MEDICAL LABORATORY EVALUATION

PARTICIPANT SUMMARY

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Hematology, Coagulation,
Blood Bank, Urinalysis, PPM
2020 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%
Glucose, Whole Blood – HemoCue	± 12 mg/dL or ± 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%

*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***
All Method	33	14.61	3.32	22.7	13.1	13.5 - 15.7	32	17.04	3.61	21.2	15.5	15.8 - 18.3
All HemoCue 301/801	6	20.26	2.89	14.3	21.5	18.8 - 21.7	6	19.82	10.19	51.4	24.3	18.4 - 21.3
HemoCue 201/+	25	12.96	0.27	2.1	13.0	12.0 - 13.9	26	15.34	0.35	2.3	15.4	14.2 - 16.5
HemoCue 801	5	21.55	0.26	1.2	21.6	20.0 - 23.1	5	24.38	0.43	1.8	24.5	22.6 - 26.1

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	28	106.4	13.8	13.0	110	85 - 128	28	323.0	17.8	5.5	326	258 - 388
All HemoCue Methods	28	106.4	13.8	13.0	110	85 - 128	28	323.0	17.8	5.5	326	258 - 388
HemoCue Glucose 201	26	109.3	8.8	8.0	110	87 - 132	27	326.1	7.4	2.3	326	260 - 392

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	79	40.4	9.2	22.7	39	22 - 59	78	8.6	2.4	28.2	8	3 - 14
All Automated Methods	19	51.5	9.3	18.0	52	32 - 71	21	10.5	4.4	41.4	10	1 - 20
All Manual Methods	60	37.4	7.6	20.3	36	22 - 53	58	8.4	2.1	25.3	8	4 - 13
All Vital Diagnostics Methods	14	52.1	8.5	16.4	51	35 - 70	14	9.0	2.4	26.5	9	4 - 14
Westergren - diluted	50	36.4	6.9	19.0	36	22 - 51	50	8.3	2.2	26.3	8	3 - 13

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	9	65.7	5.2	7.9	64	55 - 77	9	2.6	1.2	48.4	2	0 - 6

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	11	7.25	0.54	7.5	7.4	6.1 - 8.4	11	2.88	0.21	7.2	2.9	2.4 - 3.4
All Abbott Cell-Dyn Instruments	10	7.50	0.26	3.5	7.6	6.3 - 8.7	10	2.97	0.12	3.9	2.9	2.5 - 3.5
Abbott Cell-Dyn Ruby	10	7.50	0.26	3.5	7.6	6.3 - 8.7	10	2.97	0.12	3.9	2.9	2.5 - 3.5
	Specimen CL-13						**Specimen CL-14**					
All Method	11	7.03	0.41	5.9	7.1	5.9 - 8.1	11	19.23	1.01	5.3	19.5	16.3 - 22.2
All Abbott Cell-Dyn Instruments	10	7.20	0.26	3.7	7.3	6.1 - 8.3	10	19.70	0.44	2.2	19.5	16.7 - 22.7
Abbott Cell-Dyn Ruby	10	7.20	0.26	3.7	7.3	6.1 - 8.3	10	19.70	0.44	2.2	19.5	16.7 - 22.7
	Specimen CL-15											
All Method	11	2.90	0.29	10.2	2.9	2.4 - 3.4						
All Abbott Cell-Dyn Instruments	10	3.00	0.26	8.8	2.9	2.5 - 3.5						
Abbott Cell-Dyn Ruby	10	3.00	0.26	8.8	2.9	2.5 - 3.5						

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	11	4.683	0.123	2.6	4.73	4.40 - 4.97	11	2.245	0.145	6.5	2.29	2.11 - 2.38
All Abbott Cell-Dyn Instruments	10	4.740	0.052	1.1	4.77	4.45 - 5.03	10	2.243	0.178	7.9	2.32	2.10 - 2.38
Abbott Cell-Dyn Ruby	10	4.740	0.052	1.1	4.77	4.45 - 5.03	10	2.243	0.178	7.9	2.32	2.10 - 2.38
	Specimen CL-13						**Specimen CL-14**					
All Method	11	4.698	0.073	1.5	4.73	4.41 - 4.98	11	5.345	0.106	2.0	5.38	5.02 - 5.67
All Abbott Cell-Dyn Instruments	10	4.733	0.015	0.3	4.73	4.44 - 5.02	10	5.397	0.031	0.6	5.39	5.07 - 5.73
Abbott Cell-Dyn Ruby	10	4.733	0.015	0.3	4.73	4.44 - 5.02	10	5.397	0.031	0.6	5.39	5.07 - 5.73
	Specimen CL-15											
All Method	11	2.303	0.057	2.5	2.30	2.16 - 2.45						
All Abbott Cell-Dyn Instruments	10	2.320	0.056	2.4	2.33	2.18 - 2.46						
Abbott Cell-Dyn Ruby	10	2.320	0.056	2.4	2.33	2.18 - 2.46						

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	11	13.25	0.85	6.4	13.5	12.3 - 14.2	11	5.35	0.42	7.9	5.3	4.9 - 5.8
All Abbott Cell-Dyn Instruments	10	13.63	0.46	3.4	13.9	12.6 - 14.6	10	5.50	0.36	6.6	5.4	5.1 - 5.9
Abbott Cell-Dyn Ruby	10	13.63	0.46	3.4	13.9	12.6 - 14.6	10	5.50	0.36	6.6	5.4	5.1 - 5.9
	Specimen CL-13						**Specimen CL-14**					
All Method	11	13.15	0.73	5.6	13.3	12.2 - 14.1	11	16.98	0.67	3.9	17.2	15.7 - 18.2
All Abbott Cell-Dyn Instruments	10	13.47	0.45	3.3	13.5	12.5 - 14.5	10	17.30	0.20	1.2	17.3	16.0 - 18.6
Abbott Cell-Dyn Ruby	10	13.47	0.45	3.3	13.5	12.5 - 14.5	10	17.30	0.20	1.2	17.3	16.0 - 18.6
	Specimen CL- 15											
All Method	11	5.48	0.47	8.6	5.7	5.0 - 5.9						
All Abbott Cell-Dyn Instruments	10	5.70	0.17	3.0	5.8	5.3 - 6.1						
Abbott Cell-Dyn Ruby	10	5.70	0.17	3.0	5.8	5.3 - 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	11	38.98	0.62	1.6	38.7	36.6 - 41.4	11	15.85	1.11	7.0	16.3	14.8 - 16.9
All Abbott Cell-Dyn Instruments	10	38.67	0.06	0.1	38.7	36.3 - 41.0	10	15.60	1.22	7.8	16.2	14.6 - 16.6
Abbott Cell-Dyn Ruby	10	38.67	0.06	0.1	38.7	36.3 - 41.0	10	15.60	1.22	7.8	16.2	14.6 - 16.6
	Specimen CL-13						**Specimen CL-14**					
All Method	11	38.83	0.79	2.0	38.8	36.4 - 41.2	11	46.45	1.07	2.3	46.2	43.6 - 49.3
All Abbott Cell-Dyn Instruments	10	38.50	0.56	1.4	38.4	36.1 - 40.9	10	45.97	0.55	1.2	45.7	43.2 - 48.8
Abbott Cell-Dyn Ruby	10	38.50	0.56	1.4	38.4	36.1 - 40.9	10	45.97	0.55	1.2	45.7	43.2 - 48.8
	Specimen CL-15											
All Method	11	16.28	0.34	2.1	16.4	15.2 - 17.3						
All Abbott Cell-Dyn Instruments	10	16.17	0.32	2.0	16.3	15.1 - 17.2						
Abbott Cell-Dyn Ruby	10	16.17	0.32	2.0	16.3	15.1 - 17.2						

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	11	249.0	11.9	4.8	251	186 - 312	11	85.5	22.9	26.8	77	64 - 107
All Abbott Cell-Dyn Instruments	10	246.3	13.1	5.3	245	184 - 308	10	74.3	6.1	8.2	73	55 - 93
Abbott Cell-Dyn Ruby	10	246.3	13.1	5.3	245	184 - 308	10	74.3	6.1	8.2	73	55 - 93

	Specimen CL-13						Specimen CL-14					
All Method	11	243.5	13.9	5.7	241	182 - 305	11	467.3	14.7	3.2	472	350 - 585
All Abbott Cell-Dyn Instruments	10	237.0	6.1	2.6	240	177 - 297	10	463.0	14.7	3.2	471	347 - 579
Abbott Cell-Dyn Ruby	10	237.0	6.1	2.6	240	177 - 297	10	463.0	14.7	3.2	471	347 - 579

	Specimen CL-15					
All Method	11	86.0	25.8	30.0	81	64 - 108
All Abbott Cell-Dyn Instruments	10	74.0	11.5	15.6	78	55 - 93
Abbott Cell-Dyn Ruby	10	74.0	11.5	15.6	78	55 - 93

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	11	65.60	1.81	2.8	65.5	60.1 - 71.1	11	50.45	1.66	3.3	50.9	45.4 - 55.5
All Abbott Cell-Dyn Instruments	10	66.30	1.40	2.1	65.7	62.1 - 70.5	10	51.20	0.87	1.7	51.6	48.5 - 53.9
Abbott Cell-Dyn Ruby	10	66.30	1.40	2.1	65.7	62.1 - 70.5	10	51.20	0.87	1.7	51.6	48.5 - 53.9

	Specimen CL-13						Specimen CL-14					
All Method	11	66.35	1.88	2.8	66.4	60.7 - 72.0	11	76.55	1.05	1.4	76.7	73.4 - 79.7
All Abbott Cell-Dyn Instruments	10	67.13	1.27	1.9	66.4	63.3 - 71.0	10	77.00	0.66	0.9	77.1	75.0 - 79.0
Abbott Cell-Dyn Ruby	10	67.13	1.27	1.9	66.4	63.3 - 71.0	10	77.00	0.66	0.9	77.1	75.0 - 79.0

	Specimen CL-15					
All Method	11	51.50	1.88	3.6	50.7	45.8 - 57.2
All Abbott Cell-Dyn Instruments	10	51.77	2.20	4.3	50.7	45.1 - 58.4
Abbott Cell-Dyn Ruby	10	51.77	2.20	4.3	50.7	45.1 - 58.4

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

	Specimen CL-11						Specimen CL-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	11	23.03	0.74	3.2	22.8	20.8 - 25.3	11	36.53	3.32	9.1	37.0	26.5 - 46.5
All Abbott Cell-Dyn Instruments	10	23.23	0.75	3.2	22.8	20.9 - 25.5	10	38.00	1.87	4.9	37.4	32.3 - 43.7
Abbott Cell-Dyn Ruby	10	23.23	0.75	3.2	22.8	20.9 - 25.5	10	38.00	1.87	4.9	37.4	32.3 - 43.7
	Specimen CL-13						**Specimen CL-14**					
All Method	11	22.80	1.34	5.9	22.9	18.7 - 26.9	11	16.23	0.54	3.3	16.2	14.6 - 17.9
All Abbott Cell-Dyn Instruments	10	23.27	1.18	5.1	23.9	19.7 - 26.9	10	16.33	0.60	3.7	16.4	14.5 - 18.2
Abbott Cell-Dyn Ruby	10	23.27	1.18	5.1	23.9	19.7 - 26.9	10	16.33	0.60	3.7	16.4	14.5 - 18.2
	Specimen CL-15											
All Method	11	36.50	4.25	11.6	37.4	23.7 - 49.3						
All Abbott Cell-Dyn Instruments	10	38.40	2.33	6.1	38.8	31.4 - 45.4						
Abbott Cell-Dyn Ruby	10	38.40	2.33	6.1	38.8	31.4 - 45.4						

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

	Specimen CL-11						Specimen CL-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	11	6.88	2.67	38.9	6.2	0.0 - 14.9	11	8.98	4.03	44.9	7.2	0.0 - 21.1
All Abbott Cell-Dyn Instruments	10	5.60	0.98	17.6	5.9	2.6 - 8.6	10	6.97	0.40	5.8	6.9	5.7 - 8.2
Abbott Cell-Dyn Ruby	10	5.60	0.98	17.6	5.9	2.6 - 8.6	10	6.97	0.40	5.8	6.9	5.7 - 8.2
	Specimen CL-13						**Specimen CL-14**					
All Method	11	6.70	3.14	46.9	5.3	0.0 - 16.2	11	4.08	2.15	52.9	3.1	0.0 - 10.6
All Abbott Cell-Dyn Instruments	10	5.13	0.29	5.6	5.3	4.2 - 6.0	10	3.00	0.17	5.8	3.1	2.4 - 3.6
Abbott Cell-Dyn Ruby	10	5.13	0.29	5.6	5.3	4.2 - 6.0	10	3.00	0.17	5.8	3.1	2.4 - 3.6
	Specimen CL-15											
All Method	11	7.68	4.01	52.3	6.2	0.0 - 19.8						
All Abbott Cell-Dyn Instruments	10	5.70	0.87	15.3	6.1	3.0 - 8.4						
Abbott Cell-Dyn Ruby	10	5.70	0.87	15.3	6.1	3.0 - 8.4						

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

	Specimen CL-11						Specimen CL-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	11	4.20	1.01	24.0	4.7	1.1 - 7.3	11	3.85	0.59	15.4	4.1	2.0 - 5.7
All Abbott Cell-Dyn Instruments	10	4.70	0.17	3.7	4.8	4.1 - 5.3	10	3.73	0.67	17.8	3.9	1.7 - 5.8
Abbott Cell-Dyn Ruby	10	4.70	0.17	3.7	4.8	4.1 - 5.3	10	3.73	0.67	17.8	3.9	1.7 - 5.8

	Specimen CL-13						Specimen CL-14					
All Method	11	3.98	0.82	20.7	4.2	1.5 - 6.5	11	2.88	1.20	41.8	3.4	0.0 - 6.5
All Abbott Cell-Dyn Instruments	10	4.37	0.31	7.0	4.3	3.4 - 5.3	10	3.47	0.25	7.3	3.5	2.7 - 4.3
Abbott Cell-Dyn Ruby	10	4.37	0.31	7.0	4.3	3.4 - 5.3	10	3.47	0.25	7.3	3.5	2.7 - 4.3

	Specimen CL-15					
All Method	11	4.13	0.41	10.0	4.2	2.8 - 5.4
All Abbott Cell-Dyn Instruments	10	4.03	0.45	11.2	4.0	2.6 - 5.4
Abbott Cell-Dyn Ruby	10	4.03	0.45	11.2	4.0	2.6 - 5.4

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

	Specimen CL-11						Specimen CL-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	11	0.35	0.25	71.9	0.3	0.0 - 1.2	11	0.35	0.30	85.7	0.3	0.0 - 1.3
All Abbott Cell-Dyn Instruments	10	0.23	0.12	49.5	0.3	0.0 - 0.6	10	0.30	0.35	115.5	0.1	0.0 - 1.4
Abbott Cell-Dyn Ruby	10	0.23	0.12	49.5	0.3	0.0 - 0.6	10	0.30	0.35	115.5	0.1	0.0 - 1.4

	Specimen CL-13						Specimen CL-14					
All Method	11	0.20	0.14	70.7	0.2	0.0 - 0.7	11	0.33	0.13	38.7	0.3	0.0 - 0.8
All Abbott Cell-Dyn Instruments	10	0.13	0.06	43.3	0.1	0.0 - 0.4	10	0.27	0.06	21.6	0.3	0.0 - 0.5
Abbott Cell-Dyn Ruby	10	0.13	0.06	43.3	0.1	0.0 - 0.4	10	0.27	0.06	21.6	0.3	0.0 - 0.5

	Specimen CL-15					
All Method	11	0.20	0.20	100.0	0.1	0.0 - 0.8
All Abbott Cell-Dyn Instruments	10	0.10	0.01	0.0	0.1	0.0 - 0.2
Abbott Cell-Dyn Ruby	10	0.10	0.01	0.0	0.1	0.0 - 0.2

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	55	8.02	0.27	3.3	8.0	6.8 - 9.3	55	20.09	0.60	3.0	20.2	17.0 - 23.2
All Sysmex Instruments	55	8.02	0.27	3.3	8.0	6.8 - 9.3	55	20.09	0.60	3.0	20.2	17.0 - 23.2
Sysmex KX-21N & K-800, 1000, 4500	13	7.81	0.10	1.3	7.8	6.6 - 9.0	13	19.66	0.36	1.8	19.6	16.7 - 22.7
Sysmex pocH-100i	8	7.86	0.13	1.7	7.9	6.6 - 9.1	8	19.51	0.36	1.8	19.6	16.5 - 22.5
Sysmex XP-300	34	8.14	0.26	3.2	8.2	6.9 - 9.4	34	20.39	0.53	2.6	20.4	17.3 - 23.5
	Specimen SYX-13						**Specimen SYX-14**					
All Method	55	2.94	0.10	3.5	2.9	2.5 - 3.4	55	20.08	0.63	3.1	20.1	17.0 - 23.1
All Sysmex Instruments	55	2.94	0.10	3.5	2.9	2.5 - 3.4	55	20.08	0.63	3.1	20.1	17.0 - 23.1
Sysmex KX-21N & K-800, 1000, 4500	13	2.88	0.06	2.1	2.9	2.4 - 3.4	13	19.61	0.43	2.2	19.7	16.6 - 22.6
Sysmex pocH-100i	8	2.88	0.10	3.6	2.9	2.4 - 3.4	8	19.50	0.45	2.3	19.6	16.5 - 22.5
Sysmex XP-300	34	2.98	0.10	3.2	3.0	2.5 - 3.5	34	20.40	0.51	2.5	20.5	17.3 - 23.5
	Specimen SYX-15											
All Method	55	2.95	0.10	3.5	2.9	2.5 - 3.4						
All Sysmex Instruments	55	2.95	0.10	3.5	2.9	2.5 - 3.4						
Sysmex KX-21N & K-800, 1000, 4500	13	2.89	0.09	3.0	2.9	2.4 - 3.4						
Sysmex pocH-100i	8	2.88	0.07	2.5	2.9	2.4 - 3.4						
Sysmex XP-300	34	2.98	0.10	3.4	3.0	2.5 - 3.5						

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	54	4.178	0.058	1.4	4.16	3.92 - 4.43	55	5.716	0.072	1.3	5.70	5.37 - 6.06
All Sysmex Instruments	54	4.178	0.058	1.4	4.16	3.92 - 4.43	55	5.716	0.072	1.3	5.70	5.37 - 6.06
Sysmex KX-21N & K-800, 1000, 4500	14	4.155	0.026	0.6	4.16	3.90 - 4.41	14	5.692	0.051	0.9	5.69	5.35 - 6.04
Sysmex pocH-100i	8	4.281	0.085	2.0	4.28	4.02 - 4.54	8	5.793	0.123	2.1	5.83	5.44 - 6.15
Sysmex XP-300	33	4.170	0.049	1.2	4.17	3.92 - 4.43	33	5.707	0.052	0.9	5.70	5.36 - 6.05
	Specimen SYX-13						**Specimen SYX-14**					
All Method	54	2.436	0.027	1.1	2.44	2.28 - 2.59	53	5.712	0.062	1.1	5.71	5.36 - 6.06
All Sysmex Instruments	54	2.436	0.027	1.1	2.44	2.28 - 2.59	53	5.712	0.062	1.1	5.71	5.36 - 6.06
Sysmex KX-21N & K-800, 1000, 4500	14	2.424	0.023	0.9	2.43	2.27 - 2.57	14	5.691	0.062	1.1	5.68	5.34 - 6.04
Sysmex pocH-100i	8	2.451	0.067	2.7	2.48	2.30 - 2.60	8	5.808	0.094	1.6	5.82	5.45 - 6.16
Sysmex XP-300	33	2.432	0.023	0.9	2.43	2.28 - 2.58	32	5.704	0.047	0.8	5.71	5.36 - 6.05
	Specimen SYX-15											
All Method	55	2.436	0.028	1.1	2.43	2.28 - 2.59						
All Sysmex Instruments	55	2.436	0.028	1.1	2.43	2.28 - 2.59						
Sysmex KX-21N & K-800, 1000, 4500	14	2.417	0.019	0.8	2.42	2.27 - 2.57						
Sysmex pocH-100i	8	2.458	0.032	1.3	2.47	2.31 - 2.61						
Sysmex XP-300	33	2.439	0.025	1.0	2.44	2.29 - 2.59						

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	54	12.03	0.23	1.9	12.1	11.1 - 12.9	53	18.10	0.20	1.1	18.1	16.8 - 19.4
All Sysmex Instruments	54	12.03	0.23	1.9	12.1	11.1 - 12.9	53	18.10	0.20	1.1	18.1	16.8 - 19.4
Sysmex KX-21N & K-800, 1000, 4500	13	12.00	0.14	1.2	12.0	11.1 - 12.9	13	18.12	0.17	0.9	18.1	16.8 - 19.4
Sysmex pocH-100i	8	12.30	0.46	3.7	12.3	11.4 - 13.2	8	18.46	0.61	3.3	18.3	17.1 - 19.8
Sysmex XP-300	34	12.01	0.24	2.0	12.1	11.1 - 12.9	33	18.07	0.20	1.1	18.1	16.8 - 19.4

	Specimen SYX-13						Specimen SYX-14					
All Method	54	6.04	0.12	2.0	6.0	5.6 - 6.5	53	18.15	0.20	1.1	18.1	16.8 - 19.5
All Sysmex Instruments	54	6.04	0.12	2.0	6.0	5.6 - 6.5	53	18.15	0.20	1.1	18.1	16.8 - 19.5
Sysmex KX-21N & K-800, 1000, 4500	13	6.04	0.11	1.9	6.0	5.6 - 6.5	13	18.16	0.23	1.3	18.2	16.8 - 19.5
Sysmex pocH-100i	8	6.18	0.16	2.6	6.1	5.7 - 6.7	8	18.43	0.41	2.2	18.4	17.1 - 19.8
Sysmex XP-300	34	6.01	0.12	2.0	6.0	5.5 - 6.5	33	18.11	0.17	1.0	18.1	16.8 - 19.4

	Specimen SYX-15					
All Method	55	6.04	0.14	2.2	6.0	5.6 - 6.5
All Sysmex Instruments	55	6.04	0.14	2.2	6.0	5.6 - 6.5
Sysmex KX-21N & K-800, 1000, 4500	13	6.05	0.15	2.5	6.0	5.6 - 6.5
Sysmex pocH-100i	8	6.18	0.10	1.7	6.2	5.7 - 6.7
Sysmex XP-300	34	6.01	0.12	2.0	6.0	5.5 - 6.5

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	54	33.65	0.71	2.1	33.5	31.6 - 35.7	53	49.07	0.92	1.9	48.9	46.1 - 52.1
All Sysmex Instruments	54	33.65	0.71	2.1	33.5	31.6 - 35.7	53	49.07	0.92	1.9	48.9	46.1 - 52.1
Sysmex KX-21N & K-800, 1000, 4500	13	33.22	0.34	1.0	33.1	31.2 - 35.3	13	48.65	0.65	1.3	48.6	45.7 - 51.6
Sysmex pocH-100i	8	35.06	0.76	2.2	35.0	32.9 - 37.2	8	51.15	1.09	2.1	51.1	48.0 - 54.3
Sysmex XP-300	34	33.56	0.55	1.6	33.5	31.5 - 35.6	34	48.94	0.66	1.3	48.9	46.0 - 51.9
	Specimen SYX-13						**Specimen SYX-14**					
All Method	54	17.44	0.37	2.1	17.4	16.3 - 18.5	55	49.20	1.11	2.3	48.9	46.2 - 52.2
All Sysmex Instruments	54	17.44	0.37	2.1	17.4	16.3 - 18.5	55	49.20	1.11	2.3	48.9	46.2 - 52.2
Sysmex KX-21N & K-800, 1000, 4500	13	17.22	0.23	1.3	17.2	16.1 - 18.3	13	48.68	0.72	1.5	48.5	45.7 - 51.7
Sysmex pocH-100i	8	18.10	0.50	2.7	18.3	17.0 - 19.2	8	51.31	0.75	1.5	51.5	48.2 - 54.4
Sysmex XP-300	34	17.41	0.27	1.5	17.5	16.3 - 18.5	34	48.90	0.66	1.3	48.9	45.9 - 51.9
	Specimen SYX-15											
All Method	54	17.44	0.34	2.0	17.3	16.3 - 18.5						
All Sysmex Instruments	54	17.44	0.34	2.0	17.3	16.3 - 18.5						
Sysmex KX-21N & K-800, 1000, 4500	13	17.15	0.25	1.5	17.1	16.1 - 18.2						
Sysmex pocH-100i	8	18.08	0.31	1.7	18.0	16.9 - 19.2						
Sysmex XP-300	33	17.42	0.20	1.1	17.4	16.3 - 18.5						

