MEDICAL LABORATORY EVALUATION

PARTICIPANT SUMMARY

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Hematology, Coagulation,
Blood Bank, Urinalysis, PPM
2018 MLE-M3

ACP | Medical Laboratory Evaluation
Total Commitment to Education and Service
Provided by ACP, Inc.

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EVALUATION CRITERIA

The evaluation criteria used in the MLE Program is in accordance with the Clinical Laboratory Improvement Amendments of 1988 (CLIA '88) federal requirements for proficiency testing. The criteria are included below.

Qualitative

For qualitative procedures, evaluation is based on participant or referee consensus. If participant consensus is not reached, CMS requirements call for grading by referee consensus. A minimum percentage of participants or referee laboratories must receive a passing score or the challenge is not evaluated due to lack of consensus. These percentages are listed below.

ABO Group	95% Participant or 100% Referee Consensus
Antibody Identification	95% Consensus
Blood Cell Identification	80% Consensus
Compatibility Testing	95% Participant or 100% Referee Consensus
Creatinine (Semi-Quantitative)	80% Consensus
Crystal Identification	80% Consensus
Fecal Occult Blood	80% Consensus
KOH Skin Preparation	80% Consensus
Microalbumin (Semi-Quantitative)	80% Consensus
Provider-Performed Microscopy	80% Consensus
Rh Factor (D Type)	95% Participant or 100% Referee Consensus
Unexpected Antibody Detection	95% Consensus
Urine Dipstick	80% Consensus
Urine hCG	80% Consensus
Urine Sediment Identification	80% Consensus

Quantitative

For quantitative procedures, a mean and standard deviation (SD) are calculated for each peer group consisting of 10 or more laboratories except for Coagulation (CG Specimens) which consist of peer groups of 5 or more laboratories. Acceptable performance is established on a target value ± the intervals below. An explanation on how to calculate the range of acceptability based upon these limits is also provided in your MLE Program Guide on page 37 under the heading "Acceptable Ranges for Quantitative Results."

Activated Partial Thromboplastin Time	± 15%
Automated Differential	± 3 SD
Blood Lead	± 4 µg/dL or ± 10%*
Body Fluid - Red Cell Count	± 2 SD
Body Fluid - White Cell Count	± 2 SD
Creatinine, Urine (Quantitative)	± 17%
Fibrinogen	± 20%
Hematocrit	± 6%
Hematocrit, Waived	± 6% or ± 2 SD*
Hemoglobin	± 7%
Hemoglobin, Waived	± 7% or ± 2 SD*
International Normalized Ratio (INR)	± 20%
Microalbumin (Quantitative)	± 30%
Platelet Count	± 25%
Prothrombin Time	± 15%
Red Blood Cell Count	± 6%
Reticulocyte Count	± 30% or ± 2 SD*
Sedimentation Rate	± 2 SD
Specific Gravity	± 0.010
White Blood Cell Count	± 15%
Whole Blood Glucose – HemoCue	± 12 mg/dL or ± 20%*

*Whichever is greater

HEMOCUE HEMATOLOGY–HEMOGLOBIN (g/dL)

	Specimen HQ-5						Specimen HQ-6					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
HemoCue	37	5.04	0.21	4.1	5.1	4.6 - 5.4	38	15.26	0.25	1.6	15.3	14.1 - 16.4

HEMOCUE HEMATOLOGY–GLUCOSE (mg/dL)

	Specimen HQ-5						Specimen HQ-6					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	32	46.0	6.5	14.1	45	34 - 58	32	324.4	12.1	3.7	323	259 - 390
All HemoCue Methods	31	45.5	5.9	13.0	45	33 - 58	31	324.6	12.2	3.8	324	259 - 390
HemoCue Glucose 201/+	30	45.3	5.9	13.0	45	33 - 58	30	324.5	12.4	3.8	323	259 - 390

SEDIMENTATION RATE (MM/HR)

	Specimen ES-5						Specimen ES-6					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	114	6.9	2.6	37.7	7	1 - 13	108	53.9	11.4	21.1	52	31 - 77
All Automated Methods	30	7.9	2.9	36.9	7	2 - 14	29	67.0	13.7	20.5	67	39 - 95
All Manual Methods	81	6.3	2.1	32.6	7	2 - 11	79	50.0	6.9	13.7	50	36 - 64
All Vital Diagnostics Methods	19	7.2	1.4	19.3	7	4 - 10	18	70.3	10.7	15.2	69	48 - 92
Vital Diagnostics Excyte M/10	10	7.5	1.0	13.0	7	5 - 10	10	69.9	6.4	9.2	69	57 - 83
Westergren - diluted	69	6.2	2.0	32.9	6	2 - 11	68	50.2	7.0	13.9	50	36 - 65

SEDIMAT SEDIMENTATION RATE (MM/HR)

	Specimen MAT-5						Specimen MAT-6					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
Polymedco Sedimat 15	12	2.7	1.4	51.4	3	0 - 6	12	64.2	8.4	13.2	63	47 - 82

HEMATOLOGY W/ 5-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x K/uL)

	Specimen CL-11						Specimen CL-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	20.74	0.46	2.2	20.9	17.6 - 23.9	12	7.57	0.28	3.7	7.5	6.4 - 8.8
All Abbott Cell-Dyn Instruments	12	20.74	0.46	2.2	20.9	17.6 - 23.9	12	7.57	0.28	3.7	7.5	6.4 - 8.8
Abbott Cell-Dyn Ruby	10	20.82	0.53	2.5	21.0	17.6 - 24.0	10	7.66	0.29	3.8	7.6	6.5 - 8.9
	Specimen CL-13						**Specimen CL-14**					
All Method	12	3.34	0.14	4.2	3.3	2.8 - 3.9	12	20.73	0.46	2.2	20.7	17.6 - 23.9
All Abbott Cell-Dyn Instruments	12	3.34	0.14	4.2	3.3	2.8 - 3.9	12	20.73	0.46	2.2	20.7	17.6 - 23.9
Abbott Cell-Dyn Ruby	10	3.36	0.17	5.0	3.4	2.8 - 3.9	10	20.86	0.48	2.3	21.0	17.7 - 24.0
	Specimen CL-15											
All Method	12	3.46	0.21	6.2	3.4	2.9 - 4.0						
All Abbott Cell-Dyn Instruments	12	3.46	0.21	6.2	3.4	2.9 - 4.0						
Abbott Cell-Dyn Ruby	10	3.54	0.19	5.5	3.6	3.0 - 4.1						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x M/uL)

	Specimen CL-11						Specimen CL-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	5.193	0.126	2.4	5.23	4.88 - 5.51	12	4.574	0.082	1.8	4.61	4.29 - 4.85
All Abbott Cell-Dyn Instruments	12	5.193	0.126	2.4	5.23	4.88 - 5.51	12	4.574	0.082	1.8	4.61	4.29 - 4.85
Abbott Cell-Dyn Ruby	10	5.182	0.153	3.0	5.23	4.87 - 5.50	10	4.570	0.097	2.1	4.61	4.29 - 4.85
	Specimen CL-13						**Specimen CL-14**					
All Method	12	2.000	0.040	2.0	2.00	1.88 - 2.12	12	5.227	0.114	2.2	5.26	4.91 - 5.55
All Abbott Cell-Dyn Instruments	12	2.000	0.040	2.0	2.00	1.88 - 2.12	12	5.227	0.114	2.2	5.26	4.91 - 5.55
Abbott Cell-Dyn Ruby	10	1.992	0.043	2.2	2.00	1.87 - 2.12	10	5.250	0.131	2.5	5.27	4.93 - 5.57
	Specimen CL-15											
All Method	12	2.024	0.039	1.9	2.04	1.90 - 2.15						
All Abbott Cell-Dyn Instruments	12	2.024	0.039	1.9	2.04	1.90 - 2.15						
Abbott Cell-Dyn Ruby	10	2.018	0.046	2.3	2.02	1.89 - 2.14						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMOGLOBIN (g/dL)

	Specimen CL-11						Specimen CL-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	16.53	0.37	2.3	16.4	15.3 - 17.7	12	13.46	0.33	2.4	13.4	12.5 - 14.4
All Abbott Cell-Dyn Instruments	12	16.53	0.37	2.3	16.4	15.3 - 17.7	12	13.46	0.33	2.4	13.4	12.5 - 14.4
Abbott Cell-Dyn Ruby	10	16.62	0.41	2.5	16.8	15.4 - 17.8	10	13.52	0.37	2.7	13.6	12.5 - 14.5
	Specimen CL-13						**Specimen CL-14**					
All Method	12	5.60	0.12	2.1	5.6	5.2 - 6.0	12	16.60	0.33	2.0	16.8	15.4 - 17.8
All Abbott Cell-Dyn Instruments	12	5.60	0.12	2.1	5.6	5.2 - 6.0	12	16.60	0.33	2.0	16.8	15.4 - 17.8
Abbott Cell-Dyn Ruby	10	5.58	0.13	2.3	5.6	5.1 - 6.0	10	16.76	0.21	1.2	16.8	15.5 - 18.0
	Specimen CL-15											
All Method	12	5.66	0.05	0.9	5.7	5.2 - 6.1						
All Abbott Cell-Dyn Instruments	12	5.66	0.05	0.9	5.7	5.2 - 6.1						
Abbott Cell-Dyn Ruby	10	5.66	0.05	1.0	5.7	5.2 - 6.1						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMATOCRIT (percent)

	Specimen CL-11						Specimen CL-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	43.24	1.17	2.7	43.4	40.6 - 45.9	12	37.36	0.81	2.2	37.6	35.1 - 39.6
All Abbott Cell-Dyn Instruments	12	43.24	1.17	2.7	43.4	40.6 - 45.9	12	37.36	0.81	2.2	37.6	35.1 - 39.6
Abbott Cell-Dyn Ruby	10	43.02	1.33	3.1	43.3	40.4 - 45.7	10	37.28	0.98	2.6	37.6	35.0 - 39.6
	Specimen CL-13						**Specimen CL-14**					
All Method	12	14.91	0.34	2.3	15.0	14.0 - 15.9	12	43.41	1.02	2.3	43.8	40.8 - 46.1
All Abbott Cell-Dyn Instruments	12	14.91	0.34	2.3	15.0	14.0 - 15.9	12	43.41	1.02	2.3	43.8	40.8 - 46.1
Abbott Cell-Dyn Ruby	10	14.82	0.35	2.4	15.0	13.9 - 15.8	10	43.54	1.22	2.8	44.0	40.9 - 46.2
	Specimen CL-15											
All Method	12	15.11	0.35	2.3	15.2	14.2 - 16.1						
All Abbott Cell-Dyn Instruments	12	15.11	0.35	2.3	15.2	14.2 - 16.1						
Abbott Cell-Dyn Ruby	10	15.06	0.42	2.8	15.1	14.1 - 16.0						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–PLATELET COUNT (x K/uL)

	Specimen CL-11						Specimen CL-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	487.7	24.4	5.0	479	365 - 610	12	260.1	11.8	4.5	264	195 - 326
All Abbott Cell-Dyn Instruments	12	487.7	24.4	5.0	479	365 - 610	12	260.1	11.8	4.5	264	195 - 326
Abbott Cell-Dyn Ruby	10	488.0	27.0	5.5	479	366 - 610	10	259.6	14.0	5.4	264	194 - 325
	Specimen CL-13						**Specimen CL-14**					
All Method	12	81.3	5.1	6.3	82	60 - 102	11	491.3	22.6	4.6	497	368 - 615
All Abbott Cell-Dyn Instruments	12	81.3	5.1	6.3	82	60 - 102	11	491.3	22.6	4.6	497	368 - 615
Abbott Cell-Dyn Ruby	10	81.4	5.5	6.8	82	61 - 102	9	-	-	-	505	368 - 615
	Specimen CL-15											
All Method	12	82.7	6.7	8.1	82	62 - 104						
All Abbott Cell-Dyn Instruments	12	82.7	6.7	8.1	82	62 - 104						
Abbott Cell-Dyn Ruby	10	81.8	7.7	9.4	81	61 - 103						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–NEUTROPHILS (percent)

	Specimen CL-11						Specimen CL-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	79.06	0.63	0.8	79.0	77.1 - 81.0	12	68.31	0.62	0.9	68.2	66.4 - 70.2
All Abbott Cell-Dyn Instruments	12	79.06	0.63	0.8	79.0	77.1 - 81.0	12	68.31	0.62	0.9	68.2	66.4 - 70.2
Abbott Cell-Dyn Ruby	10	79.36	0.45	0.6	79.3	78.0 - 80.8	10	68.54	0.50	0.7	68.5	67.0 - 70.1
	Specimen CL-13						**Specimen CL-14**					
All Method	12	52.59	1.00	1.9	52.7	49.5 - 55.6	12	78.70	0.91	1.2	78.6	75.9 - 81.5
All Abbott Cell-Dyn Instruments	12	52.59	1.00	1.9	52.7	49.5 - 55.6	12	78.70	0.91	1.2	78.6	75.9 - 81.5
Abbott Cell-Dyn Ruby	10	52.86	0.75	1.4	52.7	50.6 - 55.2	10	78.84	1.05	1.3	79.2	75.6 - 82.1
	Specimen CL-15											
All Method	12	53.80	1.95	3.6	53.3	47.9 - 59.7						
All Abbott Cell-Dyn Instruments	12	53.80	1.95	3.6	53.3	47.9 - 59.7						
Abbott Cell-Dyn Ruby	10	54.20	2.20	4.1	53.5	47.5 - 60.9						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–LYMPHOCYTES (percent)

Instrument	Specimen CL-11 Labs	Mean	SD	CV	Median	Range	Specimen CL-12 Labs	Mean	SD	CV	Median	Range
All Method	12	14.30	0.67	4.7	14.0	12.2 - 16.4	12	23.00	1.16	5.0	23.3	19.5 - 26.5
All Abbott Cell-Dyn Instruments	12	14.30	0.67	4.7	14.0	12.2 - 16.4	12	23.00	1.16	5.0	23.3	19.5 - 26.5
Abbott Cell-Dyn Ruby	10	14.04	0.47	3.4	14.0	12.6 - 15.5	10	22.78	1.34	5.9	23.1	18.7 - 26.8

Instrument	Specimen CL-13 Labs	Mean	SD	CV	Median	Range	Specimen CL-14 Labs	Mean	SD	CV	Median	Range
All Method	12	37.87	0.91	2.4	37.9	35.1 - 40.6	12	14.57	1.41	9.7	14.6	10.3 - 18.9
All Abbott Cell-Dyn Instruments	12	37.87	0.91	2.4	37.9	35.1 - 40.6	12	14.57	1.41	9.7	14.6	10.3 - 18.9
Abbott Cell-Dyn Ruby	10	37.52	0.58	1.5	37.6	35.7 - 39.3	10	14.40	1.64	11.4	14.6	9.4 - 19.4

Instrument	Specimen CL-15 Labs	Mean	SD	CV	Median	Range
All Method	12	35.63	2.82	7.9	37.0	27.1 - 44.1
All Abbott Cell-Dyn Instruments	12	35.63	2.82	7.9	37.0	27.1 - 44.1
Abbott Cell-Dyn Ruby	10	34.94	3.13	9.0	34.5	25.5 - 44.4

HEMATOLOGY W/ 5-PART DIFFERENTIAL–MONOCYTES (percent)

Instrument	Specimen CL-11 Labs	Mean	SD	CV	Median	Range	Specimen CL-12 Labs	Mean	SD	CV	Median	Range
All Method	12	2.39	0.33	13.8	2.4	1.3 - 3.4	11	3.52	0.75	21.5	3.7	1.2 - 5.8
All Abbott Cell-Dyn Instruments	12	2.39	0.33	13.8	2.4	1.3 - 3.4	11	3.52	0.75	21.5	3.7	1.2 - 5.8
Abbott Cell-Dyn Ruby	10	2.32	0.33	14.4	2.4	1.3 - 3.4	9	-	-	-	3.5	1.2 - 5.8

Instrument	Specimen CL-13 Labs	Mean	SD	CV	Median	Range	Specimen CL-14 Labs	Mean	SD	CV	Median	Range
All Method	12	7.14	0.54	7.6	7.2	5.5 - 8.8	12	2.50	0.53	21.3	2.3	0.9 - 4.1
All Abbott Cell-Dyn Instruments	12	7.14	0.54	7.6	7.2	5.5 - 8.8	12	2.50	0.53	21.3	2.3	0.9 - 4.1
Abbott Cell-Dyn Ruby	10	7.14	0.64	8.9	7.2	5.2 - 9.1	10	2.58	0.61	23.8	2.3	0.7 - 4.5

Instrument	Specimen CL-15 Labs	Mean	SD	CV	Median	Range
All Method	11	7.42	1.02	13.7	7.2	4.3 - 10.5
All Abbott Cell-Dyn Instruments	11	7.42	1.02	13.7	7.2	4.3 - 10.5
Abbott Cell-Dyn Ruby	9	-	-	-	7.1	4.3 - 10.5

HEMATOLOGY W/ 5-PART DIFFERENTIAL–EOSINOPHILS (percent)

Instrument	Specimen CL-11 Labs	Mean	SD	CV	Median	Range	Specimen CL-12 Labs	Mean	SD	CV	Median	Range
All Method	12	4.00	0.27	6.8	3.9	3.1 - 4.9	12	4.61	0.36	7.8	4.7	3.5 - 5.7
All Abbott Cell-Dyn Instruments	12	4.00	0.27	6.8	3.9	3.1 - 4.9	12	4.61	0.36	7.8	4.7	3.5 - 5.7
Abbott Cell-Dyn Ruby	10	4.00	0.30	7.5	3.9	3.1 - 4.9	10	4.66	0.32	6.9	4.7	3.6 - 5.7

Instrument	Specimen CL-13 Labs	Mean	SD	CV	Median	Range	Specimen CL-14 Labs	Mean	SD	CV	Median	Range
All Method	12	2.36	0.30	12.7	2.3	1.4 - 3.3	12	4.01	0.23	5.6	4.0	3.3 - 4.7
All Abbott Cell-Dyn Instruments	12	2.36	0.30	12.7	2.3	1.4 - 3.3	12	4.01	0.23	5.6	4.0	3.3 - 4.7
Abbott Cell-Dyn Ruby	10	2.42	0.33	13.8	2.4	1.4 - 3.5	10	3.92	0.16	4.2	4.0	3.4 - 4.5

Instrument	Specimen CL-15 Labs	Mean	SD	CV	Median	Range
All Method	12	2.40	0.33	13.6	2.4	1.4 - 3.4
All Abbott Cell-Dyn Instruments	12	2.40	0.33	13.6	2.4	1.4 - 3.4
Abbott Cell-Dyn Ruby	10	2.48	0.23	9.2	2.4	1.7 - 3.2

HEMATOLOGY W/ 5-PART DIFFERENTIAL–BASOPHILS (percent)

Instrument	Specimen CL-11 Labs	Mean	SD	CV	Median	Range	Specimen CL-12 Labs	Mean	SD	CV	Median	Range
All Method	12	0.19	0.07	37.2	0.2	0.0 - 0.4	12	0.14	0.16	113.3	0.1	0.0 - 0.7
All Abbott Cell-Dyn Instruments	12	0.19	0.07	37.2	0.2	0.0 - 0.4	12	0.14	0.16	113.3	0.1	0.0 - 0.7
Abbott Cell-Dyn Ruby	10	0.18	0.04	24.8	0.2	0.0 - 0.4	10	0.16	0.19	121.8	0.1	0.0 - 0.8

Instrument	Specimen CL-13 Labs	Mean	SD	CV	Median	Range	Specimen CL-14 Labs	Mean	SD	CV	Median	Range
All Method	12	0.09	0.04	44.1	0.1	0.0 - 0.2	12	0.21	0.23	105.8	0.1	0.0 - 0.9
All Abbott Cell-Dyn Instruments	12	0.09	0.04	44.1	0.1	0.0 - 0.2	12	0.21	0.23	105.8	0.1	0.0 - 0.9
Abbott Cell-Dyn Ruby	10	0.10	0.01	0.0	0.1	0.0 - 0.2	10	0.26	0.26	100.3	0.1	0.0 - 1.1

Instrument	Specimen CL-15 Labs	Mean	SD	CV	Median	Range
All Method	12	0.24	0.26	108.6	0.1	0.0 - 1.1
All Abbott Cell-Dyn Instruments	12	0.24	0.26	108.6	0.1	0.0 - 1.1
Abbott Cell-Dyn Ruby	10	0.26	0.31	120.4	0.1	0.0 - 1.2

SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–WHITE BLOOD CELL COUNT (x 10^9/L)

	Specimen SYX-11						Specimen SYX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	80	20.16	0.59	2.9	20.2	17.1 - 23.2	79	8.28	0.27	3.3	8.3	7.0 - 9.6
All Sysmex Instruments	76	20.19	0.56	2.8	20.2	17.1 - 23.3	75	8.29	0.28	3.4	8.3	7.0 - 9.6
Sysmex KX-21N & K-800, 1000, 4500	25	19.66	0.35	1.8	19.7	16.7 - 22.7	27	8.10	0.24	2.9	8.1	6.8 - 9.4
Sysmex pocH-100i	12	20.29	0.41	2.0	20.4	17.2 - 23.4	12	8.13	0.13	1.6	8.2	6.9 - 9.4
Sysmex XP-300	38	20.48	0.44	2.2	20.5	17.4 - 23.6	36	8.49	0.20	2.4	8.5	7.2 - 9.8
	Specimen SYX-13						**Specimen SYX-14**					
All Method	80	2.82	0.12	4.1	2.8	2.3 - 3.3	80	20.12	0.56	2.8	20.2	17.0 - 23.2
All Sysmex Instruments	76	2.82	0.11	4.0	2.8	2.3 - 3.3	76	20.13	0.55	2.7	20.2	17.1 - 23.2
Sysmex KX-21N & K-800, 1000, 4500	27	2.77	0.10	3.5	2.8	2.3 - 3.2	27	19.65	0.58	3.0	19.7	16.7 - 22.6
Sysmex pocH-100i	12	2.73	0.07	2.4	2.7	2.3 - 3.2	12	20.17	0.43	2.1	20.3	17.1 - 23.2
Sysmex XP-300	37	2.88	0.10	3.5	2.9	2.4 - 3.4	37	20.45	0.36	1.8	20.4	17.3 - 23.6
	Specimen SYX-15											
All Method	77	2.82	0.12	4.2	2.8	2.3 - 3.3						
All Sysmex Instruments	74	2.82	0.12	4.1	2.8	2.3 - 3.3						
Sysmex KX-21N & K-800, 1000, 4500	26	2.76	0.09	3.1	2.8	2.3 - 3.2						
Sysmex pocH-100i	12	2.77	0.09	3.2	2.8	2.3 - 3.2						
Sysmex XP-300	36	2.89	0.11	3.8	2.9	2.4 - 3.4						

SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–RED BLOOD CELL COUNT (x 10^{12}/L)

	Specimen SYX-11						Specimen SYX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	81	5.952	0.084	1.4	5.93	5.59 - 6.31	81	4.203	0.063	1.5	4.20	3.95 - 4.46
All Sysmex Instruments	77	5.952	0.085	1.4	5.93	5.59 - 6.31	77	4.204	0.064	1.5	4.20	3.95 - 4.46
Sysmex KX-21N & K-800, 1000, 4500	27	5.947	0.075	1.3	5.93	5.58 - 6.31	27	4.201	0.060	1.4	4.21	3.94 - 4.46
Sysmex pocH-100i	12	6.041	0.091	1.5	6.05	5.67 - 6.41	12	4.256	0.082	1.9	4.27	4.00 - 4.52
Sysmex XP-300	38	5.928	0.073	1.2	5.92	5.57 - 6.29	38	4.190	0.052	1.2	4.19	3.93 - 4.45
	Specimen SYX-13						**Specimen SYX-14**					
All Method	81	2.407	0.032	1.3	2.41	2.26 - 2.56	81	5.951	0.081	1.4	5.94	5.59 - 6.31
All Sysmex Instruments	77	2.406	0.031	1.3	2.41	2.26 - 2.56	77	5.950	0.083	1.4	5.94	5.59 - 6.31
Sysmex KX-21N & K-800, 1000, 4500	26	2.408	0.026	1.1	2.42	2.26 - 2.56	26	5.956	0.056	0.9	5.95	5.59 - 6.32
Sysmex pocH-100i	12	2.407	0.039	1.6	2.41	2.26 - 2.56	12	5.992	0.105	1.8	6.02	5.63 - 6.36
Sysmex XP-300	39	2.405	0.033	1.4	2.40	2.26 - 2.55	38	5.927	0.078	1.3	5.93	5.57 - 6.29
	Specimen SYX-15											
All Method	77	2.414	0.036	1.5	2.41	2.26 - 2.56						
All Sysmex Instruments	74	2.414	0.037	1.5	2.41	2.26 - 2.56						
Sysmex KX-21N & K-800, 1000, 4500	24	2.408	0.019	0.8	2.41	2.26 - 2.56						
Sysmex pocH-100i	12	2.407	0.038	1.6	2.41	2.26 - 2.56						
Sysmex XP-300	37	2.415	0.037	1.5	2.42	2.27 - 2.57						

SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–HEMOGLOBIN (g/dL)

	Specimen SYX-11						Specimen SYX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	80	18.31	0.26	1.4	18.3	17.0 - 19.6	81	12.04	0.16	1.3	12.0	11.1 - 12.9
All Sysmex Instruments	76	18.30	0.26	1.4	18.3	17.0 - 19.6	77	12.04	0.16	1.3	12.0	11.1 - 12.9
Sysmex KX-21N & K-800, 1000, 4500	27	18.29	0.22	1.2	18.3	17.0 - 19.6	27	12.00	0.13	1.0	12.0	11.1 - 12.9
Sysmex pocH-100i	12	18.53	0.43	2.3	18.6	17.2 - 19.9	12	12.09	0.25	2.0	12.2	11.2 - 13.0
Sysmex XP-300	38	18.26	0.24	1.3	18.3	16.9 - 19.6	37	12.03	0.12	1.0	12.0	11.1 - 12.9
	Specimen SYX-13						**Specimen SYX-14**					
All Method	82	6.16	0.13	2.2	6.2	5.7 - 6.6	79	18.32	0.23	1.3	18.3	17.0 - 19.7
All Sysmex Instruments	78	6.15	0.13	2.1	6.2	5.7 - 6.6	76	18.32	0.24	1.3	18.3	17.0 - 19.7
Sysmex KX-21N & K-800, 1000, 4500	27	6.15	0.11	1.7	6.2	5.7 - 6.6	27	18.29	0.17	1.0	18.3	17.0 - 19.6
Sysmex pocH-100i	12	6.21	0.09	1.5	6.2	5.7 - 6.7	12	18.48	0.31	1.7	18.6	17.1 - 19.8
Sysmex XP-300	39	6.14	0.15	2.4	6.1	5.7 - 6.6	37	18.29	0.23	1.3	18.3	17.0 - 19.6
	Specimen SYX-15											
All Method	79	6.17	0.13	2.1	6.2	5.7 - 6.7						
All Sysmex Instruments	76	6.17	0.13	2.1	6.2	5.7 - 6.6						
Sysmex KX-21N & K-800, 1000, 4500	26	6.18	0.12	2.0	6.2	5.7 - 6.7						
Sysmex pocH-100i	12	6.18	0.10	1.7	6.2	5.7 - 6.7						
Sysmex XP-300	38	6.16	0.14	2.3	6.2	5.7 - 6.6						

SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–HEMATOCRIT (percent)

