Heparin Plasma	Green	2 days at 2-8°C	<449 ng/ml Reference Range: < 682 ng/mL. While a reference range exists for D-Dimer assays, a reference interval is not reported with the D-Dimer assay. As the utility of the assay lies in its ability to assist in VTE exclusion, only the cutoff value is reported. D-dimer values increase with age and this can make VTE exclusion of an older population difficult. To address this, the American College of Physicians, based on best available evidence and recent guidelines, recommends that clinicians use age-adjusted D-Dimer thresholds in patients greater than 50 years of age with: a) a low probability of PE who do not meet all Pulmonary Embolism Rule Out Criteria, or b) in those with intermediate probability of PE. The formula for an age-adjusted D-Dimer cut-off is "age/100". For example, a 60-year-old patient would have an age-adjusted cut-off of 0.60 mg/L FEU and an 80-year-old 0.80 mg/L FEU.
Digoxin (Lanoxin)	Dig	Serum/Lithium Hep. Plasma	Red-no gel/ Green	7 days at 2-8°C	Therapeutic 0.9-2.00 ng/mL
Enzymatic Carbonate	ECO2	Serum/Lithium Hep. Plasma	Red-no gel/ Green	2 days at 2-8°C	0-1Y: 18-27 mmol/L 1Y- 12Y:18-30 mmol/L >12 Y: 22.0-30.0 mmol/L
Gentamicin	Gent	Serum/Lithium Hep. Plasma	Red-Gel/ Green	2 days at 2-8°C	Therapeutic 4.0-10.0 µg/mL
y-Glutamyl Transferase	GGT	Serum/Lithium Hep. Plasma	Red-Gel/ Green	2 days at 2-8°C	**M:** 15-85 U/L **F:** 5-55 U/L
Glucose	GLUC	Serum/Lithium Hep. Plasma	Red-Gel/ Green	3 days at 4°C	0-30D 74-115 mg/dL 74- 106mg/dL
Glucose, CSF	CSF GLUC	CSF	Red-No gel	3 days at 4°C	40-70 mg/dL
HDL Cholesterol	HDL	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 days at 2-8°C	40-60 mg/dL
Hemoglobin A1c	HB1c	Whole Blood/ EDTA	EDTA Purple	7 days at 2-8°C	4.5-6.2%
Human Chorionic Gonadotropin	HCG	Serum/Lithium Hep. Plasma	Red-Gel/ Green	2 days at 2-8°C	**Non-pregnant Female** :0-6 mIU/L Male **Adult**: 0-2 mIU/L
Lactic Acid	LA	Sodium Fluoride Potassium Oxalate Plasma	Gray Tube	Separated plasma refrigerated for up to 24 hours	0-4-2.0 mmol/L
Lactate Dehydrogenase	LDI	Serum/Lithium Hep. Plasma	Red-Gel/ Green	3 days at 20-25°C/CANNOT BE REFRIGERATED	**M:**85-227 U/L **F:**81-234 U/L
Lithium	Li	Serum/Lithium Hep. Plasma	RED-**NO GEL**	7 days at 2-8°C	0.6-1.20mmol/L
Lipase	LIPL	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 days at 2-8°C	73-393 U/L
Magnesium	Mg	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 days at 2-8°C	1.8-2.4 mg/dL
Phenytoin(Dilantin)	PTN	Serum/Lithium Hep. Plasma	Red-No Gel/ Green	2 days at 2-8°C	Therapeutic 10-20µg/mL
Phosphorus	Phos	Serum/Lithium Hep. Plasma	Red-Gel/ Green	<= 7 days at 2-8°C	2.6-4.7 mg/dL
Potassium	K	Serum/Lithium Hep.	Red-Gel/ Green	7 days at 2-8°C	0-3M 4.0-6.2 mmol/L 3M-12Y 3.8-5.0 mmol/L >12Y 3.5-5.1 mmol/L
Potassium urine	K-urine	Urine	Sterile screw-cap container	7 days at 2-8°C	Range not established
Procalcitonin	PCT	Serum/Lithium Hep. Plasma	Red-Gel/ Green	2 days at 2-8°C	0.0-0.8
Prostate Specific Antigen	PSA	Serum/Lithium Hep. Plasma	Red-Gel/ Green	8 hours at 4°C	0.01-4.0 ng/mL
Protein, total	TP	Serum/Lithium Hep. Plasma	Red-Gel/ Green	3 days at 2-8°C	6.3-8.2 g/dL
Protein, total CSF	UCFP			4°C for <3 days	15-45 mg/dL
Salicylate	Sal	Serum/Lithium Hep. Plasma	Red- Gel/ Green	2 weeks at 2-8°C	Therapeutic range 2.8-20 mg/dL
Sodium	Na	Serum/Lithium Hep. Plasma	Red- Gel/ Green	7 days at 2-8°C	136-145mmol/L
Sodium, Urine	Na-urine	Urine	Sterile screw-cap container	7 days at 2-8°C	Range not established
Thyronine Uptake	TU	Serum/Lithium Hep. Plasma	Red-Gel/ Green	2 days at 2-8°C	M: 33-40% F: 30-39%
T4 free	FT4	Serum/Lithium Hep. Plasma	Red-Gel/ Green	14 days at 2-8°C	0.76-1.46 ng/dL
Thyroxine	T4	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 days at 2-8°C	Males: 4.5-12.1 µg/dL Females 4.8-13.9µg/dL Adults 4.7-13.3µg/dL
Theophylline	Theo	Serum/Lithium Hep.	Red-No Gel/	7 days at 2-8°C	Therapeutic 10-20µg/mL