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	54	199.6	7.4	3.7	201	149 - 250	54	406.4	13.4	3.3	409	304 - 508
All Sysmex Instruments	54	199.6	7.4	3.7	201	149 - 250	54	406.4	13.4	3.3	409	304 - 508
Sysmex KX-21N & K-800, 1000, 4500	13	201.2	6.2	3.1	201	150 - 252	13	409.8	13.8	3.4	413	307 - 513
Sysmex pocH-100i	8	212.1	36.7	17.3	200	159 - 266	8	393.9	21.2	5.4	398	295 - 493
Sysmex XP-300	34	199.0	7.8	3.9	201	149 - 249	34	406.2	13.7	3.4	410	304 - 508
	Specimen SYX-13						**Specimen SYX-14**					
All Method	53	63.0	3.4	5.3	63	47 - 79	53	406.2	10.9	2.7	407	304 - 508
All Sysmex Instruments	53	63.0	3.4	5.3	63	47 - 79	53	406.2	10.9	2.7	407	304 - 508
Sysmex KX-21N & K-800, 1000, 4500	13	63.8	2.8	4.4	63	47 - 80	13	408.2	10.3	2.5	406	306 - 511
Sysmex pocH-100i	8	77.3	40.0	51.8	64	57 - 97	8	403.8	25.9	6.4	403	302 - 505
Sysmex XP-300	33	62.6	3.6	5.7	62	46 - 79	34	406.0	12.0	2.9	408	304 - 508
	Specimen SYX-15											
All Method	53	62.6	3.9	6.2	63	46 - 79						
All Sysmex Instruments	53	62.6	3.9	6.2	63	46 - 79						
Sysmex KX-21N & K-800, 1000, 4500	13	64.7	2.3	3.6	65	48 - 81						
Sysmex pocH-100i	8	72.4	21.5	29.8	65	54 - 91						
Sysmex XP-300	33	61.2	3.3	5.4	62	45 - 77						

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	49	29.69	1.34	4.5	30.0	25.6 - 33.8	49	61.35	0.67	1.1	61.3	59.3 - 63.4
All Sysmex Instruments	49	29.69	1.34	4.5	30.0	25.6 - 33.8	49	61.35	0.67	1.1	61.3	59.3 - 63.4
Sysmex KX-21N & K-800, 1000, 4500	12	30.33	1.05	3.5	30.3	27.1 - 33.5	12	61.56	0.77	1.3	61.8	59.2 - 63.9
Sysmex pocH-100i	7	28.36	0.72	2.5	28.5	26.1 - 30.6	7	61.19	1.05	1.7	61.3	58.0 - 64.4
Sysmex XP-300	30	29.74	1.36	4.6	30.2	25.6 - 33.9	30	61.31	0.52	0.9	61.2	59.7 - 62.9
	Specimen SYX-13						**Specimen SYX-14**					
All Method	49	12.09	1.67	13.8	12.2	7.0 - 17.1	48	61.25	0.53	0.9	61.3	59.6 - 62.9
All Sysmex Instruments	49	12.09	1.67	13.8	12.2	7.0 - 17.1	48	61.25	0.53	0.9	61.3	59.6 - 62.9
Sysmex KX-21N & K-800, 1000, 4500	12	13.03	1.08	8.3	13.3	9.7 - 16.3	12	61.07	0.71	1.2	61.1	58.9 - 63.3
Sysmex pocH-100i	7	10.10	0.97	9.6	9.9	7.1 - 13.1	7	60.93	0.60	1.0	60.7	59.1 - 62.8
Sysmex XP-300	30	12.17	1.63	13.4	12.2	7.2 - 17.1	30	61.34	0.51	0.8	61.3	59.8 - 62.9
	Specimen SYX-15											
All Method	49	12.45	1.45	11.6	12.9	8.1 - 16.8						
All Sysmex Instruments	49	12.45	1.45	11.6	12.9	8.1 - 16.8						
Sysmex KX-21N & K-800, 1000, 4500	12	13.33	0.85	6.4	13.4	10.7 - 15.9						
Sysmex pocH-100i	7	11.19	0.95	8.5	11.1	8.3 - 14.1						
Sysmex XP-300	30	12.39	1.52	12.2	12.4	7.8 - 17.0						

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	49	17.24	1.25	7.3	17.3	13.4 - 21.1	49	13.97	0.82	5.9	14.0	11.5 - 16.5
All Sysmex Instruments	49	17.24	1.25	7.3	17.3	13.4 - 21.1	49	13.97	0.82	5.9	14.0	11.5 - 16.5
Sysmex KX-21N & K-800, 1000, 4500	12	17.26	0.67	3.9	17.1	15.2 - 19.3	12	13.95	1.01	7.2	13.9	10.9 - 17.0
Sysmex pocH-100i	7	15.84	1.28	8.0	16.1	12.0 - 19.7	7	13.14	0.64	4.8	13.1	11.2 - 15.1
Sysmex XP-300	30	17.56	1.23	7.0	17.6	13.8 - 21.3	30	14.17	0.67	4.7	14.1	12.1 - 16.2
	Specimen SYX-13						**Specimen SYX-14**					
All Method	49	18.59	1.96	10.6	18.4	12.6 - 24.5	49	14.15	0.82	5.8	14.1	11.7 - 16.6
All Sysmex Instruments	49	18.59	1.96	10.6	18.4	12.6 - 24.5	49	14.15	0.82	5.8	14.1	11.7 - 16.6
Sysmex KX-21N & K-800, 1000, 4500	12	18.19	1.43	7.9	17.9	13.9 - 22.5	12	14.32	0.72	5.0	14.1	12.1 - 16.5
Sysmex pocH-100i	7	16.34	1.73	10.6	17.0	11.1 - 21.6	7	13.77	0.94	6.8	14.0	10.9 - 16.6
Sysmex XP-300	30	19.27	1.80	9.3	19.1	13.8 - 24.7	30	14.17	0.82	5.8	14.1	11.7 - 16.7
	Specimen SYX-15											
All Method	48	18.67	1.76	9.4	18.3	13.3 - 24.0						
All Sysmex Instruments	48	18.67	1.76	9.4	18.3	13.3 - 24.0						
Sysmex KX-21N & K-800, 1000, 4500	11	18.46	1.28	6.9	18.0	14.6 - 22.4						
Sysmex pocH-100i	7	16.57	1.42	8.5	17.0	12.3 - 20.9						
Sysmex XP-300	30	19.23	1.62	8.4	19.1	14.3 - 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	49	53.06	1.73	3.3	52.5	47.8 - 58.3	49	24.67	0.88	3.5	24.7	22.0 - 27.3
All Sysmex Instruments	49	53.06	1.73	3.3	52.5	47.8 - 58.3	49	24.67	0.88	3.5	24.7	22.0 - 27.3
Sysmex KX-21N & K-800, 1000, 4500	13	52.27	1.21	2.3	52.2	48.6 - 55.9	13	24.58	0.89	3.6	24.8	21.9 - 27.3
Sysmex pocH-100i	7	55.81	1.58	2.8	55.8	51.0 - 60.6	7	25.60	0.96	3.8	25.8	22.7 - 28.5
Sysmex XP-300	29	52.75	1.30	2.5	52.3	48.8 - 56.7	29	24.48	0.72	2.9	24.7	22.3 - 26.7
	Specimen SYX-13						**Specimen SYX-14**					
All Method	49	69.35	2.32	3.3	68.9	62.3 - 76.4	48	24.61	0.74	3.0	24.6	22.4 - 26.9
All Sysmex Instruments	49	69.35	2.32	3.3	68.9	62.3 - 76.4	48	24.61	0.74	3.0	24.6	22.4 - 26.9
Sysmex KX-21N & K-800, 1000, 4500	13	68.82	1.76	2.6	68.9	63.5 - 74.1	13	24.66	0.43	1.7	24.7	23.3 - 26.0
Sysmex pocH-100i	7	73.56	1.71	2.3	73.3	68.4 - 78.7	7	25.30	0.59	2.3	25.4	23.5 - 27.1
Sysmex XP-300	29	68.57	1.44	2.1	68.6	64.2 - 73.0	28	24.41	0.79	3.2	24.4	22.0 - 26.8
	Specimen SYX-15											
All Method	47	68.95	1.87	2.7	68.8	63.3 - 74.6						
All Sysmex Instruments	47	68.95	1.87	2.7	68.8	63.3 - 74.6						
Sysmex KX-21N & K-800, 1000, 4500	12	68.38	1.43	2.1	68.5	64.0 - 72.7						
Sysmex pocH-100i	7	72.24	1.28	1.8	72.3	68.3 - 76.1						
Sysmex XP-300	28	68.38	1.20	1.8	68.5	64.7 - 72.0						

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	352	7.59	0.30	4.0	7.6	6.4 - 8.8	350	20.18	0.64	3.2	20.2	17.1 - 23.3
All Abbott Cell-Dyn Instruments	85	7.69	0.29	3.8	7.7	6.5 - 8.9	87	19.80	0.75	3.8	19.8	16.8 - 22.8
All ABX Instruments	55	7.65	0.22	2.9	7.7	6.5 - 8.9	54	20.13	0.45	2.2	20.2	17.1 - 23.2
All Boule (CDS) Instruments	115	7.36	0.19	2.6	7.3	6.2 - 8.5	118	20.20	0.53	2.6	20.2	17.1 - 23.3
All COULTER Instruments	88	7.76	0.26	3.3	7.8	6.5 - 9.0	87	20.59	0.56	2.7	20.6	17.4 - 23.7
Abbott Cell-Dyn 1700	6	8.27	0.31	3.7	8.2	7.0 - 9.6	6	21.03	0.52	2.5	20.9	17.8 - 24.2
Abbott Cell-Dyn 1800	20	7.50	0.37	5.0	7.5	6.3 - 8.7	20	19.89	0.75	3.8	20.1	16.9 - 22.9
Abbott Cell-Dyn Emerald	60	7.68	0.22	2.9	7.7	6.5 - 8.9	61	19.65	0.65	3.3	19.6	16.7 - 22.6
Boule (CDS) Medonic M series	113	7.36	0.19	2.6	7.3	6.2 - 8.5	115	20.17	0.51	2.5	20.1	17.1 - 23.2
COULTER AcT diff/diff 2	85	7.76	0.26	3.4	7.8	6.5 - 9.0	84	20.57	0.56	2.7	20.6	17.4 - 23.7
Horiba ABX Micros/45/60	55	7.65	0.22	2.9	7.7	6.5 - 8.9	54	20.13	0.45	2.2	20.2	17.1 - 23.2

	Specimen HD-13						Specimen HD-14					
All Method	354	1.97	0.16	8.2	2.0	1.6 - 2.3	352	20.22	0.61	3.0	20.2	17.1 - 23.3
All Abbott Cell-Dyn Instruments	87	2.05	0.12	5.9	2.1	1.7 - 2.4	88	19.83	0.75	3.8	19.8	16.8 - 22.9
All ABX Instruments	54	1.95	0.07	3.8	1.9	1.6 - 2.3	55	20.14	0.50	2.5	20.2	17.1 - 23.2
All Boule (CDS) Instruments	120	1.80	0.08	4.6	1.8	1.5 - 2.1	117	20.22	0.46	2.3	20.2	17.1 - 23.3
All COULTER Instruments	88	2.11	0.11	5.2	2.1	1.7 - 2.5	89	20.63	0.54	2.6	20.6	17.5 - 23.8
Abbott Cell-Dyn 1700	6	2.18	0.10	4.5	2.2	1.8 - 2.6	6	21.13	0.70	3.3	21.2	17.9 - 24.4
Abbott Cell-Dyn 1800	19	1.93	0.10	5.2	1.9	1.6 - 2.3	20	19.83	0.83	4.2	19.9	16.8 - 22.8
Abbott Cell-Dyn Emerald	60	2.07	0.08	3.9	2.1	1.7 - 2.4	61	19.74	0.54	2.8	19.7	16.7 - 22.8
Boule (CDS) Medonic M series	117	1.80	0.08	4.5	1.8	1.5 - 2.1	113	20.19	0.41	2.1	20.1	17.1 - 23.3
COULTER AcT diff/diff 2	85	2.12	0.11	5.2	2.1	1.8 - 2.5	86	20.61	0.53	2.6	20.6	17.5 - 23.7
Horiba ABX Micros/45/60	54	1.95	0.07	3.8	1.9	1.6 - 2.3	55	20.14	0.50	2.5	20.2	17.1 - 23.2

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	354	1.97	0.16	8.0	2.0	1.6 - 2.3
All Abbott Cell-Dyn Instruments	87	2.05	0.12	5.8	2.1	1.7 - 2.4
All ABX Instruments	55	1.94	0.08	4.2	1.9	1.6 - 2.3
All Boule (CDS) Instruments	117	1.81	0.07	4.1	1.8	1.5 - 2.1
All COULTER Instruments	89	2.11	0.10	4.9	2.1	1.7 - 2.5
Abbott Cell-Dyn 1700	6	2.15	0.08	3.9	2.2	1.8 - 2.5
Abbott Cell-Dyn 1800	20	1.96	0.14	7.1	1.9	1.6 - 2.3
Abbott Cell-Dyn Emerald	61	2.07	0.09	4.5	2.1	1.7 - 2.4
Boule (CDS) Medonic M series	116	1.81	0.07	4.1	1.8	1.5 - 2.1
COULTER AcT diff/diff 2	86	2.12	0.10	4.9	2.1	1.7 - 2.5
Horiba ABX Micros/45/60	55	1.94	0.08	4.2	1.9	1.6 - 2.3

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	352	4.592	0.103	2.3	4.60	4.31 - 4.87	350	5.571	0.134	2.4	5.59	5.23 - 5.91
All Abbott Cell-Dyn Instruments	89	4.557	0.109	2.4	4.57	4.28 - 4.84	87	5.476	0.126	2.3	5.46	5.14 - 5.81
All ABX Instruments	55	4.600	0.096	2.1	4.59	4.32 - 4.88	53	5.578	0.109	2.0	5.58	5.24 - 5.92
All Boule (CDS) Instruments	114	4.616	0.074	1.6	4.62	4.33 - 4.90	116	5.645	0.092	1.6	5.64	5.30 - 5.99
All COULTER Instruments	88	4.597	0.123	2.7	4.59	4.32 - 4.88	87	5.570	0.138	2.5	5.58	5.23 - 5.91
Abbott Cell-Dyn 1700	6	4.660	0.081	1.7	4.64	4.38 - 4.94	6	5.563	0.102	1.8	5.58	5.22 - 5.90
Abbott Cell-Dyn 1800	20	4.613	0.103	2.2	4.64	4.33 - 4.89	19	5.441	0.115	2.1	5.44	5.11 - 5.77
Abbott Cell-Dyn Emerald	63	4.530	0.101	2.2	4.55	4.25 - 4.81	62	5.478	0.128	2.3	5.46	5.14 - 5.81
Boule (CDS) Medonic M series	111	4.614	0.073	1.6	4.62	4.33 - 4.90	113	5.646	0.090	1.6	5.64	5.30 - 5.99
COULTER AcT diff/diff 2	85	4.594	0.124	2.7	4.58	4.31 - 4.88	84	5.572	0.140	2.5	5.58	5.23 - 5.91
Horiba ABX Micros/45/60	55	4.600	0.096	2.1	4.59	4.32 - 4.88	53	5.578	0.109	2.0	5.58	5.24 - 5.92

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	350	2.432	0.061	2.5	2.43	2.28 - 2.58	349	5.578	0.130	2.3	5.58	5.24 - 5.92
All Abbott Cell-Dyn Instruments	89	2.459	0.076	3.1	2.46	2.31 - 2.61	87	5.479	0.124	2.3	5.48	5.14 - 5.81
All ABX Instruments	53	2.409	0.047	1.9	2.41	2.26 - 2.56	55	5.568	0.114	2.0	5.55	5.23 - 5.91
All Boule (CDS) Instruments	116	2.406	0.040	1.7	2.40	2.26 - 2.56	116	5.650	0.095	1.7	5.66	5.31 - 5.99
All COULTER Instruments	89	2.462	0.065	2.6	2.46	2.31 - 2.61	87	5.577	0.132	2.4	5.56	5.24 - 5.92
Abbott Cell-Dyn 1700	6	2.497	0.088	3.5	2.51	2.34 - 2.65	6	5.570	0.167	3.0	5.64	5.23 - 5.91
Abbott Cell-Dyn 1800	20	2.536	0.055	2.2	2.54	2.38 - 2.69	20	5.460	0.152	2.8	5.47	5.13 - 5.79
Abbott Cell-Dyn Emerald	62	2.427	0.055	2.3	2.43	2.28 - 2.58	62	5.469	0.118	2.2	5.48	5.14 - 5.80
Boule (CDS) Medonic M series	113	2.405	0.039	1.6	2.40	2.26 - 2.55	113	5.651	0.094	1.7	5.66	5.31 - 6.00
COULTER AcT diff/diff 2	86	2.463	0.065	2.6	2.46	2.31 - 2.62	85	5.570	0.141	2.5	5.56	5.23 - 5.91
Horiba ABX Micros/45/60	53	2.409	0.047	1.9	2.41	2.26 - 2.56	55	5.568	0.114	2.0	5.55	5.23 - 5.91

	Specimen HD-15					
All Method	348	2.431	0.063	2.6	2.42	2.28 - 2.58
All Abbott Cell-Dyn Instruments	85	2.458	0.082	3.3	2.45	2.31 - 2.61
All ABX Instruments	54	2.418	0.051	2.1	2.41	2.27 - 2.57
All Boule (CDS) Instruments	116	2.409	0.042	1.7	2.41	2.26 - 2.56
All COULTER Instruments	89	2.448	0.066	2.7	2.44	2.30 - 2.60
Abbott Cell-Dyn 1700	6	2.502	0.106	4.3	2.49	2.35 - 2.66
Abbott Cell-Dyn 1800	20	2.547	0.080	3.1	2.54	2.39 - 2.70
Abbott Cell-Dyn Emerald	59	2.425	0.058	2.4	2.43	2.27 - 2.58
Boule (CDS) Medonic M series	113	2.409	0.042	1.7	2.41	2.26 - 2.56
COULTER AcT diff/diff 2	86	2.449	0.067	2.7	2.44	2.30 - 2.60
Horiba ABX Micros/45/60	54	2.418	0.051	2.1	2.41	2.27 - 2.57

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	354	13.48	0.26	1.9	13.5	12.5 - 14.5	354	18.14	0.36	2.0	18.1	16.8 - 19.5
All Abbott Cell-Dyn Instruments	87	13.39	0.24	1.8	13.4	12.4 - 14.4	88	18.01	0.35	1.9	18.0	16.7 - 19.3
All ABX Instruments	55	13.59	0.23	1.7	13.6	12.6 - 14.6	53	18.12	0.26	1.5	18.1	16.8 - 19.4
All Boule (CDS) Instruments	116	13.60	0.18	1.3	13.6	12.6 - 14.6	118	18.38	0.28	1.5	18.4	17.0 - 19.7
All COULTER Instruments	87	13.35	0.27	2.0	13.4	12.4 - 14.3	87	17.97	0.33	1.9	17.9	16.7 - 19.3
Abbott Cell-Dyn 1700	6	13.57	0.25	1.8	13.6	12.6 - 14.6	6	17.98	0.33	1.8	17.9	16.7 - 19.3
Abbott Cell-Dyn 1800	20	13.55	0.21	1.6	13.6	12.5 - 14.5	20	18.17	0.34	1.9	18.2	16.8 - 19.5
Abbott Cell-Dyn Emerald	61	13.33	0.22	1.6	13.3	12.3 - 14.3	62	17.97	0.35	1.9	17.9	16.7 - 19.3
Boule (CDS) Medonic M series	112	13.59	0.17	1.3	13.6	12.6 - 14.6	115	18.39	0.28	1.5	18.4	17.0 - 19.7
COULTER AcT diff/diff 2	85	13.35	0.28	2.1	13.3	12.4 - 14.3	84	17.97	0.34	1.9	17.9	16.7 - 19.3
Horiba ABX Micros/45/60	55	13.59	0.23	1.7	13.6	12.6 - 14.6	53	18.12	0.26	1.5	18.1	16.8 - 19.4

	Specimen HD-13						Specimen HD-14					
All Method	355	6.03	0.15	2.4	6.0	5.6 - 6.5	353	18.13	0.35	1.9	18.1	16.8 - 19.4
All Abbott Cell-Dyn Instruments	89	6.00	0.18	2.9	6.0	5.5 - 6.5	87	17.98	0.29	1.6	17.9	16.7 - 19.3
All ABX Instruments	54	6.07	0.11	1.8	6.1	5.6 - 6.5	55	18.13	0.28	1.6	18.1	16.8 - 19.4
All Boule (CDS) Instruments	119	6.11	0.10	1.6	6.1	5.6 - 6.6	115	18.38	0.26	1.4	18.4	17.0 - 19.7
All COULTER Instruments	87	5.94	0.13	2.2	6.0	5.5 - 6.4	88	17.96	0.31	1.7	18.0	16.7 - 19.3
Abbott Cell-Dyn 1700	6	6.20	0.09	1.4	6.2	5.7 - 6.7	6	17.98	0.23	1.3	18.0	16.7 - 19.3
Abbott Cell-Dyn 1800	20	6.18	0.14	2.3	6.2	5.7 - 6.7	20	18.12	0.36	2.0	18.1	16.8 - 19.4
Abbott Cell-Dyn Emerald	63	5.92	0.13	2.2	5.9	5.5 - 6.4	61	17.94	0.25	1.4	17.9	16.6 - 19.2
Boule (CDS) Medonic M series	115	6.10	0.09	1.5	6.1	5.6 - 6.6	112	18.38	0.26	1.4	18.4	17.0 - 19.7
COULTER AcT diff/diff 2	84	5.94	0.13	2.2	6.0	5.5 - 6.4	85	17.96	0.31	1.7	18.0	16.7 - 19.3
Horiba ABX Micros/45/60	54	6.07	0.11	1.8	6.1	5.6 - 6.5	55	18.13	0.28	1.6	18.1	16.8 - 19.4

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

Specimen HD-15

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	351	6.04	0.15	2.5	6.0	5.6 - 6.5
All Abbott Cell-Dyn Instruments	86	6.00	0.15	2.5	6.0	5.5 - 6.5
All ABX Instruments	53	6.09	0.12	2.0	6.1	5.6 - 6.6
All Boule (CDS) Instruments	117	6.11	0.10	1.7	6.1	5.6 - 6.6
All COULTER Instruments	86	5.95	0.13	2.1	5.9	5.5 - 6.4
Abbott Cell-Dyn 1700	6	6.22	0.17	2.8	6.2	5.7 - 6.7
Abbott Cell-Dyn 1800	20	6.18	0.12	1.9	6.2	5.7 - 6.7
Abbott Cell-Dyn Emerald	62	5.93	0.11	1.9	5.9	5.5 - 6.4
Boule (CDS) Medonic M series	113	6.11	0.10	1.7	6.1	5.6 - 6.6
COULTER AcT diff/diff 2	84	5.95	0.13	2.1	5.9	5.5 - 6.4
Horiba ABX Micros/45/60	53	6.09	0.12	2.0	6.1	5.6 - 6.6

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	358	38.46	1.84	4.8	38.4	36.1 - 40.8	355	51.30	1.94	3.8	51.2	48.2 - 54.4
All Abbott Cell-Dyn Instruments	89	40.61	1.11	2.7	40.7	38.1 - 43.1	87	53.31	1.53	2.9	53.3	50.1 - 56.6
All ABX Instruments	55	38.05	0.95	2.5	38.1	35.7 - 40.4	55	50.33	1.35	2.7	50.3	47.3 - 53.4
All Boule (CDS) Instruments	119	36.83	1.13	3.1	36.8	34.6 - 39.1	119	50.25	1.54	3.1	50.1	47.2 - 53.3
All COULTER Instruments	88	38.70	1.10	2.8	38.7	36.3 - 41.1	88	51.18	1.34	2.6	51.4	48.1 - 54.3
Abbott Cell-Dyn 1700	6	39.25	0.63	1.6	39.3	36.8 - 41.7	6	51.52	0.75	1.5	51.4	48.4 - 54.7
Abbott Cell-Dyn 1800	20	40.73	1.22	3.0	40.7	38.2 - 43.2	19	52.77	1.58	3.0	52.5	49.6 - 56.0
Abbott Cell-Dyn Emerald	63	40.70	1.04	2.5	40.8	38.2 - 43.2	62	53.64	1.42	2.6	53.6	50.4 - 56.9
Boule (CDS) Medonic M series	116	36.82	1.14	3.1	36.8	34.6 - 39.1	116	50.29	1.54	3.1	50.2	47.2 - 53.4
COULTER AcT diff/diff 2	85	38.68	1.10	2.9	38.7	36.3 - 41.0	85	51.19	1.35	2.6	51.4	48.1 - 54.3
Horiba ABX Micros/45/60	55	38.05	0.95	2.5	38.1	35.7 - 40.4	55	50.33	1.35	2.7	50.3	47.3 - 53.4