	Specimen SYX-11						Specimen SYX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	79	49.87	1.04	2.1	49.6	46.8 - 52.9	80	32.56	0.82	2.5	32.5	30.6 - 34.6
All Sysmex Instruments	75	49.88	1.07	2.1	49.6	46.8 - 52.9	76	32.58	0.82	2.5	32.5	30.6 - 34.6
Sysmex KX-21N & K-800, 1000, 4500	26	49.41	0.88	1.8	49.3	46.4 - 52.4	26	32.08	0.56	1.7	32.1	30.1 - 34.1
Sysmex pocH-100i	12	51.66	1.74	3.4	51.8	48.5 - 54.8	12	34.01	1.26	3.7	33.9	31.9 - 36.1
Sysmex XP-300	38	49.80	0.72	1.4	49.8	46.8 - 52.8	38	32.51	0.41	1.3	32.5	30.5 - 34.5
	Specimen SYX-13						**Specimen SYX-14**					
All Method	79	16.93	0.38	2.2	16.9	15.9 - 18.0	79	49.79	0.95	1.9	49.7	46.8 - 52.8
All Sysmex Instruments	75	16.93	0.38	2.2	16.9	15.9 - 18.0	75	49.81	0.97	1.9	49.8	46.8 - 52.8
Sysmex KX-21N & K-800, 1000, 4500	26	16.68	0.33	2.0	16.8	15.6 - 17.7	26	49.55	0.90	1.8	49.4	46.5 - 52.6
Sysmex pocH-100i	12	17.64	0.63	3.5	17.6	16.5 - 18.8	12	51.26	1.76	3.4	51.1	48.1 - 54.4
Sysmex XP-300	38	16.95	0.21	1.2	16.9	15.9 - 18.0	38	49.67	0.71	1.4	49.8	46.6 - 52.7
	Specimen SYX-15											
All Method	77	16.98	0.45	2.7	16.9	15.9 - 18.0						
All Sysmex Instruments	75	17.02	0.51	3.0	16.9	15.9 - 18.1						
Sysmex KX-21N & K-800, 1000, 4500	24	16.69	0.29	1.7	16.7	15.6 - 17.7						
Sysmex pocH-100i	12	17.58	0.65	3.7	17.6	16.5 - 18.7						
Sysmex XP-300	38	17.00	0.28	1.6	17.0	15.9 - 18.1						

SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–PLATELET COUNT (x10^9/L)

	Specimen SYX-11						Specimen SYX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	80	390.7	17.1	4.4	392	293 - 489	79	194.5	8.0	4.1	195	145 - 244
All Sysmex Instruments	75	392.1	15.2	3.9	392	294 - 491	75	195.0	7.8	4.0	195	146 - 244
Sysmex KX-21N & K-800, 1000, 4500	26	396.0	15.9	4.0	396	297 - 495	26	196.1	7.3	3.7	196	147 - 246
Sysmex pocH-100i	12	376.3	13.7	3.6	371	282 - 471	12	186.1	26.4	14.2	192	139 - 233
Sysmex XP-300	37	394.5	12.1	3.1	396	295 - 494	38	194.8	7.5	3.8	196	146 - 244
	Specimen SYX-13						**Specimen SYX-14**					
All Method	80	60.6	3.1	5.2	60	45 - 76	80	388.8	16.5	4.2	391	291 - 486
All Sysmex Instruments	76	60.5	3.2	5.2	60	45 - 76	76	388.5	16.7	4.3	391	291 - 486
Sysmex KX-21N & K-800, 1000, 4500	26	60.4	3.8	6.3	60	45 - 76	26	393.9	15.3	3.9	400	295 - 493
Sysmex pocH-100i	12	59.7	2.6	4.4	60	44 - 75	12	376.4	19.6	5.2	379	282 - 471
Sysmex XP-300	39	61.0	3.2	5.3	61	45 - 77	38	388.6	15.1	3.9	390	291 - 486
	Specimen SYX-15											
All Method	77	60.8	4.1	6.7	61	45 - 76						
All Sysmex Instruments	74	60.8	4.1	6.8	61	45 - 77						
Sysmex KX-21N & K-800, 1000, 4500	25	62.0	4.1	6.6	63	46 - 78						
Sysmex pocH-100i	12	59.7	3.6	6.0	59	44 - 75						
Sysmex XP-300	37	60.4	4.3	7.1	61	45 - 76						

SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–LYMPH W/SCR (percent)

	Specimen SYX-11						Specimen SYX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	72	61.14	0.71	1.2	61.1	59.0 - 63.3	71	29.36	0.75	2.6	29.5	27.1 - 31.7
All Sysmex Instruments	68	61.18	0.69	1.1	61.2	59.1 - 63.3	67	29.37	0.76	2.6	29.5	27.1 - 31.7
Sysmex KX-21N & K-800, 1000, 4500	24	61.03	0.70	1.1	61.1	58.9 - 63.2	23	29.35	0.69	2.4	29.5	27.2 - 31.5
Sysmex pocH-100i	11	61.55	0.73	1.2	61.6	59.3 - 63.8	11	28.35	1.10	3.9	28.2	25.0 - 31.7
Sysmex XP-300	33	61.16	0.64	1.1	61.1	59.2 - 63.1	34	29.62	0.62	2.1	29.7	27.7 - 31.5
	Specimen SYX-13						**Specimen SYX-14**					
All Method	72	11.05	1.27	11.5	11.2	7.2 - 14.9	71	60.89	0.91	1.5	61.0	58.1 - 63.7
All Sysmex Instruments	68	11.02	1.28	11.6	11.2	7.1 - 14.9	67	60.92	0.92	1.5	61.0	58.1 - 63.7
Sysmex KX-21N & K-800, 1000, 4500	24	11.45	0.81	7.1	11.5	9.0 - 13.9	24	60.77	0.89	1.5	61.0	58.1 - 63.5
Sysmex pocH-100i	11	9.93	1.42	14.4	9.5	5.6 - 14.3	11	61.20	1.04	1.7	61.2	58.0 - 64.4
Sysmex XP-300	33	11.08	1.33	12.0	11.0	7.0 - 15.1	32	60.93	0.91	1.5	61.1	58.2 - 63.7
	Specimen SYX-15											
All Method	68	11.17	1.44	12.9	11.2	6.8 - 15.5						
All Sysmex Instruments	66	11.24	1.58	14.1	11.2	6.4 - 16.0						
Sysmex KX-21N & K-800, 1000, 4500	22	11.44	0.82	7.2	11.5	8.9 - 14.0						
Sysmex pocH-100i	11	9.73	1.00	10.3	9.6	6.7 - 12.8						
Sysmex XP-300	33	11.62	1.84	15.9	11.6	6.0 - 17.2						

SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–MONO/MIXED W/MCR (percent)

	Specimen SYX-11						Specimen SYX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	72	14.87	0.91	6.1	15.0	12.1 - 17.6	71	15.17	0.94	6.2	15.2	12.3 - 18.1
All Sysmex Instruments	68	14.84	0.90	6.1	15.0	12.1 - 17.6	66	15.07	0.86	5.7	15.1	12.4 - 17.7
Sysmex KX-21N & K-800, 1000, 4500	24	15.02	0.86	5.8	14.9	12.4 - 17.7	23	15.14	0.61	4.1	15.2	13.3 - 17.0
Sysmex pocH-100i	11	13.95	1.07	7.7	14.0	10.7 - 17.2	11	13.82	1.04	7.5	14.1	10.6 - 17.0
Sysmex XP-300	33	15.02	0.69	4.6	15.0	12.9 - 17.1	33	15.34	0.81	5.3	15.4	12.9 - 17.8
	Specimen SYX-13						**Specimen SYX-14**					
All Method	71	18.01	1.63	9.0	18.4	13.1 - 22.9	71	15.15	1.02	6.8	15.2	12.0 - 18.3
All Sysmex Instruments	67	17.99	1.66	9.2	18.3	13.0 - 23.0	67	15.12	1.03	6.8	15.2	12.0 - 18.3
Sysmex KX-21N & K-800, 1000, 4500	24	18.04	1.48	8.2	18.4	13.6 - 22.5	23	15.20	0.83	5.5	15.2	12.7 - 17.8
Sysmex pocH-100i	10	16.43	1.87	11.4	16.0	10.8 - 22.1	11	14.30	1.09	7.6	14.0	11.0 - 17.6
Sysmex XP-300	32	18.57	1.23	6.6	18.6	14.8 - 22.3	33	15.33	1.03	6.7	15.3	12.2 - 18.5
	Specimen SYX-15											
All Method	69	18.09	1.74	9.6	18.1	12.8 - 23.4						
All Sysmex Instruments	66	18.05	1.77	9.8	18.1	12.7 - 23.4						
Sysmex KX-21N & K-800, 1000, 4500	23	17.99	1.59	8.8	18.1	13.2 - 22.8						
Sysmex pocH-100i	11	16.98	1.48	8.7	17.6	12.5 - 21.5						
Sysmex XP-300	32	18.45	1.86	10.1	18.2	12.8 - 24.1						

SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–NEUT W/LCR (percent)

	Specimen SYX-11						Specimen SYX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	71	24.05	0.73	3.1	24.0	21.8 - 26.3	71	55.40	1.15	2.1	55.1	51.9 - 58.9
All Sysmex Instruments	67	24.04	0.73	3.0	24.0	21.8 - 26.3	67	55.44	1.16	2.1	55.2	51.9 - 59.0
Sysmex KX-21N & K-800, 1000, 4500	24	23.97	0.85	3.5	24.0	21.4 - 26.6	24	55.27	0.86	1.5	55.2	52.6 - 57.9
Sysmex pocH-100i	11	24.51	0.94	3.8	24.4	21.6 - 27.4	11	57.84	1.33	2.3	57.7	53.8 - 61.9
Sysmex XP-300	33	23.86	0.61	2.6	23.8	22.0 - 25.8	34	55.05	0.87	1.6	55.0	52.4 - 57.7
	Specimen SYX-13						**Specimen SYX-14**					
All Method	69	70.91	1.86	2.6	70.7	65.3 - 76.5	69	24.11	0.88	3.6	24.1	21.4 - 26.8
All Sysmex Instruments	66	70.86	2.06	2.9	70.8	64.6 - 77.1	65	24.12	0.85	3.5	24.1	21.5 - 26.7
Sysmex KX-21N & K-800, 1000, 4500	24	70.56	1.35	1.9	70.7	66.5 - 74.7	22	24.09	0.50	2.1	24.1	22.5 - 25.6
Sysmex pocH-100i	10	73.98	2.55	3.4	73.8	66.3 - 81.7	11	24.60	0.76	3.1	24.7	22.3 - 26.9
Sysmex XP-300	34	70.16	2.20	3.1	70.2	63.5 - 76.8	32	23.99	1.03	4.3	23.9	20.9 - 27.1
	Specimen SYX-15											
All Method	70	70.54	2.15	3.1	70.6	64.0 - 77.1						
All Sysmex Instruments	67	70.59	2.19	3.1	70.8	64.0 - 77.2						
Sysmex KX-21N & K-800, 1000, 4500	23	70.44	1.38	2.0	70.5	66.2 - 74.6						
Sysmex pocH-100i	11	73.30	1.15	1.6	73.1	69.8 - 76.8						
Sysmex XP-300	33	69.78	2.23	3.2	69.9	63.1 - 76.5						

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x 10^9/L)

	Specimen HD-11						Specimen HD-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	508	20.65	0.81	3.9	20.7	17.5 - 23.8	504	7.76	0.32	4.1	7.8	6.5 - 9.0
All Abbott Cell-Dyn Instruments	137	20.10	0.93	4.6	19.9	17.0 - 23.2	138	7.72	0.37	4.8	7.7	6.5 - 8.9
All ABX Instruments	81	20.65	0.59	2.9	20.8	17.5 - 23.8	80	7.65	0.23	3.0	7.7	6.5 - 8.9
All Boule (CDS) Instruments	138	20.80	0.54	2.6	20.8	17.6 - 24.0	136	7.61	0.22	3.0	7.6	6.4 - 8.8
All COULTER Instruments	138	21.12	0.68	3.2	21.0	17.9 - 24.3	139	8.01	0.23	2.9	8.0	6.8 - 9.3
Abbott Cell-Dyn 1700	15	21.74	0.72	3.3	21.5	18.4 - 25.1	15	8.28	0.30	3.6	8.2	7.0 - 9.6
Abbott Cell-Dyn 1800	40	20.20	0.73	3.6	20.2	17.1 - 23.3	40	7.52	0.25	3.3	7.6	6.3 - 8.7
Abbott Cell-Dyn Emerald	80	19.70	0.62	3.1	19.7	16.7 - 22.7	82	7.70	0.31	4.0	7.7	6.5 - 8.9
Boule (CDS) Medonic M series	131	20.75	0.49	2.4	20.7	17.6 - 23.9	131	7.60	0.21	2.8	7.6	6.4 - 8.8
COULTER AcT diff/diff 2	132	21.09	0.66	3.2	21.0	17.9 - 24.3	133	8.01	0.23	2.9	8.0	6.8 - 9.3
Horiba ABX Micros/45/60	81	20.65	0.59	2.9	20.8	17.5 - 23.8	80	7.65	0.23	3.0	7.7	6.5 - 8.9

	Specimen HD-13						Specimen HD-14					
All Method	510	2.09	0.15	7.4	2.1	1.7 - 2.5	503	20.88	0.76	3.6	20.9	17.7 - 24.1
All Abbott Cell-Dyn Instruments	138	2.13	0.14	6.7	2.1	1.8 - 2.5	136	20.24	0.93	4.6	20.1	17.2 - 23.3
All ABX Instruments	80	2.05	0.07	3.4	2.1	1.7 - 2.4	81	20.83	0.51	2.4	20.8	17.7 - 24.0
All Boule (CDS) Instruments	140	1.94	0.08	4.3	1.9	1.6 - 2.3	138	20.98	0.47	2.2	21.0	17.8 - 24.2
All COULTER Instruments	140	2.22	0.11	4.9	2.2	1.8 - 2.6	138	21.42	0.56	2.6	21.4	18.2 - 24.7
Abbott Cell-Dyn 1700	14	2.27	0.11	5.0	2.3	1.9 - 2.7	15	21.96	0.85	3.9	21.8	18.6 - 25.3
Abbott Cell-Dyn 1800	40	1.99	0.11	5.3	2.0	1.6 - 2.3	39	20.39	0.64	3.2	20.4	17.3 - 23.5
Abbott Cell-Dyn Emerald	83	2.16	0.11	4.9	2.2	1.8 - 2.5	82	19.92	0.70	3.5	19.9	16.9 - 23.0
Boule (CDS) Medonic M series	134	1.93	0.08	4.2	1.9	1.6 - 2.3	132	20.96	0.43	2.1	21.0	17.8 - 24.2
COULTER AcT diff/diff 2	134	2.22	0.11	5.0	2.2	1.8 - 2.6	132	21.39	0.55	2.6	21.4	18.1 - 24.6
Horiba ABX Micros/45/60	80	2.05	0.07	3.4	2.1	1.7 - 2.4	81	20.83	0.51	2.4	20.8	17.7 - 24.0

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x 10^9/L) cont'd

Specimen HD-15

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	509	2.10	0.17	7.9	2.1	1.7 - 2.5
All Abbott Cell-Dyn Instruments	139	2.14	0.16	7.4	2.1	1.8 - 2.5
All ABX Instruments	80	2.06	0.08	3.9	2.1	1.7 - 2.4
All Boule (CDS) Instruments	139	1.95	0.09	4.8	1.9	1.6 - 2.3
All COULTER Instruments	139	2.25	0.13	5.8	2.2	1.9 - 2.6
Abbott Cell-Dyn 1700	15	2.27	0.16	7.2	2.3	1.9 - 2.7
Abbott Cell-Dyn 1800	40	2.00	0.12	5.9	2.0	1.6 - 2.3
Abbott Cell-Dyn Emerald	83	2.19	0.12	5.6	2.2	1.8 - 2.6
Boule (CDS) Medonic M series	134	1.95	0.09	4.7	1.9	1.6 - 2.3
COULTER AcT diff/diff 2	133	2.25	0.13	5.8	2.3	1.9 - 2.6
Horiba ABX Micros/45/60	80	2.06	0.08	3.9	2.1	1.7 - 2.4

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x 10^{12}/L)

	Specimen HD-11						Specimen HD-12					
Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	501	5.607	0.165	2.9	5.62	5.27 - 5.95	498	4.594	0.110	2.4	4.60	4.31 - 4.88
All Abbott Cell-Dyn Instruments	137	5.442	0.181	3.3	5.45	5.11 - 5.77	138	4.492	0.152	3.4	4.49	4.22 - 4.77
All ABX Instruments	80	5.639	0.112	2.0	5.65	5.30 - 5.98	80	4.579	0.074	1.6	4.58	4.30 - 4.86
All Boule (CDS) Instruments	137	5.702	0.088	1.6	5.71	5.36 - 6.05	137	4.616	0.066	1.4	4.61	4.33 - 4.90
All COULTER Instruments	138	5.650	0.150	2.7	5.63	5.31 - 5.99	141	4.652	0.101	2.2	4.65	4.37 - 4.94
Abbott Cell-Dyn 1700	15	5.569	0.147	2.6	5.56	5.23 - 5.91	15	4.615	0.124	2.7	4.65	4.33 - 4.90
Abbott Cell-Dyn 1800	40	5.478	0.148	2.7	5.48	5.14 - 5.81	40	4.560	0.129	2.8	4.58	4.28 - 4.84
Abbott Cell-Dyn Emerald	82	5.402	0.189	3.5	5.43	5.07 - 5.73	82	4.436	0.141	3.2	4.45	4.16 - 4.71
Boule (CDS) Medonic M series	131	5.705	0.088	1.5	5.71	5.36 - 6.05	131	4.615	0.065	1.4	4.61	4.33 - 4.90
COULTER AcT diff/diff 2	132	5.649	0.152	2.7	5.63	5.31 - 5.99	135	4.651	0.101	2.2	4.65	4.37 - 4.94
Horiba ABX Micros/45/60	80	5.639	0.112	2.0	5.65	5.30 - 5.98	80	4.579	0.074	1.6	4.58	4.30 - 4.86

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x 10^{12}/L) cont'd

	Specimen HD-13						Specimen HD-14					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	507	2.322	0.069	3.0	2.32	2.18 - 2.47	502	5.602	0.156	2.8	5.63	5.26 - 5.94
All Abbott Cell-Dyn Instruments	137	2.326	0.094	4.1	2.33	2.18 - 2.47	137	5.436	0.171	3.2	5.45	5.10 - 5.77
All ABX Instruments	81	2.296	0.046	2.0	2.30	2.15 - 2.44	81	5.614	0.107	1.9	5.61	5.27 - 5.96
All Boule (CDS) Instruments	137	2.297	0.037	1.6	2.30	2.15 - 2.44	138	5.703	0.076	1.3	5.70	5.36 - 6.05
All COULTER Instruments	140	2.365	0.058	2.5	2.36	2.22 - 2.51	138	5.648	0.126	2.2	5.65	5.30 - 5.99
Abbott Cell-Dyn 1700	15	2.425	0.145	6.0	2.39	2.27 - 2.58	15	5.583	0.180	3.2	5.60	5.24 - 5.92
Abbott Cell-Dyn 1800	39	2.416	0.053	2.2	2.41	2.27 - 2.57	40	5.439	0.140	2.6	5.45	5.11 - 5.77
Abbott Cell-Dyn Emerald	82	2.274	0.072	3.2	2.28	2.13 - 2.42	81	5.404	0.170	3.1	5.42	5.07 - 5.73
Boule (CDS) Medonic M series	131	2.297	0.038	1.6	2.30	2.15 - 2.44	132	5.707	0.072	1.3	5.70	5.36 - 6.05
COULTER AcT diff/diff 2	134	2.366	0.059	2.5	2.36	2.22 - 2.51	132	5.647	0.127	2.3	5.65	5.30 - 5.99
Horiba ABX Micros/45/60	81	2.296	0.046	2.0	2.30	2.15 - 2.44	81	5.614	0.107	1.9	5.61	5.27 - 5.96

	Specimen HD-15					
All Method	505	2.325	0.069	2.9	2.32	2.18 - 2.47
All Abbott Cell-Dyn Instruments	139	2.327	0.090	3.9	2.33	2.18 - 2.47
All ABX Instruments	81	2.297	0.046	2.0	2.29	2.15 - 2.44
All Boule (CDS) Instruments	136	2.307	0.038	1.7	2.31	2.16 - 2.45
All COULTER Instruments	139	2.360	0.067	2.8	2.35	2.21 - 2.51
Abbott Cell-Dyn 1700	15	2.378	0.068	2.9	2.37	2.23 - 2.53
Abbott Cell-Dyn 1800	40	2.392	0.078	3.3	2.41	2.24 - 2.54
Abbott Cell-Dyn Emerald	83	2.286	0.075	3.3	2.30	2.14 - 2.43
Boule (CDS) Medonic M series	130	2.305	0.037	1.6	2.31	2.16 - 2.45
COULTER AcT diff/diff 2	133	2.361	0.068	2.9	2.35	2.21 - 2.51
Horiba ABX Micros/45/60	81	2.297	0.046	2.0	2.29	2.15 - 2.44

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–HEMOGLOBIN (g/dL)

	Specimen HD-11						Specimen HD-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	509	18.06	0.38	2.1	18.1	16.7 - 19.4	511	13.50	0.26	2.0	13.5	12.5 - 14.5
All Abbott Cell-Dyn Instruments	138	18.05	0.43	2.4	18.1	16.7 - 19.4	139	13.49	0.30	2.3	13.5	12.5 - 14.5
All ABX Instruments	80	17.97	0.26	1.5	18.0	16.7 - 19.3	80	13.47	0.21	1.5	13.5	12.5 - 14.5
All Boule (CDS) Instruments	136	18.16	0.27	1.5	18.2	16.8 - 19.5	135	13.51	0.20	1.5	13.5	12.5 - 14.5
All COULTER Instruments	139	18.01	0.41	2.3	18.0	16.7 - 19.3	140	13.53	0.29	2.1	13.5	12.5 - 14.5
Abbott Cell-Dyn 1700	15	17.95	0.33	1.8	18.0	16.6 - 19.3	15	13.51	0.26	1.9	13.5	12.5 - 14.5
Abbott Cell-Dyn 1800	40	18.35	0.41	2.2	18.4	17.0 - 19.7	40	13.73	0.30	2.2	13.8	12.7 - 14.7
Abbott Cell-Dyn Emerald	82	17.92	0.38	2.1	18.0	16.6 - 19.2	83	13.38	0.25	1.8	13.4	12.4 - 14.4
Boule (CDS) Medonic M series	130	18.18	0.26	1.4	18.2	16.9 - 19.5	129	13.51	0.20	1.5	13.5	12.5 - 14.5
COULTER AcT diff/diff 2	133	18.00	0.42	2.3	18.0	16.7 - 19.3	134	13.53	0.29	2.2	13.6	12.5 - 14.5
Horiba ABX Micros/45/60	80	17.97	0.26	1.5	18.0	16.7 - 19.3	80	13.47	0.21	1.5	13.5	12.5 - 14.5

	Specimen HD-13						Specimen HD-14					
All Method	508	5.90	0.15	2.5	5.9	5.4 - 6.4	511	18.08	0.36	2.0	18.1	16.8 - 19.4
All Abbott Cell-Dyn Instruments	138	5.90	0.21	3.5	5.9	5.4 - 6.4	138	18.09	0.43	2.4	18.1	16.8 - 19.4
All ABX Instruments	80	5.88	0.12	2.0	5.9	5.4 - 6.3	81	17.96	0.26	1.5	18.0	16.7 - 19.3
All Boule (CDS) Instruments	136	5.94	0.10	1.6	5.9	5.5 - 6.4	137	18.16	0.27	1.5	18.2	16.8 - 19.5
All COULTER Instruments	138	5.87	0.14	2.3	5.9	5.4 - 6.3	140	18.10	0.37	2.1	18.1	16.8 - 19.4
Abbott Cell-Dyn 1700	14	6.11	0.14	2.3	6.1	5.6 - 6.6	15	17.95	0.42	2.4	18.0	16.6 - 19.3
Abbott Cell-Dyn 1800	40	6.06	0.16	2.6	6.1	5.6 - 6.5	40	18.45	0.41	2.2	18.5	17.1 - 19.8
Abbott Cell-Dyn Emerald	80	5.79	0.12	2.0	5.8	5.3 - 6.2	82	17.94	0.32	1.8	18.0	16.6 - 19.2
Boule (CDS) Medonic M series	130	5.94	0.10	1.6	5.9	5.5 - 6.4	130	18.19	0.24	1.3	18.2	16.9 - 19.5
COULTER AcT diff/diff 2	132	5.87	0.14	2.3	5.9	5.4 - 6.3	134	18.09	0.37	2.1	18.1	16.8 - 19.4
Horiba ABX Micros/45/60	80	5.88	0.12	2.0	5.9	5.4 - 6.3	81	17.96	0.26	1.5	18.0	16.7 - 19.3

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–HEMOGLOBIN (g/dL) cont'd

Specimen HD-15

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	510	5.91	0.15	2.6	5.9	5.4 - 6.4
All Abbott Cell-Dyn Instruments	139	5.92	0.20	3.3	5.9	5.5 - 6.4
All ABX Instruments	78	5.89	0.11	1.9	5.9	5.4 - 6.4
All Boule (CDS) Instruments	136	5.95	0.10	1.6	6.0	5.5 - 6.4
All COULTER Instruments	139	5.87	0.15	2.5	5.9	5.4 - 6.3
Abbott Cell-Dyn 1700	15	6.11	0.15	2.5	6.1	5.6 - 6.6
Abbott Cell-Dyn 1800	39	6.07	0.16	2.6	6.1	5.6 - 6.5
Abbott Cell-Dyn Emerald	82	5.81	0.12	2.1	5.8	5.3 - 6.3
Boule (CDS) Medonic M series	130	5.95	0.09	1.6	6.0	5.5 - 6.4
COULTER AcT diff/diff 2	133	5.87	0.15	2.5	5.9	5.4 - 6.3
Horiba ABX Micros/45/60	78	5.89	0.11	1.9	5.9	5.4 - 6.4

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–HEMATOCRIT (percent)

	Specimen HD-11						**Specimen HD-12**					
Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	503	51.76	1.58	3.0	51.7	48.6 - 54.9	508	38.27	1.42	3.7	38.2	35.9 - 40.6
All Abbott Cell-Dyn Instruments	138	52.51	1.77	3.4	52.7	49.3 - 55.7	138	39.28	1.28	3.2	39.2	36.9 - 41.7
All ABX Instruments	80	50.44	1.09	2.2	50.6	47.4 - 53.5	80	37.09	0.71	1.9	37.1	34.8 - 39.4
All Boule (CDS) Instruments	135	51.54	1.19	2.3	51.7	48.4 - 54.7	136	37.07	0.76	2.0	37.0	34.8 - 39.3
All COULTER Instruments	138	51.95	1.39	2.7	51.8	48.8 - 55.1	140	38.99	0.93	2.4	38.9	36.6 - 41.4
Abbott Cell-Dyn 1700	14	51.92	1.51	2.9	52.2	48.8 - 55.1	14	38.79	1.33	3.4	39.2	36.4 - 41.2
Abbott Cell-Dyn 1800	40	53.00	1.64	3.1	53.1	49.8 - 56.2	40	39.83	1.23	3.1	40.0	37.4 - 42.3
Abbott Cell-Dyn Emerald	82	52.39	1.85	3.5	52.7	49.2 - 55.6	82	39.11	1.23	3.1	39.2	36.7 - 41.5
Boule (CDS) Medonic M series	129	51.59	1.11	2.2	51.7	48.4 - 54.7	130	37.07	0.75	2.0	37.0	34.8 - 39.3
COULTER AcT diff/diff 2	132	51.95	1.42	2.7	51.8	48.8 - 55.1	134	38.99	0.94	2.4	38.9	36.6 - 41.4
Horiba ABX Micros/45/60	80	50.44	1.09	2.2	50.6	47.4 - 53.5	80	37.09	0.71	1.9	37.1	34.8 - 39.4

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–HEMATOCRIT (percent) cont'd