		Plasma	Green				
Triglycerides	TGL	Serum/Lithium Hep. Plasma	Red-Gel/ Green	2 days at 2-8°C	0-150 mg/dL		
Troponin-I	Trop-I	Serum/Lithium Hep. Plasma	Red-Gel/ Green	2 days at 2-8°C	INTERPRETIVE TEXT Troponin Level Significance <0.030 ng/mL Negative >0.034 ng/mL Detectable tropon in of unknown significance >.120 ng/mL Possible myocardial injury		
Troponin I Back-up	Troponin I back up	Lithium Heparin Plasma	Green	2 days at 2-8°C	Troponin Level Risk Stratification for MI <0.06 ng/mL Low <0.1 ng/mL Intermediate >0.1 ng/mL High Risk		
Thyroid Stimulating Hormone	TSH	Serum/Lithium Hep. Plasma	Red-Gel/ Green	7 days at 2-8°C	**Adults**0.358-3.740 µ/mL		
Uric Acid	URCA	Serum/Lithium Hep.	Red-Gel/ Green	3-5 days at 2-8°C	**M**:3.5-7.2mg/dL		
		Plasma			**F:** 2.6-6.0mg/dL		
Valproic Acid(Depakene)	VALP	Serum/Lithium Hep. Plasma	Red-No Gel/ Green	2 days at 2-8°C	50-100µg/mL		
Vancomycin	VANC	Serum/Lithium Hep.	Red-No Gel/ Green	2 days at 2-8°C	Peak=18-26µg/ml Trough= 10.0-20.0 µg/ml		
		Plasma					
Blood Bank							
ABO/Rh type	N/A	Whole Blood	Purple-K2 EDTA	7 days at 2-8 °C	**ABO:** A,B,O,AB **RH:** +/-		
Antibody Screen	N/A	Whole Blood and Serum	1 Purples and No-Gel	1 Red 7 days at 2-8 °C	Negative		
Crossmatch	N/A	Whole Blood and Serum	2 Purples and 1 No-Gel	1 Red 3 days at 2-8°C	Compatible		
Direct Coombs (Transfusion Reaction)	DAT	Whole Blood and Serum	2 Purples and No-Gel	1 Red 7 days at 2-8 °C	Negative		
Coagulation							
Prothrombin Time/ INR	PT/INR	Citrated Plasma	Blue Top	24 hrs at 18-24 °C	PT= 9.50-12.1 Seconds INR= 0.90-1.09		
Partial Thrombin Time	PTT/APTT	Citrated Plasma	Blue Top	24 hrs at 18-24 °C	23.9-30.7 Seconds		
D-Dimer (CS-2500)	D-Dimer	Citrated Plasma	Blue Top	<0.50 mg/L In a multicenter study using INNOVANCE D-Dimer at a clinical cut-off of 0.50 mg/L FEU, the Negative Predictive Value of 98% was established for ED patients with clinically suspected VTE evaluated using the Wells Pretest Probability Model and diagnosed by standard objective tests. Reference Range - <0.19 – 1.12 mg/L FEU. While a reference range exists for D-Dimer assays, a reference interval is not reported with the D-Dimer assay. As the utility of the assay lies in its ability to assist in VTE exclusion, only the cutoff value is reported. D-dimer values increase with age and this can make VTE exclusion of an older population difficult. To address this, the American College of Physicians, based on best available evidence and recent guidelines, recommends that clinicians use age-adjusted D-Dimer thresholds in patients greater than 50 years of age with: a) a low probability of PE who do not meet all Pulmonary Embolism Rule Out Criteria, or b) in those with intermediate probability of PE. The formula for an age-adjusted D-Dimer cut-off is "age/100". For example, a 60-year-old patient would have an age-adjusted cut-off of 0.60 mg/L FEU and an 80-year-old 0.80 mg/L FEU.				
Hematology							
Expected Complete Blood Count w/ Differential values	CBC /w Diff	Whole Blood	Purple-K2 EDTA	24 hours at room temperature or 2 days at 4-8°C	*See Tables below		
Males							
Age:	**WBC (TH/CMM)**	**RBC (ML/CMM)**	**HGB (g/dL)**	**HCT (%)**	**MCV (fL)**	**MCH (PG)**	**MCHC (g/dL)**
1 Day	9.0-30.0	4.00-6.60	14.50-22.50	48.0-69.0	95.0-121.0	31.0-37.0	30.0-36.0
2 Days	9.4-34.0	4.00-6.60	14.50-22.50	48.0-69.0	95.0-121.0	31.0-37.0	30.0-36.0
3 Days	9.4-34.0	4.00-6.60	14.50-22.50	48.0-75.0	95.0-121.0	31.0-37.0	29.0-37.0
6 Days	9.4-34.0	4.00-6.60	9.0-14.00	44.0-72.0	70.0-86.0	31.0-37.0	28.0-38.0
13 Days	9.4-34.0	3.90-6.30	9.0-14.00	44.0-72.0	70.0-86.0	28.0-40-0	28.0-38.0