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	357	17.40	1.11	6.4	17.2	16.3 - 18.5	354	51.31	1.92	3.7	51.1	48.2 - 54.4
All Abbott Cell-Dyn Instruments	88	18.80	0.61	3.3	18.9	17.6 - 20.0	87	53.34	1.51	2.8	53.5	50.1 - 56.6
All ABX Instruments	55	16.73	0.40	2.4	16.8	15.7 - 17.8	55	50.30	1.13	2.2	50.4	47.2 - 53.4
All Boule (CDS) Instruments	119	16.34	0.48	2.9	16.3	15.3 - 17.4	117	50.28	1.38	2.7	50.2	47.2 - 53.3
All COULTER Instruments	89	17.79	0.48	2.7	17.8	16.7 - 18.9	87	51.18	1.35	2.6	51.3	48.1 - 54.3
Abbott Cell-Dyn 1700	6	17.75	0.45	2.5	17.8	16.6 - 18.9	6	52.00	1.66	3.2	51.8	48.8 - 55.2
Abbott Cell-Dyn 1800	20	18.91	0.64	3.4	18.9	17.7 - 20.1	20	53.01	1.79	3.4	53.3	49.8 - 56.2
Abbott Cell-Dyn Emerald	61	18.84	0.49	2.6	18.9	17.7 - 20.0	61	53.58	1.32	2.5	53.7	50.3 - 56.8
Boule (CDS) Medonic M series	116	16.34	0.48	3.0	16.3	15.3 - 17.4	114	50.32	1.37	2.7	50.2	47.3 - 53.4
COULTER AcT diff/diff 2	86	17.80	0.48	2.7	17.9	16.7 - 18.9	85	51.17	1.36	2.7	51.3	48.1 - 54.3
Horiba ABX Micros/45/60	55	16.73	0.40	2.4	16.8	15.7 - 17.8	55	50.30	1.13	2.2	50.4	47.2 - 53.4

	Specimen HD-15					
All Method	353	17.36	1.09	6.3	17.2	16.3 - 18.5
All Abbott Cell-Dyn Instruments	85	18.84	0.64	3.4	18.9	17.7 - 20.0
All ABX Instruments	55	16.77	0.42	2.5	16.8	15.7 - 17.8
All Boule (CDS) Instruments	118	16.35	0.44	2.7	16.3	15.3 - 17.4
All COULTER Instruments	88	17.67	0.49	2.7	17.6	16.6 - 18.8
Abbott Cell-Dyn 1700	6	17.78	0.77	4.3	17.9	16.7 - 18.9
Abbott Cell-Dyn 1800	20	19.01	0.71	3.7	19.0	17.8 - 20.2
Abbott Cell-Dyn Emerald	59	18.82	0.51	2.7	18.9	17.6 - 20.0
Boule (CDS) Medonic M series	115	16.36	0.45	2.7	16.3	15.3 - 17.4
COULTER AcT diff/diff 2	85	17.68	0.49	2.8	17.6	16.6 - 18.8
Horiba ABX Micros/45/60	55	16.77	0.42	2.5	16.8	15.7 - 17.8

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	355	262.1	14.6	5.6	261	196 - 328	352	267.8	16.9	6.3	268	200 - 335
All Abbott Cell-Dyn Instruments	88	265.8	17.2	6.5	265	199 - 333	87	272.9	17.8	6.5	271	204 - 342
All ABX Instruments	55	263.2	13.4	5.1	264	197 - 330	53	268.5	13.1	4.9	270	201 - 336
All Boule (CDS) Instruments	116	255.4	10.0	3.9	255	191 - 320	113	257.9	14.1	5.5	257	193 - 323
All COULTER Instruments	87	264.6	12.3	4.6	264	198 - 331	94	274.1	16.0	5.8	274	205 - 343
Abbott Cell-Dyn 1700	6	269.0	16.2	6.0	272	201 - 337	6	266.5	26.4	9.9	265	199 - 334
Abbott Cell-Dyn 1800	20	265.4	17.5	6.6	264	199 - 332	19	264.5	22.9	8.7	267	198 - 331
Abbott Cell-Dyn Emerald	62	265.6	17.5	6.6	266	199 - 332	63	274.9	16.9	6.2	272	206 - 344
Boule (CDS) Medonic M series	113	254.8	9.4	3.7	255	191 - 319	110	257.1	13.3	5.2	257	192 - 322
COULTER AcT diff/diff 2	83	264.8	11.4	4.3	264	198 - 331	89	274.6	14.6	5.3	273	205 - 344
Horiba ABX Micros/45/60	55	263.2	13.4	5.1	264	197 - 330	53	268.5	13.1	4.9	270	201 - 336

	Specimen HD-13						Specimen HD-14					
All Method	350	68.6	7.0	10.2	68	51 - 86	354	538.5	35.0	6.5	535	403 - 674
All Abbott Cell-Dyn Instruments	85	69.4	7.6	10.9	69	52 - 87	88	539.9	34.8	6.4	538	404 - 675
All ABX Instruments	54	73.8	6.3	8.6	73	55 - 93	54	523.5	21.1	4.0	527	392 - 655
All Boule (CDS) Instruments	116	63.8	4.2	6.6	64	47 - 80	118	517.2	23.5	4.5	516	387 - 647
All COULTER Instruments	86	70.5	5.6	8.0	70	52 - 89	84	576.1	20.2	3.5	576	432 - 721
Abbott Cell-Dyn 1700	6	65.8	6.3	9.6	64	49 - 83	6	560.0	40.2	7.2	562	420 - 700
Abbott Cell-Dyn 1800	20	68.1	5.6	8.3	67	51 - 86	20	569.0	37.8	6.6	565	426 - 712
Abbott Cell-Dyn Emerald	61	71.4	10.0	14.1	71	53 - 90	62	528.5	26.5	5.0	521	396 - 661
Boule (CDS) Medonic M series	113	63.8	4.2	6.5	64	47 - 80	115	516.5	23.3	4.5	515	387 - 646
COULTER AcT diff/diff 2	83	70.6	5.6	8.0	70	52 - 89	82	575.7	20.2	3.5	575	431 - 720
Horiba ABX Micros/45/60	54	73.8	6.3	8.6	73	55 - 93	54	523.5	21.1	4.0	527	392 - 655

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	350	68.1	7.4	10.8	68	51 - 86
All Abbott Cell-Dyn Instruments	88	71.0	10.8	15.2	70	53 - 89
All ABX Instruments	55	73.0	6.1	8.4	73	54 - 92
All Boule (CDS) Instruments	118	63.1	5.2	8.2	63	47 - 79
All COULTER Instruments	86	69.4	4.6	6.6	70	52 - 87
Abbott Cell-Dyn 1700	6	64.7	6.7	10.4	65	48 - 81
Abbott Cell-Dyn 1800	19	66.2	4.4	6.6	67	49 - 83
Abbott Cell-Dyn Emerald	63	73.4	12.6	17.1	71	55 - 92
Boule (CDS) Medonic M series	115	63.1	5.2	8.3	62	47 - 79
COULTER AcT diff/diff 2	83	69.4	4.5	6.5	70	52 - 87
Horiba ABX Micros/45/60	55	73.0	6.1	8.4	73	54 - 92

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	342	31.87	3.26	10.2	33.1	22.0 - 41.7	341	15.06	1.58	10.5	15.5	10.3 - 19.8
All Abbott Cell-Dyn Instruments	85	29.77	2.12	7.1	30.5	23.4 - 36.2	84	14.37	1.83	12.7	14.5	8.8 - 19.9
All ABX Instruments	49	26.03	3.02	11.6	25.3	16.9 - 35.2	50	12.88	1.49	11.6	12.6	8.4 - 17.4
All Boule (CDS) Instruments	114	33.68	0.91	2.7	33.7	30.9 - 36.5	113	15.85	0.49	3.1	15.8	14.3 - 17.4
All COULTER Instruments	86	34.13	0.77	2.2	34.2	31.8 - 36.5	84	15.90	0.49	3.1	16.0	14.4 - 17.4
Abbott Cell-Dyn 1700	7	29.66	1.32	4.4	29.1	25.7 - 33.7	7	13.34	0.65	4.9	13.2	11.3 - 15.3
Abbott Cell-Dyn 1800	19	26.42	1.04	3.9	26.5	23.2 - 29.6	19	11.93	0.55	4.6	11.8	10.2 - 13.6
Abbott Cell-Dyn Emerald	59	30.86	1.06	3.4	30.9	27.6 - 34.1	57	15.20	1.14	7.5	14.9	11.7 - 18.7
Boule (CDS) Medonic M series	114	33.68	0.91	2.7	33.7	30.9 - 36.5	113	15.85	0.49	3.1	15.8	14.3 - 17.4
COULTER AcT diff/diff 2	85	34.12	0.77	2.3	34.2	31.8 - 36.5	83	15.91	0.49	3.1	16.0	14.4 - 17.4
Horiba ABX Micros/45/60	49	26.03	3.02	11.6	25.3	16.9 - 35.2	50	12.88	1.49	11.6	12.6	8.4 - 17.4

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	344	57.19	6.99	12.2	60.4	36.2 - 78.2	344	15.11	1.64	10.9	15.6	10.1 - 20.1
All Abbott Cell-Dyn Instruments	86	52.42	3.28	6.3	52.8	42.5 - 62.3	85	14.55	2.03	13.9	14.7	8.4 - 20.7
All ABX Instruments	49	44.80	5.57	12.4	44.0	28.0 - 61.6	50	12.73	1.28	10.1	12.4	8.8 - 16.6
All Boule (CDS) Instruments	114	61.89	1.93	3.1	61.9	56.0 - 67.7	112	15.84	0.42	2.7	15.8	14.5 - 17.2
All COULTER Instruments	86	61.97	1.65	2.7	62.0	57.0 - 67.0	86	15.92	0.53	3.3	15.9	14.3 - 17.6
Abbott Cell-Dyn 1700	7	52.34	2.35	4.5	53.6	45.2 - 59.4	7	13.24	0.62	4.7	13.2	11.3 - 15.2
Abbott Cell-Dyn 1800	19	48.01	2.39	5.0	48.6	40.8 - 55.2	19	11.87	0.53	4.5	11.7	10.2 - 13.5
Abbott Cell-Dyn Emerald	60	53.82	2.22	4.1	53.2	47.1 - 60.5	59	15.57	1.48	9.5	15.0	11.1 - 20.1
Boule (CDS) Medonic M series	114	61.89	1.93	3.1	61.9	56.0 - 67.7	112	15.84	0.42	2.7	15.8	14.5 - 17.2
COULTER AcT diff/diff 2	85	61.95	1.65	2.7	61.9	56.9 - 67.0	85	15.92	0.53	3.4	15.9	14.3 - 17.6
Horiba ABX Micros/45/60	49	44.80	5.57	12.4	44.0	28.0 - 61.6	50	12.73	1.28	10.1	12.4	8.8 - 16.6

	Specimen HD-15					
All Method	344	57.10	7.17	12.6	60.0	35.5 - 78.7
All Abbott Cell-Dyn Instruments	86	52.50	3.35	6.4	53.3	42.4 - 62.6
All ABX Instruments	50	44.18	4.79	10.8	43.2	29.8 - 58.6
All Boule (CDS) Instruments	114	62.07	2.22	3.6	61.9	55.3 - 68.8
All COULTER Instruments	86	61.76	1.65	2.7	61.9	56.8 - 66.7
Abbott Cell-Dyn 1700	7	52.90	1.61	3.0	53.5	48.0 - 57.8
Abbott Cell-Dyn 1800	19	47.49	2.14	4.5	47.2	41.0 - 54.0
Abbott Cell-Dyn Emerald	60	54.05	2.00	3.7	53.9	48.0 - 60.1
Boule (CDS) Medonic M series	114	62.07	2.22	3.6	61.9	55.3 - 68.8
COULTER AcT diff/diff 2	85	61.73	1.63	2.6	61.9	56.8 - 66.7
Horiba ABX Micros/45/60	50	44.18	4.79	10.8	43.2	29.8 - 58.6

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	342	7.04	2.11	30.0	6.6	0.7 - 13.4	345	4.20	1.11	26.3	4.3	0.8 - 7.6
All Abbott Cell-Dyn Instruments	86	7.36	2.59	35.3	6.3	0.0 - 15.2	86	3.71	1.44	38.7	3.0	0.0 - 8.1
All ABX Instruments	50	9.97	1.82	18.2	10.2	4.5 - 15.5	50	4.24	0.57	13.5	4.3	2.5 - 6.0
All Boule (CDS) Instruments	113	6.89	0.91	13.2	6.8	4.1 - 9.7	113	5.01	0.50	10.0	5.0	3.5 - 6.6
All COULTER Instruments	87	5.27	0.90	17.1	5.2	2.5 - 8.0	87	3.50	0.50	14.3	3.5	2.0 - 5.0
Abbott Cell-Dyn 1700	7	8.46	0.49	5.7	8.5	6.9 - 10.0	7	4.80	0.28	5.9	4.7	3.9 - 5.7
Abbott Cell-Dyn 1800	19	11.64	0.87	7.5	11.6	9.0 - 14.3	19	6.10	0.38	6.3	6.1	4.9 - 7.3
Abbott Cell-Dyn Emerald	59	5.96	0.82	13.7	5.8	3.5 - 8.5	58	2.79	0.33	11.9	2.8	1.7 - 3.8
Boule (CDS) Medonic M series	113	6.89	0.91	13.2	6.8	4.1 - 9.7	113	5.01	0.50	10.0	5.0	3.5 - 6.6
COULTER AcT diff/diff 2	86	5.28	0.90	17.1	5.3	2.5 - 8.0	86	3.50	0.50	14.3	3.5	1.9 - 5.1
Horiba ABX Micros/45/60	50	9.97	1.82	18.2	10.2	4.5 - 15.5	50	4.24	0.57	13.5	4.3	2.5 - 6.0

	Specimen HD-13						Specimen HD-14					
All Method	339	10.68	4.71	44.1	9.0	0.0 - 24.9	344	4.18	1.08	25.8	4.2	0.9 - 7.5
All Abbott Cell-Dyn Instruments	86	13.01	3.20	24.6	11.9	3.4 - 22.6	86	3.77	1.43	38.0	3.1	0.0 - 8.1
All ABX Instruments	49	20.61	3.55	17.2	20.6	9.9 - 31.3	50	4.26	0.52	12.3	4.3	2.6 - 5.9
All Boule (CDS) Instruments	113	8.25	1.73	21.0	8.4	3.0 - 13.5	111	4.92	0.46	9.3	4.9	3.5 - 6.3
All COULTER Instruments	85	7.15	1.00	14.0	7.1	4.1 - 10.2	86	3.50	0.55	15.8	3.5	1.8 - 5.2
Abbott Cell-Dyn 1700	7	13.99	1.00	7.1	14.3	10.9 - 17.0	7	4.96	0.22	4.5	4.9	4.2 - 5.7
Abbott Cell-Dyn 1800	19	17.99	1.66	9.2	18.3	13.0 - 23.0	19	6.10	0.39	6.3	6.1	4.9 - 7.3
Abbott Cell-Dyn Emerald	59	11.22	1.46	13.1	11.0	6.8 - 15.7	59	2.86	0.36	12.5	2.8	1.7 - 4.0
Boule (CDS) Medonic M series	113	8.25	1.73	21.0	8.4	3.0 - 13.5	111	4.92	0.46	9.3	4.9	3.5 - 6.3
COULTER AcT diff/diff 2	84	7.17	0.99	13.8	7.2	4.1 - 10.2	85	3.50	0.55	15.9	3.5	1.8 - 5.2
Horiba ABX Micros/45/60	49	20.61	3.55	17.2	20.6	9.9 - 31.3	50	4.26	0.52	12.3	4.3	2.6 - 5.9

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	343	10.99	5.18	47.1	9.1	0.0 - 26.6
All Abbott Cell-Dyn Instruments	86	13.09	3.44	26.3	12.1	2.7 - 23.5
All ABX Instruments	50	21.03	3.16	15.0	21.8	11.5 - 30.6
All Boule (CDS) Instruments	111	8.37	1.60	19.1	8.4	3.5 - 13.2
All COULTER Instruments	87	7.06	1.01	14.4	7.0	4.0 - 10.1
Abbott Cell-Dyn 1700	7	13.74	1.51	11.0	14.1	9.2 - 18.3
Abbott Cell-Dyn 1800	19	18.52	1.68	9.1	18.6	13.4 - 23.6
Abbott Cell-Dyn Emerald	60	11.29	1.77	15.7	11.0	5.9 - 16.7
Boule (CDS) Medonic M series	111	8.37	1.60	19.1	8.4	3.5 - 13.2
COULTER AcT diff/diff 2	86	7.08	0.99	13.9	7.1	4.1 - 10.1
Horiba ABX Micros/45/60	50	21.03	3.16	15.0	21.8	11.5 - 30.6

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	343	61.18	2.18	3.6	60.8	54.6 - 67.8	340	80.73	1.77	2.2	80.5	75.4 - 86.1
All Abbott Cell-Dyn Instruments	84	62.80	1.20	1.9	62.9	59.2 - 66.4	83	81.98	1.19	1.5	82.3	78.4 - 85.6
All ABX Instruments	49	63.92	1.57	2.5	64.4	59.2 - 68.7	50	82.88	1.14	1.4	83.2	79.4 - 86.3
All Boule (CDS) Instruments	116	59.42	1.31	2.2	59.3	55.5 - 63.4	113	79.15	0.67	0.8	79.1	77.1 - 81.2
All COULTER Instruments	86	60.60	1.11	1.8	60.5	57.2 - 64.0	84	80.64	0.67	0.8	80.5	78.6 - 82.7
Abbott Cell-Dyn 1700	7	61.90	1.03	1.7	62.0	58.8 - 65.0	7	81.89	0.66	0.8	82.0	79.9 - 83.9
Abbott Cell-Dyn 1800	19	61.94	0.90	1.5	62.1	59.2 - 64.7	19	81.95	0.60	0.7	82.1	80.1 - 83.8
Abbott Cell-Dyn Emerald	58	63.19	1.10	1.7	63.2	59.8 - 66.6	58	81.91	1.55	1.9	82.4	77.2 - 86.6
Boule (CDS) Medonic M series	116	59.42	1.31	2.2	59.3	55.5 - 63.4	113	79.15	0.67	0.8	79.1	77.1 - 81.2
COULTER AcT diff/diff 2	85	60.60	1.12	1.8	60.5	57.2 - 64.0	83	80.63	0.67	0.8	80.5	78.6 - 82.7
Horiba ABX Micros/45/60	49	63.92	1.57	2.5	64.4	59.2 - 68.7	50	82.88	1.14	1.4	83.2	79.4 - 86.3

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	344	31.91	2.97	9.3	31.6	22.9 - 40.9	345	80.72	1.75	2.2	80.4	75.4 - 86.0
All Abbott Cell-Dyn Instruments	86	34.53	1.65	4.8	34.6	29.5 - 39.5	85	81.73	1.49	1.8	82.3	77.2 - 86.3
All ABX Instruments	49	34.58	2.49	7.2	34.7	27.1 - 42.1	50	83.03	0.97	1.2	83.4	80.1 - 86.0
All Boule (CDS) Instruments	114	29.79	2.45	8.2	29.4	22.4 - 37.2	114	79.26	0.67	0.8	79.2	77.2 - 81.3
All COULTER Instruments	86	30.84	1.28	4.2	30.7	26.9 - 34.7	86	80.59	0.66	0.8	80.5	78.6 - 82.6
Abbott Cell-Dyn 1700	7	33.71	1.81	5.4	32.9	28.2 - 39.2	7	81.91	0.87	1.1	82.0	79.3 - 84.6
Abbott Cell-Dyn 1800	19	34.00	1.55	4.6	33.8	29.3 - 38.7	19	82.03	0.64	0.8	82.3	80.1 - 84.0
Abbott Cell-Dyn Emerald	59	34.88	1.50	4.3	34.8	30.3 - 39.4	59	81.62	1.73	2.1	82.3	76.4 - 86.8
Boule (CDS) Medonic M series	114	29.79	2.45	8.2	29.4	22.4 - 37.2	114	79.26	0.67	0.8	79.2	77.2 - 81.3
COULTER AcT diff/diff 2	85	30.83	1.29	4.2	30.6	26.9 - 34.7	85	80.60	0.66	0.8	80.5	78.6 - 82.6
Horiba ABX Micros/45/60	49	34.58	2.49	7.2	34.7	27.1 - 42.1	50	83.03	0.97	1.2	83.4	80.1 - 86.0

	Specimen HD-15					
All Method	345	31.98	3.00	9.4	31.8	22.9 - 41.0
All Abbott Cell-Dyn Instruments	86	34.42	1.88	5.5	34.9	28.7 - 40.1
All ABX Instruments	50	34.79	2.05	5.9	35.1	28.6 - 41.0
All Boule (CDS) Instruments	114	29.50	2.23	7.5	29.8	22.8 - 36.2
All COULTER Instruments	86	31.22	1.40	4.5	31.1	27.0 - 35.5
Abbott Cell-Dyn 1700	7	33.31	1.67	5.0	33.3	28.3 - 38.4
Abbott Cell-Dyn 1800	19	34.09	1.99	5.9	34.1	28.1 - 40.1
Abbott Cell-Dyn Emerald	60	34.65	1.83	5.3	35.1	29.1 - 40.2
Boule (CDS) Medonic M series	114	29.50	2.23	7.5	29.8	22.8 - 36.2
COULTER AcT diff/diff 2	85	31.22	1.41	4.5	31.1	26.9 - 35.5
Horiba ABX Micros/45/60	50	34.79	2.05	5.9	35.1	28.6 - 41.0

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	14	9.00	0.44	4.9	9.0	7.6 - 10.4	14	20.68	0.42	2.0	20.8	17.5 - 23.8
All COULTER Instruments	14	9.00	0.44	4.9	9.0	7.6 - 10.4	14	20.68	0.42	2.0	20.8	17.5 - 23.8
COULTER UniCel DxH 600	10	8.60	0.07	0.8	8.6	7.3 - 9.9	10	20.50	0.29	1.4	20.5	17.4 - 23.6
	Specimen DIF-13						**Specimen DIF-14**					
All Method	14	3.90	0.21	5.3	3.9	3.3 - 4.5	14	20.62	0.32	1.6	20.7	17.5 - 23.8
All COULTER Instruments	14	3.90	0.21	5.3	3.9	3.3 - 4.5	14	20.62	0.32	1.6	20.7	17.5 - 23.8
COULTER UniCel DxH 600	10	3.72	0.11	2.9	3.8	3.1 - 4.3	10	20.58	0.24	1.2	20.7	17.4 - 23.7
	Specimen DIF-15											
All Method	14	3.86	0.25	6.4	4.0	3.2 - 4.5						
All COULTER Instruments	14	3.86	0.25	6.4	4.0	3.2 - 4.5						
COULTER UniCel DxH 600	10	3.66	0.18	5.0	3.7	3.1 - 4.3						

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	14	4.133	0.039	1.0	4.13	3.88 - 4.39	14	5.456	0.113	2.1	5.46	5.12 - 5.79
All COULTER Instruments	14	4.133	0.039	1.0	4.13	3.88 - 4.39	14	5.456	0.113	2.1	5.46	5.12 - 5.79
COULTER UniCel DxH 600	10	4.126	0.044	1.1	4.12	3.87 - 4.38	10	5.520	0.103	1.9	5.51	5.18 - 5.86
	Specimen DIF-13						**Specimen DIF-14**					
All Method	14	2.586	0.058	2.2	2.59	2.43 - 2.75	14	5.444	0.154	2.8	5.49	5.11 - 5.78
All COULTER Instruments	14	2.586	0.058	2.2	2.59	2.43 - 2.75	14	5.444	0.154	2.8	5.49	5.11 - 5.78
COULTER UniCel DxH 600	10	2.614	0.065	2.5	2.60	2.45 - 2.78	10	5.566	0.067	1.2	5.54	5.23 - 5.90
	Specimen DIF-15											
All Method	14	2.571	0.039	1.5	2.57	2.41 - 2.73						
All COULTER Instruments	14	2.571	0.039	1.5	2.57	2.41 - 2.73						
COULTER UniCel DxH 600	10	2.582	0.050	1.9	2.58	2.42 - 2.74						