	Specimen HD-13						Specimen HD-14					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	509	16.87	0.92	5.4	16.9	15.8 - 17.9	503	51.59	1.50	2.9	51.6	48.4 - 54.7
All Abbott Cell-Dyn Instruments	137	17.69	0.59	3.3	17.7	16.6 - 18.8	136	52.31	1.62	3.1	52.5	49.1 - 55.5
All ABX Instruments	81	15.91	0.36	2.2	15.9	14.9 - 16.9	80	50.24	1.14	2.3	50.2	47.2 - 53.3
All Boule (CDS) Instruments	134	16.04	0.35	2.2	16.1	15.0 - 17.1	137	51.27	1.12	2.2	51.3	48.1 - 54.4
All COULTER Instruments	138	17.35	0.46	2.6	17.3	16.3 - 18.4	138	51.95	1.28	2.5	51.9	48.8 - 55.1
Abbott Cell-Dyn 1700	13	17.40	0.44	2.5	17.5	16.3 - 18.5	14	51.65	1.83	3.5	51.8	48.5 - 54.8
Abbott Cell-Dyn 1800	40	18.05	0.51	2.8	18.2	16.9 - 19.2	40	52.51	1.51	2.9	52.6	49.3 - 55.7
Abbott Cell-Dyn Emerald	82	17.57	0.58	3.3	17.6	16.5 - 18.7	80	52.34	1.64	3.1	52.3	49.2 - 55.5
Boule (CDS) Medonic M series	128	16.04	0.34	2.1	16.1	15.0 - 17.1	130	51.36	1.00	2.0	51.3	48.2 - 54.5
COULTER AcT diff/diff 2	133	17.37	0.48	2.7	17.4	16.3 - 18.5	133	51.90	1.34	2.6	51.9	48.7 - 55.1
Horiba ABX Micros/45/60	81	15.91	0.36	2.2	15.9	14.9 - 16.9	80	50.24	1.14	2.3	50.2	47.2 - 53.3

	Specimen HD-15					
All Method	506	16.89	0.88	5.2	16.9	15.8 - 18.0
All Abbott Cell-Dyn Instruments	138	17.68	0.60	3.4	17.8	16.6 - 18.8
All ABX Instruments	80	15.95	0.35	2.2	15.9	14.9 - 17.0
All Boule (CDS) Instruments	134	16.12	0.36	2.2	16.1	15.1 - 17.1
All COULTER Instruments	140	17.35	0.53	3.0	17.3	16.3 - 18.4
Abbott Cell-Dyn 1700	14	17.19	0.51	2.9	17.2	16.1 - 18.3
Abbott Cell-Dyn 1800	40	17.92	0.64	3.6	18.1	16.8 - 19.0
Abbott Cell-Dyn Emerald	82	17.65	0.54	3.1	17.8	16.5 - 18.8
Boule (CDS) Medonic M series	129	16.11	0.36	2.3	16.1	15.1 - 17.1
COULTER AcT diff/diff 2	134	17.36	0.53	3.1	17.3	16.3 - 18.5
Horiba ABX Micros/45/60	80	15.95	0.35	2.2	15.9	14.9 - 17.0

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–PLATELET COUNT (x 10^9/L)

	Specimen HD-11						Specimen HD-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	509	530.2	35.2	6.6	528	397 - 663	508	264.3	16.6	6.3	265	198 - 331
All Abbott Cell-Dyn Instruments	138	537.3	42.0	7.8	535	402 - 672	138	268.9	18.6	6.9	268	201 - 337
All ABX Instruments	81	532.5	26.0	4.9	531	399 - 666	81	271.1	12.8	4.7	270	203 - 339
All Boule (CDS) Instruments	139	503.4	21.7	4.3	504	377 - 630	139	251.1	12.2	4.9	250	188 - 314
All COULTER Instruments	139	551.3	26.1	4.7	553	413 - 690	140	269.7	13.4	5.0	270	202 - 338
Abbott Cell-Dyn 1700	15	558.9	44.5	8.0	550	419 - 699	15	268.3	20.0	7.5	264	201 - 336
Abbott Cell-Dyn 1800	40	565.7	32.3	5.7	560	424 - 708	40	271.3	16.9	6.2	275	203 - 340
Abbott Cell-Dyn Emerald	82	519.1	36.6	7.1	518	389 - 649	82	267.6	19.2	7.2	267	200 - 335
Boule (CDS) Medonic M series	133	502.9	21.9	4.4	503	377 - 629	133	250.6	12.2	4.9	249	187 - 314
COULTER AcT diff/diff 2	134	552.1	25.7	4.7	554	414 - 691	135	270.0	13.5	5.0	270	202 - 338
Horiba ABX Micros/45/60	81	532.5	26.0	4.9	531	399 - 666	81	271.1	12.8	4.7	270	203 - 339

	Specimen HD-13						Specimen HD-14					
All Method	497	72.2	7.9	11.0	71	54 - 91	507	530.0	34.2	6.4	529	397 - 663
All Abbott Cell-Dyn Instruments	136	76.5	12.1	15.9	74	57 - 96	138	536.7	39.0	7.3	534	402 - 671
All ABX Instruments	80	79.2	7.1	9.0	80	59 - 100	80	529.5	24.4	4.6	529	397 - 662
All Boule (CDS) Instruments	138	66.8	5.4	8.0	67	50 - 84	138	501.6	20.8	4.1	503	376 - 628
All COULTER Instruments	139	71.5	5.1	7.2	71	53 - 90	137	551.3	22.4	4.1	551	413 - 690
Abbott Cell-Dyn 1700	15	68.2	6.2	9.0	67	51 - 86	15	553.9	37.9	6.8	558	415 - 693
Abbott Cell-Dyn 1800	40	71.1	4.9	6.9	71	53 - 89	40	564.0	30.5	5.4	561	423 - 705
Abbott Cell-Dyn Emerald	81	81.1	14.1	17.4	78	60 - 102	82	519.2	32.4	6.2	515	389 - 650
Boule (CDS) Medonic M series	132	66.6	5.2	7.8	67	49 - 84	132	501.1	20.7	4.1	503	375 - 627
COULTER AcT diff/diff 2	134	71.6	5.1	7.1	71	53 - 90	133	551.3	22.3	4.0	551	413 - 690
Horiba ABX Micros/45/60	80	79.2	7.1	9.0	80	59 - 100	80	529.5	24.4	4.6	529	397 - 662

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–PLATELET COUNT (x 10^9/L) cont'd

Specimen HD-15

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	500	72.8	8.4	11.6	71	54 - 92
All Abbott Cell-Dyn Instruments	138	77.9	13.0	16.7	74	58 - 98
All ABX Instruments	80	79.2	6.7	8.5	79	59 - 99
All Boule (CDS) Instruments	137	66.5	4.7	7.1	67	49 - 84
All COULTER Instruments	139	71.9	5.0	7.0	72	53 - 90
Abbott Cell-Dyn 1700	15	67.5	6.0	8.9	67	50 - 85
Abbott Cell-Dyn 1800	40	70.6	4.8	6.8	71	52 - 89
Abbott Cell-Dyn Emerald	82	83.4	13.9	16.7	81	62 - 105
Boule (CDS) Medonic M series	131	66.6	4.7	7.1	67	49 - 84
COULTER AcT diff/diff 2	133	72.1	4.8	6.7	72	54 - 91
Horiba ABX Micros/45/60	80	79.2	6.7	8.5	79	59 - 99

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–LYMPHOCYTES (percent)

	Specimen HD-11						**Specimen HD-12**					
Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	494	14.32	1.83	12.8	15.0	8.8 - 19.9	497	30.60	3.91	12.8	31.6	18.8 - 42.4
All Abbott Cell-Dyn Instruments	134	13.16	1.60	12.1	13.4	8.3 - 18.0	136	28.27	2.26	8.0	28.9	21.4 - 35.1
All ABX Instruments	75	11.80	1.08	9.2	11.4	8.5 - 15.1	76	24.57	2.71	11.0	24.1	16.4 - 32.8
All Boule (CDS) Instruments	136	15.57	0.53	3.4	15.6	13.9 - 17.2	135	32.46	1.10	3.4	32.5	29.1 - 35.8
All COULTER Instruments	130	15.51	0.57	3.7	15.5	13.8 - 17.3	131	34.31	1.01	2.9	34.4	31.2 - 37.4
Abbott Cell-Dyn 1700	16	12.71	0.66	5.2	12.8	10.7 - 14.7	16	29.31	1.15	3.9	29.2	25.8 - 32.8
Abbott Cell-Dyn 1800	38	11.15	0.57	5.1	11.1	9.4 - 12.9	38	25.10	0.93	3.7	25.2	22.3 - 27.9
Abbott Cell-Dyn Emerald	75	14.14	0.86	6.1	14.0	11.5 - 16.8	79	29.49	1.15	3.9	29.6	26.0 - 33.0
Boule (CDS) Medonic M series	131	15.54	0.51	3.3	15.5	14.0 - 17.1	130	32.40	1.07	3.3	32.5	29.2 - 35.7
COULTER AcT diff/diff 2	128	15.52	0.56	3.6	15.5	13.8 - 17.2	129	34.31	1.02	3.0	34.4	31.2 - 37.4
Horiba ABX Micros/45/60	75	11.80	1.08	9.2	11.4	8.5 - 15.1	76	24.57	2.71	11.0	24.1	16.4 - 32.8

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–LYMPHOCYTES (percent) cont'd

	Specimen HD-13						Specimen HD-14					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	496	56.88	8.39	14.7	61.0	31.7 - 82.1	495	14.88	1.72	11.5	15.4	9.7 - 20.1
All Abbott Cell-Dyn Instruments	137	51.55	4.09	7.9	52.4	39.2 - 63.9	135	13.92	1.58	11.4	14.3	9.1 - 18.7
All ABX Instruments	75	43.14	5.41	12.5	41.7	26.9 - 59.4	76	12.56	1.18	9.4	12.3	9.0 - 16.2
All Boule (CDS) Instruments	135	63.95	1.68	2.6	63.9	58.9 - 69.0	134	15.94	0.56	3.5	15.9	14.2 - 17.7
All COULTER Instruments	130	62.78	1.79	2.9	62.8	57.4 - 68.2	132	15.96	0.59	3.7	16.0	14.2 - 17.8
Abbott Cell-Dyn 1700	16	54.13	2.52	4.7	53.7	46.5 - 61.7	16	13.39	0.61	4.5	13.3	11.5 - 15.3
Abbott Cell-Dyn 1800	40	46.68	2.91	6.2	46.9	37.9 - 55.5	37	11.79	0.42	3.5	11.8	10.5 - 13.1
Abbott Cell-Dyn Emerald	80	53.48	2.50	4.7	53.6	45.9 - 61.0	77	14.98	0.77	5.1	14.9	12.6 - 17.3
Boule (CDS) Medonic M series	129	63.91	1.67	2.6	63.9	58.9 - 69.0	129	15.90	0.53	3.4	15.9	14.3 - 17.6
COULTER AcT diff/diff 2	128	62.76	1.74	2.8	62.8	57.5 - 68.0	130	15.97	0.58	3.6	16.0	14.2 - 17.8
Horiba ABX Micros/45/60	75	43.14	5.41	12.5	41.7	26.9 - 59.4	76	12.56	1.18	9.4	12.3	9.0 - 16.2

	Specimen HD-15					
All Method	495	56.71	8.42	14.8	60.7	31.4 - 82.0
All Abbott Cell-Dyn Instruments	137	51.25	4.06	7.9	52.2	39.0 - 63.5
All ABX Instruments	74	42.85	5.02	11.7	42.4	27.8 - 58.0
All Boule (CDS) Instruments	134	63.74	1.69	2.7	64.0	58.6 - 68.9
All COULTER Instruments	129	62.62	1.77	2.8	62.7	57.3 - 68.0
Abbott Cell-Dyn 1700	16	53.29	2.72	5.1	52.8	45.1 - 61.5
Abbott Cell-Dyn 1800	40	46.45	3.10	6.7	46.5	37.1 - 55.8
Abbott Cell-Dyn Emerald	80	53.26	2.38	4.5	53.4	46.1 - 60.4
Boule (CDS) Medonic M series	128	63.73	1.71	2.7	64.0	58.6 - 68.9
COULTER AcT diff/diff 2	127	62.60	1.77	2.8	62.7	57.2 - 68.0
Horiba ABX Micros/45/60	74	42.85	5.02	11.7	42.4	27.8 - 58.0

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–MONO/MID/MIXED/MCR (percent)

	Specimen HD-11						Specimen HD-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	493	5.36	1.32	24.6	5.1	1.4 - 9.4	496	7.56	2.86	37.8	7.5	0.0 - 16.2
All Abbott Cell-Dyn Instruments	136	5.10	1.81	35.5	4.1	0.0 - 10.6	136	8.81	2.25	25.6	8.3	2.0 - 15.6
All ABX Instruments	77	5.00	0.39	7.8	5.0	3.8 - 6.2	76	11.40	1.69	14.9	11.7	6.3 - 16.5
All Boule (CDS) Instruments	135	6.55	0.68	10.4	6.5	4.5 - 8.6	137	7.70	0.99	12.9	7.7	4.7 - 10.7
All COULTER Instruments	130	4.72	0.47	10.0	4.7	3.3 - 6.2	130	4.21	0.56	13.3	4.2	2.5 - 5.9
Abbott Cell-Dyn 1700	15	5.95	0.32	5.3	6.0	4.9 - 7.0	16	8.46	0.82	9.6	8.6	6.0 - 11.0
Abbott Cell-Dyn 1800	38	7.64	0.44	5.8	7.7	6.3 - 9.0	38	11.95	0.84	7.0	12.0	9.4 - 14.5
Abbott Cell-Dyn Emerald	80	3.74	0.35	9.5	3.6	2.6 - 4.8	80	7.39	1.18	15.9	7.1	3.8 - 11.0
Boule (CDS) Medonic M series	129	6.50	0.64	9.9	6.5	4.5 - 8.5	130	7.67	0.99	12.9	7.7	4.6 - 10.7
COULTER AcT diff/diff 2	128	4.71	0.47	10.0	4.7	3.2 - 6.2	128	4.22	0.56	13.3	4.2	2.5 - 6.0
Horiba ABX Micros/45/60	77	5.00	0.39	7.8	5.0	3.8 - 6.2	76	11.40	1.69	14.9	11.7	6.3 - 16.5

	Specimen HD-13						Specimen HD-14					
All Method	495	11.52	7.14	62.0	8.3	0.0 - 33.0	490	5.40	1.28	23.7	5.1	1.5 - 9.3
All Abbott Cell-Dyn Instruments	136	15.04	3.69	24.5	14.0	3.9 - 26.2	136	5.19	1.73	33.4	4.3	0.0 - 10.4
All ABX Instruments	77	24.16	3.76	15.6	24.8	12.8 - 35.5	77	5.08	0.40	7.8	5.0	3.8 - 6.3
All Boule (CDS) Instruments	137	6.60	1.78	26.9	6.8	1.2 - 12.0	134	6.58	0.82	12.4	6.6	4.1 - 9.1
All COULTER Instruments	130	5.81	1.18	20.4	5.9	2.2 - 9.4	131	4.75	0.42	8.8	4.8	3.4 - 6.1
Abbott Cell-Dyn 1700	16	13.23	2.11	16.0	13.3	6.8 - 19.6	15	6.03	0.38	6.3	6.0	4.8 - 7.2
Abbott Cell-Dyn 1800	39	19.59	2.28	11.6	19.9	12.7 - 26.5	39	7.55	0.43	5.7	7.6	6.2 - 8.9
Abbott Cell-Dyn Emerald	80	13.22	2.36	17.9	12.5	6.1 - 20.4	80	3.84	0.41	10.6	3.7	2.6 - 5.1
Boule (CDS) Medonic M series	130	6.60	1.81	27.4	6.8	1.1 - 12.1	127	6.52	0.76	11.7	6.6	4.2 - 8.9
COULTER AcT diff/diff 2	128	5.82	1.17	20.1	5.9	2.3 - 9.4	129	4.74	0.42	8.8	4.8	3.4 - 6.0
Horiba ABX Micros/45/60	77	24.16	3.76	15.6	24.8	12.8 - 35.5	77	5.08	0.40	7.8	5.0	3.8 - 6.3

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–MONO/MID/MIXED/MCR (percent) cont'd

Specimen HD-15

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	495	11.50	7.02	61.1	8.4	0.0 - 32.6
All Abbott Cell-Dyn Instruments	136	15.13	3.66	24.2	14.2	4.1 - 26.1
All ABX Instruments	75	24.26	3.61	14.9	24.8	13.4 - 35.1
All Boule (CDS) Instruments	136	6.92	1.60	23.1	7.0	2.1 - 11.8
All COULTER Instruments	130	5.93	1.22	20.6	5.9	2.2 - 9.7
Abbott Cell-Dyn 1700	16	12.97	1.65	12.7	13.1	8.0 - 18.0
Abbott Cell-Dyn 1800	38	19.91	1.81	9.1	20.0	14.4 - 25.4
Abbott Cell-Dyn Emerald	80	13.35	2.35	17.6	13.0	6.2 - 20.5
Boule (CDS) Medonic M series	129	6.90	1.64	23.7	7.0	1.9 - 11.9
COULTER AcT diff/diff 2	128	5.95	1.22	20.5	5.9	2.3 - 9.7
Horiba ABX Micros/45/60	75	24.26	3.61	14.9	24.8	13.4 - 35.1

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–GRANULOCYTES/NEUT (percent)

	Specimen HD-11						**Specimen HD-12**					
Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	492	80.30	2.12	2.6	80.1	73.9 - 86.7	490	61.83	1.97	3.2	62.0	55.9 - 67.8
All Abbott Cell-Dyn Instruments	133	81.72	1.03	1.3	81.8	78.6 - 84.8	134	62.97	1.09	1.7	63.1	59.7 - 66.3
All ABX Instruments	75	83.16	0.96	1.2	83.3	80.2 - 86.1	77	63.94	1.49	2.3	64.2	59.4 - 68.4
All Boule (CDS) Instruments	132	77.87	0.92	1.2	77.9	75.1 - 80.7	134	59.76	1.56	2.6	59.7	55.0 - 64.5
All COULTER Instruments	132	79.75	0.63	0.8	79.7	77.8 - 81.7	133	61.46	0.92	1.5	61.4	58.6 - 64.3
Abbott Cell-Dyn 1700	16	81.22	0.74	0.9	81.3	79.0 - 83.5	16	62.24	1.09	1.8	62.2	58.9 - 65.6
Abbott Cell-Dyn 1800	39	81.14	0.63	0.8	81.3	79.2 - 83.1	39	62.86	0.76	1.2	63.0	60.5 - 65.2
Abbott Cell-Dyn Emerald	76	82.16	1.00	1.2	82.4	79.1 - 85.2	77	63.27	1.02	1.6	63.4	60.2 - 66.4
Boule (CDS) Medonic M series	127	77.95	0.82	1.1	78.0	75.4 - 80.5	127	59.92	1.41	2.4	59.9	55.6 - 64.2
COULTER AcT diff/diff 2	130	79.75	0.62	0.8	79.7	77.8 - 81.7	131	61.46	0.93	1.5	61.4	58.6 - 64.3
Horiba ABX Micros/45/60	75	83.16	0.96	1.2	83.3	80.2 - 86.1	77	63.94	1.49	2.3	64.2	59.4 - 68.4

BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–GRANULOCYTES/NEUT (percent) cont'd

	Specimen HD-13						Specimen HD-14					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	492	31.65	2.39	7.5	31.8	24.4 - 38.9	493	79.69	2.01	2.5	79.6	73.6 - 85.8
All Abbott Cell-Dyn Instruments	135	33.39	1.58	4.7	33.4	28.6 - 38.2	132	80.95	0.87	1.1	81.0	78.3 - 83.6
All ABX Instruments	77	32.81	2.11	6.4	33.3	26.4 - 39.2	77	82.35	0.98	1.2	82.6	79.4 - 85.4
All Boule (CDS) Instruments	135	29.59	2.22	7.5	29.4	22.9 - 36.3	134	77.45	1.14	1.5	77.4	74.0 - 80.9
All COULTER Instruments	132	31.33	1.46	4.6	31.4	26.9 - 35.7	131	79.27	0.55	0.7	79.3	77.6 - 81.0
Abbott Cell-Dyn 1700	15	32.78	1.05	3.2	32.7	29.6 - 36.0	16	80.43	0.73	0.9	80.7	78.2 - 82.7
Abbott Cell-Dyn 1800	40	33.72	1.81	5.4	33.4	28.2 - 39.2	38	80.62	0.56	0.7	80.8	78.9 - 82.4
Abbott Cell-Dyn Emerald	79	33.32	1.50	4.5	33.4	28.8 - 37.9	76	81.26	0.86	1.1	81.5	78.6 - 83.9
Boule (CDS) Medonic M series	129	29.63	2.21	7.5	29.5	22.9 - 36.3	128	77.55	1.05	1.3	77.4	74.4 - 80.7
COULTER AcT diff/diff 2	130	31.33	1.44	4.6	31.4	27.0 - 35.7	129	79.26	0.55	0.7	79.3	77.6 - 81.0
Horiba ABX Micros/45/60	77	32.81	2.11	6.4	33.3	26.4 - 39.2	77	82.35	0.98	1.2	82.6	79.4 - 85.4

	Specimen HD-15					
All Method	492	31.75	2.46	7.7	31.8	24.3 - 39.2
All Abbott Cell-Dyn Instruments	136	33.63	1.54	4.6	33.6	29.0 - 38.3
All ABX Instruments	77	32.87	2.16	6.6	33.2	26.3 - 39.4
All Boule (CDS) Instruments	136	29.45	2.10	7.1	29.3	23.1 - 35.8
All COULTER Instruments	132	31.51	1.70	5.4	31.4	26.4 - 36.7
Abbott Cell-Dyn 1700	16	33.83	1.97	5.8	34.3	27.9 - 39.8
Abbott Cell-Dyn 1800	40	33.80	1.75	5.2	33.9	28.5 - 39.1
Abbott Cell-Dyn Emerald	79	33.47	1.30	3.9	33.4	29.5 - 37.4
Boule (CDS) Medonic M series	130	29.49	2.14	7.2	29.4	23.0 - 35.9
COULTER AcT diff/diff 2	130	31.51	1.71	5.4	31.5	26.3 - 36.7
Horiba ABX Micros/45/60	77	32.87	2.16	6.6	33.2	26.3 - 39.4

HEMATOLOGY W/ 5-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x 10^9/L)

	Specimen DIF-11						Specimen DIF-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	22.01	0.42	1.9	22.1	18.7 - 25.4	12	9.56	0.16	1.7	9.6	8.1 - 11.0
All COULTER Instruments	12	22.01	0.42	1.9	22.1	18.7 - 25.4	12	9.56	0.16	1.7	9.6	8.1 - 11.0
COULTER UniCel DxH 600	10	22.03	0.45	2.1	22.1	18.7 - 25.4	10	9.57	0.16	1.7	9.6	8.1 - 11.1
	Specimen DIF-13						**Specimen DIF-14**					
All Method	12	4.16	0.27	6.6	4.1	3.5 - 4.8	12	22.02	0.35	1.6	22.1	18.7 - 25.4
All COULTER Instruments	12	4.16	0.27	6.6	4.1	3.5 - 4.8	12	22.02	0.35	1.6	22.1	18.7 - 25.4
COULTER UniCel DxH 600	10	4.07	0.21	5.3	4.0	3.4 - 4.7	10	22.06	0.42	1.9	22.1	18.7 - 25.4
	Specimen DIF-15											
All Method	12	4.14	0.25	6.0	4.1	3.5 - 4.8						
All COULTER Instruments	12	4.14	0.25	6.0	4.1	3.5 - 4.8						
COULTER UniCel DxH 600	10	4.11	0.21	5.1	4.1	3.4 - 4.8						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x 10^{12}/L)

	Specimen DIF-11						Specimen DIF-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	5.466	0.145	2.7	5.46	5.13 - 5.80	13	4.171	0.092	2.2	4.17	3.92 - 4.43
All COULTER Instruments	12	5.466	0.145	2.7	5.46	5.13 - 5.80	13	4.171	0.092	2.2	4.17	3.92 - 4.43
COULTER UniCel DxH 600	10	5.371	0.065	1.2	5.36	5.04 - 5.70	10	4.122	0.051	1.2	4.10	3.87 - 4.37
	Specimen DIF-13						**Specimen DIF-14**					
All Method	12	2.514	0.059	2.4	2.51	2.36 - 2.67	12	5.433	0.135	2.5	5.39	5.10 - 5.76
All COULTER Instruments	12	2.514	0.059	2.4	2.51	2.36 - 2.67	12	5.433	0.135	2.5	5.39	5.10 - 5.76
COULTER UniCel DxH 600	10	2.484	0.026	1.1	2.48	2.33 - 2.64	10	5.379	0.073	1.4	5.35	5.05 - 5.71
	Specimen DIF-15											
All Method	12	2.510	0.051	2.0	2.51	2.35 - 2.67						
All COULTER Instruments	12	2.510	0.051	2.0	2.51	2.35 - 2.67						
COULTER UniCel DxH 600	10	2.483	0.031	1.3	2.48	2.33 - 2.64						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMOGLOBIN (g/dL)

	Specimen DIF-11						Specimen DIF-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	17.03	0.15	0.9	17.0	15.8 - 18.3	12	11.84	0.12	1.0	11.9	11.0 - 12.7
All COULTER Instruments	12	17.03	0.15	0.9	17.0	15.8 - 18.3	12	11.84	0.12	1.0	11.9	11.0 - 12.7
COULTER UniCel DxH 600	10	16.94	0.10	0.6	16.9	15.7 - 18.2	10	11.80	0.14	1.2	11.9	10.9 - 12.7
	Specimen DIF-13						**Specimen DIF-14**					
All Method	12	6.28	0.07	1.1	6.3	5.8 - 6.8	12	17.04	0.22	1.3	17.0	15.8 - 18.3
All COULTER Instruments	12	6.28	0.07	1.1	6.3	5.8 - 6.8	12	17.04	0.22	1.3	17.0	15.8 - 18.3
COULTER UniCel DxH 600	10	6.24	0.05	0.9	6.2	5.8 - 6.7	10	16.91	0.16	0.9	16.9	15.7 - 18.1
	Specimen DIF-15											
All Method	12	6.29	0.09	1.4	6.3	5.8 - 6.8						
All COULTER Instruments	12	6.29	0.09	1.4	6.3	5.8 - 6.8						
COULTER UniCel DxH 600	10	6.24	0.05	0.9	6.2	5.8 - 6.7						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMATOCRIT (percent)

	Specimen DIF-11						Specimen DIF-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	54.82	0.95	1.7	54.5	51.5 - 58.2	12	36.14	0.82	2.3	36.3	33.9 - 38.4
All COULTER Instruments	12	54.82	0.95	1.7	54.5	51.5 - 58.2	12	36.14	0.82	2.3	36.3	33.9 - 38.4
COULTER UniCel DxH 600	10	54.81	0.76	1.4	54.5	51.5 - 58.2	10	36.41	0.51	1.4	36.6	34.2 - 38.6
	Specimen DIF-13						**Specimen DIF-14**					
All Method	12	19.68	0.38	1.9	19.8	18.5 - 20.9	12	54.60	1.22	2.2	54.6	51.3 - 57.9
All COULTER Instruments	12	19.68	0.38	1.9	19.8	18.5 - 20.9	12	54.60	1.22	2.2	54.6	51.3 - 57.9
COULTER UniCel DxH 600	10	19.77	0.31	1.6	19.8	18.5 - 21.0	10	54.79	1.04	1.9	54.6	51.4 - 58.1
	Specimen DIF-15											
All Method	12	19.63	0.32	1.6	19.7	18.4 - 20.9						
All COULTER Instruments	12	19.63	0.32	1.6	19.7	18.4 - 20.9						
COULTER UniCel DxH 600	10	19.71	0.29	1.5	19.7	18.5 - 20.9						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–PLATELET COUNT (x 10^9/L)