Plasma

14 Days	9.4-34.0	3.60-6.20	9.0-14.00	44.0-72.0	70.0-86.0	28.0-40-0	28.0-38.0
29 Days	9.4-34.0	3.60-6.20	9.0-14.00	44.0-72.0	70.0-86.0	28.0-40-0	29.0-37.0
1 Month	9.4-34.0	3.60-6.20	9.0-14.00	44.0-72.0	70.0-86.0	28.0-40-0	29.0-37.0
59 Days	5.0-19.5	3.00-5.40	9.0-14.00	44.0-72.0	70.0-86.0	26.0-34.0	29.0-37.0
2 Months	5.0-19.5	3.00-5.40	9.0-14.00	28.0-42.0	70.0-86.0	26.0-34.0	29.0-37.0
3 Months	5.0-19.5	2.70-4.90	9.0-14.00	28.0-42.0	70.0-86.0	26.0-34.0	29.0-37.0
6 Months	5.0-19.5	3.10-5.30	9.0-14.00	28.0-42.0	70.0-86.0	25.0-35.0	29.0-37.0
1 Year	5.0-19.5	3.10-5.30	9.0-14.00	28.0-42.0	70.0-86.0	23.0-31.0	29.0-37.0
2 Years	6.0-17.5	3.70-5.30	9.0-14.00	28.0-42.0	70.0-86.0	23.0-31.0	29.0-37.0
4 Years	6.0-17.5	3.70-5.30	9.0-14.00	28.0-42.0	77.0-95.0	24.0-30.0	31.0-37.0