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

Instrument	Specimen DIF-11 Labs	Mean	SD	CV	Median	Range	Specimen DIF-12 Labs	Mean	SD	CV	Median	Range
All Method	13	12.01	0.36	3.0	12.1	11.1 - 12.9	14	17.11	0.17	1.0	17.2	15.9 - 18.4
All COULTER Instruments	13	12.01	0.36	3.0	12.1	11.1 - 12.9	14	17.11	0.17	1.0	17.2	15.9 - 18.4
COULTER UniCel DxH 600	9	-	-	-	11.8	11.1 - 12.9	10	17.20	0.07	0.4	17.2	15.9 - 18.5
	Specimen DIF-13						**Specimen DIF-14**					
All Method	14	5.91	0.22	3.7	6.0	5.4 - 6.4	14	17.11	0.25	1.5	17.2	15.9 - 18.4
All COULTER Instruments	14	5.91	0.22	3.7	6.0	5.4 - 6.4	14	17.11	0.25	1.5	17.2	15.9 - 18.4
COULTER UniCel DxH 600	10	5.74	0.17	2.9	5.7	5.3 - 6.2	10	17.18	0.29	1.7	17.2	15.9 - 18.4
	Specimen DIF-15											
All Method	12	6.23	0.22	3.5	6.3	5.7 - 6.7						
All COULTER Instruments	11	6.23	0.22	3.5	6.3	5.7 - 6.7						
COULTER UniCel DxH 600	10	6.28	0.08	1.3	6.3	5.8 - 6.8						

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

Instrument	Specimen DIF-11 Labs	Mean	SD	CV	Median	Range	Specimen DIF-12 Labs	Mean	SD	CV	Median	Range
All Method	14	37.97	1.16	3.1	38.1	35.6 - 40.3	14	55.00	1.35	2.5	55.6	51.7 - 58.3
All COULTER Instruments	14	37.97	1.16	3.1	38.1	35.6 - 40.3	14	55.00	1.35	2.5	55.6	51.7 - 58.3
COULTER UniCel DxH 600	10	37.02	0.81	2.2	37.4	34.7 - 39.3	10	54.56	1.63	3.0	54.3	51.2 - 57.9
	Specimen DIF-13						**Specimen DIF-14**					
All Method	14	19.36	0.52	2.7	19.4	18.1 - 20.6	14	54.91	1.02	1.9	55.2	51.6 - 58.3
All COULTER Instruments	14	19.36	0.52	2.7	19.4	18.1 - 20.6	14	54.91	1.02	1.9	55.2	51.6 - 58.3
COULTER UniCel DxH 600	10	19.22	0.66	3.4	19.2	18.0 - 20.4	10	55.12	0.93	1.7	55.2	51.8 - 58.5
	Specimen DIF-15											
All Method	14	19.14	0.48	2.5	19.3	17.9 - 20.3						
All COULTER Instruments	14	19.14	0.48	2.5	19.3	17.9 - 20.3						
COULTER UniCel DxH 600	10	18.88	0.53	2.8	18.6	17.7 - 20.1						

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	14	274.6	15.5	5.6	272	205 - 344	14	484.2	26.9	5.6	480	363 - 606
All COULTER Instruments	14	274.6	15.5	5.6	272	205 - 344	14	484.2	26.9	5.6	480	363 - 606
COULTER UniCel DxH 600	10	281.6	18.2	6.5	275	211 - 352	10	494.8	33.8	6.8	483	371 - 619

Instrument	Specimen DIF-13 Labs	Mean	SD	CV	Median	Range	Specimen DIF-14 Labs	Mean	SD	CV	Median	Range
All Method	14	81.4	8.8	10.8	80	61 - 102	14	486.3	21.6	4.4	489	364 - 608
All COULTER Instruments	14	81.4	8.8	10.8	80	61 - 102	14	486.3	21.6	4.4	489	364 - 608
COULTER UniCel DxH 600	10	83.6	12.5	14.9	83	62 - 105	10	495.8	19.7	4.0	493	371 - 620

Instrument	Specimen DIF-15 Labs	Mean	SD	CV	Median	Range
All Method	14	84.5	6.0	7.1	84	63 - 106
All COULTER Instruments	14	84.5	6.0	7.1	84	63 - 106
COULTER UniCel DxH 600	10	88.2	6.0	6.8	90	66 - 111

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	14	42.74	18.50	43.3	43.6	0.0 - 98.3	14	44.61	22.77	51.0	46.0	0.0 - 113.0
All COULTER DxH 500/520	10	25.36	3.76	14.8	26.3	14.0 - 36.7	10	23.12	3.45	14.9	25.0	12.7 - 33.5
All COULTER Instruments	10	60.12	0.65	1.1	60.1	58.1 - 62.1	10	66.10	0.42	0.6	66.0	64.8 - 67.4
Coulter DxH 520	10	25.36	3.76	14.8	26.3	14.0 - 36.7	10	23.12	3.45	14.9	25.0	12.7 - 33.5

Instrument	Specimen DIF-13 Labs	Mean	SD	CV	Median	Range	Specimen DIF-14 Labs	Mean	SD	CV	Median	Range
All Method	14	42.13	10.94	26.0	43.0	9.3 - 75.0	14	45.28	21.89	48.3	46.0	0.0 - 111.0
All COULTER DxH 500/520	10	31.92	2.87	9.0	33.2	23.3 - 40.6	10	24.64	3.60	14.6	25.7	13.8 - 35.5
All COULTER Instruments	10	52.34	0.57	1.1	52.1	50.6 - 54.1	10	65.92	0.59	0.9	66.2	64.1 - 67.7
Coulter DxH 520	10	31.92	2.87	9.0	33.2	23.3 - 40.6	10	24.64	3.60	14.6	25.7	13.8 - 35.5

Instrument	Specimen DIF-15 Labs	Mean	SD	CV	Median	Range
All Method	14	42.52	10.80	25.4	43.6	10.1 - 75.0
All COULTER DxH 500/520	10	32.38	2.33	7.2	32.7	25.3 - 39.4
All COULTER Instruments	10	52.66	0.39	0.7	52.6	51.4 - 53.9
Coulter DxH 520	10	32.38	2.33	7.2	32.7	25.3 - 39.4

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	14	16.11	14.16	87.9	20.1	0.0 - 58.6	14	12.85	9.70	75.5	14.4	0.0 - 42.0
All COULTER DxH 500/520	10	3.06	5.01	163.6	1.0	0.0 - 18.1	10	4.12	4.17	101.1	1.6	0.0 - 16.7
All COULTER Instruments	10	29.16	0.65	2.2	29.5	27.2 - 31.1	10	21.58	1.91	8.8	21.1	15.8 - 27.4
Coulter DxH 520	10	3.06	5.01	163.6	1.0	0.0 - 18.1	10	4.12	4.17	101.1	1.6	0.0 - 16.7
	Specimen DIF-13						**Specimen DIF-14**					
All Method	14	19.48	18.12	93.0	22.8	0.0 - 73.9	14	12.14	10.25	84.4	14.0	0.0 - 42.9
All COULTER DxH 500/520	10	2.56	4.72	184.4	0.4	0.0 - 16.8	10	2.66	2.93	110.1	1.7	0.0 - 11.5
All COULTER Instruments	10	36.40	1.02	2.8	36.7	33.3 - 39.5	10	21.62	1.76	8.1	20.8	16.3 - 26.9
Coulter DxH 520	10	2.56	4.72	184.4	0.4	0.0 - 16.8	10	2.66	2.93	110.1	1.7	0.0 - 11.5
	Specimen DIF-15											
All Method	14	19.42	18.20	93.7	22.6	0.0 - 74.1						
All COULTER DxH 500/520	10	2.34	3.95	168.8	0.6	0.0 - 14.2						
All COULTER Instruments	10	36.50	0.60	1.6	36.7	34.7 - 38.3						
Coulter DxH 520	10	2.34	3.95	168.8	0.6	0.0 - 14.2						

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	14	2.31	2.34	101.2	2.2	0.0 - 9.4	14	4.62	4.64	100.4	4.0	0.0 - 18.6
All COULTER DxH 500/520	10	0.10	0.10	100.0	0.1	0.0 - 0.4	10	0.44	0.76	173.5	0.1	0.0 - 2.8
All COULTER Instruments	10	4.52	0.29	6.3	4.5	3.6 - 5.4	10	8.80	2.05	23.2	9.6	2.6 - 15.0
Coulter DxH 520	10	0.10	0.10	100.0	0.1	0.0 - 0.4	10	0.44	0.76	173.5	0.1	0.0 - 2.8
	Specimen DIF-13						**Specimen DIF-14**					
All Method	14	1.70	1.64	96.5	1.6	0.0 - 6.7	14	4.61	4.54	98.5	4.3	0.0 - 18.3
All COULTER DxH 500/520	10	0.20	0.20	100.0	0.1	0.0 - 0.8	10	0.42	0.61	144.2	0.2	0.0 - 2.3
All COULTER Instruments	10	3.20	0.63	19.6	2.9	1.3 - 5.1	10	8.80	1.48	16.8	9.6	4.3 - 13.3
Coulter DxH 520	10	0.20	0.20	100.0	0.1	0.0 - 0.8	10	0.42	0.61	144.2	0.2	0.0 - 2.3
	Specimen DIF-15											
All Method	14	1.66	1.60	96.5	1.5	0.0 - 6.5						
All COULTER DxH 500/520	10	0.22	0.24	108.5	0.1	0.0 - 1.0						
All COULTER Instruments	10	3.10	0.73	23.6	3.1	0.9 - 5.3						
Coulter DxH 520	10	0.22	0.24	108.5	0.1	0.0 - 1.0						

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	14	38.72	34.38	88.8	37.7	0.0 - 141.9	14	37.69	36.11	95.8	36.4	0.0 - 146.1
All COULTER DxH 500/520	10	71.32	1.69	2.4	71.1	66.2 - 76.5	10	71.92	2.01	2.8	71.5	65.8 - 78.0
All COULTER Instruments	10	6.12	0.22	3.5	6.1	5.4 - 6.8	10	3.46	0.25	7.3	3.4	2.7 - 4.3
Coulter DxH 520	10	71.32	1.69	2.4	71.1	66.2 - 76.5	10	71.92	2.01	2.8	71.5	65.8 - 78.0

	Specimen DIF-13						Specimen DIF-14					
All Method	14	36.57	30.16	82.5	34.7	0.0 - 127.1	14	37.75	36.03	95.4	37.4	0.0 - 145.9
All COULTER DxH 500/520	10	65.14	2.58	4.0	65.2	57.4 - 72.9	10	71.92	1.28	1.8	71.2	68.0 - 75.8
All COULTER Instruments	10	8.00	0.19	2.3	8.0	7.4 - 8.6	10	3.58	0.23	6.4	3.6	2.8 - 4.3
Coulter DxH 520	10	65.14	2.58	4.0	65.2	57.4 - 72.9	10	71.92	1.28	1.8	71.2	68.0 - 75.8

	Specimen DIF-15					
All Method	14	36.35	30.30	83.4	34.9	0.0 - 127.3
All COULTER DxH 500/520	10	65.06	2.29	3.5	65.2	58.2 - 72.0
All COULTER Instruments	10	7.64	0.27	3.5	7.8	6.8 - 8.5
Coulter DxH 520	10	65.06	2.29	3.5	65.2	58.2 - 72.0

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	14	0.05	0.05	105.4	0.1	0.0 - 0.3	14	0.15	0.27	181.2	0.1	0.0 - 1.0
All COULTER DxH 500/520	10	0.02	0.04	223.6	0.0	0.0 - 0.2	10	0.24	0.38	157.6	0.1	0.0 - 1.4
All COULTER Instruments	10	0.08	0.04	55.9	0.1	0.0 - 0.3	10	0.06	0.05	91.3	0.1	0.0 - 0.3
Coulter DxH 520	10	0.02	0.04	223.6	0.0	0.0 - 0.2	10	0.24	0.38	157.6	0.1	0.0 - 1.4

	Specimen DIF-13						Specimen DIF-14					
All Method	14	0.05	0.07	141.4	0.0	0.0 - 0.3	14	0.24	0.59	243.9	0.1	0.0 - 2.0
All COULTER DxH 500/520	10	0.04	0.09	223.6	0.0	0.0 - 0.4	10	0.40	0.84	209.9	0.0	0.0 - 3.0
All COULTER Instruments	10	0.06	0.05	91.3	0.1	0.0 - 0.3	10	0.08	0.04	55.9	0.1	0.0 - 0.3
Coulter DxH 520	10	0.04	0.09	223.6	0.0	0.0 - 0.4	10	0.40	0.84	209.9	0.0	0.0 - 3.0

	Specimen DIF-15					
All Method	14	0.05	0.07	141.4	0.0	0.0 - 0.3
All COULTER DxH 500/520	10	0.00	0.01	0.0	0.0	0.0 - 0.1
All COULTER Instruments	10	0.10	0.07	70.7	0.1	0.0 - 0.4
Coulter DxH 520	10	0.00	0.01	0.0	0.0	0.0 - 0.1

BLOOD LEAD (µg/dL)

	Specimen LED-5						Specimen LED-6					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	18	21.23	1.84	8.7	21.9	17.2 - 25.3	19	5.12	1.25	24.4	5.0	1.1 - 9.2
All Magellan Diagnostics Methods	18	21.23	1.84	8.7	21.9	17.2 - 25.3	19	5.12	1.25	24.4	5.0	1.1 - 9.2
Magellan Diagnostics LeadCare II	18	21.23	1.84	8.7	21.9	17.2 - 25.3	19	5.12	1.25	24.4	5.0	1.1 - 9.2

RETICULOCYTE COUNT (percent)

	Specimen RT-5						Specimen RT-6					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	21	2.39	0.30	12.7	2.4	1.6 - 3.2	21	5.56	0.97	17.4	5.5	3.6 - 7.6
All Automated Methods	17	2.41	0.24	9.9	2.4	1.6 - 3.2	17	5.35	0.76	14.2	5.0	3.7 - 7.0
Sysmex XN-1000	14	2.43	0.25	10.3	2.5	1.7 - 3.2	14	5.34	0.67	12.6	5.1	3.7 - 7.0

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	89	24.08	0.63	2.6	24.1	20.4 - 27.7	86	3.84	0.10	2.6	3.8	3.2 - 4.5
All ABX Instruments	85	24.12	0.59	2.4	24.1	20.5 - 27.8	85	3.84	0.10	2.5	3.8	3.2 - 4.5
All COULTER Instruments	5	23.73	1.07	4.5	24.3	20.1 - 27.3	5	3.73	0.12	3.1	3.8	3.1 - 4.3
ABX Pentra 60C+	74	24.19	0.57	2.3	24.2	20.5 - 27.9	75	3.84	0.10	2.5	3.8	3.2 - 4.5
ABX Pentra 80 / XL 80	10	23.58	0.45	1.9	23.7	20.0 - 27.2	10	3.93	0.23	5.9	3.9	3.3 - 4.6
COULTER AcT 5diff	5	23.73	1.07	4.5	24.3	20.1 - 27.3	5	3.73	0.12	3.1	3.8	3.1 - 4.3
	Specimen BCX-13						**Specimen BCX-14**					
All Method	87	17.12	0.55	3.2	17.2	14.5 - 19.7	87	4.78	0.11	2.2	4.8	4.0 - 5.5
All ABX Instruments	85	17.14	0.53	3.1	17.2	14.5 - 19.8	84	4.78	0.10	2.2	4.8	4.0 - 5.6
All COULTER Instruments	5	15.33	2.01	13.1	15.6	13.0 - 17.7	5	4.70	0.17	3.7	4.8	3.9 - 5.5
ABX Pentra 60C+	74	17.18	0.52	3.0	17.2	14.6 - 19.8	75	4.78	0.10	2.1	4.8	4.0 - 5.5
ABX Pentra 80 / XL 80	10	16.74	1.04	6.2	17.1	14.2 - 19.3	10	4.82	0.11	2.4	4.9	4.0 - 5.6
COULTER AcT 5diff	5	15.33	2.01	13.1	15.6	13.0 - 17.7	5	4.70	0.17	3.7	4.8	3.9 - 5.5
	Specimen BCX-15											
All Method	87	9.27	0.27	2.9	9.3	7.8 - 10.7						
All ABX Instruments	85	9.28	0.26	2.8	9.3	7.8 - 10.7						
All COULTER Instruments	5	8.70	0.66	7.5	8.6	7.3 - 10.1						
ABX Pentra 60C+	74	9.27	0.27	2.9	9.3	7.8 - 10.7						
ABX Pentra 80 / XL 80	10	9.31	0.19	2.0	9.3	7.9 - 10.8						
COULTER AcT 5diff	5	8.70	0.66	7.5	8.6	7.3 - 10.1						

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	89	4.870	0.069	1.4	4.87	4.57 - 5.17	90	3.926	0.058	1.5	3.92	3.69 - 4.17
All ABX Instruments	86	4.871	0.069	1.4	4.87	4.57 - 5.17	87	3.927	0.059	1.5	3.92	3.69 - 4.17
All COULTER Instruments	5	4.833	0.071	1.5	4.82	4.54 - 5.13	5	3.897	0.047	1.2	3.88	3.66 - 4.14
ABX Pentra 60C+	75	4.867	0.069	1.4	4.87	4.57 - 5.16	76	3.927	0.059	1.5	3.92	3.69 - 4.17
ABX Pentra 80 / XL 80	10	4.900	0.071	1.4	4.91	4.60 - 5.20	10	3.933	0.061	1.5	3.92	3.69 - 4.17
COULTER AcT 5diff	5	4.833	0.071	1.5	4.82	4.54 - 5.13	5	3.897	0.047	1.2	3.88	3.66 - 4.14

	Specimen BCX-13						Specimen BCX-14					
All Method	90	4.178	0.058	1.4	4.17	3.92 - 4.43	89	4.852	0.068	1.4	4.84	4.56 - 5.15
All ABX Instruments	87	4.179	0.058	1.4	4.17	3.92 - 4.44	86	4.855	0.066	1.4	4.85	4.56 - 5.15
All COULTER Instruments	5	4.127	0.031	0.7	4.12	3.87 - 4.38	5	4.770	0.069	1.5	4.81	4.48 - 5.06
ABX Pentra 60C+	76	4.181	0.058	1.4	4.18	3.93 - 4.44	75	4.852	0.066	1.4	4.84	4.56 - 5.15
ABX Pentra 80 / XL 80	10	4.165	0.055	1.3	4.17	3.91 - 4.42	10	4.879	0.075	1.5	4.87	4.58 - 5.18
COULTER AcT 5diff	5	4.127	0.031	0.7	4.12	3.87 - 4.38	5	4.770	0.069	1.5	4.81	4.48 - 5.06

	Specimen BCX-15					
All Method	88	6.234	0.079	1.3	6.23	5.86 - 6.61
All ABX Instruments	85	6.236	0.078	1.3	6.23	5.86 - 6.62
All COULTER Instruments	5	6.170	0.089	1.4	6.14	5.79 - 6.55
ABX Pentra 60C+	75	6.229	0.075	1.2	6.22	5.85 - 6.61
ABX Pentra 80 / XL 80	10	6.314	0.101	1.6	6.32	5.93 - 6.70
COULTER AcT 5diff	5	6.170	0.089	1.4	6.14	5.79 - 6.55

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	90	14.50	0.19	1.3	14.5	13.4 - 15.6	88	9.96	0.11	1.1	10.0	9.2 - 10.7
All ABX Instruments	87	14.51	0.19	1.3	14.5	13.4 - 15.6	85	9.96	0.11	1.1	10.0	9.2 - 10.7
All COULTER Instruments	5	14.33	0.06	0.4	14.3	13.3 - 15.4	5	9.97	0.06	0.6	10.0	9.2 - 10.7
ABX Pentra 60C+	76	14.50	0.19	1.3	14.5	13.4 - 15.6	74	9.96	0.11	1.1	10.0	9.2 - 10.7
ABX Pentra 80 / XL 80	10	14.56	0.17	1.2	14.5	13.5 - 15.6	10	9.95	0.08	0.9	9.9	9.2 - 10.7
COULTER AcT 5diff	5	14.33	0.06	0.4	14.3	13.3 - 15.4	5	9.97	0.06	0.6	10.0	9.2 - 10.7
	Specimen BCX-13						**Specimen BCX-14**					
All Method	90	10.66	0.11	1.1	10.7	9.9 - 11.5	90	14.54	0.17	1.2	14.5	13.5 - 15.6
All ABX Instruments	87	10.66	0.11	1.1	10.7	9.9 - 11.5	87	14.54	0.17	1.2	14.5	13.5 - 15.6
All COULTER Instruments	5	10.63	0.15	1.4	10.6	9.8 - 11.4	5	14.40	0.20	1.4	14.4	13.3 - 15.5
ABX Pentra 60C+	76	10.67	0.11	1.1	10.7	9.9 - 11.5	76	14.54	0.18	1.2	14.5	13.5 - 15.6
ABX Pentra 80 / XL 80	10	10.65	0.10	0.9	10.6	9.9 - 11.4	10	14.58	0.10	0.7	14.6	13.5 - 15.7
COULTER AcT 5diff	5	10.63	0.15	1.4	10.6	9.8 - 11.4	5	14.40	0.20	1.4	14.4	13.3 - 15.5
	Specimen BCX-15											
All Method	89	18.91	0.23	1.2	18.9	17.5 - 20.3						
All ABX Instruments	86	18.93	0.22	1.1	18.9	17.6 - 20.3						
All COULTER Instruments	5	18.53	0.15	0.8	18.5	17.2 - 19.9						
ABX Pentra 60C+	75	18.93	0.22	1.2	18.9	17.6 - 20.3						
ABX Pentra 80 / XL 80	10	18.97	0.14	0.7	19.0	17.6 - 20.3						
COULTER AcT 5diff	5	18.53	0.15	0.8	18.5	17.2 - 19.9						

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	90	41.83	0.72	1.7	41.8	39.3 - 44.4	90	29.19	0.52	1.8	29.2	27.4 - 31.0
All ABX Instruments	87	41.86	0.72	1.7	41.9	39.3 - 44.4	87	29.20	0.52	1.8	29.2	27.4 - 31.0
All COULTER Instruments	5	41.10	0.61	1.5	40.8	38.6 - 43.6	5	28.87	0.35	1.2	28.9	27.1 - 30.6
ABX Pentra 60C+	76	41.84	0.73	1.7	41.8	39.3 - 44.4	76	29.16	0.51	1.8	29.1	27.4 - 31.0
ABX Pentra 80 / XL 80	10	42.05	0.65	1.5	42.0	39.5 - 44.6	10	29.60	0.42	1.4	29.4	27.8 - 31.4
COULTER AcT 5diff	5	41.10	0.61	1.5	40.8	38.6 - 43.6	5	28.87	0.35	1.2	28.9	27.1 - 30.6

	Specimen BCX-13						Specimen BCX-14					
All Method	89	31.41	0.51	1.6	31.4	29.5 - 33.3	89	41.61	0.67	1.6	41.6	39.1 - 44.2
All ABX Instruments	86	31.42	0.51	1.6	31.5	29.5 - 33.4	86	41.63	0.67	1.6	41.6	39.1 - 44.2
All COULTER Instruments	5	31.03	0.58	1.9	30.7	29.1 - 32.9	5	41.03	0.38	0.9	41.2	38.5 - 43.5
ABX Pentra 60C+	75	31.39	0.52	1.7	31.4	29.5 - 33.3	75	41.61	0.68	1.6	41.6	39.1 - 44.2
ABX Pentra 80 / XL 80	10	31.66	0.33	1.0	31.7	29.7 - 33.6	10	41.81	0.64	1.5	41.7	39.3 - 44.4
COULTER AcT 5diff	5	31.03	0.58	1.9	30.7	29.1 - 32.9	5	41.03	0.38	0.9	41.2	38.5 - 43.5

	Specimen BCX-15					
All Method	89	53.95	0.84	1.6	54.0	50.7 - 57.2
All ABX Instruments	86	54.00	0.82	1.5	54.0	50.7 - 57.3
All COULTER Instruments	5	52.70	0.75	1.4	52.8	49.5 - 55.9
ABX Pentra 60C+	75	54.01	0.84	1.6	54.0	50.7 - 57.3
ABX Pentra 80 / XL 80	10	53.79	0.63	1.2	53.8	50.5 - 57.1
COULTER AcT 5diff	5	52.70	0.75	1.4	52.8	49.5 - 55.9