Instrument	Specimen DIF-11 Labs	Mean	SD	CV	Median	Range	Specimen DIF-12 Labs	Mean	SD	CV	Median	Range
All Method	12	469.2	16.4	3.5	469	351 - 587	12	260.1	11.2	4.3	262	195 - 326
All COULTER Instruments	12	469.2	16.4	3.5	469	351 - 587	12	260.1	11.2	4.3	262	195 - 326
COULTER UniCel DxH 600	10	465.1	18.9	4.1	464	348 - 582	10	256.0	10.6	4.2	256	192 - 320

Instrument	Specimen DIF-13 Labs	Mean	SD	CV	Median	Range	Specimen DIF-14 Labs	Mean	SD	CV	Median	Range
All Method	12	85.1	6.7	7.8	85	63 - 107	12	467.1	16.0	3.4	462	350 - 584
All COULTER Instruments	12	85.1	6.7	7.8	85	63 - 107	12	467.1	16.0	3.4	462	350 - 584
COULTER UniCel DxH 600	10	81.0	3.5	4.3	80	60 - 102	10	468.0	19.2	4.1	460	351 - 585

Instrument	Specimen DIF-15 Labs	Mean	SD	CV	Median	Range
All Method	12	85.0	5.6	6.6	83	63 - 107
All COULTER Instruments	12	85.0	5.6	6.6	83	63 - 107
COULTER UniCel DxH 600	10	82.0	2.8	3.4	82	61 - 103

HEMATOLOGY W/ 5-PART DIFFERENTIAL–NEUTROPHILS (percent)

Instrument	Specimen DIF-11 Labs	Mean	SD	CV	Median	Range	Specimen DIF-12 Labs	Mean	SD	CV	Median	Range
All Method	12	65.60	1.11	1.7	65.7	62.2 - 69.0	12	60.59	0.85	1.4	60.7	58.0 - 63.2
All COULTER Instruments	12	65.60	1.11	1.7	65.7	62.2 - 69.0	12	60.59	0.85	1.4	60.7	58.0 - 63.2
COULTER UniCel DxH 600	10	65.16	1.04	1.6	65.3	62.0 - 68.3	10	60.79	0.78	1.3	60.7	58.4 - 63.2

Instrument	Specimen DIF-13 Labs	Mean	SD	CV	Median	Range	Specimen DIF-14 Labs	Mean	SD	CV	Median	Range
All Method	12	53.41	2.07	3.9	53.9	47.1 - 59.7	12	65.49	0.96	1.5	65.5	62.6 - 68.4
All COULTER Instruments	12	53.41	2.07	3.9	53.9	47.1 - 59.7	12	65.49	0.96	1.5	65.5	62.6 - 68.4
COULTER UniCel DxH 600	10	54.60	1.17	2.1	54.5	51.0 - 58.2	10	65.51	0.99	1.5	65.5	62.5 - 68.5

Instrument	Specimen DIF-15 Labs	Mean	SD	CV	Median	Range
All Method	12	53.43	1.27	2.4	53.9	49.6 - 57.3
All COULTER Instruments	12	53.43	1.27	2.4	53.9	49.6 - 57.3
COULTER UniCel DxH 600	10	53.91	1.18	2.2	54.1	50.3 - 57.5

HEMATOLOGY W/ 5-PART DIFFERENTIAL– LYMPHOCYTES (percent)

	Specimen DIF-11						Specimen DIF-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	22.23	1.04	4.7	22.3	19.1 - 25.4	12	29.61	2.26	7.6	29.1	22.8 - 36.4
All COULTER Instruments	12	22.23	1.04	4.7	22.3	19.1 - 25.4	12	29.61	2.26	7.6	29.1	22.8 - 36.4
COULTER UniCel DxH 600	10	22.03	0.95	4.3	21.6	19.1 - 24.9	10	28.67	0.96	3.4	28.7	25.7 - 31.6
	Specimen DIF-13						**Specimen DIF-14**					
All Method	12	36.26	4.39	12.1	36.3	23.0 - 49.5	12	22.29	1.16	5.2	22.0	18.8 - 25.8
All COULTER Instruments	12	36.26	4.39	12.1	36.3	23.0 - 49.5	12	22.29	1.16	5.2	22.0	18.8 - 25.8
COULTER UniCel DxH 600	10	33.90	2.90	8.6	33.7	25.1 - 42.7	10	21.86	0.71	3.3	21.9	19.7 - 24.0
	Specimen DIF-15											
All Method	12	37.08	4.48	12.1	36.0	23.6 - 50.6						
All COULTER Instruments	12	37.08	4.48	12.1	36.0	23.6 - 50.6						
COULTER UniCel DxH 600	10	34.51	2.28	6.6	35.1	27.6 - 41.4						

HEMATOLOGY W/ 5-PART DIFFERENTIAL– MONOCYTES (percent)

	Specimen DIF-11						Specimen DIF-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	8.43	1.15	13.7	8.7	4.9 - 11.9	12	4.61	1.09	23.6	4.8	1.3 - 7.9
All COULTER Instruments	12	8.43	1.15	13.7	8.7	4.9 - 11.9	12	4.61	1.09	23.6	4.8	1.3 - 7.9
COULTER UniCel DxH 600	10	9.19	0.66	7.2	9.2	7.2 - 11.2	10	5.07	0.53	10.5	5.1	3.4 - 6.7
	Specimen DIF-13						**Specimen DIF-14**					
All Method	12	4.07	2.05	50.5	3.8	0.0 - 10.3	12	8.44	0.91	10.7	8.5	5.7 - 11.2
All COULTER Instruments	12	4.07	2.05	50.5	3.8	0.0 - 10.3	12	8.44	0.91	10.7	8.5	5.7 - 11.2
COULTER UniCel DxH 600	10	5.09	1.47	28.9	5.3	0.6 - 9.5	10	8.86	0.60	6.8	8.6	7.0 - 10.7
	Specimen DIF-15											
All Method	12	4.09	1.95	47.7	4.1	0.0 - 10.0						
All COULTER Instruments	12	4.09	1.95	47.7	4.1	0.0 - 10.0						
COULTER UniCel DxH 600	10	5.09	1.23	24.2	4.7	1.3 - 8.8						

HEMATOLOGY W/ 5-PART DIFFERENTIAL– EOSINOPHILS (percent)

	Specimen DIF-11						Specimen DIF-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	3.62	0.35	9.7	3.7	2.5 - 4.7	11	5.37	0.33	6.1	5.4	4.3 - 6.4
All COULTER Instruments	12	3.62	0.35	9.7	3.7	2.5 - 4.7	11	5.37	0.33	6.1	5.4	4.3 - 6.4
COULTER UniCel DxH 600	10	3.63	0.24	6.5	3.7	2.9 - 4.4	10	5.36	0.26	4.9	5.4	4.5 - 6.2
	Specimen DIF-13						**Specimen DIF-14**					
All Method	12	6.24	0.44	7.1	6.1	4.9 - 7.6	12	3.64	0.31	8.6	3.7	2.6 - 4.6
All COULTER Instruments	12	6.24	0.44	7.1	6.1	4.9 - 7.6	12	3.64	0.31	8.6	3.7	2.6 - 4.6
COULTER UniCel DxH 600	10	6.41	0.42	6.5	6.5	5.1 - 7.7	10	3.77	0.24	6.4	3.7	3.0 - 4.6
	Specimen DIF-15											
All Method	10	6.33	0.42	6.7	6.2	5.0 - 7.6						
All COULTER Instruments	10	6.33	0.42	6.7	6.2	5.0 - 7.6						
COULTER UniCel DxH 600	10	6.49	0.40	6.1	6.7	5.2 - 7.7						

HEMATOLOGY W/ 5-PART DIFFERENTIAL– BASOPHILS (percent)

	Specimen DIF-11						Specimen DIF-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	12	0.13	0.22	164.1	0.0	0.0 - 0.8	12	0.08	0.11	133.8	0.0	0.0 - 0.5
All COULTER Instruments	12	0.13	0.22	164.1	0.0	0.0 - 0.8	12	0.08	0.11	133.8	0.0	0.0 - 0.5
COULTER UniCel DxH 600	10	0.00	0.01	0.0	0.0	0.0 - 0.1	10	0.00	0.01	0.0	0.0	0.0 - 0.1
	Specimen DIF-13						**Specimen DIF-14**					
All Method	12	0.03	0.05	180.9	0.0	0.0 - 0.2	12	0.13	0.20	151.1	0.0	0.0 - 0.8
All COULTER Instruments	12	0.03	0.05	180.9	0.0	0.0 - 0.2	12	0.13	0.20	151.1	0.0	0.0 - 0.8
COULTER UniCel DxH 600	10	0.00	0.01	0.0	0.0	0.0 - 0.1	10	0.00	0.01	0.0	0.0	0.0 - 0.1
	Specimen DIF-15											
All Method	12	0.02	0.04	233.6	0.0	0.0 - 0.2						
All COULTER Instruments	12	0.02	0.04	233.6	0.0	0.0 - 0.2						
COULTER UniCel DxH 600	10	0.00	0.01	0.0	0.0	0.0 - 0.1						

BLOOD LEAD (µg/dL)

	Specimen LED-11						Specimen LED-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	21	41.88	4.43	10.6	42.3	37.6 - 46.1	21	13.82	2.02	14.6	13.7	9.8 - 17.9
All Magellan Diagnostics Methods	21	41.88	4.43	10.6	42.3	37.6 - 46.1	21	13.82	2.02	14.6	13.7	9.8 - 17.9
Magellan Diagnostics LeadCare II	21	41.88	4.43	10.6	42.3	37.6 - 46.1	21	13.82	2.02	14.6	13.7	9.8 - 17.9

	Specimen LED-13						Specimen LED-14					
	Labs	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	5	39.90	2.97	7.4	39.90	35.9 - 43.9	5	14.75	1.48	10.0	14.75	10.7 - 18.8
All Magellan Diagnostics Methods	5	39.90	2.97	7.4	39.90	35.9 - 43.9	5	14.75	1.48	10.0	14.75	10.7 - 18.8
Magellan Diagnostics LeadCare II	5	39.90	2.97	7.4	39.90	35.9 - 43.9	5	14.75	1.48	10.0	14.75	10.7 - 18.8

	Specimen LED-15					
All Method	5	38.10	5.52	14.5	38.10	34.1 - 42.1
All Magellan Diagnostics Methods	5	38.10	5.52	14.5	38.10	34.1 - 42.1
Magellan Diagnostics LeadCare II	5	38.10	5.52	14.5	38.10	34.1 - 42.1

RETICULOCYTE COUNT (percent)

	Specimen RT-5						Specimen RT-6					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	28	3.38	0.83	24.7	3.3	1.7 - 5.1	29	7.61	2.03	26.7	7.0	3.5 - 11.7
All Automated Methods	17	3.34	0.53	15.8	3.3	2.2 - 4.4	17	6.88	1.41	20.5	6.8	4.0 - 9.8
All Manual Methods	13	4.03	1.85	45.9	3.7	0.3 - 7.8	13	9.52	3.88	40.8	8.4	1.7 - 17.3
Sysmex XN-1000	12	3.28	0.18	5.4	3.3	2.2 - 4.3	12	6.73	0.52	7.7	6.8	4.7 - 8.8

HEMATOLOGY W/ 5-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x 10^9/L)

	Specimen BCX-11						Specimen BCX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	125	24.94	0.68	2.7	24.9	21.2 - 28.7	124	6.81	0.19	2.8	6.8	5.7 - 7.9
All ABX Instruments	91	24.93	0.65	2.6	24.8	21.1 - 28.7	89	6.80	0.16	2.4	6.8	5.7 - 7.9
All COULTER Instruments	34	25.06	0.81	3.2	25.1	21.3 - 28.9	33	6.82	0.22	3.2	6.8	5.7 - 7.9
ABX Pentra 60C+	81	24.97	0.63	2.5	24.8	21.2 - 28.8	79	6.81	0.16	2.4	6.8	5.7 - 7.9
COULTER AcT 5diff	34	25.06	0.81	3.2	25.1	21.3 - 28.9	33	6.82	0.22	3.2	6.8	5.7 - 7.9
	Specimen BCX-13						**Specimen BCX-14**					
All Method	125	17.71	0.44	2.5	17.7	15.0 - 20.4	125	2.60	0.08	2.9	2.6	2.2 - 3.0
All ABX Instruments	91	17.72	0.39	2.2	17.7	15.0 - 20.4	91	2.60	0.07	2.8	2.6	2.2 - 3.0
All COULTER Instruments	34	17.74	0.61	3.4	17.7	15.0 - 20.4	33	2.60	0.08	3.1	2.6	2.2 - 3.0
ABX Pentra 60C+	81	17.74	0.37	2.1	17.7	15.0 - 20.5	81	2.60	0.07	2.9	2.6	2.2 - 3.0
COULTER AcT 5diff	34	17.74	0.61	3.4	17.7	15.0 - 20.4	33	2.60	0.08	3.1	2.6	2.2 - 3.0
	Specimen BCX-15											
All Method	124	9.67	0.28	2.8	9.7	8.2 - 11.2						
All ABX Instruments	89	9.67	0.25	2.6	9.7	8.2 - 11.2						
All COULTER Instruments	34	9.69	0.33	3.4	9.7	8.2 - 11.2						
ABX Pentra 60C+	79	9.67	0.26	2.6	9.7	8.2 - 11.2						
COULTER AcT 5diff	34	9.69	0.33	3.4	9.7	8.2 - 11.2						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x 10^{12}/L)

	Specimen BCX-11						Specimen BCX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	124	4.642	0.074	1.6	4.64	4.36 - 4.93	124	5.830	0.098	1.7	5.83	5.48 - 6.19
All ABX Instruments	90	4.636	0.072	1.6	4.63	4.35 - 4.92	90	5.823	0.096	1.7	5.83	5.47 - 6.18
All COULTER Instruments	33	4.662	0.077	1.7	4.66	4.38 - 4.95	33	5.855	0.095	1.6	5.84	5.50 - 6.21
ABX Pentra 60C+	81	4.632	0.070	1.5	4.62	4.35 - 4.91	80	5.813	0.091	1.6	5.82	5.46 - 6.17
COULTER AcT 5diff	33	4.662	0.077	1.7	4.66	4.38 - 4.95	33	5.855	0.095	1.6	5.84	5.50 - 6.21

	Specimen BCX-13						Specimen BCX-14					
All Method	123	4.190	0.065	1.5	4.18	3.93 - 4.45	126	2.388	0.042	1.8	2.38	2.24 - 2.54
All ABX Instruments	90	4.184	0.065	1.5	4.18	3.93 - 4.44	91	2.381	0.040	1.7	2.38	2.23 - 2.53
All COULTER Instruments	33	4.215	0.068	1.6	4.20	3.96 - 4.47	34	2.407	0.041	1.7	2.41	2.26 - 2.56
ABX Pentra 60C+	80	4.185	0.063	1.5	4.18	3.93 - 4.44	81	2.386	0.038	1.6	2.38	2.24 - 2.53
COULTER AcT 5diff	33	4.215	0.068	1.6	4.20	3.96 - 4.47	34	2.407	0.041	1.7	2.41	2.26 - 2.56

	Specimen BCX-15					
All Method	124	3.566	0.056	1.6	3.56	3.35 - 3.78
All ABX Instruments	90	3.558	0.055	1.5	3.56	3.34 - 3.78
All COULTER Instruments	34	3.594	0.060	1.7	3.58	3.37 - 3.81
ABX Pentra 60C+	80	3.561	0.055	1.5	3.56	3.34 - 3.78
COULTER AcT 5diff	34	3.594	0.060	1.7	3.58	3.37 - 3.81

HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMOGLOBIN (g/dL)

	Specimen BCX-11						Specimen BCX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	124	13.25	0.18	1.4	13.2	12.3 - 14.2	125	18.79	0.26	1.4	18.8	17.4 - 20.2
All ABX Instruments	90	13.24	0.18	1.4	13.2	12.3 - 14.2	90	18.83	0.26	1.4	18.8	17.5 - 20.2
All COULTER Instruments	33	13.30	0.18	1.3	13.3	12.3 - 14.3	34	18.70	0.25	1.3	18.7	17.3 - 20.1
ABX Pentra 60C+	80	13.23	0.19	1.4	13.2	12.3 - 14.2	80	18.81	0.25	1.4	18.8	17.4 - 20.2
COULTER AcT 5diff	33	13.30	0.18	1.3	13.3	12.3 - 14.3	34	18.70	0.25	1.3	18.7	17.3 - 20.1
	Specimen BCX-13						**Specimen BCX-14**					
All Method	125	13.53	0.18	1.3	13.5	12.5 - 14.5	123	6.30	0.11	1.8	6.3	5.8 - 6.8
All ABX Instruments	91	13.53	0.19	1.4	13.5	12.5 - 14.5	89	6.26	0.08	1.3	6.3	5.8 - 6.7
All COULTER Instruments	32	13.53	0.13	0.9	13.5	12.5 - 14.5	34	6.44	0.10	1.5	6.4	5.9 - 6.9
ABX Pentra 60C+	81	13.52	0.18	1.3	13.5	12.5 - 14.5	80	6.26	0.09	1.4	6.3	5.8 - 6.7
COULTER AcT 5diff	32	13.53	0.13	0.9	13.5	12.5 - 14.5	34	6.44	0.10	1.5	6.4	5.9 - 6.9
	Specimen BCX-15											
All Method	124	10.19	0.15	1.4	10.2	9.4 - 11.0						
All ABX Instruments	90	10.16	0.13	1.3	10.1	9.4 - 10.9						
All COULTER Instruments	34	10.30	0.15	1.5	10.3	9.5 - 11.1						
ABX Pentra 60C+	80	10.16	0.13	1.3	10.1	9.4 - 10.9						
COULTER AcT 5diff	34	10.30	0.15	1.5	10.3	9.5 - 11.1						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMATOCRIT (percent)

	Specimen BCX-11						Specimen BCX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	121	37.81	0.62	1.6	37.8	35.5 - 40.1	125	52.59	0.94	1.8	52.6	49.4 - 55.8
All ABX Instruments	88	37.85	0.60	1.6	37.8	35.5 - 40.2	90	52.66	0.89	1.7	52.7	49.5 - 55.9
All COULTER Instruments	33	37.64	0.79	2.1	37.6	35.3 - 39.9	34	52.44	1.05	2.0	52.6	49.2 - 55.6
ABX Pentra 60C+	79	37.83	0.58	1.5	37.8	35.5 - 40.1	80	52.64	0.87	1.7	52.6	49.4 - 55.8
COULTER AcT 5diff	33	37.64	0.79	2.1	37.6	35.3 - 39.9	34	52.44	1.05	2.0	52.6	49.2 - 55.6
	Specimen BCX-13						**Specimen BCX-14**					
All Method	124	38.09	0.66	1.7	38.0	35.8 - 40.4	126	18.20	0.35	1.9	18.2	17.1 - 19.3
All ABX Instruments	91	38.16	0.67	1.7	38.0	35.8 - 40.5	91	18.21	0.34	1.9	18.2	17.1 - 19.4
All COULTER Instruments	32	37.91	0.64	1.7	38.0	35.6 - 40.2	34	18.15	0.38	2.1	18.2	17.0 - 19.3
ABX Pentra 60C+	81	38.13	0.64	1.7	38.0	35.8 - 40.5	81	18.18	0.32	1.7	18.2	17.0 - 19.3
COULTER AcT 5diff	32	37.91	0.64	1.7	38.0	35.6 - 40.2	34	18.15	0.38	2.1	18.2	17.0 - 19.3
	Specimen BCX-15											
All Method	124	29.09	0.50	1.7	29.1	27.3 - 30.9						
All ABX Instruments	90	29.14	0.53	1.8	29.1	27.3 - 30.9						
All COULTER Instruments	33	28.98	0.43	1.5	29.0	27.2 - 30.8						
ABX Pentra 60C+	80	29.10	0.51	1.8	29.1	27.3 - 30.9						
COULTER AcT 5diff	33	28.98	0.43	1.5	29.0	27.2 - 30.8						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–PLATELET COUNT (x 10^9/L)

	Specimen BCX-11						Specimen BCX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	126	504.7	16.9	3.4	505	378 - 631	125	305.9	10.6	3.5	306	229 - 383
All ABX Instruments	91	507.1	16.7	3.3	505	380 - 634	91	305.6	10.9	3.6	306	229 - 383
All COULTER Instruments	34	499.6	14.6	2.9	504	374 - 625	34	306.4	10.0	3.3	306	229 - 384
ABX Pentra 60C+	81	506.0	16.1	3.2	504	379 - 633	81	304.6	10.7	3.5	303	228 - 381
COULTER AcT 5diff	34	499.6	14.6	2.9	504	374 - 625	34	306.4	10.0	3.3	306	229 - 384
	Specimen BCX-13						**Specimen BCX-14**					
All Method	124	504.4	17.3	3.4	504	378 - 631	125	69.5	4.1	5.9	69	52 - 87
All ABX Instruments	91	506.1	16.3	3.2	507	379 - 633	91	68.6	3.4	4.9	69	51 - 86
All COULTER Instruments	33	499.6	19.4	3.9	501	374 - 625	34	72.4	5.2	7.1	73	54 - 91
ABX Pentra 60C+	81	505.0	16.2	3.2	505	378 - 632	81	68.5	3.5	5.1	68	51 - 86
COULTER AcT 5diff	33	499.6	19.4	3.9	501	374 - 625	34	72.4	5.2	7.1	73	54 - 91
	Specimen BCX-15											
All Method	124	85.2	4.7	5.5	85	63 - 107						
All ABX Instruments	90	84.4	4.3	5.1	85	63 - 106						
All COULTER Instruments	34	88.0	5.7	6.5	88	66 - 111						
ABX Pentra 60C+	80	84.0	4.3	5.1	84	63 - 106						
COULTER AcT 5diff	34	88.0	5.7	6.5	88	66 - 111						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–NEUTROPHILS (percent)

	Specimen BCX-11						Specimen BCX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	122	54.01	3.17	5.9	54.3	44.4 - 63.6	124	52.39	4.26	8.1	52.8	39.5 - 65.2
All ABX Instruments	89	54.83	2.74	5.0	54.7	46.6 - 63.1	91	52.86	4.10	7.8	53.2	40.5 - 65.2
All COULTER Instruments	34	50.86	4.70	9.2	51.3	36.7 - 65.0	34	50.11	5.36	10.7	50.5	34.0 - 66.2
ABX Pentra 60C+	81	55.08	2.45	4.5	54.7	47.7 - 62.5	81	53.29	3.80	7.1	53.4	41.8 - 64.7
COULTER AcT 5diff	34	50.86	4.70	9.2	51.3	36.7 - 65.0	34	50.11	5.36	10.7	50.5	34.0 - 66.2
	Specimen BCX-13						**Specimen BCX-14**					
All Method	122	77.34	4.42	5.7	79.1	64.0 - 90.6	126	60.07	4.19	7.0	60.4	47.5 - 72.7
All ABX Instruments	88	79.54	2.54	3.2	79.7	71.9 - 87.2	91	61.60	3.04	4.9	61.4	52.4 - 70.8
All COULTER Instruments	34	70.15	4.79	6.8	71.4	55.7 - 84.6	33	55.40	3.08	5.6	55.9	46.1 - 64.7
ABX Pentra 60C+	78	79.96	2.07	2.6	79.8	73.7 - 86.2	81	61.59	3.08	5.0	61.4	52.3 - 70.9
COULTER AcT 5diff	34	70.15	4.79	6.8	71.4	55.7 - 84.6	33	55.40	3.08	5.6	55.9	46.1 - 64.7
	Specimen BCX-15											
All Method	123	67.59	2.89	4.3	67.8	58.9 - 76.3						
All ABX Instruments	88	68.68	2.07	3.0	68.6	62.4 - 74.9						
All COULTER Instruments	32	64.28	2.56	4.0	64.7	56.6 - 72.0						
ABX Pentra 60C+	80	68.76	2.06	3.0	68.7	62.5 - 75.0						
COULTER AcT 5diff	32	64.28	2.56	4.0	64.7	56.6 - 72.0						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–LYMPHOCYTES (percent)

	Specimen BCX-11						Specimen BCX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	121	38.03	2.77	7.3	37.9	29.7 - 46.4	126	40.04	4.57	11.4	39.7	26.3 - 53.8
All ABX Instruments	89	38.56	2.74	7.1	38.4	30.3 - 46.8	91	40.43	4.40	10.9	40.1	27.2 - 53.7
All COULTER Instruments	31	36.44	2.21	6.1	36.5	29.8 - 43.1	34	39.02	4.98	12.8	38.7	24.0 - 54.0
ABX Pentra 60C+	81	38.28	2.42	6.3	38.4	31.0 - 45.6	81	39.92	4.01	10.1	40.0	27.8 - 52.0
COULTER AcT 5diff	31	36.44	2.21	6.1	36.5	29.8 - 43.1	34	39.02	4.98	12.8	38.7	24.0 - 54.0
	Specimen BCX-13						**Specimen BCX-14**					
All Method	120	15.06	2.50	16.6	15.0	7.5 - 22.6	125	27.16	3.29	12.1	27.4	17.2 - 37.1
All ABX Instruments	88	15.61	2.45	15.7	15.6	8.2 - 23.0	91	28.21	2.86	10.1	28.2	19.6 - 36.8
All COULTER Instruments	32	13.87	2.77	20.0	13.2	5.5 - 22.2	33	24.28	2.68	11.0	23.8	16.2 - 32.4
ABX Pentra 60C+	78	15.15	1.83	12.1	15.5	9.6 - 20.7	81	28.21	2.83	10.0	28.2	19.7 - 36.8
COULTER AcT 5diff	32	13.87	2.77	20.0	13.2	5.5 - 22.2	33	24.28	2.68	11.0	23.8	16.2 - 32.4
	Specimen BCX-15											
All Method	121	24.86	2.17	8.7	24.8	18.3 - 31.4						
All ABX Instruments	88	25.36	2.04	8.0	25.5	19.2 - 31.5						
All COULTER Instruments	32	23.50	1.97	8.4	23.7	17.5 - 29.5						
ABX Pentra 60C+	80	25.26	2.05	8.1	25.5	19.1 - 31.5						
COULTER AcT 5diff	32	23.50	1.97	8.4	23.7	17.5 - 29.5						

HEMATOLOGY W/ 5-PART DIFFERENTIAL–MONOCYTES (percent)

	Specimen BCX-11						Specimen BCX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	121	1.44	0.51	35.3	1.4	0.0 - 3.0	123	1.25	0.73	58.4	1.1	0.0 - 3.5
All ABX Instruments	88	1.31	0.39	29.7	1.3	0.1 - 2.5	88	0.99	0.48	48.8	1.0	0.0 - 2.5
All COULTER Instruments	33	1.92	0.70	36.7	1.8	0.0 - 4.1	34	1.97	0.92	46.6	1.7	0.0 - 4.8
ABX Pentra 60C+	78	1.33	0.38	28.8	1.4	0.1 - 2.5	78	1.01	0.50	49.2	1.0	0.0 - 2.6
COULTER AcT 5diff	33	1.92	0.70	36.7	1.8	0.0 - 4.1	34	1.97	0.92	46.6	1.7	0.0 - 4.8
	Specimen BCX-13						**Specimen BCX-14**					
All Method	123	0.87	0.41	47.1	0.8	0.0 - 2.1	121	0.30	0.23	75.8	0.2	0.0 - 1.0
All ABX Instruments	91	0.74	0.30	40.9	0.7	0.0 - 1.7	88	0.30	0.22	74.4	0.2	0.0 - 1.0
All COULTER Instruments	32	1.29	0.53	40.8	1.3	0.0 - 2.9	32	0.30	0.24	80.9	0.3	0.0 - 1.1
ABX Pentra 60C+	81	0.77	0.29	37.6	0.8	0.0 - 1.7	78	0.31	0.22	72.6	0.2	0.0 - 1.0
COULTER AcT 5diff	32	1.29	0.53	40.8	1.3	0.0 - 2.9	32	0.30	0.24	80.9	0.3	0.0 - 1.1
	Specimen BCX-15											
All Method	121	0.47	0.29	61.4	0.4	0.0 - 1.4						
All ABX Instruments	87	0.42	0.25	60.1	0.4	0.0 - 1.2						
All COULTER Instruments	33	0.61	0.34	56.3	0.6	0.0 - 1.7						
ABX Pentra 60C+	77	0.43	0.24	56.3	0.4	0.0 - 1.2						
COULTER AcT 5diff	33	0.61	0.34	56.3	0.6	0.0 - 1.7						