6 Years	5.5-15.5	3.90-5.30	9.0-14.00	28.0-42.0	77.0-95.0	24.0-30.0	31.0-37.0
8 Years	5.5-15.5	3.90-5.30	11.50-15.50	35.0-45.0	77.0-95.0	25.0-33.0	31.0-37.0
12 Years	4.5-13.5	4.00-5.20	11.50-15.50	35.0-45.0	77.0-95.0	25.0-33.0	31.0-37.0
13 Years	4.5-13.5	4.00-5.20	13.00-16.00	37.0-49.0	78.0-98.0	25.0-35.0	31.0-37.0
18 Years	3.3-10.50	4.50-5.30	13.00-16.00	37.0-49.0	78.0-98.0	25.0-35.0	31.0-37.0
Adult	3.3-10.50	4.35-5.90	13.70-17.00	40.5-51.0	79.7-97.0	26.1-33.3	32.2-35.0
Males							
Age:	**RDW (%)**	**PLT(TH/CMM)**	**MPV(FL)**	**#NRBC(/100wbc)**	**%Gran**	**%Mono**	**%Lymph**
1 Day	11.0-14.6	84.0-478.0	9.40-12.40	<0.10	38.0-68.0	6.20-9.80	26.0-36.0
2 Days	11.0-14.6	84.0-478.0	9.40-12.40	<0.10	32.0-62.0	6.20-9.80	26.0-36.0
3 Days	11.0-14.6	84.0-478.0	9.40-12.40	<0.10	19.0-49.0	6.20-9.80	36.0-46.0
6 Days	11.0-14.6	84.0-478.0	9.40-12.40	<0.10	19.0-49.0	6.20-9.80	36.0-46.0
7 Days	11.0-14.6	84.0-478.0	9.40-12.40	<0.10	19.0-49.0	6.20-9.80	36.0-46.0
14 Days	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	15.0-44.0	6.20-9.80	43.0-53.0
28 Days	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	15.0-35.0	6.20-9.80	41.0-71.0
2 Months	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	15.0-35.0	6.20-9.80	42.0-72.0
4 Months	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	14.0-34.0	6.20-9.80	44.0-74.0
6 Months	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	12.0-33.0	6.20-9.80	46.0-76.0
8 Months	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	12.0-33.0	6.20-9.80	47.0-77.0
10 Months	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	12.0-35.0	6.20-9.80	48.0-78.0
1 Year	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	15.0-35.0	6.20-9.80	46.0-76.0
2 Years	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	23.0-45.0	6.20-9.80	44.0-74.0
4 Years	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	23.0-45.0	6.20-9.80	35.0-65.0
6 Years	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	32.0-45.0	6.20-9.80	24.0-54.0
8 Years	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	34.0-56.0	6.20-9.80	27.0-47.0
12 Years	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	31.0-63.0	6.20-9.80	27.0-47.0
14 Years	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	31.0-63.0	6.20-9.80	22.4-43.6
18 Years	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	34.0-64.0	6.20-9.80	22.4-43.6
Adult	11.0-14.6	150.0-400.0	9.40-12.40	<0.10	48.9-69.2.	6.20-9.80	22.4-43.6

Males							
Age:	**%EOS**	**%BAS**	**%IG**	**#GRAN(TH/CMM)**	**#MONO(TH/CMM)**	**#LYMPH(TH/CMM)**	**#EOS(TH/CMM)**
1 Day	0.0-10.0	0.0-3.0	0.0-0.5	9.0-26.0	0.2-0.8	1.2-3.2	0.0-0.2
2 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.5-10.0	0.2-0.8	1.2-3.2	0.0-0.2
3 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.5-10.0	0.2-0.8	1.2-3.2	0.0-0.2
6 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.5-10.0	0.2-0.8	1.2-3.2	0.0-0.2
7 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.5-10.0	0.2-0.8	1.2-3.2	0.0-0.2
14 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.0-9.5	0.2-0.8	1.2-3.2	0.0-0.2
15 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.0-9.5	0.2-0.8	1.2-3.2	0.0-0.2
28 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.0-9.0	0.2-0.8	1.2-3.2	0.0-0.2
2 Months	0.0-10.0	0.0-3.0	0.0-0.5	1.0-9.0	0.2-0.8	1.2-3.2	0.0-0.2
4 Months	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.2-0.8	1.2-3.2	0.0-0.2
6 Months	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.2-0.8	1.2-3.2	0.0-0.2
8 Months	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.2-0.8	1.2-3.2	0.0-0.2
10 Months	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.2-0.8	1.2-3.2	0.0-0.2
1 Year	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.2-0.8	1.2-3.2	0.0-0.2
2 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.2-0.8	1.2-3.2	0.0-0.2
4 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.2-0.8	1.2-3.2	0.0-0.2
6 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.2-0.8	1.2-3.2	0.0-0.2
8 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.5-8.5	0.2-0.8	1.2-3.2	0.0-0.2
12 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.5-8.5	0.2-0.8	1.2-3.2	0.0-0.2
14 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.8-10.0	0.2-0.8	1.2-3.2	0.0-0.2
18 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.8-10.0	0.2-0.8	1.2-3.2	0.0-0.2
Adult	0.0-10.0	0.0-3.0	0.0-0.5	1.5-6.7	0.2-0.8	1.2-3.2	0.0-0.2

Males		
Age:	**#BASO(TH/CMM)**	**#IG(TH/CMM)**
1 Day	0.0-0.1	0.01-0.03
2 Days	0.0-0.1	0.01-0.03
3 Days	0.0-0.1	0.01-0.03
6 Days	0.0-0.1	0.01-0.03
7 Days	0.0-0.1	0.01-0.03
14 Days	0.0-0.1	0.01-0.03
15 Days	0.0-0.1	0.01-0.03
28 Days	0.0-0.1	0.01-0.03
2 Months	0.0-0.1	0.01-0.03
4 Months	0.0-0.1	0.01-0.03
6 Months	0.0-0.1	0.01-0.03
8 Months	0.0-0.1	0.01-0.03
10 Months	0.0-0.1	0.01-0.03
1 Year	0.0-0.1	0.01-0.03
2 Years	0.0-0.1	0.01-0.03
4 Years	0.0-0.1	0.01-0.03