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	90	491.4	15.2	3.1	492	368 - 615	90	113.6	6.1	5.4	114	85 - 142
All ABX Instruments	87	491.3	15.1	3.1	492	368 - 615	87	113.4	6.1	5.3	114	85 - 142
All COULTER Instruments	5	493.7	22.1	4.5	484	370 - 618	5	118.7	5.0	4.2	118	89 - 149
ABX Pentra 60C+	76	489.8	14.4	2.9	492	367 - 613	76	113.4	6.1	5.4	114	85 - 142
ABX Pentra 80 / XL 80	10	503.4	16.0	3.2	508	377 - 630	10	113.0	6.2	5.5	114	84 - 142
COULTER AcT 5diff	5	493.7	22.1	4.5	484	370 - 618	5	118.7	5.0	4.2	118	89 - 149
	Specimen BCX-13						**Specimen BCX-14**					
All Method	90	215.0	7.9	3.7	215	161 - 269	90	152.0	6.4	4.2	152	114 - 191
All ABX Instruments	87	214.7	7.9	3.7	215	161 - 269	87	151.8	6.4	4.2	152	113 - 190
All COULTER Instruments	5	222.0	1.7	0.8	223	166 - 278	5	157.3	2.1	1.3	158	117 - 197
ABX Pentra 60C+	76	214.8	8.2	3.8	215	161 - 269	76	151.5	6.5	4.3	152	113 - 190
ABX Pentra 80 / XL 80	10	215.1	4.3	2.0	214	161 - 269	10	154.9	4.7	3.0	156	116 - 194
COULTER AcT 5diff	5	222.0	1.7	0.8	223	166 - 278	5	157.3	2.1	1.3	158	117 - 197
	Specimen BCX-15											
All Method	89	82.1	4.5	5.5	82	61 - 103						
All ABX Instruments	86	81.8	4.4	5.4	81	61 - 103						
All COULTER Instruments	5	88.0	4.6	5.2	87	66 - 110						
ABX Pentra 60C+	75	81.6	4.4	5.4	81	61 - 102						
ABX Pentra 80 / XL 80	10	84.7	3.4	4.0	86	63 - 106						
COULTER AcT 5diff	5	88.0	4.6	5.2	87	66 - 110						

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	90	53.24	3.69	6.9	53.8	42.1 - 64.4	90	61.12	3.66	6.0	61.8	50.1 - 72.2
All ABX Instruments	86	53.48	3.48	6.5	54.2	43.0 - 64.0	87	61.20	3.63	5.9	61.8	50.3 - 72.1
All COULTER Instruments	5	50.10	3.22	6.4	50.5	40.4 - 59.8	5	58.97	4.92	8.3	56.8	44.2 - 73.8
ABX Pentra 60C+	75	54.36	2.52	4.6	54.4	46.8 - 62.0	76	61.66	3.31	5.4	62.0	51.7 - 71.7
ABX Pentra 80 / XL 80	10	46.38	2.83	6.1	46.0	37.8 - 54.9	10	57.92	4.44	7.7	56.9	44.6 - 71.3
COULTER AcT 5diff	5	50.10	3.22	6.4	50.5	40.4 - 59.8	5	58.97	4.92	8.3	56.8	44.2 - 73.8
	Specimen BCX-13						**Specimen BCX-14**					
All Method	88	62.84	3.33	5.3	63.8	52.8 - 72.9	90	47.86	5.98	12.5	47.7	29.9 - 65.9
All ABX Instruments	87	62.90	3.29	5.2	63.8	53.0 - 72.8	87	47.80	5.87	12.3	47.8	30.1 - 65.5
All COULTER Instruments	5	52.77	3.68	7.0	51.0	41.7 - 63.9	5	49.60	10.13	20.4	45.1	19.2 - 80.0
ABX Pentra 60C+	75	63.76	2.44	3.8	64.4	56.4 - 71.1	76	48.59	5.36	11.0	48.5	32.5 - 64.7
ABX Pentra 80 / XL 80	10	57.18	2.59	4.5	57.7	49.4 - 65.0	10	40.78	4.26	10.4	40.1	28.0 - 53.6
COULTER AcT 5diff	5	52.77	3.68	7.0	51.0	41.7 - 63.9	5	49.60	10.13	20.4	45.1	19.2 - 80.0
	Specimen BCX-15											
All Method	90	59.32	5.11	8.6	60.2	43.9 - 74.7						
All ABX Instruments	85	59.94	4.46	7.4	60.9	46.5 - 73.4						
All COULTER Instruments	5	51.23	1.05	2.1	51.2	48.0 - 54.4						
ABX Pentra 60C+	74	60.91	3.58	5.9	61.7	50.1 - 71.7						
ABX Pentra 80 / XL 80	10	52.33	4.33	8.3	52.6	39.3 - 65.4						
COULTER AcT 5diff	5	51.23	1.05	2.1	51.2	48.0 - 54.4						

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	89	41.92	3.72	8.9	41.2	30.7 - 53.1	89	29.97	3.69	12.3	30.1	18.8 - 41.1
All ABX Instruments	86	42.05	3.67	8.7	41.3	31.0 - 53.1	86	30.03	3.68	12.3	30.1	18.9 - 41.1
All COULTER Instruments	5	38.30	4.23	11.0	37.1	25.6 - 51.0	5	28.47	4.57	16.0	28.9	14.7 - 42.2
ABX Pentra 60C+	75	41.11	2.60	6.3	40.7	33.3 - 48.9	75	29.44	3.28	11.1	29.5	19.6 - 39.3
ABX Pentra 80 / XL 80	10	49.59	3.17	6.4	50.1	40.0 - 59.2	10	34.28	4.52	13.2	34.0	20.7 - 47.9
COULTER AcT 5diff	5	38.30	4.23	11.0	37.1	25.6 - 51.0	5	28.47	4.57	16.0	28.9	14.7 - 42.2

	Specimen BCX-13						Specimen BCX-14					
All Method	90	30.67	3.60	11.7	30.1	19.8 - 41.5	90	44.23	6.03	13.6	44.8	26.1 - 62.4
All ABX Instruments	85	30.55	3.12	10.2	30.0	21.1 - 40.0	87	44.43	5.88	13.2	44.9	26.7 - 62.1
All COULTER Instruments	5	27.00	5.73	21.2	28.1	9.8 - 44.2	5	38.43	8.74	22.7	41.4	12.2 - 64.7
ABX Pentra 60C+	75	29.83	2.41	8.1	29.4	22.5 - 37.1	75	43.81	4.98	11.4	44.1	28.8 - 58.8
ABX Pentra 80 / XL 80	10	37.25	2.69	7.2	36.5	29.1 - 45.4	10	51.76	4.72	9.1	51.6	37.6 - 66.0
COULTER AcT 5diff	5	27.00	5.73	21.2	28.1	9.8 - 44.2	5	38.43	8.74	22.7	41.4	12.2 - 64.7

	Specimen BCX-15					
All Method	88	34.24	4.58	13.4	33.5	20.4 - 48.0
All ABX Instruments	85	34.28	4.61	13.5	33.3	20.4 - 48.2
All COULTER Instruments	5	33.00	4.07	12.3	35.2	20.7 - 45.3
ABX Pentra 60C+	75	33.39	3.86	11.6	32.8	21.8 - 45.0
ABX Pentra 80 / XL 80	10	42.78	4.68	11.0	42.7	28.7 - 56.9
COULTER AcT 5diff	5	33.00	4.07	12.3	35.2	20.7 - 45.3

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	89	1.28	0.42	33.2	1.3	0.0 - 2.6	88	0.70	0.43	61.1	0.7	0.0 - 2.0
All ABX Instruments	86	1.26	0.41	32.9	1.3	0.0 - 2.6	85	0.69	0.42	60.8	0.7	0.0 - 2.0
All COULTER Instruments	5	1.77	0.50	28.5	1.7	0.2 - 3.3	5	1.03	0.67	64.4	0.7	0.0 - 3.1
ABX Pentra 60C+	75	1.29	0.41	31.5	1.3	0.0 - 2.6	74	0.65	0.36	55.2	0.7	0.0 - 1.8
ABX Pentra 80 / XL 80	10	1.05	0.46	44.3	1.0	0.0 - 2.5	10	0.87	0.61	69.8	0.7	0.0 - 2.7
COULTER AcT 5diff	5	1.77	0.50	28.5	1.7	0.2 - 3.3	5	1.03	0.67	64.4	0.7	0.0 - 3.1
	Specimen BCX-13						**Specimen BCX-14**					
All Method	88	2.29	0.44	19.1	2.3	0.9 - 3.7	88	1.13	0.61	54.2	1.0	0.0 - 3.0
All ABX Instruments	85	2.30	0.44	19.0	2.3	0.9 - 3.7	85	1.12	0.62	54.9	1.0	0.0 - 3.0
All COULTER Instruments	5	2.23	0.57	25.5	2.4	0.5 - 4.0	5	1.40	0.53	37.8	1.2	0.0 - 3.0
ABX Pentra 60C+	74	2.35	0.43	18.3	2.3	1.0 - 3.7	74	1.16	0.59	51.2	1.1	0.0 - 3.0
ABX Pentra 80 / XL 80	10	1.91	0.31	16.1	2.0	0.9 - 2.9	10	0.93	0.75	80.8	0.7	0.0 - 3.2
COULTER AcT 5diff	5	2.23	0.57	25.5	2.4	0.5 - 4.0	5	1.40	0.53	37.8	1.2	0.0 - 3.0
	Specimen BCX-15											
All Method	90	1.49	0.73	48.7	1.5	0.0 - 3.7						
All ABX Instruments	87	1.46	0.70	48.2	1.4	0.0 - 3.6						
All COULTER Instruments	5	2.43	0.92	38.0	1.9	0.0 - 5.3						
ABX Pentra 60C+	76	1.54	0.70	45.8	1.5	0.0 - 3.7						
ABX Pentra 80 / XL 80	10	0.96	0.49	51.3	0.7	0.0 - 2.5						
COULTER AcT 5diff	5	2.43	0.92	38.0	1.9	0.0 - 5.3						

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

	Specimen BCX-11						Specimen BCX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	90	2.89	0.57	19.8	2.9	1.1 - 4.7	88	7.26	2.34	32.3	7.3	0.2 - 14.3
All ABX Instruments	87	2.87	0.56	19.5	2.9	1.1 - 4.6	85	7.30	2.32	31.8	7.3	0.3 - 14.3
All COULTER Instruments	5	3.67	0.55	15.0	3.7	2.0 - 5.4	5	6.13	3.16	51.5	5.9	0.0 - 15.7
ABX Pentra 60C+	76	2.91	0.56	19.4	2.9	1.2 - 4.6	75	7.54	2.45	32.5	7.4	0.1 - 14.9
ABX Pentra 80 / XL 80	10	2.61	0.45	17.3	2.7	1.2 - 4.0	10	6.42	2.38	37.1	5.7	0.0 - 13.6
COULTER AcT 5diff	5	3.67	0.55	15.0	3.7	2.0 - 5.4	5	6.13	3.16	51.5	5.9	0.0 - 15.7

	Specimen BCX-13						Specimen BCX-14					
All Method	88	3.28	0.63	19.1	3.3	1.4 - 5.2	86	6.01	1.47	24.4	5.9	1.6 - 10.5
All ABX Instruments	85	3.27	0.62	18.9	3.3	1.4 - 5.2	84	6.05	1.56	25.8	5.9	1.3 - 10.8
All COULTER Instruments	5	3.67	0.91	24.7	3.3	0.9 - 6.4	5	6.37	1.01	15.9	6.9	3.3 - 9.5
ABX Pentra 60C+	75	3.33	0.68	20.4	3.3	1.2 - 5.4	75	6.05	1.52	25.1	6.0	1.4 - 10.7
ABX Pentra 80 / XL 80	10	2.99	0.34	11.3	3.0	1.9 - 4.1	10	6.06	1.99	32.8	5.5	0.1 - 12.1
COULTER AcT 5diff	5	3.67	0.91	24.7	3.3	0.9 - 6.4	5	6.37	1.01	15.9	6.9	3.3 - 9.5

	Specimen BCX-15					
All Method	88	3.95	0.99	25.0	3.9	0.9 - 7.0
All ABX Instruments	87	3.98	1.04	26.2	3.9	0.8 - 7.2
All COULTER Instruments	5	5.33	2.15	40.3	4.8	0.0 - 11.8
ABX Pentra 60C+	76	4.02	1.08	26.9	3.9	0.7 - 7.3
ABX Pentra 80 / XL 80	10	3.63	0.68	18.7	3.8	1.5 - 5.7
COULTER AcT 5diff	5	5.33	2.15	40.3	4.8	0.0 - 11.8

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	87	0.30	0.01	0.0	0.3	0.2 - 0.4	87	0.28	0.04	13.8	0.3	0.1 - 0.4
All ABX Instruments	87	0.30	0.01	0.0	0.3	0.2 - 0.4	87	0.28	0.04	13.8	0.3	0.1 - 0.4
All COULTER Instruments	5	6.17	0.25	4.1	6.2	5.4 - 7.0	5	5.40	0.26	4.9	5.5	4.6 - 6.2
ABX Pentra 60C+	76	0.30	0.01	0.0	0.3	0.2 - 0.4	76	0.28	0.04	14.3	0.3	0.1 - 0.5
ABX Pentra 80 / XL 80	10	0.30	0.01	0.0	0.3	0.2 - 0.4	10	0.29	0.03	10.9	0.3	0.1 - 0.4
COULTER AcT 5diff	5	6.17	0.25	4.1	6.2	5.4 - 7.0	5	5.40	0.26	4.9	5.5	4.6 - 6.2

	Specimen BCX-13						Specimen BCX-14					
All Method	85	0.63	0.04	7.1	0.6	0.4 - 0.8	87	0.20	0.01	0.0	0.2	0.1 - 0.3
All ABX Instruments	85	0.63	0.04	7.1	0.6	0.4 - 0.8	87	0.20	0.01	0.0	0.2	0.1 - 0.3
All COULTER Instruments	5	14.33	1.46	10.2	14.8	9.9 - 18.8	5	4.20	0.36	8.6	4.3	3.1 - 5.3
ABX Pentra 60C+	74	0.63	0.05	7.2	0.6	0.4 - 0.8	76	0.20	0.01	0.0	0.2	0.1 - 0.3
ABX Pentra 80 / XL 80	10	0.61	0.03	5.2	0.6	0.5 - 0.8	10	0.20	0.01	0.0	0.2	0.1 - 0.3
COULTER AcT 5diff	5	14.33	1.46	10.2	14.8	9.9 - 18.8	5	4.20	0.36	8.6	4.3	3.1 - 5.3

	Specimen BCX-15					
All Method	81	0.30	0.01	0.0	0.3	0.2 - 0.4
All ABX Instruments	81	0.30	0.01	0.0	0.3	0.2 - 0.4
All COULTER Instruments	5	8.00	2.17	27.1	9.2	1.5 - 14.5
ABX Pentra 60C+	70	0.30	0.01	0.0	0.3	0.2 - 0.4
ABX Pentra 80 / XL 80	10	0.30	0.01	0.0	0.3	0.2 - 0.4
COULTER AcT 5diff	5	8.00	2.17	27.1	9.2	1.5 - 14.5

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

Specimen MX-11

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	119	7.03	0.39	5.6	6.9	5.9 - 8.1
All Sysmex XN/XS Instruments	118	7.02	0.39	5.5	6.9	5.9 - 8.1
Sysmex XN-1000	19	7.61	0.10	1.3	7.6	6.4 - 8.8
Sysmex XN-330	5	6.75	0.13	1.9	6.8	5.7 - 7.8
Sysmex XN-430	34	6.84	0.20	2.9	6.9	5.8 - 7.9
Sysmex XN-450	10	6.80	0.15	2.2	6.8	5.7 - 7.9
Sysmex XN-550	19	6.80	0.13	2.0	6.8	5.7 - 7.9
Sysmex XS-1000i	28	7.06	0.42	5.9	6.9	6.0 - 8.2

Specimen MX-12

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	120	20.27	0.44	2.2	20.3	17.2 - 23.4
All Sysmex XN/XS Instruments	119	20.26	0.44	2.2	20.2	17.2 - 23.4
Sysmex XN-1000	19	20.62	0.38	1.8	20.6	17.5 - 23.8
Sysmex XN-330	5	19.90	0.22	1.1	19.9	16.9 - 22.9
Sysmex XN-430	35	20.21	0.44	2.2	20.2	17.1 - 23.3
Sysmex XN-450	10	20.14	0.42	2.1	20.2	17.1 - 23.2
Sysmex XN-550	19	19.99	0.27	1.3	20.0	16.9 - 23.0
Sysmex XS-1000i	29	20.33	0.42	2.1	20.3	17.2 - 23.4

Specimen MX-13

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	120	3.53	0.38	10.7	3.3	3.0 - 4.1
All Sysmex XN/XS Instruments	119	3.53	0.38	10.8	3.3	2.9 - 4.1
Sysmex XN-1000	19	3.89	0.08	2.2	3.9	3.3 - 4.5
Sysmex XN-330	5	3.18	0.10	3.0	3.2	2.6 - 3.7
Sysmex XN-430	34	3.24	0.12	3.7	3.2	2.7 - 3.8
Sysmex XN-450	10	3.22	0.06	2.0	3.2	2.7 - 3.8
Sysmex XN-550	19	3.17	0.07	2.4	3.2	2.6 - 3.7
Sysmex XS-1000i	29	3.99	0.10	2.6	4.0	3.3 - 4.6

Specimen MX-14

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	120	20.23	0.41	2.0	20.2	17.1 - 23.3
All Sysmex XN/XS Instruments	119	20.23	0.41	2.0	20.2	17.1 - 23.3
Sysmex XN-1000	19	20.58	0.27	1.3	20.6	17.4 - 23.7
Sysmex XN-330	5	19.70	0.29	1.5	19.7	16.7 - 22.7
Sysmex XN-430	35	20.23	0.44	2.2	20.2	17.1 - 23.3
Sysmex XN-450	10	20.20	0.20	1.0	20.2	17.1 - 23.3
Sysmex XN-550	19	19.95	0.31	1.6	20.0	16.9 - 23.0
Sysmex XS-1000i	29	20.24	0.37	1.9	20.2	17.2 - 23.3

Specimen MX-15

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	120	3.52	0.39	10.9	3.3	2.9 - 4.1
All Sysmex XN/XS Instruments	119	3.52	0.38	10.9	3.3	2.9 - 4.1
Sysmex XN-1000	19	3.88	0.08	2.0	3.9	3.2 - 4.5
Sysmex XN-330	5	3.10	0.08	2.6	3.1	2.6 - 3.6
Sysmex XN-430	34	3.23	0.15	4.6	3.2	2.7 - 3.8
Sysmex XN-450	10	3.19	0.07	2.3	3.2	2.7 - 3.7
Sysmex XN-550	19	3.18	0.09	2.7	3.2	2.7 - 3.7
Sysmex XS-1000i	29	3.98	0.10	2.4	4.0	3.3 - 4.6

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	117	4.649	0.048	1.0	4.65	4.37 - 4.93	118	5.653	0.052	0.9	5.66	5.31 - 6.00
All Sysmex XN/XS Instruments	116	4.649	0.048	1.0	4.65	4.36 - 4.93	117	5.653	0.052	0.9	5.66	5.31 - 6.00
Sysmex XN-1000	19	4.664	0.051	1.1	4.67	4.38 - 4.95	19	5.681	0.080	1.4	5.68	5.34 - 6.03
Sysmex XN-330	5	4.560	0.115	2.5	4.58	4.28 - 4.84	5	5.660	0.061	1.1	5.64	5.32 - 6.00
Sysmex XN-430	35	4.655	0.044	0.9	4.64	4.37 - 4.94	35	5.667	0.042	0.7	5.67	5.32 - 6.01
Sysmex XN-450	10	4.611	0.033	0.7	4.61	4.33 - 4.89	10	5.656	0.036	0.6	5.66	5.31 - 6.00
Sysmex XN-550	19	4.646	0.039	0.8	4.65	4.36 - 4.93	19	5.661	0.038	0.7	5.66	5.32 - 6.01
Sysmex XS-1000i	29	4.641	0.067	1.4	4.65	4.36 - 4.92	29	5.615	0.064	1.1	5.62	5.27 - 5.96
	Specimen MX-13						**Specimen MX-14**					
All Method	118	2.529	0.037	1.5	2.52	2.37 - 2.69	118	5.652	0.053	0.9	5.66	5.31 - 6.00
All Sysmex XN/XS Instruments	117	2.529	0.037	1.4	2.52	2.37 - 2.69	117	5.652	0.052	0.9	5.66	5.31 - 6.00
Sysmex XN-1000	18	2.547	0.028	1.1	2.55	2.39 - 2.70	19	5.655	0.063	1.1	5.66	5.31 - 6.00
Sysmex XN-330	5	2.485	0.054	2.2	2.50	2.33 - 2.64	5	5.668	0.062	1.1	5.67	5.32 - 6.01
Sysmex XN-430	35	2.516	0.031	1.2	2.52	2.36 - 2.67	35	5.670	0.054	0.9	5.68	5.33 - 6.02
Sysmex XN-450	10	2.506	0.024	0.9	2.51	2.35 - 2.66	10	5.643	0.047	0.8	5.64	5.30 - 5.99
Sysmex XN-550	19	2.512	0.017	0.7	2.51	2.36 - 2.67	19	5.654	0.035	0.6	5.65	5.31 - 6.00
Sysmex XS-1000i	29	2.554	0.045	1.7	2.57	2.40 - 2.71	29	5.629	0.059	1.1	5.64	5.29 - 5.97

	Specimen MX-15					
All Method	119	2.526	0.035	1.4	2.53	2.37 - 2.68
All Sysmex XN/XS Instruments	118	2.525	0.034	1.4	2.53	2.37 - 2.68
Sysmex XN-1000	18	2.544	0.029	1.1	2.55	2.39 - 2.70
Sysmex XN-330	5	2.488	0.029	1.2	2.48	2.33 - 2.64
Sysmex XN-430	35	2.520	0.033	1.3	2.51	2.36 - 2.68
Sysmex XN-450	10	2.508	0.016	0.6	2.51	2.35 - 2.66
Sysmex XN-550	19	2.511	0.023	0.9	2.52	2.36 - 2.67
Sysmex XS-1000i	29	2.543	0.037	1.5	2.55	2.39 - 2.70

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

Specimen MX-11

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	116	13.28	0.11	0.8	13.3	12.3 - 14.3
All Sysmex XN/XS Instruments	115	13.28	0.11	0.8	13.3	12.3 - 14.3
Sysmex XN-1000	19	13.31	0.12	0.9	13.3	12.3 - 14.3
Sysmex XN-330	5	13.13	0.24	1.8	13.2	12.2 - 14.1
Sysmex XN-430	35	13.27	0.10	0.7	13.3	12.3 - 14.3
Sysmex XN-450	10	13.17	0.15	1.1	13.1	12.2 - 14.1
Sysmex XN-550	19	13.31	0.09	0.7	13.3	12.3 - 14.3
Sysmex XS-1000i	28	13.27	0.14	1.0	13.3	12.3 - 14.3

Specimen MX-12

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	117	17.67	0.15	0.8	17.7	16.4 - 19.0
All Sysmex XN/XS Instruments	116	17.67	0.15	0.8	17.7	16.4 - 19.0
Sysmex XN-1000	18	17.71	0.17	1.0	17.8	16.4 - 19.0
Sysmex XN-330	5	17.65	0.10	0.6	17.7	16.4 - 18.9
Sysmex XN-430	35	17.66	0.12	0.7	17.7	16.4 - 18.9
Sysmex XN-450	10	17.54	0.12	0.7	17.5	16.3 - 18.8
Sysmex XN-550	19	17.65	0.12	0.7	17.7	16.4 - 18.9
Sysmex XS-1000i	29	17.73	0.22	1.2	17.7	16.4 - 19.0

Specimen MX-13

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	118	5.90	0.07	1.2	5.9	5.4 - 6.4
All Sysmex XN/XS Instruments	117	5.90	0.07	1.2	5.9	5.4 - 6.4
Sysmex XN-1000	18	5.94	0.06	1.0	6.0	5.5 - 6.4
Sysmex XN-330	5	5.85	0.10	1.7	5.9	5.4 - 6.3
Sysmex XN-430	35	5.92	0.07	1.1	5.9	5.5 - 6.4
Sysmex XN-450	10	5.87	0.07	1.1	5.9	5.4 - 6.3
Sysmex XN-550	19	5.91	0.04	0.7	5.9	5.4 - 6.4
Sysmex XS-1000i	29	5.84	0.08	1.4	5.8	5.4 - 6.3