HEMATOLOGY W/ 5-PART DIFFERENTIAL– EOSINOPHILS (percent)

Specimen BCX-11

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	126	5.01	0.85	17.0	5.0	2.4 - 7.6
All ABX Instruments	91	4.90	0.75	15.4	5.0	2.6 - 7.2
All COULTER Instruments	34	5.31	1.04	19.6	5.3	2.1 - 8.5
ABX Pentra 60C+	81	4.89	0.77	15.8	4.9	2.5 - 7.3
COULTER AcT 5diff	34	5.31	1.04	19.6	5.3	2.1 - 8.5

Specimen BCX-12

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	125	5.01	1.29	25.8	5.0	1.1 - 8.9
All ABX Instruments	89	5.22	1.11	21.3	5.1	1.8 - 8.6
All COULTER Instruments	34	4.40	1.36	31.0	4.4	0.3 - 8.5
ABX Pentra 60C+	80	5.30	1.20	22.6	5.3	1.7 - 8.9
COULTER AcT 5diff	34	4.40	1.36	31.0	4.4	0.3 - 8.5

Specimen BCX-13

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	123	3.45	0.52	15.2	3.5	1.8 - 5.1
All ABX Instruments	89	3.47	0.55	15.9	3.5	1.8 - 5.2
All COULTER Instruments	34	3.43	0.53	15.3	3.5	1.8 - 5.1
ABX Pentra 60C+	78	3.44	0.51	14.9	3.5	1.9 - 5.0
COULTER AcT 5diff	34	3.43	0.53	15.3	3.5	1.8 - 5.1

Specimen BCX-14

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	124	8.53	1.93	22.6	8.4	2.7 - 14.4
All ABX Instruments	90	9.05	1.81	20.0	9.2	3.6 - 14.5
All COULTER Instruments	33	7.17	1.51	21.1	7.0	2.6 - 11.8
ABX Pentra 60C+	80	9.03	1.80	20.0	9.1	3.6 - 14.5
COULTER AcT 5diff	33	7.17	1.51	21.1	7.0	2.6 - 11.8

Specimen BCX-15

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	125	4.82	1.08	22.5	4.8	1.5 - 8.1
All ABX Instruments	90	5.02	1.03	20.6	4.9	1.9 - 8.2
All COULTER Instruments	34	4.29	1.05	24.5	4.2	1.1 - 7.5
ABX Pentra 60C+	80	5.03	1.04	20.7	4.9	1.9 - 8.2
COULTER AcT 5diff	34	4.29	1.05	24.5	4.2	1.1 - 7.5

HEMATOLOGY W/ 5-PART DIFFERENTIAL– BASOPHILS (percent)

	Specimen BCX-11						Specimen BCX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	91	0.25	0.05	20.4	0.3	0.0 - 0.4	88	0.20	0.01	0.0	0.2	0.1 - 0.3
All ABX Instruments	90	0.25	0.05	20.3	0.2	0.0 - 0.4	87	0.20	0.01	0.0	0.2	0.1 - 0.3
All COULTER Instruments	33	4.94	0.23	4.7	4.9	4.2 - 5.7	34	4.50	0.35	7.7	4.5	3.4 - 5.6
ABX Pentra 60C+	80	0.25	0.05	20.2	0.2	0.0 - 0.4	77	0.20	0.01	0.0	0.2	0.1 - 0.3
COULTER AcT 5diff	33	4.94	0.23	4.7	4.9	4.2 - 5.7	34	4.50	0.35	7.7	4.5	3.4 - 5.6
	Specimen BCX-13						**Specimen BCX-14**					
All Method	91	0.50	0.01	0.0	0.5	0.4 - 0.6	91	0.63	0.05	8.2	0.6	0.4 - 0.8
All ABX Instruments	90	0.50	0.01	0.0	0.5	0.4 - 0.6	90	0.63	0.05	8.2	0.6	0.4 - 0.8
All COULTER Instruments	34	10.28	0.55	5.3	10.1	8.6 - 12.0	33	12.62	0.67	5.3	12.6	10.6 - 14.7
ABX Pentra 60C+	80	0.50	0.01	0.0	0.5	0.4 - 0.6	80	0.63	0.05	8.4	0.6	0.4 - 0.8
COULTER AcT 5diff	34	10.28	0.55	5.3	10.1	8.6 - 12.0	33	12.62	0.67	5.3	12.6	10.6 - 14.7
	Specimen BCX-15											
All Method	90	0.36	0.05	13.8	0.4	0.2 - 0.6						
All ABX Instruments	89	0.36	0.05	13.7	0.4	0.2 - 0.6						
All COULTER Instruments	33	7.12	0.39	5.5	7.1	5.9 - 8.3						
ABX Pentra 60C+	79	0.36	0.05	13.9	0.4	0.2 - 0.6						
COULTER AcT 5diff	33	7.12	0.39	5.5	7.1	5.9 - 8.3						

HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x 10^9/L)

	Specimen MX-11						Specimen MX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	79	20.74	0.64	3.1	20.6	17.6 - 23.9	79	7.56	0.39	5.2	7.6	6.4 - 8.7
All Sysmex XE/XT Instruments	10	20.46	0.98	4.8	20.7	17.3 - 23.6	10	7.59	0.25	3.4	7.6	6.4 - 8.8
All Sysmex XN/XS Instruments	70	20.72	0.51	2.5	20.6	17.6 - 23.9	72	7.55	0.40	5.4	7.7	6.4 - 8.7
Sysmex XN-1000	17	20.43	0.33	1.6	20.5	17.3 - 23.5	17	7.39	0.11	1.4	7.4	6.2 - 8.5
Sysmex XS-1000i	47	20.96	0.61	2.9	20.7	17.8 - 24.2	45	7.76	0.25	3.3	7.8	6.5 - 9.0
	Specimen MX-13						**Specimen MX-14**					
All Method	76	3.75	0.14	3.8	3.8	3.1 - 4.4	79	20.65	0.57	2.8	20.6	17.5 - 23.8
All Sysmex XE/XT Instruments	10	3.61	0.24	6.7	3.7	3.0 - 4.2	10	20.49	0.92	4.5	20.7	17.4 - 23.6
All Sysmex XN/XS Instruments	70	3.75	0.14	3.7	3.8	3.1 - 4.4	71	20.65	0.50	2.4	20.6	17.5 - 23.8
Sysmex XN-1000	17	3.63	0.07	1.9	3.6	3.0 - 4.2	17	20.47	0.27	1.3	20.5	17.4 - 23.6
Sysmex XS-1000i	46	3.82	0.10	2.5	3.8	3.2 - 4.4	47	20.81	0.55	2.6	20.7	17.6 - 24.0
	Specimen MX-15											
All Method	76	3.76	0.13	3.4	3.8	3.1 - 4.4						
All Sysmex XE/XT Instruments	10	3.64	0.27	7.4	3.7	3.0 - 4.2						
All Sysmex XN/XS Instruments	70	3.76	0.13	3.4	3.8	3.1 - 4.4						
Sysmex XN-1000	17	3.68	0.08	2.3	3.7	3.1 - 4.3						
Sysmex XS-1000i	47	3.80	0.11	2.8	3.8	3.2 - 4.4						

HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x 10^{12}/L)

	Specimen MX-11						Specimen MX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	78	5.612	0.059	1.0	5.61	5.27 - 5.95	77	4.620	0.045	1.0	4.62	4.34 - 4.90
All Sysmex XE/XT Instruments	10	5.593	0.076	1.4	5.59	5.25 - 5.93	10	4.650	0.044	0.9	4.64	4.37 - 4.93
All Sysmex XN/XS Instruments	71	5.614	0.057	1.0	5.61	5.27 - 5.96	70	4.617	0.045	1.0	4.62	4.33 - 4.90
Sysmex XN-1000	17	5.625	0.045	0.8	5.62	5.28 - 5.97	17	4.622	0.036	0.8	4.62	4.34 - 4.90
Sysmex XS-1000i	47	5.599	0.065	1.2	5.60	5.26 - 5.94	47	4.611	0.059	1.3	4.62	4.33 - 4.89
	Specimen MX-13						**Specimen MX-14**					
All Method	79	2.280	0.036	1.6	2.28	2.14 - 2.42	79	5.614	0.060	1.1	5.62	5.27 - 5.96
All Sysmex XE/XT Instruments	10	2.343	0.028	1.2	2.34	2.20 - 2.49	10	5.587	0.066	1.2	5.56	5.25 - 5.93
All Sysmex XN/XS Instruments	71	2.275	0.029	1.3	2.27	2.13 - 2.42	72	5.617	0.059	1.1	5.62	5.27 - 5.96
Sysmex XN-1000	17	2.274	0.022	0.9	2.27	2.13 - 2.42	17	5.631	0.056	1.0	5.62	5.29 - 5.97
Sysmex XS-1000i	47	2.278	0.033	1.5	2.28	2.14 - 2.42	47	5.606	0.059	1.1	5.61	5.26 - 5.95
	Specimen MX-15											
All Method	76	2.281	0.031	1.3	2.28	2.14 - 2.42						
All Sysmex XE/XT Instruments	10	2.350	0.035	1.5	2.33	2.20 - 2.50						
All Sysmex XN/XS Instruments	71	2.277	0.029	1.3	2.28	2.14 - 2.42						
Sysmex XN-1000	17	2.270	0.027	1.2	2.27	2.13 - 2.41						
Sysmex XS-1000i	46	2.285	0.026	1.1	2.28	2.14 - 2.43						

HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL–HEMOGLOBIN (g/dL)

	Specimen MX-11						Specimen MX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	79	17.57	0.19	1.1	17.6	16.3 - 18.9	79	13.51	0.12	0.9	13.5	12.5 - 14.5
All Sysmex XE/XT Instruments	10	17.40	0.28	1.6	17.4	16.1 - 18.7	10	13.47	0.14	1.0	13.4	12.5 - 14.5
All Sysmex XN/XS Instruments	72	17.59	0.17	1.0	17.6	16.3 - 18.9	72	13.51	0.12	0.9	13.5	12.5 - 14.5
Sysmex XN-1000	17	17.49	0.11	0.6	17.5	16.2 - 18.8	17	13.51	0.07	0.6	13.5	12.5 - 14.5
Sysmex XS-1000i	47	17.63	0.18	1.0	17.6	16.3 - 18.9	47	13.51	0.14	1.0	13.5	12.5 - 14.5
	Specimen MX-13						**Specimen MX-14**					
All Method	78	5.88	0.06	1.1	5.9	5.4 - 6.3	79	17.56	0.20	1.1	17.6	16.3 - 18.8
All Sysmex XE/XT Instruments	10	5.90	0.06	1.0	5.9	5.4 - 6.4	10	17.36	0.28	1.6	17.4	16.1 - 18.6
All Sysmex XN/XS Instruments	71	5.88	0.07	1.1	5.9	5.4 - 6.3	72	17.58	0.18	1.0	17.6	16.3 - 18.9
Sysmex XN-1000	17	5.89	0.06	0.9	5.9	5.4 - 6.4	17	17.50	0.11	0.6	17.5	16.2 - 18.8
Sysmex XS-1000i	46	5.88	0.07	1.2	5.9	5.4 - 6.3	47	17.61	0.20	1.1	17.6	16.3 - 18.9
	Specimen MX-15											
All Method	79	5.90	0.07	1.2	5.9	5.4 - 6.4						
All Sysmex XE/XT Instruments	10	5.93	0.05	0.8	5.9	5.5 - 6.4						
All Sysmex XN/XS Instruments	72	5.90	0.07	1.3	5.9	5.4 - 6.4						
Sysmex XN-1000	17	5.92	0.08	1.3	5.9	5.5 - 6.4						
Sysmex XS-1000i	47	5.89	0.07	1.2	5.9	5.4 - 6.4						

HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – HEMATOCRIT (percent)

	Specimen MX-11						Specimen MX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	78	51.88	0.90	1.7	51.9	48.7 - 55.0	78	39.80	0.66	1.7	39.8	37.4 - 42.2
All Sysmex XE/XT Instruments	10	51.69	0.83	1.6	51.9	48.5 - 54.8	10	39.90	0.65	1.6	39.7	37.5 - 42.3
All Sysmex XN/XS Instruments	71	51.90	0.91	1.8	51.8	48.7 - 55.1	71	39.79	0.67	1.7	39.8	37.4 - 42.2
Sysmex XN-1000	17	51.36	0.50	1.0	51.3	48.2 - 54.5	17	39.50	0.44	1.1	39.4	37.1 - 41.9
Sysmex XS-1000i	46	52.10	1.00	1.9	52.1	48.9 - 55.3	46	39.92	0.71	1.8	40.0	37.5 - 42.4
	Specimen MX-13						**Specimen MX-14**					
All Method	79	18.01	0.39	2.1	18.0	16.9 - 19.1	78	51.92	0.90	1.7	52.0	48.8 - 55.1
All Sysmex XE/XT Instruments	10	18.43	0.43	2.3	18.6	17.3 - 19.6	10	51.59	0.99	1.9	51.7	48.4 - 54.7
All Sysmex XN/XS Instruments	72	17.97	0.36	2.0	17.9	16.8 - 19.1	71	51.95	0.89	1.7	52.0	48.8 - 55.1
Sysmex XN-1000	17	17.65	0.23	1.3	17.7	16.5 - 18.8	17	51.55	0.67	1.3	51.6	48.4 - 54.7
Sysmex XS-1000i	47	18.13	0.31	1.7	18.2	17.0 - 19.3	46	52.10	0.95	1.8	52.3	48.9 - 55.3
	Specimen MX-15											
All Method	79	18.04	0.42	2.3	18.0	16.9 - 19.2						
All Sysmex XE/XT Instruments	10	18.47	0.55	3.0	18.6	17.3 - 19.6						
All Sysmex XN/XS Instruments	72	18.00	0.38	2.1	18.0	16.9 - 19.1						
Sysmex XN-1000	17	17.65	0.27	1.5	17.6	16.5 - 18.8						
Sysmex XS-1000i	47	18.19	0.31	1.7	18.2	17.0 - 19.3						

HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL–PLATELET COUNT (x 10^9/L)

	Specimen MX-11						Specimen MX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	78	423.3	16.9	4.0	424	317 - 530	78	212.0	7.1	3.4	212	159 - 265
All Sysmex XE/XT Instruments	10	403.0	27.0	6.7	396	302 - 504	10	204.0	12.9	6.3	202	153 - 255
All Sysmex XN/XS Instruments	72	424.5	15.7	3.7	424	318 - 531	72	212.4	6.6	3.1	212	159 - 266
Sysmex XN-1000	17	433.5	12.0	2.8	436	325 - 542	17	210.1	5.6	2.7	210	157 - 263
Sysmex XS-1000i	47	417.6	12.3	2.9	418	313 - 522	47	212.1	6.0	2.9	212	159 - 266
	Specimen MX-13						**Specimen MX-14**					
All Method	79	61.4	5.2	8.4	61	46 - 77	79	421.4	18.1	4.3	423	316 - 527
All Sysmex XE/XT Instruments	10	61.1	8.4	13.7	62	45 - 77	10	407.4	26.7	6.6	399	305 - 510
All Sysmex XN/XS Instruments	72	61.4	4.8	7.8	61	46 - 77	72	422.7	16.8	4.0	424	317 - 529
Sysmex XN-1000	17	56.3	2.6	4.7	57	42 - 71	17	435.1	10.9	2.5	432	326 - 544
Sysmex XS-1000i	47	63.7	4.1	6.4	64	47 - 80	47	414.2	12.5	3.0	411	310 - 518
	Specimen MX-15											
All Method	79	61.5	5.0	8.1	63	46 - 77						
All Sysmex XE/XT Instruments	10	62.4	7.5	12.0	65	46 - 79						
All Sysmex XN/XS Instruments	72	61.4	4.7	7.7	63	46 - 77						
Sysmex XN-1000	17	55.4	2.2	4.0	55	41 - 70						
Sysmex XS-1000i	47	63.6	3.6	5.7	64	47 - 80						

HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – NEUTROPHILS (percent)

Specimen MX-11

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	62	57.32	2.00	3.5	57.4	51.3 - 63.4
All Sysmex XE/XT Instruments	10	57.23	2.41	4.2	57.9	50.0 - 64.5
All Sysmex XN/XS Instruments	56	57.33	1.98	3.4	57.3	51.3 - 63.3
Sysmex XN-1000	14	59.38	0.96	1.6	59.4	56.4 - 62.3
Sysmex XS-1000i	37	56.50	1.65	2.9	56.6	51.5 - 61.5

Specimen MX-12

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	62	48.90	2.71	5.5	48.5	40.7 - 57.1
All Sysmex XE/XT Instruments	10	54.77	1.78	3.2	55.3	49.4 - 60.1
All Sysmex XN/XS Instruments	56	48.28	1.92	4.0	48.3	42.5 - 54.1
Sysmex XN-1000	14	49.91	0.62	1.2	49.9	48.0 - 51.8
Sysmex XS-1000i	37	47.59	1.57	3.3	47.7	42.8 - 52.3

Specimen MX-13

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	59	58.88	2.06	3.5	58.7	52.7 - 65.1
All Sysmex XE/XT Instruments	10	65.88	1.71	2.6	65.9	60.7 - 71.1
All Sysmex XN/XS Instruments	56	58.58	1.62	2.8	58.5	53.7 - 63.5
Sysmex XN-1000	14	60.56	1.04	1.7	60.6	57.4 - 63.7
Sysmex XS-1000i	37	57.95	1.09	1.9	57.8	54.6 - 61.3

Specimen MX-14

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	62	57.42	1.85	3.2	57.5	51.8 - 63.0
All Sysmex XE/XT Instruments	10	57.67	2.02	3.5	57.9	51.6 - 63.8
All Sysmex XN/XS Instruments	56	57.40	1.85	3.2	57.5	51.8 - 63.0
Sysmex XN-1000	14	58.83	0.83	1.4	58.9	56.3 - 61.4
Sysmex XS-1000i	37	56.89	1.73	3.0	56.5	51.7 - 62.1

Specimen MX-15

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	57	59.06	1.50	2.5	59.0	54.5 - 63.6
All Sysmex XE/XT Instruments	10	65.97	1.34	2.0	65.7	61.9 - 70.0
All Sysmex XN/XS Instruments	56	58.98	1.36	2.3	59.0	54.9 - 63.1
Sysmex XN-1000	14	60.55	0.70	1.2	60.6	58.4 - 62.7
Sysmex XS-1000i	37	58.42	0.90	1.5	58.4	55.7 - 61.2

HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – LYMPHOCYTES (percent)

	Specimen MX-11						Specimen MX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	59	19.55	1.90	9.7	19.3	13.8 - 25.3	60	29.71	1.81	6.1	29.8	24.2 - 35.2
All Sysmex XE/XT Instruments	10	26.17	2.13	8.1	26.5	19.7 - 32.6	10	28.50	2.34	8.2	27.9	21.4 - 35.6
All Sysmex XN/XS Instruments	52	19.30	0.87	4.5	19.1	16.6 - 22.0	54	29.85	1.72	5.7	29.9	24.7 - 35.0
Sysmex XN-1000	14	19.37	1.47	7.6	18.9	14.9 - 23.8	14	28.42	1.03	3.6	28.3	25.3 - 31.6
Sysmex XS-1000i	35	19.32	0.83	4.3	19.3	16.8 - 21.9	35	30.12	1.34	4.4	30.1	26.1 - 34.2
	Specimen MX-13						**Specimen MX-14**					
All Method	60	17.18	0.89	5.2	17.3	14.5 - 19.9	59	19.40	2.49	12.8	19.0	11.9 - 26.9
All Sysmex XE/XT Instruments	10	17.30	1.99	11.5	16.8	11.3 - 23.3	10	26.13	1.85	7.1	26.1	20.5 - 31.7
All Sysmex XN/XS Instruments	55	17.23	0.86	5.0	17.3	14.6 - 19.9	53	18.93	1.51	8.0	19.0	14.3 - 23.5
Sysmex XN-1000	14	17.15	1.00	5.8	17.2	14.1 - 20.2	14	19.70	1.61	8.2	19.0	14.8 - 24.6
Sysmex XS-1000i	37	17.21	0.81	4.7	17.3	14.7 - 19.7	35	18.49	1.35	7.3	18.8	14.4 - 22.6
	Specimen MX-15											
All Method	60	17.03	0.78	4.6	17.1	14.6 - 19.4						
All Sysmex XE/XT Instruments	10	17.13	1.65	9.6	17.2	12.1 - 22.1						
All Sysmex XN/XS Instruments	55	17.07	0.74	4.4	17.1	14.8 - 19.4						
Sysmex XN-1000	14	17.02	0.71	4.2	17.1	14.8 - 19.2						
Sysmex XS-1000i	37	17.05	0.76	4.5	17.1	14.7 - 19.4						

HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – MONOCYTES (percent)

	Specimen MX-11						Specimen MX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	60	1.33	0.76	57.7	1.0	0.0 - 3.7	62	2.18	1.08	49.5	1.8	0.0 - 5.5
All Sysmex XE/XT Instruments	10	3.63	0.99	27.2	3.4	0.6 - 6.7	10	3.97	0.53	13.4	3.9	2.3 - 5.6
All Sysmex XN/XS Instruments	56	1.20	0.62	51.7	1.0	0.0 - 3.1	56	1.99	0.94	47.3	1.6	0.0 - 4.9
Sysmex XN-1000	14	2.06	0.48	23.2	2.1	0.6 - 3.5	14	3.26	0.45	13.9	3.3	1.9 - 4.7
Sysmex XS-1000i	37	0.88	0.30	34.2	0.9	0.0 - 1.8	36	1.39	0.34	24.2	1.4	0.3 - 2.4
	Specimen MX-13						**Specimen MX-14**					
All Method	61	1.07	0.48	45.0	1.0	0.0 - 2.6	60	1.31	0.85	64.6	1.0	0.0 - 3.9
All Sysmex XE/XT Instruments	10	1.67	0.58	34.9	1.8	0.0 - 3.5	10	3.48	1.02	29.2	3.4	0.4 - 6.6
All Sysmex XN/XS Instruments	55	1.01	0.43	42.5	0.8	0.0 - 2.3	56	1.19	0.74	62.1	1.0	0.0 - 3.5
Sysmex XN-1000	14	1.59	0.29	18.0	1.6	0.7 - 2.5	14	2.06	0.70	34.0	2.2	0.0 - 4.2
Sysmex XS-1000i	37	0.77	0.19	24.9	0.8	0.1 - 1.4	37	0.81	0.28	33.8	0.9	0.0 - 1.7
	Specimen MX-15											
All Method	62	1.05	0.48	45.1	0.9	0.0 - 2.5						
All Sysmex XE/XT Instruments	10	1.48	0.47	31.7	1.4	0.0 - 2.9						
All Sysmex XN/XS Instruments	56	1.01	0.46	45.3	0.8	0.0 - 2.4						
Sysmex XN-1000	14	1.60	0.35	21.7	1.7	0.5 - 2.7						
Sysmex XS-1000i	37	0.75	0.23	30.0	0.8	0.0 - 1.5						

HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – EOSINOPHILS (percent)

	Specimen MX-11						Specimen MX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	62	14.02	0.86	6.1	14.0	11.4 - 16.7	60	13.07	0.52	4.0	13.1	11.5 - 14.7
All Sysmex XE/XT Instruments	10	12.97	0.58	4.5	13.1	11.2 - 14.8	10	13.60	1.88	13.8	13.0	7.9 - 19.3
All Sysmex XN/XS Instruments	56	14.14	0.81	5.7	14.2	11.7 - 16.6	55	13.09	0.53	4.0	13.2	11.4 - 14.7
Sysmex XN-1000	14	14.30	0.70	4.9	14.3	12.2 - 16.4	12	13.66	0.08	0.6	13.6	13.4 - 13.9
Sysmex XS-1000i	37	13.97	0.78	5.6	13.9	11.6 - 16.4	37	13.00	0.44	3.4	13.1	11.6 - 14.4
	Specimen MX-13						**Specimen MX-14**					
All Method	62	15.34	0.61	4.0	15.4	13.5 - 17.2	60	14.24	0.81	5.7	14.2	11.8 - 16.7
All Sysmex XE/XT Instruments	10	15.15	0.46	3.1	15.2	13.7 - 16.6	10	12.72	0.82	6.4	12.8	10.2 - 15.2
All Sysmex XN/XS Instruments	56	15.36	0.62	4.1	15.4	13.4 - 17.3	55	14.36	0.73	5.1	14.2	12.1 - 16.6
Sysmex XN-1000	14	15.89	0.36	2.3	16.0	14.8 - 17.0	14	14.57	0.67	4.6	14.7	12.5 - 16.6
Sysmex XS-1000i	37	15.07	0.53	3.5	15.2	13.4 - 16.7	36	14.21	0.72	5.1	14.1	12.0 - 16.4
	Specimen MX-15											
All Method	62	15.39	0.61	3.9	15.5	13.5 - 17.3						
All Sysmex XE/XT Instruments	10	15.42	0.47	3.1	15.6	14.0 - 16.9						
All Sysmex XN/XS Instruments	56	15.38	0.62	4.0	15.5	13.5 - 17.3						
Sysmex XN-1000	14	16.03	0.31	1.9	16.1	15.0 - 17.0						
Sysmex XS-1000i	37	15.08	0.51	3.4	15.2	13.5 - 16.7						

HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – BASOPHILS (percent)

	Specimen MX-11						Specimen MX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Sysmex XE/XT Instruments	10	82.50	1.97	2.4	82.3	76.5 - 88.5	10	71.33	1.10	1.5	71.6	68.0 - 74.7
All Sysmex XN/XS Instruments	56	8.05	2.08	25.9	8.6	1.7 - 14.3	56	6.82	1.31	19.2	7.2	2.8 - 10.8
Sysmex XN-1000	14	4.90	0.09	1.8	4.9	4.6 - 5.2	14	4.89	0.12	2.5	4.9	4.5 - 5.3
Sysmex XS-1000i	37	9.33	0.90	9.7	9.4	6.6 - 12.1	37	7.56	0.66	8.7	7.5	5.5 - 9.6
	Specimen MX-13						**Specimen MX-14**					
All Sysmex XE/XT Instruments	10	82.70	0.41	0.5	82.8	81.4 - 84.0	10	82.44	2.38	2.9	81.4	75.2 - 89.6
All Sysmex XN/XS Instruments	56	7.88	1.99	25.3	8.6	1.9 - 13.9	56	8.01	2.13	26.6	8.5	1.6 - 14.5
Sysmex XN-1000	14	4.80	0.15	3.1	4.7	4.3 - 5.3	14	4.84	0.09	1.8	4.9	4.5 - 5.1
Sysmex XS-1000i	37	9.00	0.81	9.0	9.1	6.5 - 11.5	37	9.27	1.00	10.8	8.9	6.2 - 12.3
	Specimen MX-15											
All Sysmex XE/XT Instruments	10	82.66	0.24	0.3	82.6	81.9 - 83.4						
All Sysmex XN/XS Instruments	56	7.62	1.85	24.3	8.2	2.0 - 13.2						
Sysmex XN-1000	14	4.80	0.11	2.3	4.8	4.4 - 5.2						
Sysmex XS-1000i	37	8.70	0.81	9.3	8.6	6.2 - 11.2						

HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – Immature Granulocytes (percent)

	Specimen MX-11						Specimen MX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	20	14.63	0.71	4.8	14.7	12.5 - 16.8	20	12.60	0.93	7.4	12.4	9.7 - 15.4
All Sysmex XN/XS Instruments	17	14.65	0.47	3.2	14.7	13.2 - 16.1	16	12.23	0.28	2.3	12.3	11.3 - 13.1
Sysmex XN-1000	13	14.68	0.47	3.2	14.9	13.2 - 16.1	13	12.22	0.29	2.4	12.3	11.3 - 13.1
	Specimen MX-13						**Specimen MX-14**					
All Sysmex XE/XT Instruments	20	14.91	0.69	4.6	14.8	12.8 - 17.0	20	14.43	0.73	5.0	14.6	12.2 - 16.7
All Sysmex XN/XS Instruments	17	14.68	0.40	2.7	14.7	13.4 - 15.9	17	14.49	0.54	3.8	14.6	12.8 - 16.2
Sysmex XN-1000	13	14.65	0.40	2.8	14.7	13.4 - 15.9	13	14.42	0.44	3.0	14.5	13.1 - 15.8
	Specimen MX-15											
All Sysmex XE/XT Instruments	20	15.05	0.79	5.2	14.7	12.6 - 17.5						
All Sysmex XN/XS Instruments	17	14.78	0.43	2.9	14.6	13.5 - 16.1						
Sysmex XN-1000	13	14.61	0.23	1.5	14.6	13.9 - 15.3						

2018 M3
BLOOD CELL IDENTIFICATION
Specimens BC-13 through BC-16

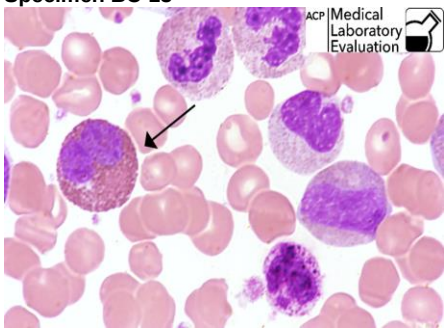
CASE HISTORY:
A 59 year old male presented to his internist for a physical. He complained of generally not feeling well, including loss of energy and appetite, and having pain in the upper left abdomen. He does not smoke or drink alcohol. Upon examination, breathing appeared labored, skin appeared pale and sweaty, abdomen was distended, and spleen was enlarged. A CBC was performed, and significant results appear below.