6 Years	0.0-0.1	0.01-0.03					
8 Years	0.0-0.1	0.01-0.03					
12 Years	0.0-0.1	0.01-0.03					
14 Years	0.0-0.1	0.01-0.03					
18 Years	0.0-0.1	0.01-0.03					
Adult	0.0-0.1	0.01-0.03					
Females							
Age:	**WBC (TH/CMM)**	**RBC (ML/CMM)**	**HGB (g/dL)**	**HCT (%)**	**MCV (FL)**	**MCH (PG)**	**MCHC (g/dL)**
1 Day	9.00-30.00	4.00-6.60	14.50-22.50	48.0-75.0	95.0-121.0	31.0-37.0	30.0-36.0
2 Days	9.40-34.0	4.00-6.60	14.50-22.50	48.0-75.0	95.0-121.0	31.0-37.0	29.0-37.0
3 Days	9.40-34.0	4.00-6.60	14.50-22.50	48.0-75.0	95.0-121.0	31.0-37.0	29.0-37.0
6 Days	9.40-34.0	4.00-6.60	9.00-14.00	44.0-72.0	70.0-86.0	31.0-37.0	28.0-38.0
13 Days	9.40-34.0	3.90-6.30	9.00-14.00	44.0-72.0	70.0-86.0	28.0-40.0	28.0-38.0
14 Days	9.40-34.0	3.60-6.20	9.00-14.00	44.0-72.0	70.0-86.0	28.0-40.0	28.0-38.0
29 Days	9.40-34.0	3.60-6.20	9.00-14.00	44.0-72.0	70.0-86.0	28.0-40.0	29.0-37.0
1 Month	9.40-34.0	3.00-5.40	9.00-14.00	44.0-72.0	70.0-86.0	28.0-40.0	29.0-37.0
59 Days	5.00-19.50	3.00-5.40	9.00-14.00	44.0-72.0	70.0-86.0	36.0-34.0	29.0-37.0
2 Months	5.00-19.50	3.00-5.40	9.00-14.00	28.0-42.0	70.0-86.0	36.0-34.0	29.0-37.0
3 Months	5.00-19.50	2.70-4.90	9.00-14.00	28.0-42.0	70.0-86.0	36.0-34.0	30.0-36.0
6 Months	5.00-19.50	3.10-4.50	9.00-14.00	28.0-42.0	70.0-86.0	25.0-35.0	30.0-36.0
1 Year	5.00-19.50	3.70-5.30	9.00-14.00	28.0-42.0	70.0-86.0	23.0-31.0	30.0-36.0
2 Years	6.00-17.50	3.70-5.30	9.00-14.00	28.0-42.0	70.0-86.0	23.0-31.0	30.0-36.0
4 Years	6.00-17.50	3.90-5.30	9.00-14.00	28.0-42.0	77.0-95.0	24.0-30.0	31.0-37.0
6 Years	5.50-15.50	3.90-5.30	9.00-14.00	28.0-42.0	77.0-95.0	24.0-30.0	31.0-37.0
8 Years	5.50-15.50	4.00-5.20	11.50-15.50	35.0-45.0	77.0-95.0	25.0-33.0	31.0-37.0
12 Years	4.50-13.50	4.00-5.20	11.50-15.50	35.0-45.0	77.0-95.0	25.0-33.0	31.0-37.0
13 Years	4.50-13.50	4.10-5.10	12.00-16.00	37.0-49.0	78.0-102.0	25.0-35.0	31.0-37.0
18 Years	3.40-9.80	4.10-5.10	12.00-16.00	37.0-49.0	78.0-102.0	25.0-35.0	31.0-37.0
Adult	3.40-9.80	3.69-5.13	11.70-14.50	40.5-51.0	81.5-96.7	26.50-33.50	31.9-35.3
Females							
Age:	**RDW (%)**	**PLT(TH/CMM)**	**MPV(Fl)**	**#NRBC(/100wbc)**	**%Gran**	**%Mono**	**%Lymph**
1 Day	10.5-14.3	84.0-478.0	9.40-12.3	<0.10	38.0-68.0	4.5-10.5	26.0-36.0
2 Days	10.5-14.3	84.0-478.0	9.40-12.3	<0.10	32.0-62.0	4.5-10.5	26.0-36.0
3 Days	10.5-14.3	84.0-478.0	9.40-12.3	<0.10	19.0-49.0	4.5-10.5	36.0-46.0
6 Days	10.5-14.3	84.0-478.0	9.40-12.3	<0.10	19.0-49.0	4.5-10.5	36.0-46.0
7 Days	10.5-14.3	84.0-478.0	9.40-12.3	<0.10	19.0-49.0	4.5-10.5	36.0-46.0
14 Days	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	15.0-44.0	4.5-10.5	43.0-53.0
28 Days	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	15.0-35.0	4.5-10.5	41.0-71.0
2 Months	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	15.0-35.0	4.5-10.5	42.0-72.0
4 Months	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	14.0-34.0	4.5-10.5	44.0-74.0
6 Months	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	12.0-33.0	4.5-10.5	46.0-76.0
8 Months	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	12.0-33.0	4.5-10.5	47.0-77.0
10 Months	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	12.0-35.0	4.5-10.5	48.0-78.0
1 Year	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	15.0-35.0	4.5-10.5	46.0-76.0
2 Years	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	23.0-45.0	4.5-10.5	44.0-74.0
4 Years	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	23.0-45.0	4.5-10.5	35.0-65.0
6 Years	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	32.0-45.0	4.5-10.5	24.0-54.0
8 Years	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	34.0-56.0	4.5-10.5	27.0-47.0
12 Years	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	31.0-63.0	4.5-10.5	27.0-47.0
14 Years	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	31.0-63.0	4.5-10.5	17.4-48.2
18 Years	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	34.0-64.0	4.5-10.5	17.4-48.2
Adult	10.5-14.3	150.0-450.0	9.40-12.3	<0.10	43.4-76.2	4.5-10.5	17.4-48.2
Females							
Age:	**%EOS**	**%BAS**	**%IG**	**#GRAN**	**#MONO**	**#LYMPH**	**#EOS**
1 Day	0.0-10.0	0.0-3.0	0.0-0.5	9.0-26.0	0.3-0.7	1.2-3.0	0.0-0.2
2 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.5-10.0	0.3-0.7	1.2-3.0	0.0-0.2
3 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.5-10.0	0.3-0.7	1.2-3.0	0.0-0.2
6 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.5-10.0	0.3-0.7	1.2-3.0	0.0-0.2
7 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.5-10.0	0.3-0.7	1.2-3.0	0.0-0.2
14 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.0-9.5	0.3-0.7	1.2-3.0	0.0-0.2
15 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.0-9.5	0.3-0.7	1.2-3.0	0.0-0.2
28 Days	0.0-10.0	0.0-3.0	0.0-0.5	1.0-9.0	0.3-0.7	1.2-3.0	0.0-0.2
2 Months	0.0-10.0	0.0-3.0	0.0-0.5	1.0-9.0	0.3-0.7	1.2-3.0	0.0-0.2
4 Months	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.3-0.7	1.2-3.0	0.0-0.2
6 Months	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.3-0.7	1.2-3.0	0.0-0.2
8 Months	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.3-0.7	1.2-3.0	0.0-0.2
10 Months	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.3-0.7	1.2-3.0	0.0-0.2
1 Year	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.3-0.7	1.2-3.0	0.0-0.2
2 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.3-0.7	1.2-3.0	0.0-0.2