Specimen MX-14

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	120	17.67	0.16	0.9	17.7	16.4 - 19.0
All Sysmex XN/XS Instruments	119	17.67	0.16	0.9	17.7	16.4 - 19.0
Sysmex XN-1000	19	17.68	0.14	0.8	17.7	16.4 - 19.0
Sysmex XN-330	5	17.63	0.17	1.0	17.7	16.3 - 18.9
Sysmex XN-430	35	17.66	0.12	0.7	17.7	16.4 - 18.9
Sysmex XN-450	10	17.55	0.11	0.6	17.6	16.3 - 18.8
Sysmex XN-550	19	17.65	0.14	0.8	17.7	16.4 - 18.9
Sysmex XS-1000i	29	17.73	0.19	1.1	17.8	16.4 - 19.0

Specimen MX-15

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	118	5.90	0.07	1.2	5.9	5.4 - 6.4
All Sysmex XN/XS Instruments	117	5.90	0.07	1.2	5.9	5.4 - 6.4
Sysmex XN-1000	18	5.94	0.09	1.6	5.9	5.5 - 6.4
Sysmex XN-330	5	5.88	0.05	0.9	5.9	5.4 - 6.3
Sysmex XN-430	35	5.92	0.06	1.1	5.9	5.5 - 6.4
Sysmex XN-450	10	5.90	0.07	1.1	5.9	5.4 - 6.4
Sysmex XN-550	19	5.92	0.04	0.6	5.9	5.5 - 6.4
Sysmex XS-1000i	29	5.84	0.07	1.2	5.8	5.4 - 6.3

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	120	39.65	0.69	1.7	39.6	37.2 - 42.1	120	52.80	0.90	1.7	52.8	49.6 - 56.0
All Sysmex XN/XS Instruments	118	39.63	0.66	1.7	39.6	37.2 - 42.1	119	52.80	0.90	1.7	52.8	49.6 - 56.0
Sysmex XN-1000	19	39.62	0.62	1.6	39.5	37.2 - 42.0	19	52.67	1.11	2.1	52.4	49.5 - 55.9
Sysmex XN-330	5	38.93	0.76	2.0	39.1	36.5 - 41.3	5	52.65	0.31	0.6	52.7	49.4 - 55.9
Sysmex XN-430	35	39.63	0.59	1.5	39.6	37.2 - 42.1	35	52.66	0.72	1.4	52.6	49.5 - 55.9
Sysmex XN-450	10	39.26	0.58	1.5	39.3	36.9 - 41.7	10	52.48	0.67	1.3	52.4	49.3 - 55.7
Sysmex XN-550	19	39.52	0.61	1.5	39.5	37.1 - 41.9	19	52.61	0.69	1.3	52.7	49.4 - 55.8
Sysmex XS-1000i	29	40.00	0.78	1.9	40.2	37.6 - 42.5	27	53.59	0.60	1.1	53.5	50.3 - 56.9

	Specimen MX-13						Specimen MX-14					
All Method	118	18.05	0.38	2.1	18.0	16.9 - 19.2	119	52.79	0.88	1.7	52.9	49.6 - 56.0
All Sysmex XN/XS Instruments	117	18.04	0.37	2.1	18.0	16.9 - 19.2	118	52.78	0.87	1.7	52.9	49.6 - 56.0
Sysmex XN-1000	18	17.99	0.25	1.4	18.0	16.9 - 19.1	19	52.46	0.86	1.6	52.5	49.3 - 55.7
Sysmex XN-330	5	17.73	0.25	1.4	17.8	16.6 - 18.8	5	53.85	2.30	4.3	52.8	50.6 - 57.1
Sysmex XN-430	35	17.94	0.29	1.6	17.9	16.8 - 19.1	35	52.73	0.75	1.4	52.7	49.5 - 55.9
Sysmex XN-450	10	17.88	0.32	1.8	17.9	16.8 - 19.0	10	52.43	0.80	1.5	52.5	49.2 - 55.6
Sysmex XN-550	19	17.88	0.27	1.5	17.9	16.8 - 19.0	19	52.54	0.67	1.3	52.7	49.3 - 55.7
Sysmex XS-1000i	28	18.43	0.38	2.1	18.5	17.3 - 19.6	27	53.60	0.56	1.0	53.5	50.3 - 56.9

	Specimen MX-15					
All Method	120	18.08	0.38	2.1	18.0	16.9 - 19.2
All Sysmex XN/XS Instruments	119	18.08	0.37	2.0	18.0	16.9 - 19.2
Sysmex XN-1000	19	18.09	0.34	1.9	18.0	17.0 - 19.2
Sysmex XN-330	5	17.80	0.12	0.6	17.8	16.7 - 18.9
Sysmex XN-430	35	17.98	0.30	1.7	18.0	16.8 - 19.1
Sysmex XN-450	10	17.91	0.21	1.2	17.9	16.8 - 19.0
Sysmex XN-550	19	17.91	0.28	1.6	17.9	16.8 - 19.0
Sysmex XS-1000i	29	18.41	0.36	1.9	18.5	17.3 - 19.6

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

Specimen MX-11

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	118	199.8	6.3	3.1	200	149 - 250
All Sysmex XN/XS Instruments	117	199.8	6.3	3.1	200	149 - 250
Sysmex XN-1000	19	201.3	5.8	2.9	201	150 - 252
Sysmex XN-330	5	198.8	12.4	6.2	202	149 - 249
Sysmex XN-430	35	200.5	6.5	3.3	201	150 - 251
Sysmex XN-450	10	199.1	13.6	6.9	203	149 - 249
Sysmex XN-550	18	200.0	6.1	3.1	202	150 - 250
Sysmex XS-1000i	29	197.5	4.6	2.3	197	148 - 247

Specimen MX-12

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	118	412.2	15.5	3.8	415	309 - 516
All Sysmex XN/XS Instruments	117	412.2	15.6	3.8	415	309 - 516
Sysmex XN-1000	19	420.6	8.5	2.0	422	315 - 526
Sysmex XN-330	5	415.8	10.3	2.5	415	311 - 520
Sysmex XN-430	34	416.6	11.5	2.8	417	312 - 521
Sysmex XN-450	10	421.6	24.7	5.9	427	316 - 527
Sysmex XN-550	18	415.4	9.5	2.3	417	311 - 520
Sysmex XS-1000i	29	394.3	11.7	3.0	393	295 - 493

Specimen MX-13

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	119	50.6	3.8	7.5	51	37 - 64
All Sysmex XN/XS Instruments	118	50.6	3.7	7.3	51	37 - 64
Sysmex XN-1000	19	48.5	3.7	7.7	48	36 - 61
Sysmex XN-330	5	49.8	1.9	3.8	51	37 - 63
Sysmex XN-430	35	49.5	2.8	5.7	49	37 - 62
Sysmex XN-450	10	49.8	4.7	9.4	49	37 - 63
Sysmex XN-550	19	50.2	2.9	5.8	50	37 - 63
Sysmex XS-1000i	28	54.1	2.5	4.7	55	40 - 68

Specimen MX-14

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	119	413.3	16.7	4.0	415	309 - 517
All Sysmex XN/XS Instruments	118	413.1	16.6	4.0	415	309 - 517
Sysmex XN-1000	19	420.7	12.4	2.9	418	315 - 526
Sysmex XN-330	5	421.3	12.6	3.0	425	315 - 527
Sysmex XN-430	35	416.0	16.4	4.0	416	311 - 520
Sysmex XN-450	10	417.6	20.9	5.0	423	313 - 522
Sysmex XN-550	18	419.8	8.1	1.9	422	314 - 525
Sysmex XS-1000i	29	396.6	11.3	2.8	397	297 - 496

Specimen MX-15

Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	120	50.6	4.2	8.3	50	37 - 64
All Sysmex XN/XS Instruments	119	50.5	4.1	8.2	50	37 - 64
Sysmex XN-1000	19	48.2	2.9	6.1	48	36 - 61
Sysmex XN-330	5	52.3	4.5	8.6	54	39 - 66
Sysmex XN-430	35	49.7	3.5	7.1	50	37 - 63
Sysmex XN-450	10	49.7	5.9	11.8	49	37 - 63
Sysmex XN-550	19	49.9	3.3	6.6	50	37 - 63
Sysmex XS-1000i	29	53.7	3.6	6.7	54	40 - 68

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

	Specimen MX-11						Specimen MX-12					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	113	49.28	1.59	3.2	49.0	44.5 - 54.1	113	56.05	1.89	3.4	55.5	50.3 - 61.8
All Sysmex XN/XS Instruments	113	49.28	1.59	3.2	49.0	44.5 - 54.1	112	56.00	1.83	3.3	55.5	50.5 - 61.5
Sysmex XN-1000	17	52.04	0.65	1.2	51.9	50.0 - 54.0	17	59.41	0.84	1.4	59.0	56.8 - 62.0
Sysmex XN-330	5	48.88	0.55	1.1	48.8	47.2 - 50.6	5	54.58	0.46	0.9	54.7	53.1 - 56.0
Sysmex XN-430	34	48.76	0.86	1.8	48.7	46.1 - 51.4	34	55.27	0.76	1.4	55.3	52.9 - 57.6
Sysmex XN-450	10	49.04	0.96	2.0	49.0	46.1 - 52.0	10	55.86	1.20	2.2	56.0	52.2 - 59.5
Sysmex XN-550	19	48.97	1.23	2.5	49.0	45.2 - 52.7	19	55.86	1.54	2.8	55.9	51.2 - 60.5
Sysmex XS-1000i	27	48.49	1.36	2.8	48.1	44.4 - 52.6	27	55.12	1.22	2.2	55.0	51.4 - 58.8

	Specimen MX-13						Specimen MX-14					
All Method	113	59.01	1.86	3.1	58.7	53.4 - 64.6	114	56.26	1.82	3.2	55.8	50.8 - 61.8
All Sysmex XN/XS Instruments	113	59.01	1.86	3.1	58.7	53.4 - 64.6	113	56.22	1.75	3.1	55.8	50.9 - 61.5
Sysmex XN-1000	17	61.65	0.98	1.6	61.7	58.7 - 64.7	17	59.41	0.80	1.4	59.7	57.0 - 61.9
Sysmex XN-330	5	58.55	1.42	2.4	59.0	54.2 - 62.9	5	56.08	0.50	0.9	56.1	54.5 - 57.6
Sysmex XN-430	34	57.88	1.32	2.3	58.0	53.9 - 61.9	34	55.53	0.85	1.5	55.3	52.9 - 58.1
Sysmex XN-450	10	58.03	0.90	1.6	57.8	55.3 - 60.8	10	55.46	0.97	1.8	55.2	52.5 - 58.4
Sysmex XN-550	19	58.03	1.31	2.3	57.7	54.1 - 62.0	18	56.19	0.81	1.4	56.1	53.7 - 58.7
Sysmex XS-1000i	27	59.86	1.37	2.3	60.2	55.7 - 64.0	27	55.19	1.13	2.0	55.0	51.8 - 58.6

	Specimen MX-15					
All Method	114	59.00	2.00	3.4	58.6	52.9 - 65.1
All Sysmex XN/XS Instruments	113	58.95	1.94	3.3	58.5	53.1 - 64.8
Sysmex XN-1000	17	61.84	0.84	1.4	62.2	59.3 - 64.4
Sysmex XN-330	5	57.65	1.36	2.4	58.0	53.5 - 61.8
Sysmex XN-430	34	57.57	0.99	1.7	57.4	54.6 - 60.6
Sysmex XN-450	10	58.05	0.91	1.6	58.0	55.3 - 60.8
Sysmex XN-550	19	57.92	1.24	2.1	57.9	54.1 - 61.7
Sysmex XS-1000i	27	60.01	1.50	2.5	60.5	55.5 - 64.6

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	112	29.82	1.16	3.9	29.8	26.3 - 33.4	110	20.66	0.78	3.8	20.8	18.3 - 23.0
All Sysmex XN/XS Instruments	111	29.85	1.14	3.8	29.8	26.4 - 33.3	110	20.66	0.78	3.8	20.8	18.3 - 23.0
Sysmex XN-1000	17	28.28	0.45	1.6	28.2	26.9 - 29.7	17	19.53	0.42	2.2	19.5	18.2 - 20.9
Sysmex XN-330	5	30.53	0.26	0.9	30.5	29.7 - 31.4	5	20.83	0.33	1.6	20.8	19.8 - 21.9
Sysmex XN-430	34	29.92	0.75	2.5	29.8	27.6 - 32.2	34	20.80	0.55	2.6	20.7	19.1 - 22.5
Sysmex XN-450	10	29.44	0.69	2.3	29.5	27.3 - 31.6	10	20.60	0.85	4.1	20.8	18.0 - 23.2
Sysmex XN-550	18	30.28	0.89	2.9	30.1	27.6 - 33.0	18	20.66	0.49	2.4	20.7	19.1 - 22.2
Sysmex XS-1000i	27	30.41	1.49	4.9	30.8	25.9 - 34.9	25	21.29	0.55	2.6	21.5	19.6 - 23.0
	Specimen MX-13						**Specimen MX-14**					
All Method	114	16.82	1.59	9.5	17.0	12.0 - 21.6	112	20.64	0.76	3.7	20.8	18.3 - 23.0
All Sysmex XN/XS Instruments	113	16.80	1.58	9.4	17.0	12.0 - 21.6	112	20.64	0.76	3.7	20.8	18.3 - 23.0
Sysmex XN-1000	17	16.88	1.31	7.8	16.4	12.9 - 20.9	17	19.68	0.29	1.5	19.7	18.8 - 20.6
Sysmex XN-330	5	17.75	1.22	6.9	17.8	14.0 - 21.5	5	20.83	0.62	3.0	21.1	18.9 - 22.7
Sysmex XN-430	34	17.59	1.16	6.6	17.8	14.0 - 21.1	34	20.84	0.59	2.8	20.9	19.0 - 22.7
Sysmex XN-450	10	17.90	0.82	4.6	18.0	15.4 - 20.4	10	20.40	0.76	3.7	20.6	18.1 - 22.7
Sysmex XN-550	18	17.48	0.95	5.4	17.4	14.6 - 20.4	18	20.66	0.60	2.9	20.6	18.8 - 22.5
Sysmex XS-1000i	27	14.90	0.98	6.6	15.1	11.9 - 17.9	27	21.09	0.74	3.5	21.0	18.8 - 23.4
	Specimen MX-15											
All Method	114	16.85	1.74	10.3	17.3	11.6 - 22.1						
All Sysmex XN/XS Instruments	113	16.82	1.72	10.2	17.3	11.6 - 22.0						
Sysmex XN-1000	17	16.94	0.73	4.3	16.9	14.7 - 19.2						
Sysmex XN-330	5	17.55	1.01	5.7	17.6	14.5 - 20.6						
Sysmex XN-430	34	17.98	0.80	4.5	17.9	15.5 - 20.4						
Sysmex XN-450	10	17.61	1.28	7.2	17.6	13.7 - 21.5						
Sysmex XN-550	19	17.61	1.09	6.2	18.2	14.3 - 20.9						
Sysmex XS-1000i	27	14.38	1.14	7.9	14.6	10.9 - 17.9						

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	113	0.86	0.48	55.9	0.7	0.0 - 2.3	111	0.66	0.34	51.3	0.5	0.0 - 1.7
All Sysmex XN/XS Instruments	112	0.84	0.46	54.9	0.7	0.0 - 2.3	110	0.66	0.33	50.7	0.5	0.0 - 1.7
Sysmex XN-1000	17	1.79	0.23	13.1	1.8	1.0 - 2.5	17	1.43	0.23	16.0	1.4	0.7 - 2.2
Sysmex XN-330	5	0.58	0.21	35.9	0.6	0.0 - 1.2	5	0.45	0.06	12.8	0.5	0.2 - 0.7
Sysmex XN-350	5	0.55	0.21	38.6	0.6	0.0 - 1.2	5	0.50	0.01	0.0	0.5	0.4 - 0.6
Sysmex XN-430	33	0.62	0.15	24.4	0.6	0.1 - 1.1	31	0.45	0.09	19.5	0.5	0.1 - 0.8
Sysmex XN-450	10	0.67	0.24	35.2	0.6	0.0 - 1.4	10	0.53	0.13	23.6	0.5	0.1 - 1.0
Sysmex XN-550	19	0.59	0.21	35.2	0.6	0.0 - 1.3	18	0.45	0.10	21.9	0.4	0.1 - 0.8
Sysmex XS-1000i	26	0.79	0.18	23.1	0.8	0.2 - 1.4	26	0.72	0.12	17.1	0.7	0.3 - 1.1

	Specimen MX-13						Specimen MX-14					
All Method	112	0.47	0.28	59.6	0.3	0.0 - 1.4	114	0.70	0.39	55.4	0.6	0.0 - 1.9
All Sysmex XN/XS Instruments	111	0.47	0.28	59.8	0.3	0.0 - 1.4	113	0.69	0.38	55.2	0.6	0.0 - 1.9
Sysmex XN-1000	17	1.07	0.31	28.6	1.0	0.1 - 2.0	17	1.44	0.22	15.4	1.5	0.7 - 2.1
Sysmex XN-330	5	0.30	0.01	0.0	0.3	0.2 - 0.4	5	0.45	0.06	12.8	0.5	0.2 - 0.7
Sysmex XN-350	5	0.45	0.21	47.1	0.5	0.0 - 1.1	5	0.40	0.01	0.0	0.4	0.3 - 0.5
Sysmex XN-430	33	0.35	0.14	39.3	0.3	0.0 - 0.8	32	0.47	0.07	15.7	0.5	0.2 - 0.7
Sysmex XN-450	10	0.39	0.14	37.2	0.3	0.0 - 0.9	10	0.55	0.12	21.4	0.6	0.1 - 1.0
Sysmex XN-550	19	0.30	0.14	47.1	0.3	0.0 - 0.8	19	0.47	0.18	39.0	0.4	0.0 - 1.1
Sysmex XS-1000i	27	0.47	0.19	39.9	0.5	0.0 - 1.1	26	0.72	0.15	21.2	0.7	0.2 - 1.2

	Specimen MX-15					
All Method	112	0.49	0.30	60.8	0.3	0.0 - 1.4
All Sysmex XN/XS Instruments	111	0.49	0.30	60.9	0.3	0.0 - 1.4
Sysmex XN-1000	17	1.08	0.22	20.4	1.0	0.4 - 1.8
Sysmex XN-330	5	0.30	0.01	0.0	0.3	0.2 - 0.4
Sysmex XN-350	5	0.30	0.01	0.0	0.3	0.2 - 0.4
Sysmex XN-430	32	0.37	0.13	36.1	0.3	0.0 - 0.8
Sysmex XN-450	10	0.39	0.20	51.9	0.3	0.0 - 1.0
Sysmex XN-550	19	0.33	0.17	51.3	0.3	0.0 - 0.9
Sysmex XS-1000i	27	0.45	0.16	35.2	0.5	0.0 - 1.0

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	114	12.98	0.70	5.4	13.0	10.8 - 15.1	112	14.69	0.70	4.7	14.8	12.6 - 16.8
All Sysmex XN/XS Instruments	113	12.98	0.70	5.4	13.0	10.8 - 15.1	112	14.69	0.70	4.7	14.8	12.6 - 16.8
Sysmex XN-1000	17	13.18	0.57	4.3	13.2	11.4 - 14.9	17	14.90	0.66	4.4	15.2	12.9 - 16.9
Sysmex XN-330	5	12.78	0.65	5.1	12.6	10.8 - 14.8	5	15.65	0.13	0.8	15.7	15.2 - 16.1
Sysmex XN-430	34	13.14	0.61	4.6	13.3	11.3 - 15.0	34	14.82	0.53	3.6	14.8	13.2 - 16.5
Sysmex XN-450	10	13.27	0.65	4.9	13.4	11.3 - 15.3	10	14.50	0.69	4.8	14.5	12.4 - 16.6
Sysmex XN-550	19	12.93	0.79	6.1	13.0	10.5 - 15.3	19	14.89	0.54	3.6	15.0	13.2 - 16.5
Sysmex XS-1000i	27	12.56	0.71	5.7	12.4	10.4 - 14.7	27	14.18	0.75	5.3	14.4	11.9 - 16.5

	Specimen MX-13						Specimen MX-14					
All Method	114	15.39	0.66	4.3	15.5	13.4 - 17.4	114	14.51	0.72	5.0	14.6	12.3 - 16.7
All Sysmex XN/XS Instruments	113	15.39	0.66	4.3	15.5	13.4 - 17.4	113	14.53	0.70	4.8	14.6	12.4 - 16.7
Sysmex XN-1000	17	15.69	0.75	4.8	16.0	13.4 - 18.0	17	14.70	0.61	4.2	14.6	12.8 - 16.6
Sysmex XN-330	5	14.90	0.62	4.1	14.9	13.0 - 16.8	5	14.30	0.39	2.7	14.4	13.1 - 15.5
Sysmex XN-430	34	15.27	0.67	4.4	15.5	13.2 - 17.3	34	14.79	0.66	4.5	14.9	12.7 - 16.8
Sysmex XN-450	10	15.20	0.49	3.2	15.3	13.7 - 16.7	10	14.89	0.61	4.1	14.9	13.0 - 16.8
Sysmex XN-550	19	15.29	0.78	5.1	15.2	12.9 - 17.7	19	14.28	0.58	4.1	14.2	12.5 - 16.1
Sysmex XS-1000i	27	15.56	0.46	2.9	15.6	14.1 - 17.0	27	14.13	0.73	5.2	14.4	11.9 - 16.4

	Specimen MX-15					
All Method	103	15.76	0.69	4.4	15.8	13.6 - 17.9
All Sysmex XN/XS Instruments	102	15.76	0.70	4.4	15.8	13.6 - 17.9
Sysmex XN-1000	15	16.17	0.54	3.4	16.1	14.5 - 17.9
Sysmex XN-330	5	15.05	0.21	1.4	15.1	14.4 - 15.7
Sysmex XN-430	32	15.58	0.70	4.5	15.7	13.4 - 17.7
Sysmex XN-450	9	15.51	0.86	5.6	15.5	12.9 - 18.1
Sysmex XN-550	16	15.56	0.84	5.4	15.6	13.0 - 18.1
Sysmex XS-1000i	26	16.00	0.43	2.7	16.0	14.7 - 17.4

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 Method	68	7.57	0.72	9.5	7.4	5.4 - 9.8	68	8.56	0.70	8.2	8.3	6.4 - 10.7
All Sysmex XN/XS Instruments	113	7.15	1.26	17.6	7.4	3.3 - 11.0	112	8.06	1.55	19.3	8.3	3.4 - 12.8
Sysmex XN-1000	17	4.76	0.21	4.3	4.8	4.1 - 5.4	17	4.78	0.13	2.7	4.8	4.3 - 5.2
Sysmex XN-330	5	7.25	0.88	12.2	7.0	4.6 - 9.9	5	8.50	0.63	7.4	8.6	6.6 - 10.4
Sysmex XN-430	34	7.56	0.66	8.8	7.6	5.5 - 9.6	34	8.63	0.67	7.7	8.5	6.6 - 10.7
Sysmex XN-450	10	7.58	0.74	9.8	7.7	5.3 - 9.9	10	8.51	0.77	9.0	8.6	6.2 - 10.9
Sysmex XN-550	19	7.67	0.83	10.9	7.7	5.1 - 10.2	19	8.53	0.78	9.2	8.3	6.1 - 10.9
Sysmex XS-1000i	27	7.69	0.84	10.9	7.5	5.1 - 10.2	27	8.85	0.82	9.2	8.7	6.4 - 11.3
	Specimen MX-13						**Specimen MX-14**					
All Method	68	8.91	0.68	7.6	8.7	6.8 - 11.0	68	8.47	0.67	7.9	8.3	6.4 - 10.5
All Sysmex XN/XS Instruments	113	8.32	1.72	20.7	8.7	3.1 - 13.5	113	7.96	1.56	19.6	8.3	3.2 - 12.7
Sysmex XN-1000	17	4.75	0.21	4.5	4.7	4.1 - 5.4	17	4.77	0.20	4.2	4.8	4.1 - 5.4
Sysmex XN-330	5	8.50	0.41	4.8	8.4	7.2 - 9.8	5	8.35	0.10	1.2	8.3	8.0 - 8.7
Sysmex XN-430	34	8.91	0.67	7.5	8.9	6.8 - 11.0	34	8.39	0.72	8.6	8.4	6.2 - 10.6
Sysmex XN-450	10	8.48	0.57	6.7	8.6	6.7 - 10.2	10	8.70	0.40	4.6	8.7	7.4 - 10.0
Sysmex XN-550	19	9.19	0.65	7.1	9.2	7.2 - 11.2	19	8.47	0.76	9.0	8.3	6.1 - 10.8
Sysmex XS-1000i	27	9.22	0.97	10.5	8.9	6.3 - 12.2	27	8.83	0.83	9.3	8.6	6.3 - 11.4
	Specimen MX-15											
All Method	68	8.81	0.77	8.7	8.7	6.5 - 11.2						
All Sysmex XN/XS Instruments	113	8.27	1.74	21.0	8.7	3.0 - 13.5						
Sysmex XN-1000	17	4.69	0.23	4.9	4.7	4.0 - 5.4						
Sysmex XN-330	5	8.83	0.46	5.2	8.8	7.4 - 10.2						
Sysmex XN-430	34	8.95	0.79	8.8	9.1	6.5 - 11.4						
Sysmex XN-450	10	8.59	0.74	8.7	8.4	6.3 - 10.9						
Sysmex XN-550	19	8.70	0.80	9.2	8.7	6.2 - 11.2						
Sysmex XS-1000i	27	9.31	0.88	9.4	9.5	6.6 - 12.0						