Test	Results	Reference Range
WBC	98 x 10^9/L	4.5 - 11.5 x 10^9/L
RBC	3.88 x 10^{12}/L	4.6 - 6.0 x 10^{12}/L
HGB	11.1 g/dL	14.0 - 18.0 g/dL
HCT	33 %	40 - 54 %
MCV	85 fL	80 - 94 fL
MCH	29 pg	26 - 32 pg
MCHC	34 g/dL	32 - 36 g/dL
RDW	17 %	11.5 - 14.5 %
PLT	466 x 10^9/L	150 - 450 x 10^9/L

This patient was diagnosed with chronic myelogenous leukemia (CML). CML is a myeloproliferative disorder in which an acquired DNA mutation leads to excessive production and accumulation of granulocytic leukocytes in the bone marrow. CML progresses through three clinical phases: chronic, accelerated, and blast. A genetic translocation called "Philadelphia chromosome" is present in over 90% of patients with CML. The Philadelphia translocation was the first chromosomal abnormality to be associated with a malignant disease. In CML, affected cells produce abnormal proteins that trigger uncontrolled production of myeloid progenitor cells. However, the malignant leukocytes do not function or die like normal cells. They build up in the bone marrow, crowding normal cells as the disease progresses over 2 to 4 years (the chronic phase.) The disease usually transforms to an accelerated phase, then to the most severe blastic phase or "blast crisis." The most common symptoms of CML at presentation are fatigue and loss of energy. At the time of diagnosis, most patients are in the chronic or stable phase, which is highly treatable. As the disease progresses, there is an increase in severity of symptoms, adverse changes in laboratory values, and a diminished response to therapy.

BLOOD CELL IDENTIFICATION

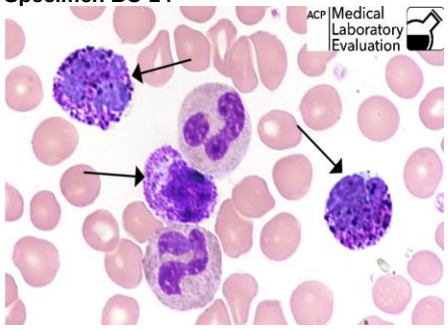
Specimen BC-13



Identification	Labs	Percent	Performance
Eosiniphil, any stage	172	100%	Acceptable

The arrow in this photograph points to an **eosinophil**. These cells are easily identified by their characteristic red-orange color, which comes from the dye eosin. The cytoplasm of an eosinophil is filled with large round red-orange granules, which surround the nucleus but do not obscure it. To view another photo of an "eo", see 2017 M3 Specimen BC-17.

Specimen BC-14



Identification	Labs	Percent	Performance
Basophil, any state	17	99.42%	Acceptable

The arrows in this photograph point to a **basophil**. The characteristic large, dense, blue-black granules protrude from the cytoplasmic edge, and may be so numerous that they obscure the features of the nucleus. To view another photo of a basophil, see 2017 M1 Specimen BC-4.

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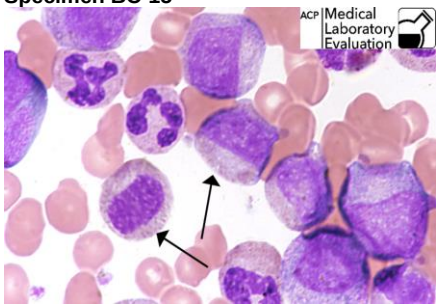
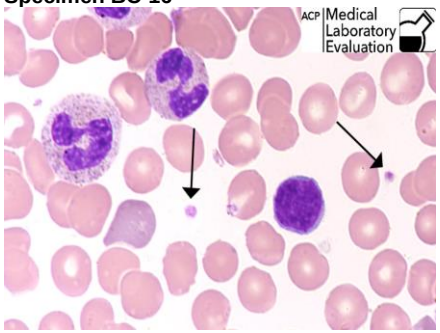
Specimen BC-15



Identification	Labs	Percent	Performance
Myelocyte cell	74	43.02%	Acceptable
Immature/abnormal cell –refer	64	37.21%	Acceptable
Metamyelocyte	13	7.56%	
Lympocyte, reactive	10	5.81%	
Blast cell	6	3.49%	

The arrows in this photograph point to **myelocytes**. Myelocytes are immature granulocytes that will develop into promyelocytes then into neutrophils. The typical myelocyte has fine reddish-purple chromatin, and an eccentric nucleus that is flat on one side. These cells have bluish-pink cytoplasm, containing both primary and secondary granules. As secondary granules accumulate throughout the myelocyte stage of development, the cytoplasm's color becomes progressively more pink. To view another myelocyte, see 2013 M1 Specimen BC-4.

Specimen BC-16

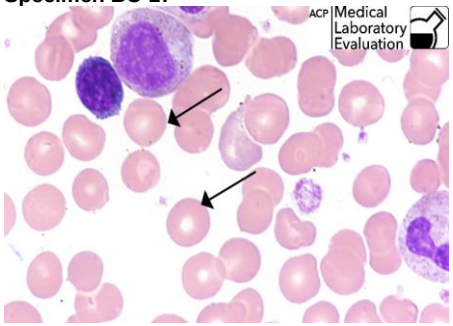


Identification	Labs	Percent	Performance
Platelet, normal	170	98.84%	Acceptable

The arrows in this photograph point to **normal platelets**. Platelets are very small and rounded, with irregular edges. They contain fine, red-violet granules surrounded by bluish cytoplasm. To view another photo of normal platelets, see 2017 M1 Specimen BC-3.

BLOOD CELL IDENTIFICATION

Specimen BC-17

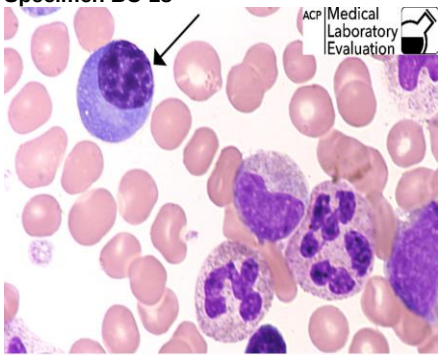


Identification	Labs	Percent	Performance
Erythrocyte, normal	169	98.26%	Acceptable

The arrows in this photograph point to **normal erythrocytes** (red blood cells.) The arrowed cells are approximately the same size as the nucleus of the mature lymphocyte nearby. In a normochromic cell the area of central pallor takes up about one third of the diameter of the cell. A hypochromic cell would have a larger area of central pallor. To view another photo of normal red cells, see 2017 M3 Specimen BC-14.

BLOOD CELL IDENTIFICATION

Specimen BC-18



Identification	Labs	Percent	Performance
Plasma cell	102	59.30%	Not graded – Educational Challenge
Immature/abnormal cell-refer	59	34.30%	
Prolymphocyte	3	1.74%	
Myelocyte cell	3	1.74%	
Blast cell	2	1.16%	
Lymphocyte, reactive	2	1.16%	
Nuclated red cell	1	0.58%	

The arrow in this ungraded educational challenge points to a **plasma cell**. A plasma cell is a specialized lymphocyte, sometimes described as resembling a fried egg. It is characterized by an eccentric nucleus with very little cytoplasm on one side and a perinuclear clear zone or pale-staining area adjacent to the nucleus on the other side. (This clear zone around the nucleus is absent in the normal lymph.) The cytoplasm is moderately basophilic or purple-ish. The mature plasma cell has a perfectly round or oval shaped nucleus with blue-purple, prominently clumped, granular chromatin. Plasma cells are normally found in the bone marrow and are an important part of the immune system. They produce antibodies, also known as immunoglobulins, which have an important role in fighting infection. In a case like this, the plasma cell is just an incidental finding due to bone marrow crowding, and is not involved in the disease process. To view another photo of a plasma cell, see 2016 M2 Specimen BC-12.

References:

Besa, E. C. "Chronic Myelogenous Leukemia (CML)." Medscape. September 24, 2018. Accessed October 25, 2018. Available at: https://emedicine.medscape.com/article/199425-overview

Carr, J.H., Rodak, B.F.: *Clinical Hematology Atlas, 3rd ed.* Saunders, St. Louis, 2009.

Faderl, S., Kantarjian, H.M.: "Chronic Myelogenous Leukemia and Other Myeloproliferative Disorders." *ACP Medicine.* Ed. D. C. Dale. New York: WebMD, Inc., 2004. 2508-2510.

O'Connor, B. H.: *A Color Atlas and Instruction Manual of Peripheral Blood Cell Morphology.* Williams & Wilkins, Baltimore MD, 1984.

Rodak, B. F.: *Hematology: Clinical Principles and Applications. 3rd ed.* W. B. Saunders, Philadelphia, 2007.

BLOOD BANK

ABO GROUP

Specimen	Results	Labs	Percent	Performance
BB-11	Group O	5	100%	Acceptable
BB-12	Group AB	5	100%	Acceptable
BB-13	Group B	5	100%	Acceptable
BB-14	Group A	5	100%	Acceptable
BB-15	Group O	5	100%	Acceptable

RH FACTOR (D TYPE)

Specimen	Results	Labs	Percent	Performance
BB-11	Rh Positive	16	100%	Acceptable
BB-12	Rh Positive	15	93.75%	Acceptable
	Ph Negative	1	6.25%	
BB-13	Rh Negative	16	100%	Acceptable
BB-14	Rh Positive	16	100%	Acceptable
BB-15	Rh Positive	16	100%	Acceptable

The specimen BB-12 is graded to 100% referee consensus.

UNEXPECTED ANTIBODY DETECTION

Specimen	Results	Labs	Percent	Performance
AB-11	No unexpected antibody detected	5	100%	Acceptable
AB-12	Unexpected antibody detected	5	100%	Acceptable
AB-13	Unexpected antibody detected	5	100%	Acceptable
AB-14	No unexpected antibody detected	5	100%	Acceptable
AB-15	No unexpected antibody detected	5	100%	Acceptable

BLOOD BANK

ANTIBODY IDENTIFICATION

Specimen	Results	Labs	Percent	Performance
AB-11	No antibody detected	1	100%	Acceptable
AB-12	Anti-Fy[a]	1	100%	Acceptable
AB-13	Anti-Jk[a]	1	100%	Acceptable
AB-14	No antibody detected	1	100%	Acceptable
AB-15	No antibody detected	1	100%	Acceptable

COMPATIBILITY TESTING

Specimen	Results	Labs	Percent	Performance
AB-11	Compatible	5	100%	Acceptable
AB-12	Not compatible	5	100%	Acceptable
AB-13	Compatible	5	100%	Acceptable
AB-14	Compatible	5	100%	Acceptable
AB-15	Compatible	5	100%	Acceptable

PROTHROMBIN TIME (seconds)

Reagent/Instrument	Specimen CG-11 Labs	Mean	SD	CV	Median	Range	Specimen CG-12 Labs	Mean	SD	CV	Median	Range
All Method	44	12.17	0.97	8.0	12.1	10.3 - 14.0	43	11.29	0.79	7.0	11.2	9.5 - 13.0
Dade Innovin												
Dade Behring BFT II	5	11.18	0.88	7.8	11.1	9.4 - 12.9	5	10.10	0.14	1.4	10.2	8.5 - 11.7
Sysmex CA-500/600 series	19	11.84	0.58	4.9	11.7	10.0 - 13.7	18	11.09	0.27	2.4	11.2	9.4 - 12.8
All Coagulation Instruments	24	11.70	0.67	5.7	11.7	9.9 - 13.5	23	10.92	0.46	4.2	11.1	9.2 - 12.6
HemosIL RecombiPlasTin 2G												
IL ACL, all models	5	13.10	1.41	10.8	13.1	11.1 - 15.1	5	11.15	0.49	4.4	11.2	9.4 - 12.9
IL TEST PT Fibrinogen												
IL ACL, all models	6	13.25	0.23	1.7	13.3	11.2 - 15.3	6	12.35	0.31	2.5	12.3	10.4 - 14.3
PH/CMS Thromboplastin-D												
All Coagulation Instruments	5	13.65	0.49	3.6	13.7	11.6 - 15.7	5	12.45	1.48	11.9	12.5	10.5 - 14.4

Reagent/Instrument	Specimen CG-13 Labs	Mean	SD	CV	Median	Range	Specimen CG-14 Labs	Mean	SD	CV	Median	Range
All Method	21	26.37	3.36	12.7	27.0	22.4 - 30.4	44	25.51	3.11	12.2	25.7	21.6 - 29.4
Dade Innovin												
Dade Behring BFT II	5	25.05	2.67	10.7	25.6	21.2 - 28.9	5	27.35	1.30	4.7	27.4	23.2 - 31.5
Sysmex CA-500/600 series	1	-	-	-	20.6	20.5 - 27.8	19	25.92	0.90	3.5	25.7	22.0 - 29.9
All Coagulation Instruments	6	24.16	3.05	12.6	24.1	20.5 - 27.8	24	26.23	1.11	4.2	26.0	22.2 - 30.2
HemosIL RecombiPlasTin 2G												
IL ACL, all models	5	29.20	3.54	12.1	29.2	24.8 - 33.6	5	33.60	0.01	0.0	33.6	28.5 - 38.7
IL TEST PT Fibrinogen												
IL ACL, all models	5	28.90	1.71	5.9	28.4	24.5 - 33.3	6	21.78	0.69	3.1	21.6	18.5 - 25.1
PH/CMS Thromboplastin-D												
All Coagulation Instruments	5	25.25	2.47	9.8	25.3	21.4 - 29.1	5	20.05	1.63	8.1	20.1	17.0 - 23.1

Reagent/Instrument	Specimen CG-15 Labs	Mean	SD	CV	Median	Range
All Method	27	26.48	4.44	16.8	26.7	22.5 - 30.5
Dade Innovin						
Dade Behring BFT II	5	27.47	1.86	6.8	26.6	23.3 - 31.6
Sysmex CA-500/600 series	5	20.27	1.57	7.7	20.8	17.2 - 23.4
All Coagulation Instruments	11	23.87	4.23	17.7	23.9	20.2 - 27.5
HemosIL RecombiPlasTin 2G						
IL ACL, all models	5	31.75	2.19	6.9	31.8	26.9 - 36.6
IL TEST PT Fibrinogen						
IL ACL, all models	5	25.63	2.93	11.4	25.4	21.7 - 29.5
PH/CMS Thromboplastin-D						
All Coagulation Instruments	5	30.75	0.07	0.2	30.8	26.1 - 35.4

PROTHROMBIN TIME–INTERNATIONAL NORMALIZED RATIO (INR)

Reagent/Instrument	Specimen CG-11 Labs	Mean	SD	CV	Median	Range	Specimen CG-12 Labs	Mean	SD	CV	Median	Range
All Method	33	1.18	0.08	7.0	1.2	0.9 - 1.5	32	1.09	0.06	5.1	1.1	0.8 - 1.4
Dade Innovin												
Dade Behring BFT II	5	1.20	0.08	6.8	1.2	0.9 - 1.5	5	1.10	0.01	0.0	1.1	0.8 - 1.4
Sysmex CA-500/600 series	19	1.16	0.08	6.5	1.2	0.9 - 1.4	18	1.10	0.05	4.4	1.1	0.8 - 1.4
All Coagulation Instruments	24	1.17	0.08	6.5	1.2	0.9 - 1.5	23	1.10	0.04	3.9	1.1	0.8 - 1.4
HemosIL RecombiPlasTin 2G												
IL ACL, all models	5	1.15	0.07	6.1	1.2	0.9 - 1.4	5	1.00	0.01	0.0	1.0	0.8 - 1.2
IL TEST PT Fibrinogen												
IL ACL, all models	6	1.23	0.05	4.2	1.2	0.9 - 1.5	6	1.07	0.08	7.7	1.1	0.8 - 1.3
PH/CMS Thromboplastin-D												
All Coagulation Instruments	5	1.45	0.07	4.9	1.5	1.1 - 1.8	5	1.25	0.21	17.0	1.3	1.0 - 1.5

Reagent/Instrument	Specimen CG-13 Labs	Mean	SD	CV	Median	Range	Specimen CG-14 Labs	Mean	SD	CV	Median	Range
All Method	21	3.49	1.32	37.9	2.9	2.7 - 4.2	33	2.74	0.25	9.2	2.7	2.1 - 3.3
Dade Innovin												
Dade Behring BFT II	5	2.50	0.29	11.8	2.5	2.0 - 3.0	5	2.68	0.13	4.7	2.7	2.1 - 3.3
Sysmex CA-500/600 series	1	-	-	-	1.9	1.9 - 2.9	18	2.61	0.15	5.8	2.6	2.0 - 3.2
All Coagulation Instruments	6	2.38	0.37	15.6	2.3	1.9 - 2.9	23	2.62	0.14	5.5	2.6	2.0 - 3.2
HemosIL RecombiPlasTin 2G												
IL ACL, all models	5	2.70	0.28	10.5	2.7	2.1 - 3.3	5	3.15	0.07	2.2	3.2	2.5 - 3.8
IL TEST PT Fibrinogen												
IL ACL, all models	5	4.93	0.59	11.9	4.7	3.9 - 6.0	6	2.93	0.20	6.7	2.9	2.3 - 3.6
PH/CMS Thromboplastin-D												
All Coagulation Instruments	5	4.90	0.57	11.5	4.9	3.9 - 5.9	5	3.15	0.35	11.2	3.2	2.5 - 3.8

Reagent/Instrument	Specimen CG-15 Labs	Mean	SD	CV	Median	Range
All Method	27	3.37	1.72	51.0	2.8	2.6 - 4.1
Dade Innovin						
Dade Behring BFT II	5	2.55	0.30	11.8	2.7	2.0 - 3.1
Sysmex CA-500/600 series	5	1.97	0.12	5.9	1.9	1.5 - 2.4
All Coagulation Instruments	11	2.30	0.38	16.7	2.1	1.8 - 2.8
HemosIL RecombiPlasTin 2G						
IL ACL, all models	5	3.00	0.14	4.7	3.0	2.4 - 3.6
IL TEST PT Fibrinogen						
IL ACL, all models	5	3.63	0.59	16.1	3.4	2.9 - 4.4
PH/CMS Thromboplastin-D						
All Coagulation Instruments	5	7.10	0.71	10.0	7.1	5.6 - 8.6

ACTIVATED PARTIAL THROMBOPLASTIN (seconds)

Reagent/Instrument	Specimen CG-11 Labs	Mean	SD	CV	Median	Range	Specimen CG-12 Labs	Mean	SD	CV	Median	Range
All Method	20	26.9	2.6	9.7	26	22 - 31	20	27.4	5.7	20.8	25	23 - 32
Dade Actin FSL												
Sysmex CA-500/600 series	10	25.6	1.0	3.8	26	21 - 30	10	24.4	0.5	2.1	24	20 - 29
Hemoliance SynthASil												
IL ACL, all models	5	31.5	3.5	11.2	32	26 - 37	5	40.0	0.1	0.0	40	34 - 46
IL TEST APTT-SP												
IL ACL, all models	5	29.0	0.1	0.0	29	24 - 34	5	30.0	0.1	0.0	30	25 - 35

Reagent/Instrument	Specimen CG-13 Labs	Mean	SD	CV	Median	Range	Specimen CG-14 Labs	Mean	SD	CV	Median	Range
All Method	20	66.4	8.7	13.1	68	56 - 77	20	40.9	3.1	7.6	40	34 - 48
Dade Actin FSL												
Sysmex CA-500/600 series	10	64.4	8.2	12.8	66	54 - 75	10	39.5	1.6	4.2	40	33 - 46
Hemoliance SynthASil												
IL ACL, all models	5	65.5	6.4	9.7	66	55 - 76	5	47.0	1.4	3.0	47	39 - 55
IL TEST APTT-SP												
IL ACL, all models	5	77.5	6.4	8.2	78	65 - 90	5	42.0	1.4	3.4	42	35 - 49

Reagent/Instrument	Specimen CG-15 Labs	Mean	SD	CV	Median	Range
All Method	15	63.4	7.0	11.1	63	53 - 73
Dade Actin FSL						
Sysmex CA-500/600 series	10	64.5	7.2	11.2	64	54 - 75
IL TEST APTT-SP						
IL ACL, all models	5	58.0	1.4	2.4	58	49 - 67

Fibrinogen (mg/dL)

One participant reported Fibrinogen. The vendor assay values on a Sysmex CA-540 for specimens CG-11 through CG-15 are: 249 mg/dL, 361 mg/dL, 86 mg/dL, 236 mg/dL, and 86 mg/dL, respectively.

RH FACTOR (Slide Method)

Specimen	Results	Labs	Percent	Performance
RH-11	Rh Positive	5	100%	Acceptable
RH-12	Rh Positive	5	100%	Acceptable
RH-13	Rh Negative	5	100%	Acceptable
RH-14	Rh Positive	5	100%	Acceptable
RH-15	Rh Positive	5	100%	Acceptable

COAGUCHEK XS PLUS PROTHROMBIN TIME (seconds)

	Specimen XS-11						Specimen XS-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	24	25.68	1.31	5.1	25.7	21.8 - 29.6	24	36.72	1.50	4.1	36.8	31.2 - 42.3
All Roche CoaguChek XS Plus Instruments	17	25.56	1.03	4.0	25.6	21.7 - 29.4	17	36.62	1.52	4.2	36.8	31.1 - 42.2
Roche CoaguChek XS Plus - Waived	11	25.71	1.18	4.6	25.7	21.8 - 29.6	11	36.44	1.85	5.1	36.4	30.9 - 42.0
Roche CoaguChek XS Plus	10	25.39	0.89	3.5	25.4	21.5 - 29.2	10	38.05	3.55	9.3	37.2	32.3 - 43.8

	Specimen XS-13						Specimen XS-14					
All Method	13	13.84	0.24	1.7	13.9	11.7 - 16.0	13	25.53	0.90	3.5	25.4	21.7 - 29.4
All Roche CoaguChek XS Plus Instruments	11	13.86	0.25	1.8	14.0	11.7 - 16.0	11	25.39	0.84	3.3	25.4	21.5 - 29.2

	Specimen XS-15					
All Method	13	37.96	0.96	2.5	37.6	32.2 - 43.7
All Roche CoaguChek XS Plus Instruments	11	37.95	1.03	2.7	37.5	32.2 - 43.7

COAGUCHEK XS PLUS PROTHROMBIN TIME–INTERNATIONAL NORMALIZED RATIO (INR)

	Specimen XS-11						Specimen XS-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	35	2.15	0.10	4.4	2.2	1.7 - 2.6	33	3.04	0.13	4.2	3.1	2.4 - 3.7
All Roche CoaguChek XS Plus Instruments	30	2.15	0.09	4.0	2.2	1.7 - 2.6	29	3.04	0.13	4.2	3.1	2.4 - 3.7
Roche CoaguChek XS Plus - Waived	22	2.16	0.08	3.9	2.2	1.7 - 2.6	22	3.04	0.14	4.5	3.1	2.4 - 3.7
Roche CoaguChek XS Plus	10	2.11	0.08	4.0	2.1	1.6 - 2.6	10	3.18	0.31	9.6	3.1	2.5 - 3.9
	Specimen XS-13						**Specimen XS-14**					
All Method	15	1.16	0.05	4.3	1.2	0.9 - 1.4	15	2.12	0.06	2.8	2.1	1.6 - 2.6
All Roche CoaguChek XS Plus Instruments	13	1.17	0.05	4.1	1.2	0.9 - 1.5	13	2.11	0.06	2.7	2.1	1.6 - 2.6
Roche CoaguChek XS Plus - Waived	11	1.18	0.04	3.5	1.2	0.9 - 1.5	11	2.13	0.05	2.4	2.1	1.7 - 2.6
	Specimen XS-15											
All Method	15	3.16	0.13	4.1	3.1	2.5 - 3.8						
All Roche CoaguChek XS Plus Instruments	13	3.16	0.13	4.3	3.1	2.5 - 3.8						
Roche CoaguChek XS Plus - Waived	11	3.17	0.16	5.2	3.2	2.5 - 3.9						

COAGUCHECK XS - INTERNATIONAL NORMALIZED RATIO (INR)

	Specimen INX-5						Specimen INX-6					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
Roche CoaguChek XS	121	3.19	0.16	5.1	3.2	2.5 - 3.9	123	2.15	0.09	4.4	2.1	1.7 - 2.6

i-Stat PROTHROMBIN TIME (seconds)

	Specimen PTI-11					Specimen PTI-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
i-Stat Prothrombin Time	11	27.12	1.85	6.8	26.6	23.0 - 31.2	11	27.16	0.87	3.2	27.3	23.0 - 31.3
	Specimen PTI-13						**Specimen PTI-14**					
i-Stat Prothrombin Time	11	13.64	1.32	9.7	14.0	11.5 - 15.7	11	13.72	0.63	4.6	13.4	11.6 - 15.8
	Specimen PTI-15											
i-Stat Prothrombin Time	11	26.76	1.14	4.3	26.5	22.7 - 30.8						

i-Stat PROTHROMBIN TIME - INTERNATIONAL NORMALIZED RATIO (INR)

	Specimen PTI-11					Specimen PTI-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
i-Stat Prothrombin Time	11	2.36	0.15	6.4	2.3	1.8 - 2.9	11	2.38	0.08	3.5	2.4	1.9 - 2.9
	Specimen PTI-13						**Specimen PTI-14**					
i-Stat Prothrombin Time	11	1.16	0.11	9.8	1.2	0.9 - 1.4	11	1.14	0.05	4.8	1.1	0.9 - 1.4
	Specimen PTI-15											
i-Stat Prothrombin Time	11	2.34	0.11	4.9	2.3	1.8 - 2.9						

FLUID CELL COUNT – WHITE BLOOD CELL COUNT (µL)

	Specimen BF-5						Specimen BF-6					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	5	387.5	123.7	31.9	388	140 - 635	5	5.5	0.7	12.9	6	4 - 7

FLUID CELL COUNT – RED BLOOD CELL COUNT (µL)

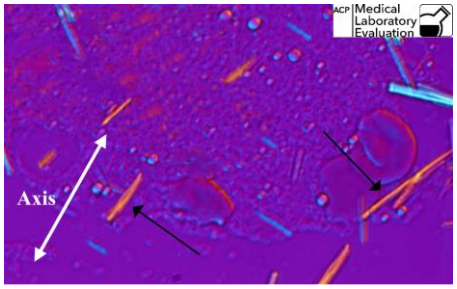
	Specimen BF-5						Specimen BF-6					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	5	1277.5	314.7	24.6	1278	648 - 1907	5	0.5	0.7	141.4	1	0 - 2

2018 M3
FLUID CRYSTAL IDENTIFICATION
Specimens FC-5 and FC-6

Crystals can generally be classified as either optically isotropic or anisotropic. Isotropic solids refract light rays equally in all directions throughout the crystalline structure, regardless of the crystal's orientation to the light source. In contrast, anisotropic crystals interact with light in a manner that is dependent upon the alignment of the crystal. Anisotropic crystals have an internal structure that will cause a ray of light to split into two rays, each traveling in a different direction. A light beam hitting the crystal from one direction or angle will react differently than a beam hitting the crystal at a different angle. This property of splitting light is called **birefringence** or double refraction.