4 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.3-0.7	1.2-3.0	0.0-0.2
6 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.0-8.5	0.3-0.7	1.2-3.0	0.0-0.2
8 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.5-8.5	0.3-0.7	1.2-3.0	0.0-0.2
12 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.5-8.5	0.3-0.7	1.2-3.0	0.0-0.2
14 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.8-10.0	0.3-0.7	1.2-3.0	0.0-0.2
18 Years	0.0-10.0	0.0-3.0	0.0-0.5	1.8-10.0	0.3-0.7	1.2-3.0	0.0-0.2
Adult	0.0-10.0	0.0-3.0	0.0-0.5	1.5-6.7	0.3-0.7	1.2-3.0	0.0-0.2
Females							
Age:	**#BASO(TH/CMM)**	**#IG(TH/CMM)**					
1 Day	0.0-0.1	0.01-0.03					
2 Days	0.0-0.1	0.01-0.03					
3 Days	0.0-0.1	0.01-0.03					
6 Days	0.0-0.1	0.01-0.03					
7 Days	0.0-0.1	0.01-0.03					
14 Days	0.0-0.1	0.01-0.03					
15 Days	0.0-0.1	0.01-0.03					
28 Days	0.0-0.1	0.01-0.03					
2 Months	0.0-0.1	0.01-0.03					
4 Months	0.0-0.1	0.01-0.03					
6 Months	0.0-0.1	0.01-0.03					
8 Months	0.0-0.1	0.01-0.03					
10 Months	0.0-0.1	0.01-0.03					
1 Year	0.0-0.1	0.01-0.03					
2 Years	0.0-0.1	0.01-0.03					
4 Years	0.0-0.1	0.01-0.03					
6 Years	0.0-0.1	0.01-0.03					
8 Years	0.0-0.1	0.01-0.03					
12 Years	0.0-0.1	0.01-0.03					
14 Years	0.0-0.1	0.01-0.03					
18 Years	0.0-0.1	0.01-0.03					
Adult	0.0-0.1	0.01-0.03					
Reticulocyte Count	Retic CT	Whole Blood	Purple-K2 EDTA	24 hours at room temperature or 2 days at 4-8°C	*See Tables below		
	Retic Ct (%)	**RET # (ML/CMM)**	**IRF (%)**				
Male	0.50-3.00	0.01-0.07	2.0-13.4				
Female	0.50-3.00	0.02-0.09	3.0-15.9				