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	84	13.33	0.76	5.7	13.3	11.0 - 15.7	82	15.00	0.77	5.2	15.1	12.6 - 17.4
All Sysmex XN/XS Instruments	84	13.33	0.76	5.7	13.3	11.0 - 15.7	82	15.00	0.77	5.2	15.1	12.6 - 17.4
Sysmex XN-1000	17	13.14	0.69	5.3	13.0	11.0 - 15.3	16	14.86	0.63	4.2	14.9	12.9 - 16.8
Sysmex XN-330	5	13.68	0.64	4.7	13.8	11.7 - 15.7	5	14.75	0.66	4.5	14.7	12.7 - 16.8
Sysmex XN-430	34	13.33	0.73	5.5	13.4	11.1 - 15.6	34	14.98	0.87	5.8	14.8	12.3 - 17.7
Sysmex XN-450	10	13.28	0.65	4.9	13.2	11.3 - 15.3	10	14.95	0.79	5.3	14.9	12.5 - 17.4
Sysmex XN-550	17	13.38	0.95	7.1	13.6	10.5 - 16.3	17	15.16	0.67	4.4	15.3	13.1 - 17.2

	Specimen MX-13						Specimen MX-14					
All Method	83	15.90	1.06	6.7	15.7	12.7 - 19.1	84	15.20	0.80	5.3	15.2	12.8 - 17.6
All Sysmex XN/XS Instruments	83	15.90	1.06	6.7	15.7	12.7 - 19.1	84	15.20	0.80	5.3	15.2	12.8 - 17.6
Sysmex XN-1000	16	15.92	1.00	6.3	15.8	12.9 - 19.0	17	15.19	0.72	4.7	15.3	13.0 - 17.4
Sysmex XN-330	5	15.30	0.27	1.8	15.2	14.4 - 16.2	5	15.88	0.62	3.9	16.1	14.0 - 17.8
Sysmex XN-430	34	15.87	1.16	7.3	15.7	12.3 - 19.4	34	15.10	0.83	5.5	15.1	12.6 - 17.6
Sysmex XN-450	10	16.05	1.22	7.6	16.4	12.3 - 19.8	10	14.99	0.80	5.4	15.0	12.5 - 17.5
Sysmex XN-550	17	15.91	0.99	6.2	16.0	12.9 - 18.9	17	15.34	0.84	5.5	15.2	12.8 - 17.9

	Specimen MX-15					
All Method	84	15.81	0.88	5.6	15.8	13.1 - 18.5
All Sysmex XN/XS Instruments	84	15.81	0.88	5.6	15.8	13.1 - 18.5
Sysmex XN-1000	17	15.71	0.78	5.0	15.8	13.3 - 18.1
Sysmex XN-330	5	15.68	0.17	1.1	15.7	15.1 - 16.2
Sysmex XN-430	34	15.66	1.00	6.4	15.3	12.6 - 18.7
Sysmex XN-450	10	16.07	0.89	5.5	15.9	13.4 - 18.8
Sysmex XN-550	17	16.14	0.80	5.0	16.0	13.7 - 18.6

2020 M3
BLOOD CELL IDENTIFICATION
Specimens BC-13 through BC-18

CASE HISTORY:

A 51-year-old female presented to her family physician after having several sudden episodes of heart palpitations. Other complaints included gastritis, constipation, and diarrhea. Upon examination, the patient appeared pale and emaciated, with inflamed oral mucosa. The odor of alcohol and tobacco was detected. She denied any recent alcohol consumption but admitted to smoking cigarettes occasionally. Her history was significant for inpatient treatment of anorexia nervosa and alcohol use disorder when she was in her twenties. A CBC was performed, and significant results appear below.
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Test	Results	Reference Range
WBC	5.7 x 10^9/L	4.5 - 11.5 x 10^9/L
RBC	3.8 x 10^{12}/L	4.2 - 5.4 x 10^{12}/L
HGB	13.0 g/dL	12 - 15 g/dL
HCT	41.0 %	35 - 49 %
PLT	102 x 10^9/L	150 - 450 x 10^9/L
MCV	108 fL	80 - 94 fL
MCH	34 pg	26 - 32 pg
MCHC	32 g/dL	32 - 36 g/dL
RDW	19 %	11.5 - 14.5 %

This patient was diagnosed with megaloblastic anemia, secondary to folate deficiency.

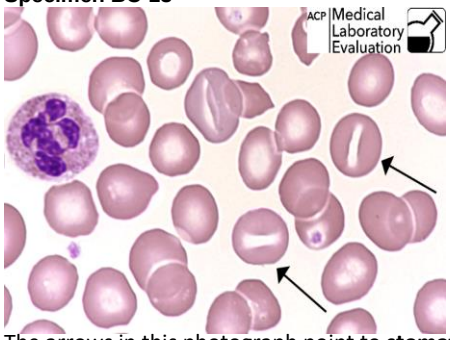
Megaloblastic anemia is named after the giant abnormal erythroid precursor cells found in the bone marrow. The hallmarks of megaloblastic anemia in the peripheral blood smear are oval macrocytes, basophilic stippling, and hypersegmented neutrophils. Other typical laboratory findings in megaloblastic disorder associated with a nutritional deficiency include pancytopenia, macrocytic/normochromic anemia with elevated MCV, anisocytosis, poikilocytosis, and increased serum levels of total bilirubin and lactate dehydrogenase (LDH).

Vitamin deficiencies can be caused by inadequate intake, impaired utilization, and/or increased demand. Many modern processed foods are fortified, making nutritional deficiencies less common. However, alcoholics often suffer from malnutrition due to a variety of compounding factors. Primary malnutrition is the reduced intake of nutrients due to alcoholic beverages replacing nourishing meals. Patients may eat poorly and then not be able to metabolize the nutrients they do ingest due to the direct effect of alcohol plus complications such as vomiting, diarrhea, gastrointestinal bleeding, liver dysfunction, and pancreatitis. Secondary malnutrition occurs when nutrients are not properly absorbed or utilized. Alcohol interferes with many nutrients, including folate (aka. folic acid). In chronic alcoholism, high levels of ethanol causes both malabsorption of folate and increased excretion of folate. Tobacco smoking also contributes to folate deficiency.

Folate is a vitamin found in a variety of foods including leafy green vegetables, oranges, dried beans, liver, and beef. It is necessary for many biochemical processes, including DNA and red blood cell synthesis. Folate is essential for normal DNA replication and neurologic function, as is Vitamin B12 (cobalamin). Without enough folate, defective DNA synthesis causes a cell's nucleus and cytoplasm to grow and mature at different rates. This asynchrony leads to ineffective erythropoiesis, anemia, gastrointestinal tract abnormalities, oral lesions, and hyperpigmentation of the skin and mucus membranes. Folate deficiency in pregnancy can cause neural tube defects such as spina bifida.

BLOOD CELL IDENTIFICATION

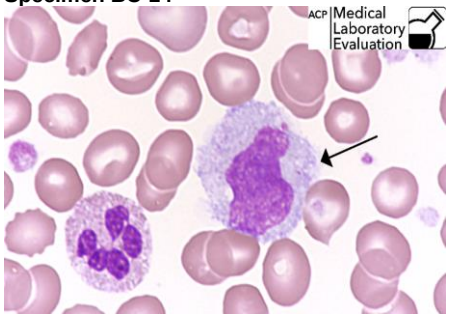
Specimen BC-13



Identification	Labs	Percent	Performance
Stomatocyte	149	99.33%	Accedptable

The arrows in this photograph point to **stomatocytes**. These erythrocytes have a slit-like central pallor resembling a mouth instead of the usual rounded area of central pallor. Stomatocytes are uniconcave or bowl-shaped red cells rather than the normal biconcave disc. They are commonly seen in liver disease and acute alcoholism, and are associated with electrolyte imbalance, hereditary disorders, and anemias. Acquired stomatocytosis with hemolytic anemia occurs with recent excessive alcohol ingestion. Within 2 weeks of alcohol withdrawal, hemolysis and stomatocytes in the peripheral blood disappear. *Technical tip:* Stomatocytes sometimes appear as artifacts on slowly dried blood smears, so it is good practice to examine another slide to confirm a finding of stomatocytosis. To view another photo of stomatocytes, see 2016 M1 Specimen BC-2.

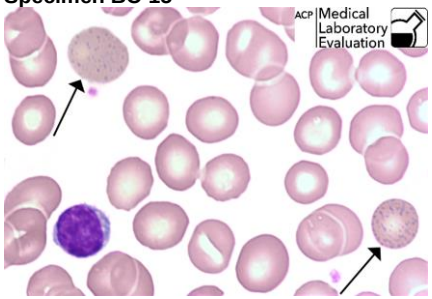
Specimen BC-14



Identification	Labs	Percent	Performance
Monocyte	134	89.33%	Acceptable
Immature/abnormal cell – refer	8	5.33%	

The arrow in this photograph points to a **monocyte**. The nucleus is convoluted and the nuclear chromatin appears lacy with small clumps. The cytoplasm is abundant, pale gray-blue, and filled with swirls of tiny granules that produce a cloudy or turbid appearance described as ground glass. The cytoplasmic membrane is irregular and often has pseudopods that appear to push away adjacent red blood cells. Cytoplasmic vacuoles are often present and indicate recent phagocytosis. To view another photo of a monocyte, see 2019 M1 Specimen BC-1.

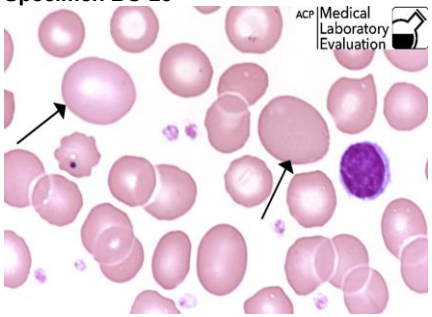
Specimen BC-15



Identification	Labs	Percent	Performance
Basophilic stippling	142	94.67%	Acceptable
Immature/abnormal cell – refer	8	5.33%	

The arrows in this photograph point to erythrocytes with **basophilic stippling**. These young red blood cells have recently been released from the bone marrow and expelled their nuclei, but still contain some residual RNA. The RNA is aggregated into small granular clumps that stain dark blue-purple. The clumps of RNA are evenly distributed throughout the cell, and may appear fine (small) or coarse (large). Basophilic stippling is associated with defective heme synthesis, anemia, increased RBC production, thalassemia, and lead poisoning. Reticulocytes are similar, but must be identified using a supravital stain such as New Methylene Blue. To view another photo of basophilic stippling, see 2018 M1 Specimen BC-1. To view a photo of reticulocytes, see 2015 M2 Specimen BC-12.

Specimen BC-16

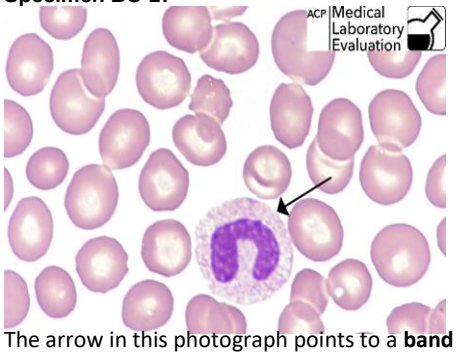


Identification	Labs	Percent	Performance
Macrocyte	147	97.35%	Acceptable

The arrows in this photograph point to **macrocytes**. Normocytic red blood cells are about the same size as the nucleus of a small, mature, resting (non-reactive) lymphocyte. The arrowed oval macrocytes are much larger than the nucleus of the mature, resting lymphocyte in the same field. "Ovalocyte (elliptocyte)" is not an acceptable response for this challenge. The clinically significant aspect of these cells is their abnormal size (macrocytosis.) The term ovalocyte or elliptocyte is reserved for normal-sized oval red cells, which tend to be more elongated and elliptical than the oval macrocytes seen here. Oval macrocytes are much larger than ovalocytes. Mean Cell Volume (MCV) is elevated in B12 and folate deficiencies, indicating macrocytosis. The MCV will be approx. 105-110 fL in folate deficiency, and even higher in B12 deficiency. There is also a difference in the morphology of oval macrocytes compared to ovalocytes. The oval macrocytes pictured here are egg-like, while the ovalocyte/elliptocyte tends to be more elongated or rod-like. Macrocytes occur in either oval or round forms. The oval form (seen here) is associated with vitamin B12 and folate deficiencies, alcoholism, chronic infection, and toxicity. The round form of macrocyte is seen in a variety of chronic illnesses, and target cell-like round macrocytes are a characteristic finding in liver disease. To view another photo of oval macrocytes, see 2018 M1 Specimen BC-2. To view a photo of ovalocytes (elliptocytes), see 2020 M1 Specimen BC-3.

BLOOD CELL IDENTIFICATION

Specimen BC-17

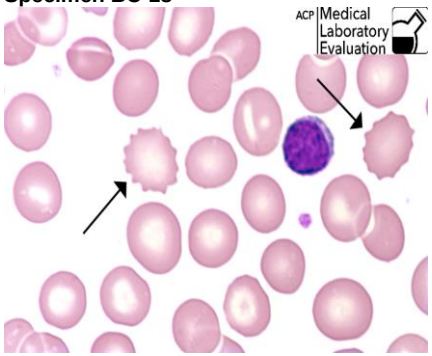


Identification	Labs	Percent	Performance
Neutrophil – segmented or band	132	87.42%	Acceptable
Neutrophil – seg/band w/toxic granulation	17	11.26%	

The arrow in this photograph points to a **band neutrophil**. The band neutrophil is a less mature stage of development than the segmented neutrophil. The nucleus is indented greater than 50% of its width, resulting in a S, C, or U-shaped nucleus. The sides of the nuclear band are parallel, and have visible chromatin in between. An increase in band cells can indicate infection, and is often referred to as a "shift to the left" because on a manual cell counter the immature cells are positioned on the left side. Megaloblastic bands with very immature looking nuclei are sometimes mistaken for metamyelocytes. The cytoplasm of this cell is pale pink and filled with fine, violet and pink granules. The granules are not toxic. Toxic granules are larger than the small blue granules seen in the typical neutrophil. A cell with toxic granulation will have more and larger dark blue-black granules in its cytoplasm. This cell contains a few small purple granules in the cytoplasm, but not enough to be considered toxic. To view another photo of another normal band neutrophil, see 2018 M2 Specimen BC-10. To view a neutrophil with toxic granulation, see 2019 M2 BC-9.

BLOOD CELL IDENTIFICATION

Specimen BC-18



Identification	Labs	Percent	Performance
Echinocyte	139	93.29%	Not graded – Educational Challenge
Acanthocyte	6	4.03%	Not graded – Educational Challenge

The arrows in this ungraded educational challenge photograph point to **echinocytes**. These may also be called burr cells or crenated red blood cells. Echinocytes are normal in size and color and usually have normal central pallor. They have multiple small, blunt projections that are uniformly distributed around the cell surface. In contrast, acanthocytes are spherocytes that are smaller than normal, with no central pallor and sharp, irregularly spaced projections varying in width and length. Echinocytes occur in many conditions including malnutrition associated with mild hemolysis due to hypomagnesemia and hypophosphatemia, uremia, hemolytic anemia in long-distance runners, and pyruvate kinase deficiency. Echinocytes can also be formed as artifacts in vitro due to elevated pH, blood storage, ATP depletion, calcium accumulation, and contact with glass. To view another echinocyte see 2014 M3 Specimen BC-15. To view a photo of acanthocytes see 2017 M1 Specimen BC-5.

References:

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BLOOD BANK

ABO GROUP

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

RH FACTOR (D TYPE)

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

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	No unexpected antibody detected	5	100%	Acceptable
AB-14	No unexpected antibody detected	5	100%	Acceptable
AB-15	Unexpected antibody detected	4	80%	Acceptable
	No unexpected antibody detected	1	20%	

BLOOD BANK

ANTIBODY IDENTIFICATION

Specimen	Results	Labs	Percent	Performance
AB-11	No antibody detected	1	100%	Acceptable
AB-12	Anti-E	1	100%	Acceptable
AB-13	No antibody detected	1	100%	Acceptable
AB-14	No antibody detected	1	100%	Acceptable
AB-15	Anti-M	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	22	13.31	0.98	7.3	13.0	11.3 - 15.4	22	29.43	3.49	11.9	29.3	25.0 - 33.9
All IL ACL models	5	15.10	0.14	0.9	15.1	12.8 - 17.4	5	(	0.28	1.3	21.7	18.4 - 25.0
Dade Innovin												
Dade Behring BFT II	5	12.73	0.25	2.0	12.8	10.8 - 14.7	5	31.80	2.00	6.3	32.0	27.0 - 36.6
Sysmex CA-500/600 series	11	12.94	0.30	2.3	12.9	10.9 - 14.9	11	28.92	0.65	2.2	28.8	24.5 - 33.3
All Coagulation Instruments	16	12.85	0.31	2.4	12.8	10.9 - 14.8	16	29.65	1.65	5.6	29.3	25.2 - 34.1
HemosIL RecombiPlasTin 2G												
IL ACL, all models	5	15.15	0.35	2.3	15.2	12.8 - 17.5	5	35.35	0.21	0.6	35.4	30.0 - 40.7

Reagent/Instrument	Specimen CG-13 Labs	Mean	SD	CV	Median	Range	Specimen CG-14 Labs	Mean	SD	CV	Median	Range
All Method	22	10.32	0.82	7.9	10.2	8.7 - 11.9	22	18.32	1.12	6.1	18.3	15.5 - 21.1
All IL ACL models	5	12.05	0.07	0.6	12.1	10.2 - 13.9	5	16.65	0.21	1.3	16.7	14.1 - 19.2
Dade Innovin												
Dade Behring BFT II	5	9.40	0.29	3.1	9.5	7.9 - 10.9	5	18.60	0.80	4.3	18.8	15.8 - 21.4
Sysmex CA-500/600 series	11	10.21	0.26	2.5	10.3	8.6 - 11.8	11	17.55	2.10	12.0	18.3	14.9 - 20.2
All Coagulation Instruments	16	9.98	0.44	4.4	10.0	8.4 - 11.5	16	18.23	0.56	3.1	18.3	15.4 - 21.0
HemosIL RecombiPlasTin 2G												
IL ACL, all models	5	11.30	0.14	1.3	11.3	9.6 - 13.0	5	20.65	1.20	5.8	20.7	17.5 - 23.8

Reagent/Instrument	Specimen CG-15 Labs	Mean	SD	CV	Median	Range
All Method	22	10.61	0.84	7.9	10.4	9.0 - 12.2
All IL ACL models	5	12.25	0.07	0.6	12.3	10.4 - 14.1
Dade Innovin						
Dade Behring BFT II	5	9.60	0.22	2.3	9.7	8.1 - 11.1
Sysmex CA-500/600 series	11	11.21	2.17	19.4	10.6	9.5 - 12.9
All Coagulation Instruments	16	10.26	0.51	5.0	10.4	8.7 - 11.8
HemosIL RecombiPlasTin 2G						
IL ACL, all models	5	11.55	0.07	0.6	11.6	9.8 - 13.3

PROTHROMBIN TIME–INTERNATIONAL NORMALIZED RATIO (INR)

	Specimen CG-11						Specimen CG-12					
Reagent/Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	22	1.32	0.10	7.9	1.3	1.0 - 1.6	22	3.03	0.24	8.0	3.0	2.4 - 3.7
Dade Innovin												
Dade Behring BFT II	5	1.35	0.06	4.3	1.4	1.0 - 1.7	5	3.05	0.24	7.8	3.2	2.4 - 3.7
Sysmex CA-500/600 series	11	1.28	0.06	4.7	1.3	1.0 - 1.6	11	2.95	0.13	4.4	3.0	2.3 - 3.6
All Coagulation Instruments	16	1.29	0.07	5.3	1.3	1.0 - 1.6	16	2.99	0.16	5.3	3.0	2.3 - 3.6
HemosIL RecombiPlasTin 2G												
IL ACL, all models	5	1.40	0.14	10.1	1.4	1.1 - 1.7	5	3.50	0.28	8.1	3.5	2.8 - 4.2

	Specimen CG-13						Specimen CG-14					
All Method	22	0.99	0.06	6.5	1.0	0.7 - 1.2	22	1.83	0.14	7.5	1.8	1.4 - 2.2
Dade Innovin												
Dade Behring BFT II	5	1.03	0.05	4.9	1.0	0.8 - 1.3	5	1.90	0.14	7.4	2.0	1.5 - 2.3
Sysmex CA-500/600 series	11	1.00	0.04	4.5	1.0	0.8 - 1.2	11	1.75	0.20	11.5	1.8	1.4 - 2.2
All Coagulation Instruments	16	1.01	0.04	4.4	1.0	0.8 - 1.3	16	1.83	0.10	5.7	1.8	1.4 - 2.2
HemosIL RecombiPlasTin 2G												
IL ACL, all models	5	0.95	0.07	7.4	1.0	0.7 - 1.2	5	1.95	0.21	10.9	2.0	1.5 - 2.4

	Specimen CG-15					
All Method	22	1.03	0.05	4.5	1.0	0.8 - 1.3
Dade Innovin						
Dade Behring BFT II	5	1.05	0.06	5.5	1.1	0.8 - 1.3
Sysmex CA-500/600 series	11	1.10	0.27	24.4	1.0	0.8 - 1.4
All Coagulation Instruments	16	1.03	0.05	4.5	1.0	0.8 - 1.3
HemosIL RecombiPlasTin 2G						
IL ACL, all models	5	1.05	0.07	6.7	1.1	0.8 - 1.3

ACTIVATED PARTIAL THROMBOPLASTIN (seconds)

Reagent/Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
	Specimen CG-11						Specimen CG-12					
All Method	16	29.0	3.3	11.2	28	24 - 34	16	53.5	10.6	19.8	50	45 - 62
Dade Actin FSL												
Sysmex CA-500/600 series	8	26.8	1.1	4.1	27	22 - 31	8	47.0	2.7	5.8	47	39 - 55
HemosIL APTT-SP												
IL ACL, all models	5	33.5	0.7	2.1	34	28 - 39	5	59.0	4.2	7.2	59	50 - 68
	Specimen CG-13						Specimen CG-14					
All Method	16	25.9	2.1	8.1	25	21 - 30	16	34.3	7.8	22.7	32	29 - 40
Dade Actin FSL												
Sysmex CA-500/600 series	8	24.4	0.5	2.2	24	20 - 29	8	29.4	3.2	10.9	31	24 - 34
HemosIL APTT-SP												
IL ACL, all models	5	28.0	0.1	0.0	28	23 - 33	5	39.0	0.1	0.0	39	33 - 45
	Specimen CG-15											
All Method	16	27.4	5.2	18.9	26	23 - 32						
Dade Actin FSL												
Sysmex CA-500/600 series	8	24.6	1.7	6.8	25	20 - 29						
HemosIL APTT-SP												
IL ACL, all models	5	28.5	0.7	2.5	29	24 - 33						

Fibrinogen (mg/dL)

One participant reported Fibrinogen. The vendor assay values on a Sysmex CA-540 for specimens CG-11 through CG-15 are: 132 mg/dL, 208 mg/dL, 201 mg/dL, 195 mg/dL, and 394 mg/dL, respectively.