Microscopic examination of synovial fluid for crystals is an important diagnostic test in the evaluation of arthritis. Some crystals can be identified by their shape or morphology alone. Others have similar shapes and need specialized techniques for identification. Using compensated polarized light helps us to identify crystals based on the optical differences described above. The compensator separates the microscope's light rays into slow-moving and fast-moving vibrations or waves. The compensator is marked with an arrow indicating the direction of the slow vibration. The "axis" in the photos below indicates the direction of the slow wave. Color produced by a crystal aligned with the slow-vibration ray of light can be used to identify the crystal. This difference in color is due to the molecular structure inside the crystal, which either allows the light to pass through unchanged, or impedes the light.

Specimen FC-5

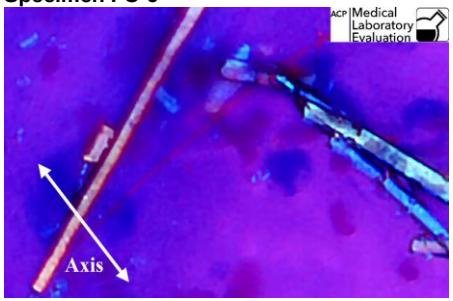


Identification	Labs	Percent	Performance
MSU (Monosodium Urate) crystals	5	100%	Acceptable

The arrows in this photograph point to **monosodium urate (MSU) crystals**. MSU crystals are usually thin and needle-like with pointed ends. They can be either intracellular or extracellular. MSU crystals are associated with gout, which is a common crystal-induced inflammatory arthritis. The crystals form in joints and tissues when the uric acid level is elevated. They cause inflammation and soft tissue damage, resulting in painful swelling, usually in one joint. The base of the big toe is often affected. Gout is caused by either decreased excretion of uric acid into the urine, or increased production of uric acid. There are many factors that contribute to gout, including alcohol use, purine-rich diets, obesity and the metabolic syndrome, and dehydration or use of diuretic agents. Since there are other needle-shaped crystals, examination with a red plate compensator can help with identification. MSU crystals are **negatively birefringent**, meaning the crystals that are lying parallel to (aligned with) the compensator filter axis are yellow, and the crystals lying perpendicular to the filter axis are blue. To view another photo of MSU, see 2018 M1 Specimen FC-1.

2018 M3
FLUID CRYSTAL IDENTIFICATION

Specimen FC-6



Identification	Labs	Percent	Performance
Steroid crystals	1	20%	Ungraded
CPPD crystals	3	60%	
No crystals observed	1	20%	

The large rectangular objects in this photograph are **steroid crystals**. Steroid crystals exhibit **positive birefringence**, meaning they appear blue when aligned with the axis. Corticosteroids (steroids) are drugs that are used to treat musculoskeletal and joint pain by reducing inflammation. Examples of steroid drugs include cortisone, triamcinolone, and prednisone. They are often injected directly into the joints to treat conditions such as rheumatoid arthritis and gout. Steroid crystals may be seen in synovial fluid following intra-articular injection. Having the patient's clinical history is helpful in these cases. Steroid crystals can be confused with other rod-shaped or needle-shaped crystals, but steroids are significantly larger than MSU and CPPD, and generally appear in greater numbers. To view another photo of steroid crystals, see 2018 M2 Specimen FC-3.

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MICROALBUMIN, DIPSTICK

Specimen UM-3

Participant Results

Method	Labs	Negative	10 mg/L	20 mg/L	30 mg/L	50 mg/L	80 mg/L	100 mg/L	150 mg/L	+ (4 - 8 mg/dL)	++ (>8 mg/dL)
ALL METHODS	35	-	-	-	1	-	30	1	3	-	-
Roche Micral - 1 minute	1	-	-	-	-	-	-	1	-	-	-
Siemens Clinitek Microalbumin	34	-	-	-	1	-	30	-	3	-	-

CREATININE, DIPSTICK

Specimen UM-3

Participant Results

Method	Labs	Negative	10 mg/dL	30 mg/dL	50 mg/dL	100 mg/dL	200 mg/dL	300 mg/dL
ALL METHODS	36	-	-	-	4	20	9	3
Siemens Clinitek Microalbumin	34	-	-	-	4	18	9	3
Siemens Multistix Pro	2	-	-	-	-	2	-	-

MICROALBUMIN, QUANTITATIVE

Specimen UM-3

Method	Labs	Mean	SD	CV	Median	Range
All Method	59	118.11	11.52	9.8	115.6	82.6 - 153.6
Beckman AU	15	113.81	5.67	5.0	114.9	79.6 - 148.0
Siemens Dimension	18	111.68	7.71	6.9	111.2	78.1 - 145.2

CREATININE, URINE (mg/dL)

Specimen UM-3

Method	Labs	Mean	SD	CV	Median	Range
All Method	52	67.56	4.33	6.4	67.8	56.0 - 79.1
Beckman AU	12	67.59	4.05	6.0	68.3	56.1 - 79.1
Siemens Dimension	15	62.93	4.65	7.4	63.9	52.2 - 73.7

WAIVED HEMATOLOGY–HEMOGLOBIN (g/dL)

	Specimen HD-11						Specimen HD-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	104	13.33	0.43	3.2	13.3	12.3 - 14.3	102	13.19	0.67	5.1	13.2	11.8 - 14.6
All Stanbio Methods	37	13.54	0.43	3.2	13.6	12.5 - 14.5	36	13.67	0.32	2.3	13.7	12.7 - 14.7
Alere (Stanbio) HemoPoint H2	36	13.53	0.44	3.2	13.6	12.5 - 14.5	36	13.67	0.32	2.3	13.7	12.7 - 14.7
HemoCue	67	13.22	0.38	2.9	13.2	12.2 - 14.2	61	13.06	0.45	3.4	13.1	12.1 - 14.0

WAIVED HEMATOLOGY–HEMATOCRIT (percent)

	Specimen HD-11						Specimen HD-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	11	45.27	10.35	22.9	50.4	24.5 - 66.0	13	35.68	8.35	23.4	39.0	18.9 - 52.4
Alere (Stanbio) HemoPoint H2	4	-	-	-	52.5	24.5 - 66.0	5	40.60	1.14	2.8	41.0	38.1 - 43.1

KOH SKIN PREPARATION

Specimen	***Identification***	***Labs***	***Percent***	***Performance***
K-5	Yeast/fungal elements present	122	91.73%	Acceptable
	Yeast/fungal elements absent	11	8.27%	

Organism present in specimen K-5: *Trichophyton mentagrophytes.*

K-6	Yeast/fungal elements absent	115	86.47%	Acceptable
	Yeast/fungal elements present	18	13.53%	

Organism present in specimen K-6: *Staphylococcus epidermidis.*

URINALYSIS DIPSTICK–SPECIFIC GRAVITY

Specimen UA-3

Method	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	722	1.0175	0.0047	0.5	1.020	1.007 - 1.028
All Iris Diagnostics Methods	10	1.0270	0.0008	0.1	1.027	1.017 - 1.037
All Refractive Index Methods	17	1.0270	0.0024	0.2	1.027	1.017 - 1.037
All Roche Methods	29	1.0109	0.0030	0.3	1.010	1.000 - 1.021
All Siemens Methods	427	1.0203	0.0020	0.2	1.020	1.010 - 1.031
Diagnostic Test Group Clarity Urocheck 120	10	1.0150	0.0001	0.0	1.015	1.005 - 1.025
Henry Schein Urispec / Urispec Plus	15	1.0133	0.0025	0.2	1.015	1.003 - 1.024
Iris Ichem VELOCITY Urine Chemistry System	10	1.0270	0.0008	0.1	1.027	1.017 - 1.037
McKesson 120 Urine Analyzer	18	1.0150	0.0001	0.0	1.015	1.005 - 1.025
Roche Chemstrips	23	1.0100	0.0001	0.0	1.010	1.000 - 1.020
Roche Urisys	24	1.0106	0.0030	0.3	1.010	1.000 - 1.021
Siemens Clinitek 50	14	1.0161	0.0021	0.2	1.015	1.006 - 1.027
Siemens Clinitek Advantus	16	1.0172	0.0026	0.3	1.015	1.007 - 1.028
Siemens Clinitek Status / Status+	386	1.0206	0.0015	0.1	1.020	1.010 - 1.031
Siemens Reagent Strips	118	1.0123	0.0035	0.3	1.010	1.002 - 1.023

URINALYSIS DIPSTICK–pH

Specimen UA-3

Participant Results

Method	***Labs***	***≤3.5***	***4.0***	***4.5***	***5.0***	***5.5***	***6.0***	***6.5***	***7.0***	***7.5***	***8.0***	***8.5***	***≥9.0***
ALL METHODS	734	-	-	-	1	-	2	-	92	577	60	2	-
Beckman AU	1	-	-	-	-	-	-	-	-	1	-	-	-
BTNX Rapid Response Test Strips	1	-	-	-	-	-	-	-	-	1	-	-	-
BTNX Rapid Response U120/U500	1	-	-	-	-	-	-	-	-	1	-	-	-
Consult Diagnostics Reagent Strips	4	-	-	-	-	-	-	-	2	2	-	-	-
Consult Diagnostics Urine Analyzer	6	-	-	-	-	-	-	-	3	3	-	-	-
CTMI CT-120 Urine Analyzer	6	-	-	-	-	-	-	-	-	6	-	-	-
Diagnostic Test Group Clarity Urocheck	2	-	-	-	-	-	-	-	-	2	-	-	-
Diagnostic Test Group Clarity Urocheck 120	10	-	-	-	-	-	-	-	2	8	-	-	-
Germaine Laboratories AimStrip	2	-	-	-	-	-	-	-	1	1	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	-	-	-	-	-	-	-	-	2	-	-	-
Henry Schein One Step Plus	5	-	-	-	-	-	-	-	5	-	-	-	-
Henry Schein Urispec / Urispec Plus	16	-	-	-	-	-	-	-	16	-	-	-	-
Iris Ichem VELOCITY Urine Chemistry System	10	-	-	-	-	-	-	-	10	-	-	-	-
McKesson 10SG Reagent Strips	3	-	-	-	-	-	-	-	1	1	1	-	-
McKesson 120 Urine Analyzer	20	-	-	-	-	-	-	-	2	18	-	-	-
Medline 120 Urine Analyzer	3	-	-	-	-	-	-	-	-	3	-	-	-
Medline Urinalysis Reagent Strips	4	-	-	-	-	-	-	-	1	3	-	-	-
Moore Medical Urine Reagent Strips	1	-	-	-	-	-	-	-	-	1	-	-	-
NDC Pro Advantage	3	-	-	-	-	-	-	-	1	2	-	-	-
Other Analyzer Method	2	-	-	-	-	-	-	-	2	-	-	-	-
Other Dipstick Method	7	-	-	-	-	-	-	-	1	5	1	-	-
pH Paper	1	-	-	-	-	-	-	-	-	1	-	-	-
Roche Chemstrip 101	1	-	-	-	-	-	-	-	1	-	-	-	-
Roche Chemstrips	30	-	-	-	1	-	-	-	16	1	12	-	-
Roche cobas u 411	1	-	-	-	-	-	-	-	1	-	-	-	-
Roche Criterion Analyzer	3	-	-	-	-	-	-	-	1	-	2	-	-
Roche Urisys	25	-	-	-	-	-	-	-	16	-	9	-	-
Siemens Clinitek 10 / 100	4	-	-	-	-	-	-	-	-	2	2	-	-
Siemens Clinitek 50	14	-	-	-	-	-	-	-	-	14	-	-	-
Siemens Clinitek 500	4	-	-	-	-	-	-	-	-	4	-	-	-
Siemens Clinitek Advantus	17	-	-	-	-	-	-	-	-	17	-	-	-
Siemens Clinitek Atlas	1	-	-	-	-	-	-	-	-	1	-	-	-
Siemens Clinitek Status / Status+	393	-	-	-	-	-	-	-	2	390	1	-	-
Siemens Hemacombistix	1	-	-	-	-	-	-	-	-	1	-	-	-
Siemens Multistix Pro	4	-	-	-	-	-	1	-	-	2	-	1	-
Siemens Reagent Strips	119	-	-	-	-	-	1	-	4	81	32	1	-
Uriscan Optima	1	-	-	-	-	-	-	-	1	-	-	-	-
UriScan Reagent Strips	2	-	-	-	-	-	-	-	1	1	-	-	-

URINALYSIS DIPSTICK–PROTEIN QUALITATIVE

Specimen UA-3

		Participant Results											
Method	***Labs***	***Negative***	***Trace***	***(1+)***	***(2+)***	***(3+)***	***(4+)***	***10 - 20 mg/dL***	***30 - 70 mg/dL***	***75 mg/dL***	***100 - 200 mg/dL***	***≥300 - 600 mg/dL***	***>600 or ≥1000 mg/dL***
ALL METHODS	758	3	2	8	171	148	6	1	6	-	140	272	1
BTNX Rapid Response Test Strips	1	-	-	-	1	-	-	-	-	-	-	-	-
BTNX Rapid Response U120/U500	1	-	-	-	1	-	-	-	-	-	-	-	-
Consult Diagnostics Reagent Strips	4	-	-	-	3	1	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	7	-	1	-	5	-	-	-	-	-	1	-	-
CTMI CT-120 Urine Analyzer	6	-	-	-	4	-	-	-	-	-	2	-	-
Diagnostic Test Group Clarity Urocheck	2	-	-	-	2	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	10	-	-	-	8	-	-	-	1	-	1	-	-
Germaine Laboratories AimStrip	2	-	-	-	2	-	-	-	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	-	-	-	2	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	5	-	-	-	-	-	-	-	1	-	4	-	-
Henry Schein Urispec / Urispec Plus	17	1	-	-	-	-	1	-	3	-	12	-	-
Iris Ichem VELOCITY Urine Chemistry System	10	-	-	-	1	-	-	-	-	-	9	-	-
McKesson 10SG Reagent Strips	3	-	-	-	1	1	-	-	-	-	-	1	-
McKesson 120 Urine Analyzer	20	-	-	3	14	1	-	-	-	-	2	-	-
Medline 120 Urine Analyzer	3	-	-	-	2	1	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	4	-	-	1	2	1	-	-	-	-	-	-	-
Moore Medical Urine Reagent Strips	2	-	-	-	2	-	-	-	-	-	-	-	-
NDC Pro Advantage	3	-	-	-	3	-	-	-	-	-	-	-	-
Other Analyzer Method	1	-	-	-	-	-	-	-	-	-	1	-	-

URINALYSIS DIPSTICK–PROTEIN QUALITATIVE (cont'd)

Specimen UA-3

		Participant Results											
Method	***Labs***	***Negative***	***Trace***	***(1+)***	***(2+)***	***(3+)***	***(4+)***	***10 - 20 mg/dL***	***30 - 70 mg/dL***	***75 mg/dL***	***100 - 200 mg/dL***	***≥300 - 600 mg/dL***	***>600 or ≥1000 mg/dL***
Other Dipstick Method	7	-	-	1	3	2	-	-	-	-	1	-	-
Roche Chemstrip 101	1	-	-	-	1	-	-	-	-	-	-	-	-
Roche Chemstrips	42	2	-	-	23	3	1	-	-	-	11	2	-
Roche cobas u 411	1	-	-	-	-	-	-	-	-	-	1	-	-
Roche Criterion Analyzer	3	-	-	-	2	-	-	-	-	-	1	-	-
Roche Urisys	25	-	-	1	10	-	-	-	1	-	13	-	-
Siemens Albustix	1	-	-	-	1	-	-	-	-	-	-	-	-
Siemens Clinitek 10 / 100	4	-	-	-	1	1	-	-	-	-	-	2	-
Siemens Clinitek 50	14	-	-	-	-	5	-	-	-	-	-	9	-
Siemens Clinitek 500	4	-	-	-	2	-	-	-	-	-	2	-	-
Siemens Clinitek Advantus	16	-	-	-	8	-	-	-	-	-	7	1	-
Siemens Clinitek Atlas	1	-	-	-	1	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	391	-	-	-	17	98	-	-	-	-	44	232	-
Siemens Hemacombistix	1	-	-	-	1	-	-	-	-	-	-	-	-
Siemens Multistix Pro	4	-	-	-	1	1	-	-	-	-	1	1	-
Siemens Reagent Strips	121	-	1	1	35	29	3	1	-	-	26	24	1
Siemens Uristix	11	-	-	-	6	4	1	-	-	-	-	-	-
Sulfosalicylic Acid	1	-	-	-	1	-	-	-	-	-	-	-	-
Uriscan Optima	1	-	-	-	1	-	-	-	-	-	-	-	-
UriScan Reagent Strips	2	-	-	1	1	-	-	-	-	-	-	-	-

URINALYSIS DIPSTICK–GLUCOSE

Specimen UA-3

Method	Labs	Participant Results									
		Negative or Normal	Trace	(1+)	(2+)	(3+)	(4+)	30 - 100 mg/dL	150 - 300 mg/dL	500 mg/dL	>500 or ≥1000 or ≥2000 mg/dL
ALL METHODS	760	759	1	-	-	-	-	-	-	-	-
BTNX Rapid Response Test Strips	1	1	-	-	-	-	-	-	-	-	-
BTNX Rapid Response U120/U500	1	1	-	-	-	-	-	-	-	-	-
Consult Diagnostics Reagent Strips	4	4	-	-	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	7	7	-	-	-	-	-	-	-	-	-
CTMI CT-120 Urine Analyzer	6	6	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck	2	2	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	10	10	-	-	-	-	-	-	-	-	-
Germaine Laboratories AimStrip	2	2	-	-	-	-	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	2	-	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	5	5	-	-	-	-	-	-	-	-	-
Henry Schein Urispec / Urispec Plus	17	17	-	-	-	-	-	-	-	-	-
Iris Ichem VELOCITY Urine Chemistry System	10	10	-	-	-	-	-	-	-	-	-
McKesson 10SG Reagent Strips	3	3	-	-	-	-	-	-	-	-	-
McKesson 120 Urine Analyzer	20	20	-	-	-	-	-	-	-	-	-
Medline 120 Urine Analyzer	3	3	-	-	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	4	4	-	-	-	-	-	-	-	-	-
Moore Medical Urine Reagent Strips	2	2	-	-	-	-	-	-	-	-	-
NDC Pro Advantage	3	3	-	-	-	-	-	-	-	-	-
Other Analyzer Method	1	1	-	-	-	-	-	-	-	-	-
Other Dipstick Method	8	8	-	-	-	-	-	-	-	-	-
Roche Chemstrip 101	1	1	-	-	-	-	-	-	-	-	-
Roche Chemstrips	42	41	1	-	-	-	-	-	-	-	-
Roche cobas u 411	1	1	-	-	-	-	-	-	-	-	-
Roche Criterion Analyzer	3	3	-	-	-	-	-	-	-	-	-
Roche Urisys	25	25	-	-	-	-	-	-	-	-	-
Siemens Clinitek 10 / 100	4	4	-	-	-	-	-	-	-	-	-
Siemens Clinitek 50	14	14	-	-	-	-	-	-	-	-	-
Siemens Clinitek 500	4	4	-	-	-	-	-	-	-	-	-
Siemens Clinitek Advantus	17	17	-	-	-	-	-	-	-	-	-
Siemens Clinitek Atlas	1	1	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	392	392	-	-	-	-	-	-	-	-	-
Siemens Hemacombistix	1	1	-	-	-	-	-	-	-	-	-
Siemens Multistix Pro	4	4	-	-	-	-	-	-	-	-	-
Siemens Reagent Strips	123	123	-	-	-	-	-	-	-	-	-
Siemens Uristix	10	10	-	-	-	-	-	-	-	-	-
Uriscan Optima	1	1	-	-	-	-	-	-	-	-	-
UriScan Reagent Strips	2	2	-	-	-	-	-	-	-	-	-

URINALYSIS DIPSTICK–KETONES

Specimen UA-3

		Participant Results													
Method	***Labs***	***Negative***	***Trace***	***Small***	***Moderate***	***Large***	***(1+)***	***(2+)***	***(3+)***	***(4+)***	***5 - 10 mg/dL***	***15 - 25 mg/dL***	***40 - 60 mg/dL***	***80 - 100 mg/dL***	***≥150 mg/dL***
ALL METHODS	732	3	-	1	10	92	2	50	161	31	-	3	44	242	93
BTNX Rapid Response Test Strips	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-
BTNX Rapid Response U120/U500	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Consult Diagnostics Reagent Strips	4	-	-	-	-	-	-	1	3	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	7	-	-	-	-	-	-	1	4	-	-	-	2	-	-
CTMI CT-120 Urine Analyzer	6	-	-	-	-	-	-	1	3	-	-	-	1	1	-
Diagnostic Test Group Clarity Urocheck	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	10	-	-	-	-	-	-	-	8	-	-	-	1	1	-
Germaine Laboratories AimStrip	2	-	-	-	-	-	-	-	1	1	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Henry Schein One Step Plus	5	-	-	-	-	-	-	-	-	-	-	1	-	4	-
Henry Schein Urispec / Urispec Plus	16	-	-	-	-	-	-	-	1	-	-	2	-	13	-
Iris Ichem VELOCITY Urine Chemistry System	10	-	-	-	-	-	-	9	-	-	-	-	-	1	-
McKesson 10SG Reagent Strips	3	-	-	-	-	-	-	-	1	1	-	-	-	1	-
McKesson 120 Urine Analyzer	20	-	-	-	-	-	-	1	17	-	-	-	-	2	-
Medline 120 Urine Analyzer	3	-	-	-	-	-	-	-	3	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	4	-	-	-	-	-	-	-	4	-	-	-	-	-	-
Moore Medical Urine Reagent Strips	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-
NDC Pro Advantage	3	-	-	-	-	-	-	-	3	-	-	-	-	-	-
Other Analyzer Method	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Other Dipstick Method	8	-	-	-	3	-	-	1	2	1	-	-	1	-	-
Roche Chemstrip 101	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Roche Chemstrips	31	2	-	-	2	14	-	4	8	-	-	-	-	1	-
Roche cobas u 411	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Roche Criterion Analyzer	3	-	-	-	-	-	-	1	1	-	-	-	1	-	-
Roche Urisys	25	-	-	-	-	-	-	10	1	-	-	-	11	-	3
Siemens Clinitek 10 / 100	4	-	-	-	-	-	-	-	2	-	-	-	-	2	-
Siemens Clinitek 50	14	-	-	-	-	-	-	1	4	-	-	-	3	6	-
Siemens Clinitek 500	4	-	-	-	-	-	-	1	1	-	-	-	2	-	-
Siemens Clinitek Advantus	16	-	-	-	-	-	-	4	5	-	-	-	2	4	1
Siemens Clinitek Atlas	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	391	-	-	-	1	3	-	13	76	25	-	-	18	178	77
Siemens Ketostix	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Siemens Multistix Pro	4	-	-	-	-	1	-	1	-	-	-	-	-	1	1
Siemens Reagent Strips	121	-	-	-	4	73	1	1	2	3	-	-	2	25	10
Uriscan Optima	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-
UriScan Reagent Strips	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-

URINALYSIS DIPSTICK–BILIRUBIN

Specimen UA-3

		Participant Results												
Method	***Labs***	***Negative***	***Trace***	***Small***	***Moderate***	***Large***	***(1+)***	***(2+)***	***(3+)***	***(4+)***	***0.5 - 1.0 mg/dL***	***2.0 - 4.0 mg/dL***	***6.0 - 10.0 mg/dL***	***>10.0 mg/dL***
ALL METHODS	713	20	1	9	185	190	42	144	79	7	7	29	-	-
BTNX Rapid Response Test Strips	1	-	-	-	-	-	1	-	-	-	-	-	-	-
BTNX Rapid Response U120/U500	1	-	-	-	-	-	-	1	-	-	-	-	-	-
Consult Diagnostics Reagent Strips	4	-	1	-	-	-	2	-	1	-	-	-	-	-
Consult Diagnostics Urine Analyzer	7	1	-	-	-	-	2	3	-	-	1	-	-	-
CTMI CT-120 Urine Analyzer	6	-	-	-	-	-	4	-	-	-	2	-	-	-
Diagnostic Test Group Clarity Urocheck	2	-	-	-	-	-	2	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	10	1	-	-	-	-	3	6	-	-	-	-	-	-
Germaine Laboratories AimStrip	2	-	-	-	-	-	2	-	-	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	-	-	-	-	-	1	1	-	-	-	-	-	-
Henry Schein One Step Plus	5	-	-	-	-	-	-	-	-	1	-	4	-	-
Henry Schein Urispec / Urispec Plus	16	-	-	-	-	-	-	1	-	2	-	13	-	-
Iris Ichem VELOCITY Urine Chemistry System	10	10	-	-	-	-	-	-	-	-	-	-	-	-
McKesson 10SG Reagent Strips	3	-	-	-	-	1	-	-	2	-	-	-	-	-
McKesson 120 Urine Analyzer	20	-	-	-	-	-	13	7	-	-	-	-	-	-
Medline 120 Urine Analyzer	3	-	-	-	-	-	-	3	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	4	-	-	-	-	-	1	2	1	-	-	-	-	-
Moore Medical Urine Reagent Strips	2	-	-	-	-	-	1	-	1	-	-	-	-	-
NDC Pro Advantage	3	-	-	-	-	-	2	1	-	-	-	-	-	-
Other Analyzer Method	1	-	-	-	-	-	-	-	-	-	1	-	-	-
Other Dipstick Method	4	-	-	-	-	1	2	-	1	-	-	-	-	-
Roche Chemstrip 101	1	-	-	-	-	-	-	1	-	-	-	-	-	-
Roche Chemstrips	28	1	-	1	-	1	-	16	8	1	-	-	-	-
Roche cobas u 411	1	-	-	-	-	-	-	-	-	-	-	1	-	-
Roche Criterion Analyzer	3	-	-	-	-	-	-	2	-	-	1	-	-	-
Roche Urisys	25	-	-	-	-	-	1	10	1	-	2	11	-	-
Siemens Clinitek 10 / 100	4	-	-	-	1	1	-	1	1	-	-	-	-	-
Siemens Clinitek 50	14	-	-	1	5	3	-	2	3	-	-	-	-	-
Siemens Clinitek 500	4	-	-	-	2	-	-	2	-	-	-	-	-	-
Siemens Clinitek Advantus	15	1	-	-	6	-	-	8	-	-	-	-	-	-
Siemens Clinitek Atlas	1	-	-	-	1	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	386	-	-	2	153	120	2	71	38	-	-	-	-	-
Siemens Ictotest	1	-	-	-	-	-	-	1	-	-	-	-	-	-
Siemens Multistix Pro	4	1	-	-	-	1	1	-	1	-	-	-	-	-
Siemens Reagent Strips	116	4	-	5	16	62	-	5	21	3	-	-	-	-
Uriscan Optima	1	-	-	-	-	-	1	-	-	-	-	-	-	-
UriScan Reagent Strips	1	1	-	-	-	-	-	-	-	-	-	-	-	-