Westergren Sed Rate	Sed Rate	Whole Blood	Purple-K2 EDTA	4 hours at room Temperature. 12 hours at 2-8°C	**Male >51 YOA**= 0-15 mm/HR **Male <51 YOA** 0-20 mm/HR **Female >51** YOA= 0-25 mm/HR **Female <51 YOA** 0-30 mm/HR			**Body Fluid Cell Ct (Auto)**	N/A	Body Fluid	Purple-K2 EDTA	24 hours at room temperature or 2 days at 4-8°C	*See Tables below				
Test Expected Range	**Color** Pale Yellow	**Appearance** Clear	**TC-BF#(TH/CMM)** 0.0010-1.000	**WBC-BF 10^3/µL** Not Established	**RBC-BF 10^3/µL** Not Established	**MN%** Not Established	**PMN%** Not Established											
CSF Cell Count & Differential (Manual)	N/A	Body Fluid	Purple-K2 EDTA	24 hours at room temperature or 2 days at 4-8°C	*See Tables below													
Test Expected Range	**Color** Pale Yellow	**Appearance** Clear	**RBC** Not Established	**WBC** Not Established	**%Poly** Not Established	**%MONO** Not Established												
Serology																		
Sure-Vue Serum/ Urine HCG Sure-Vue Mono	QUANT HCG MONO	Serum Serum	SST SST	2 days at 2-8°C 2 days at 2-8°C	Negative Negative													
Sure-Vue Rheumatoid Factor	RF	Serum	SST	8 days at 2-8°C	Negative													
Virology BD Veritor System Flu A&B	Flu A+B Strep A	Nasopharyngeal Swab	Culture Swab	24 hours at 2-8°C when stored in appropriate media	Negative													
BD Veritor System Strep	Strep A	Throat Swab	Culture Swab	24 hours at 2-8°C when stored in appropriate media	Negative													
BD Veritor System RSV	RSV	Nasal Wash/ Nasopharyngeal Swab	Culture Swab/Sterile Container	24 hours at 2-8°C when stored in appropriate media	Negative													
BD Veritor Rapid COVID Ag	Rapid COVID Ag	Nasopharyngeal swab	Culture Swab	1 hour at Room Temp	Negative													
Microbiology																		

Urine Culture	N/A	Urine	Sterile Urine Cup	24 Hours at 2-8°C	No Pathogens Isolated		
Throat Culutre	N/a	Throat Swab	Culture Swab	Specimens should be plated Immediately	No Pathogens Isolated		
Body Fluid Culture	N/A	Body Fluid	Red-No Gel Tube	Specimens should be plated Immediately	No Pathogens Isolated		
Wound & Abscess Culture	N/A	Culture Swab	Culture Swab	Specimens should be plated Immediately	No Pathogens Isolated		
Eye Culture	N/A	Culture Swab	Culture Swab	Specimens should be plated Immediately	No Pathogens Isolated		
Ear Culture	N/A	Culture Swab	Culture Swab	Specimens should be plated Immediately	No Pathogens Isolated		
Spinal Fluid Culture	N/A	Spinal Fluid	Red-No Gel Tube	Specimens should be plated Immediately	No Pathogens Isolated		
Genital Culture	N/A	Culture Swab	Culture Swab	Specimens should be plated Immediately	No Pathogens Isolated		
Blood Culture	N/A	Whole Blood	BACTEC culture vials	Specimens should be plated Immediately	No Pathogens Isolated		
Stool Culture	N/A	Stool	Sterile Sample Cup	Specimens should be plated Immediately	No Pathogens Isolated		
Gram Stain	N/A	Swab or Sample	Sterile Cup or Swab	Specimens should be plated Immediately	No Pathogens Isolated		
Illumigene Clostridium difficile (back-up)	C-diff	Stool	Sterile Cup	24 hours at 21-27°C or 5 days at 2-8°C.	Negative		
Acceava Strep A test	Strep A	Throat swab	Culture Swab	8 hours at Room Temperature or 3 days at	Negative		
Revogene C-diff	C-diff	Unformed Stool	Sterile Cup	2 days at 25°C 4 days at 2-8°C	Negative		
Revogene Strep-A	Strep-A	Throat swab	Culture Swab	3 days at 25°C 7 days at 2-8°C	Negative		
Blood Culture ID (Biofire)	BCID	Positive Blood Culture	Blood Culture vial	24 Hours at 15-25 °C after positive Blood culture	No Pathogens Isolated		
Gastrointestinal Panel ID	GI Panel	Stool In Cary Blair Media	Cary Blair Media	Room Temp or Refridgerated for up to 4 days	No Pathogens Isolated		

2-8°C

Respiratory Panel 2.1	RP2.1	Nasopharyngeal swab	Nasopharyngeal swab	4 Hours at 15-25 °C 3 days at 2-8°C 30 days at ≤-15 °C	No Pathogens Isolated		
Urinalysis	U/A	Urine	Sterile Cup	24 Hours at 2-8°C	See Tables below		
Test	**Color**	**Appearance**	**Specific Gravity**	**pH**	**Glucose**	**Blood** **Ketones**	
Reference Interval	Yellow	Clear	**Adult** 1.001-1.030	5.0-9.0	Negative	Negative	
							Epithelial Cells Small Amount
Test Reference Interval	**Protein** Negative	**Urobilinogen (EU/DL)** 0.1-1.0	**Nitrite** Negative	**Leukocytes** Negative	**WBC/HPF** Female:1-8/HPF Male 1-5/HPF	**RBC/HPF** 0-2/HPF	
Test Reference Interval	**Mucous** N/A	**Amorphous urate** N/A	**Amorphous phosphate** N/A	**Bacteria** None	**Cast** None	**Crystals** None	
Miscellaneous							
Acetest kCheck FIT test (OSOM iFOB)	Acetone/ Ketone Occult Blood	Serum/Plasma/ Whole Blood	SST / Purple-K2 EDTA Sterile Container or FIT stool collection tube	2 days at 2-8°C 10 Days at Room Temp	Negative Negative		
		Stool					
Hemmoccult Slides for Fecal Occult Blood	Occult Blood		Hemmoccult slide	14 Days at Room Temperature	Negative		
Gastroccult	Gastroccult	Gastric aspirate	Sterile Cup	Cards with sample applied are stable for 4 days. Samples placed in sample cup are stable for 24 hours at Room Temperature	Negative/ PH: 1.5-3.5		

Fecal Leukocytes	Stool WBC	Stool	Sterile Cup	Sample should be read immediately	Leukocytes absent		
MedTox Drug Screen	Drug Screen	Urine	Sterile cup	2 days at 2-8°C	Negative	UNCONFIRMED Screening Results should NOT be used for Non-Medical Purposes. Cut off concentrations for each drug class in the MEDTOX panel are: THC Cannabinoids 50 ng/mL PCP Phencyclidine 25 ng/mL COC Cocaine 150 ng/mL MAMP Methamphetamine 500 ng/mL (d-Methamphetamine) OPI Opiates 100 ng/mL AMP Amphetamine 500 ng/mL BZO Benzodiazepines 150 ng/mL TCA Desipramine 300 ng/mL MTD Methadone 200 ng/mL BAR Barbiturates 200 ng/mL OXY Oxycodone 100 ng/mL PPX Propoxyphene 300 ng/mL Recommended screening cutoff concentrations by the Substance Abuse and Mental Health Services Administration. This test system provides only preliminary test results. A positive test should be confirmed with an order for a confirmation test.	
Wet Prep/KOH	KOH	Culturette swab with sterile saline/ Sterile Container with skin, hair, or nails	Culture Swab/ Sterile Container	Wet Prep should be read immediately and should no be refrigerated	Negative		
Uni-Gold Recombigen HIV 1/2	HIV 1/2	Whole Blood	Purple-K2 EDTA	8 hours at Room Temperature	Negative		

Attachments

No Attachments

Approval Signatures

Approver	Date
Alexander VanAmerongen: Pathologist	11/2023
Kandy Robinson: Lab Manager	10/2023