URINALYSIS DIPSTICK–UROBILINOGEN

Specimen UA-3

Participant Results

Method	***Labs***	***Normal or 0.0 - 0.2 mg/dL or <3.2 µmol/L***	***1.0 or <2.0 mg/dL or 16 or 17 µmol/L***	***2.0/3.0 mg/dL or 34 or 35 µmol/L***	***4.0 or 4.0/6.0 mg/dL or 70 µmol/L***	***≥8.0 or ≥12.0 mg/dL or ≥140 or 200 µmol/L***
ALL METHODS	701	61	72	97	438	33
BTNX Rapid Response Test Strips	1	1	-	-	-	-
BTNX Rapid Response U120/U500	1	-	1	-	-	-
Consult Diagnostics Reagent Strips	4	1	2	1	-	-
Consult Diagnostics Urine Analyzer	7	3	3	-	1	-
CTMI CT-120 Urine Analyzer	6	5	1	-	-	-
Diagnostic Test Group Clarity Urocheck	2	1	-	1	-	-
Diagnostic Test Group Clarity Urocheck 120	10	7	3	-	-	-
Germaine Laboratories AimStrip	1	-	-	1	-	-
Germaine Labs AimStrip Urine Analyzer	1	1	-	-	-	-
Henry Schein One Step Plus	5	4	-	1	-	-
Henry Schein Urispec / Urispec Plus	15	9	3	3	-	-
Iris Ichem VELOCITY Urine Chemistry System	9	-	-	2	7	-
McKesson 10SG Reagent Strips	3	-	-	2	1	-
McKesson 120 Urine Analyzer	19	11	7	1	-	-
Medline 120 Urine Analyzer	3	1	2	-	-	-
Medline Urinalysis Reagent Strips	4	-	2	1	1	-
Moore Medical Urine Reagent Strips	2	-	-	1	1	-
NDC Pro Advantage	3	1	1	1	-	-
Other Analyzer Method	1	-	-	-	-	1
Other Dipstick Method	3	1	-	1	1	-
Roche Chemstrip 101	1	-	1	-	-	-
Roche Chemstrips	27	5	11	2	9	-
Roche cobas u 411	1	-	1	-	-	-
Roche Criterion Analyzer	3	1	2	-	-	-
Roche Urisys	25	-	19	-	6	-
Siemens Clinitek 10 / 100	4	-	-	1	2	1
Siemens Clinitek 50	14	-	-	12	2	-
Siemens Clinitek 500	4	-	-	3	1	-
Siemens Clinitek Advantus	15	-	1	7	7	-
Siemens Clinitek Atlas	1	-	-	-	1	-
Siemens Clinitek Status / Status+	383	1	-	18	354	10
Siemens Multistix Pro	4	-	-	2	1	1
Siemens Reagent Strips	115	7	12	35	41	20
Uriscan Optima	1	-	-	-	1	-
UriScan Reagent Strips	1	1	-	-	-	-

URINALYSIS DIPSTICK–BLOOD/HEMOGLOBIN

Specimen UA-3

		Participant Results																
Method	***Labs***	***Negative***	***Trace***	***Small***	***Moderate***	***Large***	***(1+)***	***(2+)***	***(3+)***	***(4+)***	***(5+)***	***5 - 25 Ery/µL***	***50 - 100 Ery/µL***	***200 - 250 Ery/µL***	***±0.03 mg/dL***	***0.06 - 0.10 mg/dL***	***0.2 - 0.5 mg/dL***	***≥ 1.0 mg/dL***
ALL METHODS	749	10	1	1	21	384	-	15	230	5	1	-	1	78	-	1	1	-
BTNX Rapid Response Test Strips	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
BTNX Rapid Response U120/U500	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Consult Diagnostics Reagent Strips	3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	7	-	-	-	-	-	-	-	5	-	-	-	-	2	-	-	-	-
CTMI CT-120 Urine Analyzer	6	-	-	-	-	-	-	-	5	-	-	-	-	1	-	-	-	-
Diagnostic Test Group Clarity Urocheck	3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	10	1	-	-	-	-	-	1	8	-	-	-	-	-	-	-	-	-
Germaine Laboratories AimStrip	3	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Henry Schein Urispec / Urispec Plus	18	-	-	-	-	-	-	-	1	-	-	-	1	16	-	-	-	-
Iris Ichem VELOCITY Urine Chemistry System	10	-	-	-	-	8	-	1	-	-	-	-	-	-	-	1	-	-
McKesson 10SG Reagent Strips	6	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-
McKesson 120 Urine Analyzer	20	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-
Medline 120 Urine Analyzer	4	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Moore Medical Urine Reagent Strips	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
NDC Pro Advantage	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Other Analyzer Method	3	-	-	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-
Other Dipstick Method	6	-	-	-	-	3	-	-	3	-	-	-	-	-	-	-	-	-
Roche Chemstrip 101	2	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-
Roche Chemstrips	43	3	-	-	-	3	-	1	2	-	-	-	-	34	-	-	-	-
Roche cobas u 411	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Roche Criterion Analyzer	3	-	-	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-
Roche Urisys	27	-	-	-	-	-	-	11	-	-	-	-	-	16	-	-	-	-
Siemens Clinitek 10 / 100	6	-	-	-	-	4	-	-	2	-	-	-	-	-	-	-	-	-
Siemens Clinitek 50	16	-	-	-	-	11	-	-	5	-	-	-	-	-	-	-	-	-
Siemens Clinitek 500	5	-	-	-	-	2	-	-	3	-	-	-	-	-	-	-	-	-
Siemens Clinitek Advantus	16	-	-	-	-	8	-	-	8	-	-	-	-	-	-	-	-	-
Siemens Clinitek Atlas	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	385	4	1	1	19	249	-	1	109	-	-	-	-	-	-	-	1	-
Siemens Hemacombistix	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Multistix Pro	3	-	-	-	-	2	-	-	-	-	-	-	-	1	-	-	-	-
Siemens Reagent Strips	127	2	-	-	2	90	-	-	29	3	1	-	-	-	-	-	-	-
Uriscan Optima	3	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	-	-
UriScan Reagent Strips																		

URINALYSIS DIPSTICK–LEUKOCYTE ESTERASE

Specimen UA-3

		Participant Results											
Method	***Labs***	***Negative***	***Trace***	***Small***	***Moderate***	***Large***	***(1+)***	***(2+)***	***(3+)***	***(4+)***	***15 or 25 µL***	***75 or 100 µL***	***250 or 500 µL***
ALL METHODS	752	748	3	-	-	-	-	-	1	-	-	-	-
BTNX Rapid Response Test Strips	1	1	-	-	-	-	-	-	-	-	-	-	-
BTNX Rapid Response U120/U500	1	1	-	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Reagent Strips	4	4	-	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	7	7	-	-	-	-	-	-	-	-	-	-	-
CTMI CT-120 Urine Analyzer	6	6	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck	2	1	1	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	10	10	-	-	-	-	-	-	-	-	-	-	-
Germaine Laboratories AimStrip	2	2	-	-	-	-	-	-	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	2	-	-	-	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	5	5	-	-	-	-	-	-	-	-	-	-	-
Henry Schein Urispec / Urispec Plus	16	16	-	-	-	-	-	-	-	-	-	-	-
Iris Ichem VELOCITY Urine Chemistry System	10	10	-	-	-	-	-	-	-	-	-	-	-
McKesson 10SG Reagent Strips	3	3	-	-	-	-	-	-	-	-	-	-	-
McKesson 120 Urine Analyzer	20	20	-	-	-	-	-	-	-	-	-	-	-
Medline 120 Urine Analyzer	3	3	-	-	-	-	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	4	3	-	-	-	-	-	-	1	-	-	-	-
Moore Medical Urine Reagent Strips	2	2	-	-	-	-	-	-	-	-	-	-	-
NDC Pro Advantage	3	3	-	-	-	-	-	-	-	-	-	-	-
Other Analyzer Method	1	1	-	-	-	-	-	-	-	-	-	-	-
Other Dipstick Method	7	6	1	-	-	-	-	-	-	-	-	-	-
Roche Chemstrip 101	1	1	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrips	40	39	1	-	-	-	-	-	-	-	-	-	-
Roche cobas u 411	1	1	-	-	-	-	-	-	-	-	-	-	-
Roche Criterion Analyzer	3	3	-	-	-	-	-	-	-	-	-	-	-
Roche Urisys	25	25	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 10 / 100	4	4	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 50	14	14	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 500	4	4	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Advantus	17	17	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Atlas	1	1	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	391	391	-	-	-	-	-	-	-	-	-	-	-
Siemens Multistix Pro	4	4	-	-	-	-	-	-	-	-	-	-	-
Siemens Reagent Strips	121	121	-	-	-	-	-	-	-	-	-	-	-
Siemens Uristix	9	9	-	-	-	-	-	-	-	-	-	-	-
Uriscan Optima	1	1	-	-	-	-	-	-	-	-	-	-	-
UriScan Reagent Strips	2	2	-	-	-	-	-	-	-	-	-	-	-

URINALYSIS DIPSTICK–NITRITE

Specimen UA-3

		Participant Results	
Method	***Labs***	***Negative***	***Positive***
ALL METHODS	752	750	2
BTNX Rapid Response Test Strips	1	1	-
BTNX Rapid Response U120/U500	1	1	-
Consult Diagnostics Reagent Strips	4	4	-
Consult Diagnostics Urine Analyzer	7	7	-
CTMI CT-120 Urine Analyzer	6	6	-
Diagnostic Test Group Clarity Urocheck	2	2	-
Diagnostic Test Group Clarity Urocheck 120	10	10	-
Germaine Laboratories AimStrip	2	2	-
Germaine Labs AimStrip Urine Analyzer	2	2	-
Henry Schein One Step Plus	6	6	-
Henry Schein Urispec / Urispec Plus	15	15	-
Iris Ichem VELOCITY Urine Chemistry System	10	10	-
McKesson 10SG Reagent Strips	3	3	-
McKesson 120 Urine Analyzer	20	20	-
Medline 120 Urine Analyzer	3	3	-
Medline Urinalysis Reagent Strips	4	4	-
Moore Medical Urine Reagent Strips	2	2	-
NDC Pro Advantage	3	3	-
Other Analyzer Method	1	1	-
Other Dipstick Method	7	7	-
Roche Chemstrip 101	1	1	-
Roche Chemstrips	40	39	1
Roche cobas u 411	1	1	-
Roche Criterion Analyzer	3	3	-
Roche Urisys	25	25	-
Siemens Clinitek 10 / 100	4	4	-
Siemens Clinitek 50	14	14	-
Siemens Clinitek 500	4	4	-
Siemens Clinitek Advantus	17	17	-
Siemens Clinitek Atlas	1	1	-
Siemens Clinitek Status / Status+	390	390	-
Siemens Multistix Pro	4	4	-
Siemens Reagent Strips	121	120	1
Siemens Uristix	9	9	-
Uriscan Optima	1	1	-
UriScan Reagent Strips	2	2	-

URINALYSIS –MICROALBUMIN (dipstick only)

Specimen UA-3

		Participant Results								
Method	***Labs***	***Negative***	***10 mg/L***	***20 mg/L***	***30 mg/L***	***50 mg/L***	***80 mg/L***	***100 mg/L***	***150 mg/L***	***+ (4 - 8 mg/dL)***	***++ (>8 mg/dL)***
ALL METHODS	62	4	-	-	-	2	1	12	43	-	-
BTNX Rapid Response Microalb/Crea	1	-	-	-	-	-	-	-	1	-	-
Henry Schein Urispec / Urispec Plus	1	1	-	-	-	-	-	-	-	-	-
Iris Diagnostics Aution Max AX-4280	1	1	-	-	-	-	-	-	-	-	-
Roche Chemstrips	2	-	-	-	-	-	-	2	-	-	-
Roche Micral - 1 minute	12	1	-	-	-	2	-	9	-	-	-
Siemens Clinitek 50	1	-	-	-	-	-	-	1	-	-	-

URINALYSIS –URINE hCG

Specimen UA-3

	Participant Results		
Method	***Labs***	***Positive***	***Negative***
ALL METHODS	431	3	428
Alere Acceava hCG-Urine	3	-	3
Alere Clearview 25 hCG Combo	1	-	1
Alere Clearview hCG Cassette	1	-	1
Alere Clearview hCG Combo II	1	-	1
Alere hCG Cassette	3	-	3
Alere Signify hCG combo	1	-	1
Alfa Scientific Instant View	5	-	5
Beckman Coulter ICON 20 hCG	1	-	1
Beckman Coulter ICON 25 hCG	20	-	20
Beckman Coulter ICON II	7	-	7
BioSign hCG	1	-	1
BTNX Rapid Response hCG	3	-	3
Cardinal Health SP Brand combo	25	1	24
Clarity Diagnostics hCG strip/cassette	11	-	11
CONSULT diagnostics hCG Cassette	53	-	53
CONSULT diagnostics hCG Combo	13	-	13
CONSULT diagnostics hCG Dipstick	32	1	31
Consult Diagnostics Reagent Strips	1	-	1
Consult Diagnostics Urine Analyzer	1	-	1
Germaine Laboratories AimStrip Pregnancy	1	-	1
Henry Schein One Step	63	-	63
Immunostics Cept-D	2	-	2
Immunostics hCG Detector-urine	1	-	1
McKesson hCG Combo Cassette	4	-	4
McKesson hCG Urine Cassette	13	-	13
MediChoice hCG Combi Cassette	8	-	8
Medline hCG Combo Test Cassette	4	-	4
Medline hCG Test Cassette	3	-	3
Moore Medical hCG Urine	1	-	1
NDC Pro Advantage	1	-	1
PEP (Lab Supply) HCG	1	-	1
Polymedco Poly stat hCG	1	-	1
Quidel QuickVue One-Step Combo	18	-	18
Quidel QuickVue One-Step Urine	40	1	39
Quidel QuickVue+ One-Step Combo	23	-	23
Quidel Sofia hCG	2	-	2
RefuAH hCG Dipstick	9	-	9
Sekisui OSOM - Urine Test	2	-	2

URINALYSIS –URINE hCG (cont'd)

Specimen UA-3

	Participant Results		
Method	***Labs***	***Positive***	***Negative***
Sekisui OSOM Card Pregnancy	7	-	7
Sekisui OSOM hCG Combo Test	2	-	2
Siemens Clinitek Status / Status+	10	-	10
Stanbio QuPID	9	-	9
Stanbio QuPID Plus	2	-	2
Stanbio TRUE hCG	8	-	8
Sure-Vue hCG - 25mIU	1	-	1
Sure-Vue hCG-STAT	7	-	7

FECAL OCCULT BLOOD

	Specimen OC-5			**Specimen OC-6**		
Method	***Labs***	***Positive***	***Negative***	***Labs***	***Positive***	***Negative***
ALL METHODS	282	4	278	282	273	9
Alere Clearview iFOBT Complete	1	-	1	1	1	-
Alfa Scientific Instant View	1	-	1	1	1	-
Beckman Coulter Hemoccult ICT	40	1	39	40	40	-
Guaiac (slide) Test	158	2	156	158	157	1
Hemosure IFOB	38	1	37	38	35	3
Other Immunochemical FOB kit	21	-	21	21	20	1
Polymedco OC Auto Micro 80	5	-	5	5	2	3
Polymedco OC-Light iFOB	10	-	10	10	9	1
Quidel QuickVue iFOB	5	-	5	5	5	-

2018 M3
Urine Sediment Identification
SPECIMENS US-5 AND US-6

CASE HISTORY:

A 43 year old male presented to his primary care physician complaining of lumbar pain not responding to home treatment with over-the-counter non-steroidal anti-inflammatory drugs (NSAIDs.) The clinical history and physical exam were unremarkable. A chemistry panel revealed elevated serum creatinine and urea nitrogen. A urinalysis was performed, and the results appear below.

Color = Amber
Appearance = Hazy

Dipstick results:
Specific gravity = 1.020
pH = 7.0
Protein = 100 mg/dL (2+)
Glucose = Negative
Ketones = Negative
Bilirubin = Negative
Urobilinogen = Normal/0.2 mg/dL
Blood = Large (3+)
Leukocyte Esterase = Trace
Nitrite = Negative

This patient was diagnosed with **acute tubular necrosis (ATN)** due to prolonged use of non-steroidal anti-inflammatory drugs (NSAIDs.) NSAIDs can reduce renal blood flow, cause tubular obstruction through crystal deposition, and induce direct cytotoxicity and cell-mediated immune injury mechanisms leading to acute kidney injury (AKI). Acute tubular necrosis is the most common intrinsic renal disease that leads to acute renal failure. Renal tubular epithelial cells are damaged by either nephrotoxic substances in the urinary filtrate, or lack of blood flow and oxygen. There are many causes of ATN including shock, trauma, surgery, hemoglobinuria, myoglobinuria, intratubular urinary crystals, contrast agents, heavy metals, poisonous mushrooms, antibiotics, and other drugs. In ATN, the urinalysis findings include mild proteinuria, microscopic hematuria, and elevated urine sodium. Urine sediment may contain free RTE cells, tubular fragments consisting of 3 or more RTE cells, and a variety of casts, including pigmented “muddy brown” granular casts. Other findings include increased serum BUN and creatinine.

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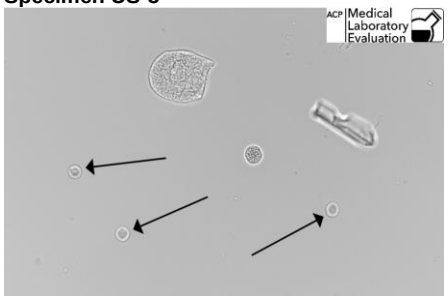
Urine Sediment Identification

Specimen US-5



Identification	Labs	Percent	Performance
Red blood cell (RBC)	455	97.85%	Acceptable

The arrows in this photograph point to **red blood cells (RBC**.) They are small and transparent compared to the granular white blood cell in the center of the field. Red blood cells in urine often resemble donuts or inner tubes due to their biconcave disk shape, and appear hollow or empty inside because they contain no nucleus. To view another photo of red blood cells, see 2016 M1 Specimen US-1.

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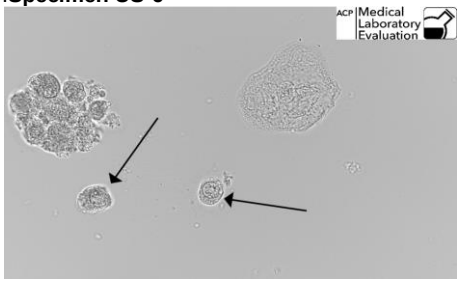
.**Specimen US-6**



Identification	Labs	Percent	Performance
Renal Tubular epithelial (RTE)	204	43.87%	Acceptable
White blood cell (WBC)	240	51.61%	
Transitional epithelial cell	10	2.15%	
Cellular (RTE) cast	4	0.86%	

The arrows in this photograph point to **renal tubular epithelial cells**. Three types of epithelial cells line the urinary tract: renal, transitional, and squamous. Renal tubular epithelial cells (RTE) are the most clinically significant because they originate in the kidney, and are not routinely seen in healthy urine sediment. Transitional epithelial cells (TE) line the urinary tract from the kidney to the upper urethra, and are also rarely seen in healthy patient specimens. Squamous epithelial cells (SEC) line the lower urethra, and are frequently seen in normal urine sediment. Morphology varies depending on the cell's site of origin along the urinary tract.
Many participants mistakenly identified these renal epithelial cells as white blood cells. For comparison, see the previous challenge photo above, Specimen US-5. There is a single white blood cell in the center of the field of US-5 above, pictured at the same magnification as this challenge. The white blood cell (WBC) in US-5 is spherical and about twice the size of the surrounding arrowed red blood cells (RBC.) In contrast, the renal epithelial cells in this challenge are larger than the WBC. The RTE nucleus is more distinct, eccentric, and is surrounded by a large amount of granular cytoplasm. A key identifying feature of some RTEs is an elongated and cuboidal or polyhedral shape, which means having at least one flattened side, as shown here. WBCs and TEs do not have flat sides like RTEs. To view another photo of renal tubular epithelial cells, see 2014 M2 Specimen US-3. To view a photo of transitional epithelial cells, see 2016 M1 Specimen US-2. **Specimen US-6 is graded to 80% refree concensus.**

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Haber, M.H.: *Urinary Sediment: A Textbook Atlas*. Chicago, American Society of Clinical Pathologists, 1981.

Mundt, L.A, Shanahan, K.: *Graff's Textbook of Routine Urinalysis and Body Fluids, 2nd ed.* Philadelphia: Lippincott Williams & Wilkins, 2011.

Ringsrud, K. M., Linné, J. J.: *Urinalysis and Body Fluids/ A ColorText and Atlas.* St. Louis: Mosby, 1995.

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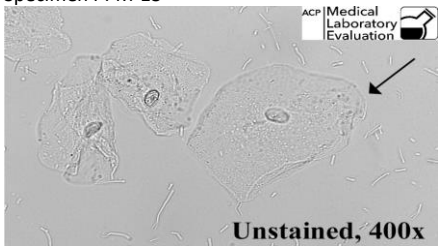
PROVIDER-PERFORMED MICROSCOPY (PPM)

Wet Mount Preparation

Specimen PPM-13

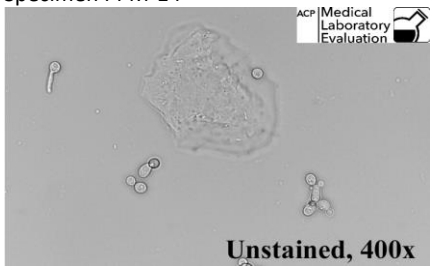


Identification	Labs	Percent	Performance
Squamous epithelial cell	440	89.80%	Acceptable
Clue cell	40	8.16%	
Yeast/fungi	5	1.02%	
White blood cell(WBC)	4	0.82%	

The arrow in this photograph of a vaginal wet mount points to a **squamous epithelial cell.** Squamous cells are large, flat, and irregularly shaped, with a single small nucleus and plentiful cytoplasm. They often appear folded or rolled, but the edges of the cell are clearly visible and sharp. Some participants incorrectly identified these normal squamous epithelial cells as clue cells. A clue cell is a squamous epithelial cell heavily covered with coccobacilli, which obscure the edges of the cell and give the surface a markedly stippled appearance. It is important to learn the difference between these two cell types because squamous epithelial cells are a normal finding, while clue cells are abnormal and indicate bacterial vaginosis (BV.) To view a photo of a clue cell, see 2017 M1 Specimen PPM-1. To view another squamous epithelial cell, see 2016 PPM-1.

KOH Preparation

Specimen PPM-14



Identification	Labs	Percent	Performance
Yeast/fungal elements present	420	96.11%	Acceptable
Yeast/fungal absent	17	3.89%	

Yeast and fungal elements are present in this photograph of a vaginal KOH prep. This photo is a good representation of the various forms that yeast cells can exhibit: single, budding, cluster, and the pseudohyphal growth that is typical of Candida albicans.

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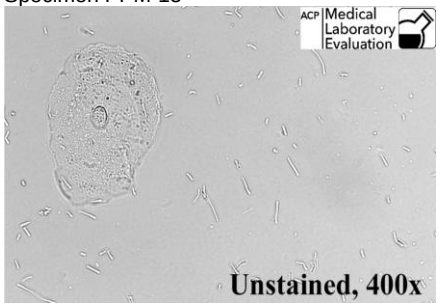
PROVIDER-PERFORMED MICROSCOPY (PPM)

SPERM Detection

Specimen PPM-15

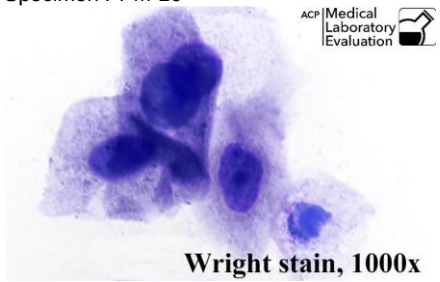


Identification	Labs	Percent	Performance
Sperm absent	307	99.03%	Acceptable
Sperm present	3	0.97%	

Spermatozoa are absent in this photograph of a vaginal wet prep. The long filamentous elements in this photo are bacteria, typical of lactobacilli, which are a predominant part of the normal vaginal flora. To view a photo of sperm see 2018 M2 Specimen PPM-9.

NASAL SMEAR

Specimen PPM-16



Identification	Labs	Percent	Performance
Eosinophils absent	93	82.30%	Acceptable
Eosinophils present	20	17.70%	

Eosinophils are absent in this photograph of Wright-stained nasal mucus. The purpose of examining the leukocytes (white blood cells) in stained nasal secretions is to differentiate allergy from infection. The eosinophil is a specific type of leukocyte that is increased in allergic conditions. "Eos" have a unique red-orange color that makes them easy to spot and identify. The cytoplasm of an eosinophil is filled with large, round, orange-staining granules that surround the purple nucleus but do not obscure the nucleus from view. The orange color of the eosinophilic granules comes from the dye eosin, which is a component of Wright stain. **The cells shown in this photo are not eosinophilic. They are basophilic (blue.)** Another distinguishing characteristic of the eosinophil is the nucleus, which usually has two segments or lobes, in contrast with the unsegmented mononuclear cells in this photo. To view a photo of eosinophils, see 2018 M2 Specimen PPM-10.

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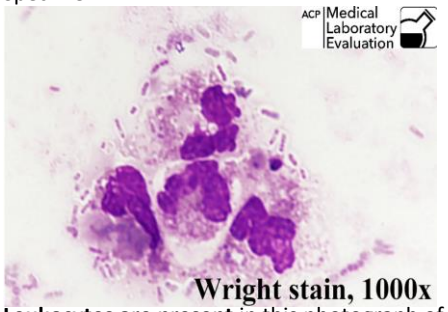
PROVIDER-PERFORMED MICROSCOPY (PPM)

STOOL PREPARATION

Specimen PPM-17

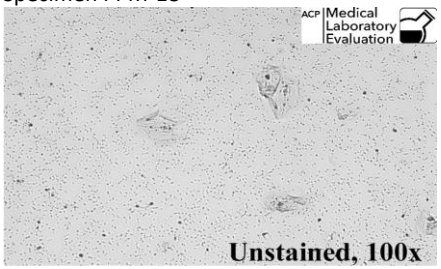


Identification	Labs	Percent	Performance
Leukocytes present	170	96.05%	Acceptable
Leukocytes absent	7	3.95%	

Leukocytes are present in this photograph of a Wright-stained stool preparation. Leukocytes are white blood cells. The presence of fecal leukocytes indicates inflammation due enteritis or ulcerative colitis. To view another photo of fecal leukocytes, see 2017 M2 Specimen PPM-11.

VAGINAL FLUID PREPARATION

Specimen PPM-18



Identification	Labs	Percent	Performance
Ferning absent	162	100%	Acceptable

Ferning is absent in this photograph of air-dried vaginal secretions. The fern test is used to test for ruptured membranes. Amniotic fluid crystallizes when dried on a microscope slide to form a pattern resembling a fern leaf, unlike normal vaginal secretions or urine, which do not crystallize. Ferning indicates leakage of amniotic fluid. To view a positive fern test, see 2018 M1 Specimen PPM-6.

REFERENCES:

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