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	14	33.61	1.16	3.5	33.6	28.5 - 38.7	14	23.62	0.50	2.1	23.8	20.0 - 27.2
All Roche CoaguChek XS Plus Instruments	14	33.61	1.16	3.5	33.6	28.5 - 38.7	14	23.62	0.50	2.1	23.8	20.0 - 27.2
Roche CoaguChek XS Plus - Waived	9	33.23	1.27	3.8	33.0	28.2 - 38.3	9	23.47	0.54	2.3	23.6	19.9 - 27.0
Roche CoaguChek XS Plus	5	34.30	0.51	1.5	34.4	29.1 - 39.5	5	23.90	0.25	1.1	23.9	20.3 - 27.5
	Specimen XS-13						**Specimen XS-14**					
All Method	8	33.38	1.02	3.1	33.4	28.3 - 38.4	8	13.88	0.39	2.8	13.9	11.7 - 16.0
All Roche CoaguChek XS Plus Instruments	8	33.38	1.02	3.1	33.4	28.3 - 38.4	8	13.88	0.39	2.8	13.9	11.7 - 16.0
Roche CoaguChek XS Plus - Waived	4	-	-	-	32.5	28.3 - 38.4	4	-	-	-	13.9	11.7 - 16.0
Roche CoaguChek XS Plus	4	-	-	-	34.3	28.3 - 38.4	4	-	-	-	13.9	11.7 - 16.0
	Specimen XS-15											
All Method	8	24.88	1.60	6.4	25.5	21.1 - 28.7						
All Roche CoaguChek XS Plus Instruments	8	24.88	1.60	6.4	25.5	21.1 - 28.7						
Roche CoaguChek XS Plus - Waived	4	-	-	-	24.1	21.1 - 28.7						
Roche CoaguChek XS Plus	4	-	-	-	25.7	21.1 - 28.7						

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	29	2.78	0.11	3.8	2.8	2.2 - 3.4	29	1.96	0.07	3.4	2.0	1.5 - 2.4
All Roche CoaguChek XS Plus Instruments	29	2.78	0.11	3.8	2.8	2.2 - 3.4	29	1.96	0.07	3.4	2.0	1.5 - 2.4
Roche CoaguChek XS Plus - Waived	23	2.77	0.11	4.0	2.8	2.2 - 3.4	23	1.96	0.07	3.7	2.0	1.5 - 2.4
Roche CoaguChek XS Plus	6	2.83	0.08	2.9	2.9	2.2 - 3.4	6	1.98	0.04	2.1	2.0	1.5 - 2.4
	Specimen XS-13						**Specimen XS-14**					
All Method	9	2.79	0.09	3.2	2.8	2.2 - 3.4	9	1.14	0.05	4.7	1.1	0.9 - 1.4
All Roche CoaguChek XS Plus Instruments	9	2.79	0.09	3.2	2.8	2.2 - 3.4	9	1.14	0.05	4.7	1.1	0.9 - 1.4
Roche CoaguChek XS Plus - Waived	5	2.76	0.09	3.2	2.7	2.2 - 3.4	5	1.14	0.05	4.8	1.1	0.9 - 1.4
Roche CoaguChek XS Plus	4	-	-	-	2.9	2.2 - 3.4	4	-	-	-	1.2	0.9 - 1.4
	Specimen XS-15											
All Method	9	2.10	0.10	4.8	2.1	1.6 - 2.6						
All Roche CoaguChek XS Plus Instruments	9	2.10	0.10	4.8	2.1	1.6 - 2.6						
Roche CoaguChek XS Plus - Waived	5	2.08	0.11	5.3	2.1	1.6 - 2.5						
Roche CoaguChek XS Plus	4	-	-	-	2.2	1.6 - 2.6						

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	85	1.97	0.07	3.5	2.0	1.5 - 2.4	85	1.28	0.05	3.6	1.3	1.0 - 1.6

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	10	31.33	3.93	12.5	29.8	26.6 - 36.1	10	14.80	1.25	8.5	14.9	12.5 - 17.1
	Specimen PTI-13						**Specimen PTI-14**					
i-Stat Prothrombin Time	10	14.97	0.32	2.1	15.1	12.7 - 17.3	10	29.10	1.32	4.5	28.6	24.7 - 33.5
	Specimen PTI-15											
i-Stat Prothrombin Time	10	13.97	0.21	1.5	13.9	11.8 - 16.1						

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	10	2.73	0.32	11.8	2.6	2.1 - 3.3	10	1.27	0.15	12.1	1.3	1.0 - 1.6
	Specimen PTI-13						**Specimen PTI-14**					
i-Stat Prothrombin Time	10	1.27	0.06	4.6	1.3	1.0 - 1.6	10	2.53	0.15	6.0	2.5	2.0 - 3.1
	Specimen PTI-15											
i-Stat Prothrombin Time	10	1.20	0.01	0.0	1.2	0.9 - 1.5						

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	1	-	-	-	13	Not graded	1	-	-	-	270	Not graded

FLUID CELL COUNT – RED BLOOD CELL COUNT (µL)

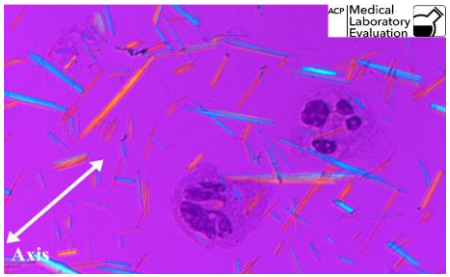
	Specimen BF-5						Specimen BF-6					
Instrument	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***	***Labs***	***Mean***	***SD***	***CV***	***Median***	***Range***
All Method	1	-	-	-	0	Not graded	1	-	-	-	880	Not graded

2020 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. Adding a red compensator filter 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. A **negatively** birefringent crystal such as MSU will appear yellow when aligned with the axis and blue when perpendicular to the axis. Conversely, a **positively** birefringent crystal such as CPPD will appear blue when aligned with the axis and yellow when perpendicular.

Specimen FC-5

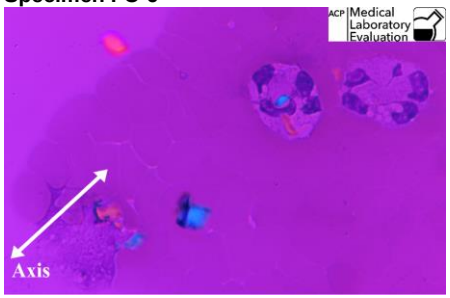


Identification	Labs	Percent	Performance
MSU (Monosodium Urate) crystals	3	100%	Acceptable

The objects in this photograph are **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 crystals that can be needle-shaped, 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 2019 M2 Specimen FC-4.

2020 M3
FLUID CRYSTAL IDENTIFICATION

Specimen FC-6



Identification	Labs	Percent	Performance
CPPD crystals	1	33.33%	Not graded
Steroid crystals	1	33.33%	
Other, not listed	1	33.33%	

The objects in this photograph are **calcium pyrophosphate dihydrate (CPPD) crystals**. Calcium pyrophosphate crystals cause calcium pyrophosphate disease, a condition commonly called pseudogout. CPPD crystals are usually rhomboidal or rod-shaped, but are occasionally needle-shaped. These crystals demonstrate **positive birefringence**, because they are blue in color when aligned with (parallel to) the compensator filter/axis. Crystals that are not aligned parallel to the axis will be pink-red. The cell closest to the center of the field contains examples of both orientations: one blue crystal lying parallel to the axis, and one red crystal lying perpendicular to the axis. To view another photo of CPPD crystals, see 2020 M1 Specimen FC-1.

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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	25	1	16	-	7	1	-	-	-	-	-
Consult Diagnostics Urine Analyzer	3	-	3	-	-	-	-	-	-	-	-
Roche Micral - 1 minute	1	-	-	-	-	1	-	-	-	-	-
Siemens Clinitek Microalbumin	20	-	13	-	7	-	-	-	-	-	-
Uriscan Optima	1	1	-	-	-	-	-	-	-	-	-

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	25	-	-	2	-	2	8	13
Consult Diagnostics Urine Analyzer	3	-	-	-	-	2	1	-
Siemens Clinitek Microalbumin	20	-	-	2	-	-	7	11
Siemens Multistix Pro	2	-	-	-	-	-	-	2

MICROALBUMIN, QUANTITATIVE (mg/L)

Specimen UM-3

Method	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	42	35.97	4.20	11.7	35.5	25.1 - 46.8
All Alere Afinion Analyzers	7	38.70	3.47	9.0	38.1	27.0 - 50.4
Alere Afinion AS100	6	37.47	1.28	3.4	37.9	26.2 - 48.8
Beckman AU	13	33.68	1.75	5.2	33.8	23.5 - 43.8
Siemens Dimension	9	37.52	3.60	9.6	37.0	26.2 - 48.8

CREATININE, URINE (mg/dL)

Specimen UM-3

Method	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	33	191.53	12.01	6.3	194.4	158.9 - 224.1
All Alere Afinion Analyzers	6	196.20	6.25	3.2	196.8	162.8 - 229.6
Alere Afinion AS100	5	195.20	6.42	3.3	194.9	162.0 - 228.4
Beckman AU	12	178.61	3.14	1.8	179.4	148.2 - 209.0
Siemens Dimension	6	200.95	2.15	1.1	201.4	166.7 - 235.2

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	86	13.33	0.37	2.8	13.4	12.4 - 14.3	83	17.41	0.56	3.2	17.4	16.1 - 18.7
All Stanbio Methods	21	13.64	0.32	2.3	13.7	12.6 - 14.6	19	17.94	0.33	1.9	17.9	16.6 - 19.2
Alere (Stanbio) HemoPoint H2	21	13.64	0.32	2.3	13.7	12.6 - 14.6	19	17.94	0.33	1.9	17.9	16.6 - 19.2
HemoCue 201/+	62	13.23	0.29	2.2	13.3	12.3 - 14.2	61	17.32	0.41	2.4	17.3	16.1 - 18.6

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	10	34.88	9.06	26.0	39.0	16.7 - 53.1	10	46.48	11.73	25.2	51.8	23.0 - 70.0

KOH SKIN PREPARATION

Specimen	***Identification***	***Labs***	***Percent***	***Performance***
K-5	Yeast/fungal elements absent	79	91.86%	Acceptable
	Yeast/fungal elements present	7	8.14%	

Organism present in specimen K-5: *Klebsiella oxytoca*

K-6	Yeast/fungal elements present	83	96.51%	Acceptable
	Yeast/fungal elements absent	3	3.49%	

Organism present in specimen K-6: *Microsporum gypseum*

URINALYSIS DIPSTICK–SPECIFIC GRAVITY

Specimen UA-3

Method	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	604	1.0227	0.0035	0.3	1.025	1.012 - 1.033
All Refractive Index Methods	6	1.0273	0.0041	0.4	1.030	1.017 - 1.038
All Roche Methods	12	1.0158	0.0020	0.2	1.015	1.005 - 1.026
All Siemens Methods	473	1.0229	0.0030	0.3	1.025	1.012 - 1.033
Consult Diagnostics Urine Analyzer	8	1.0263	0.0024	0.2	1.025	1.016 - 1.037
Diagnostic Test Group Clarity Urocheck	5	1.0250	0.0035	0.3	1.025	1.015 - 1.035
Diagnostic Test Group Clarity Urocheck 120	8	1.0256	0.0016	0.2	1.025	1.015 - 1.036
Henry Schein Urispec / Urispec Plus	18	1.0183	0.0030	0.3	1.020	1.008 - 1.029
McKesson 10SG Reagent Strips	5	1.0220	0.0027	0.3	1.020	1.012 - 1.032
McKesson 120 Urine Analyzer	25	1.0258	0.0024	0.2	1.025	1.015 - 1.036
Roche Chemstrips	26	1.0167	0.0028	0.3	1.015	1.006 - 1.027
Roche Urisys	9	1.0161	0.0022	0.2	1.015	1.006 - 1.027
Siemens Clinitek 50	5	1.0250	0.0050	0.5	1.025	1.015 - 1.035
Siemens Clinitek Advantus	14	1.0243	0.0019	0.2	1.025	1.014 - 1.035
Siemens Clinitek Status / Status+	355	1.0230	0.0027	0.3	1.025	1.013 - 1.034
Siemens Multistix Pro	10	1.0225	0.0026	0.3	1.023	1.012 - 1.033
Siemens Reagent Strips	84	1.0222	0.0036	0.4	1.020	1.012 - 1.033

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	617	1	-	-	328	210	75	1	1	-	1	-	-
Consult Diagnostics Reagent Strips	4	-	-	-	4	-	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	9	-	-	-	1	3	5	-	-	-	-	-	-
CTMI CT-120 Urine Analyzer	3	-	-	-	-	1	2	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck	4	-	-	-	1	2	1	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	9	-	-	-	-	5	4	-	-	-	-	-	-
Henry Schein One Step Plus	1	-	-	-	1	-	-	-	-	-	-	-	-
Henry Schein Urispec / Urispec Plus	18	-	-	-	18	-	-	-	-	-	-	-	-
Immunostics Detector Urine Strips	1	-	-	-	1	-	-	-	-	-	-	-	-
Iris Ichem VELOCITY Urine Chemistry System	1	-	-	-	1	-	-	-	-	-	-	-	-
McKesson 10SG Reagent Strips	6	-	-	-	4	1	1	-	-	-	-	-	-
McKesson 120 Urine Analyzer	24	-	-	-	-	12	12	-	-	-	-	-	-
Medline 120 Urine Analyzer	4	-	-	-	-	3	1	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	2	-	-	-	1	-	1	-	-	-	-	-	-
NDC Pro Advantage	1	-	-	-	-	1	-	-	-	-	-	-	-
Other Dipstick Method	4	-	-	-	3	-	1	-	-	-	-	-	-
Roche Chemstrips	29	-	-	-	28	-	-	-	-	-	1	-	-
Roche cobas u 411	1	-	-	-	-	-	1	-	-	-	-	-	-
Roche Criterion Analyzer	1	-	-	-	1	-	-	-	-	-	-	-	-
Roche SuperUA/ChemstripUA	1	-	-	-	1	-	-	-	-	-	-	-	-
Roche Urisys	9	-	-	-	9	-	-	-	-	-	-	-	-
Siemens Clinitek 10 / 100	2	-	-	-	1	-	1	-	-	-	-	-	-
Siemens Clinitek 50	6	-	-	-	4	2	-	-	-	-	-	-	-
Siemens Clinitek 500	2	-	-	-	-	2	-	-	-	-	-	-	-
Siemens Clinitek Advantus	15	-	-	-	-	12	3	-	-	-	-	-	-
Siemens Clinitek Status / Status+	357	1	-	-	194	158	4	-	-	-	-	-	-
Siemens Multistix Pro	10	-	-	-	4	4	2	-	-	-	-	-	-
Siemens Reagent Strips	91	-	-	-	49	4	36	1	1	-	-	-	-
Uriscan Optima	1	-	-	-	1	-	-	-	-	-	-	-	-
UriScan Reagent Strips	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	622	612	6	1	1	1	-	1	-	-	-	-	-
Consult Diagnostics Reagent Strips	4	3	1	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	9	9	-	-	-	-	-	-	-	-	-	-	-
CTMI CT-120 Urine Analyzer	3	3	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck	4	4	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	9	9	-	-	-	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	2	2	-	-	-	-	-	-	-	-	-	-	-
Henry Schein Urispec / Urispec Plus	17	17	-	-	-	-	-	-	-	-	-	-	-
Immunostics Detector Urine Strips	1	1	-	-	-	-	-	-	-	-	-	-	-
Iris Ichem VELOCITY Urine Chemistry System	1	1	-	-	-	-	-	-	-	-	-	-	-
McKesson 10SG Reagent Strips	5	4	1	-	-	-	-	-	-	-	-	-	-
McKesson 120 Urine Analyzer	25	25	-	-	-	-	-	-	-	-	-	-	-
Medline 120 Urine Analyzer	4	4	-	-	-	-	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	2	1	1	-	-	-	-	-	-	-	-	-	-
NDC Pro Advantage	1	1	-	-	-	-	-	-	-	-	-	-	-
Other Dipstick Method	4	4	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrips	32	31	1	-	-	-	-	-	-	-	-	-	-
Roche cobas u 411	1	1	-	-	-	-	-	-	-	-	-	-	-
Roche Criterion Analyzer	1	1	-	-	-	-	-	-	-	-	-	-	-
Roche SuperUA/ChemstripUA	1	1	-	-	-	-	-	-	-	-	-	-	-
Roche Urisys	9	8	-	-	1	-	-	-	-	-	-	-	-
Siemens Clinitek 10 / 100	1	1	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 50	6	6	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 500	2	2	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Advantus	15	15	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Atlas	1	1	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	353	352	-	-	-	1	-	-	-	-	-	-	-
Siemens Multistix Pro	9	8	1	-	-	-	-	-	-	-	-	-	-
Siemens Reagent Strips	96	93	1	1	-	-	-	1	-	-	-	-	-
Siemens Uristix	2	2	-	-	-	-	-	-	-	-	-	-	-
Uriscan Optima	1	1	-	-	-	-	-	-	-	-	-	-	-
UriScan Reagent Strips	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	624	22	63	109	4	3	1	159	204	4	55
Consult Diagnostics Reagent Strips	4	-	-	3	-	-	-	-	-	-	1
Consult Diagnostics Urine Analyzer	9	2	-	6	-	-	-	-	1	-	-
CTMI CT-120 Urine Analyzer	3	-	-	1	-	-	-	-	2	-	-
Diagnostic Test Group Clarity Urocheck	5	-	-	5	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	8	-	-	7	-	-	-	-	1	-	-
Henry Schein One Step Plus	1	-	-	-	-	-	-	-	-	-	1
Henry Schein Urispec / Urispec Plus	18	-	-	-	-	1	-	-	-	3	14
Immunostics Detector Urine Strips	1	-	-	-	-	-	-	-	1	-	-
Iris Ichem VELOCITY Urine Chemistry System	1	-	-	-	-	1	-	-	-	-	-
McKesson 10SG Reagent Strips	5	1	1	1	-	-	-	1	1	-	-
McKesson 120 Urine Analyzer	24	-	1	21	-	-	-	1	1	-	-
Medline 120 Urine Analyzer	5	1	-	4	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	2	-	-	2	-	-	-	-	-	-	-
NDC Pro Advantage	1	-	-	1	-	-	-	-	-	-	-
Other Dipstick Method	4	-	2	-	-	-	-	-	2	-	-
Roche Chemstrips	31	-	-	-	-	-	1	-	2	1	27
Roche cobas u 411	1	-	-	-	-	-	-	-	-	-	1
Roche Criterion Analyzer	1	-	-	-	-	-	-	-	-	-	1
Roche SuperUA/ChemstripUA	1	-	-	-	-	-	-	-	-	-	1
Roche Urisys	9	-	-	-	-	1	-	-	-	-	8
Siemens Clinitek 10 / 100	2	1	-	-	-	-	-	-	1	-	-
Siemens Clinitek 50	6	-	1	-	-	-	-	-	5	-	-
Siemens Clinitek 500	2	-	-	1	-	-	-	1	-	-	-
Siemens Clinitek Advantus	15	-	6	2	-	-	-	5	2	-	-
Siemens Clinitek Status / Status+	358	5	40	45	1	-	-	125	142	-	-
Siemens Multistix Pro	9	2	-	1	-	-	-	2	4	-	-
Siemens Reagent Strips	94	10	11	9	1	-	-	24	38	-	1
Siemens Uristix	2	-	1	-	-	-	-	-	1	-	-
Uriscan Optima	1	-	-	-	1	-	-	-	-	-	-
UriScan Reagent Strips	1	-	-	-	1	-	-	-	-	-	-

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	615	5	-	1	19	43	5	125	48	2	-	24	281	60	2
Consult Diagnostics Reagent Strips	4	-	-	-	-	-	-	2	1	1	-	-	-	-	-
Consult Diagnostics Urine Analyzer	9	-	-	-	-	-	-	3	4	-	-	-	2	-	-
CTMI CT-120 Urine Analyzer	3	-	-	-	-	-	-	-	1	-	-	-	1	1	-
Diagnostic Test Group Clarity Urocheck	5	-	-	-	-	-	-	1	3	-	-	-	1	-	-
Diagnostic Test Group Clarity Urocheck 120	7	-	-	-	-	-	-	3	3	-	-	1	-	-	-
Henry Schein One Step Plus	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Henry Schein Urispec / Urispec Plus	18	2	-	-	-	-	-	-	-	-	-	16	-	-	-
Immunostics Detector Urine Strips	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Iris Ichem VELOCITY Urine Chemistry System	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-
McKesson 10SG Reagent Strips	5	-	-	-	-	2	-	1	2	-	-	-	-	-	-
McKesson 120 Urine Analyzer	25	-	-	-	-	-	-	9	15	-	-	-	1	-	-
Medline 120 Urine Analyzer	4	-	-	-	-	-	-	1	3	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	2	-	-	-	-	-	-	2	-	-	-	-	-	-	-
NDC Pro Advantage	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Other Dipstick Method	4	-	-	-	-	1	-	-	-	-	-	1	2	-	-
Roche Chemstrips	29	2	-	-	6	4	-	10	6	-	-	-	-	1	-
Roche cobas u 411	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Roche Criterion Analyzer	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Roche SuperUA/ChemstripUA	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Roche Urisys	9	-	-	-	-	-	-	1	-	-	-	-	8	-	-
Siemens Clinitek 10 / 100	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Siemens Clinitek 50	6	-	-	-	-	-	-	1	-	-	-	-	5	-	-
Siemens Clinitek 500	2	-	-	-	-	-	-	1	-	-	-	1	-	-	-
Siemens Clinitek Advantus	15	-	-	-	-	-	1	8	-	-	-	1	5	-	-
Siemens Clinitek Status / Status+	357	-	-	1	1	-	2	75	8	-	-	2	235	33	-
Siemens Multistix Pro	10	-	-	-	1	1	-	-	-	1	-	-	5	2	-
Siemens Reagent Strips	92	1	-	-	10	35	1	6	1	-	-	1	12	23	2
Uriscan Optima	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-

URINALYSIS DIPSTICK–BILIRUBIN

Specimen UA-3

			Participant Results												
Method	***Labs***	***Negative***	***Positive (Ictotest ONLY)***	***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	602	600	-	-	-	-	-	1	1	-	-	-	-	-	-
Consult Diagnostics Reagent Strips	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-
CTMI CT-120 Urine Analyzer	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	8	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Henry Schein Urispec / Urispec Plus	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunostics Detector Urine Strips	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Iris Ichem VELOCITY Urine Chemistry System	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
McKesson 10SG Reagent Strips	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-
McKesson 120 Urine Analyzer	24	24	-	-	-	-	-	-	-	-	-	-	-	-	-
Medline 120 Urine Analyzer	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
NDC Pro Advantage	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Dipstick Method	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrips	28	28	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche cobas u 411	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Criterion Analyzer	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche SuperUA/ChemstripUA	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Urisys	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 10 / 100	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 50	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 500	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Advantus	14	14	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	352	352	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Ictotest	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Multistix Pro	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Reagent Strips	85	83	-	-	-	-	-	1	1	-	-	-	-	-	-
Uriscan Optima	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	597	590	-	6	1	-
Consult Diagnostics Reagent Strips	4	4	-	-	-	-
Consult Diagnostics Urine Analyzer	9	9	-	-	-	-
CTMI CT-120 Urine Analyzer	3	3	-	-	-	-
Diagnostic Test Group Clarity Urocheck	4	4	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	9	9	-	-	-	-
Henry Schein One Step Plus	2	2	-	-	-	-
Henry Schein Urispec / Urispec Plus	18	18	-	-	-	-
Immunostics Detector Urine Strips	1	1	-	-	-	-
McKesson 10SG Reagent Strips	5	4	-	-	1	-
McKesson 120 Urine Analyzer	25	24	-	1	-	-
Medline 120 Urine Analyzer	4	1	-	3	-	-
Medline Urinalysis Reagent Strips	1	1	-	-	-	-
NDC Pro Advantage	1	1	-	-	-	-
Other Dipstick Method	2	2	-	-	-	-
Roche Chemstrips	28	28	-	-	-	-
Roche cobas u 411	1	1	-	-	-	-
Roche Criterion Analyzer	1	1	-	-	-	-
Roche SuperUA/ChemstripUA	1	1	-	-	-	-
Roche Urisys	9	9	-	-	-	-
Siemens Clinitek 10 / 100	1	1	-	-	-	-
Siemens Clinitek 50	6	6	-	-	-	-
Siemens Clinitek 500	2	2	-	-	-	-
Siemens Clinitek Advantus	13	13	-	-	-	-
Siemens Clinitek Status / Status+	351	349	-	2	-	-
Siemens Multistix Pro	8	8	-	-	-	-
Siemens Reagent Strips	87	87	-	-	-	-
Uriscan Optima	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 - 300 Ery/µL***	***±0.03 mg/dL***	***0.06 - 0.10 mg/dL***	***0.2 - 0.5 mg/dL***	***≥ 1.0 mg/dL***
ALL METHODS	621	606	14	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Reagent Strips	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CTMI CT-120 Urine Analyzer	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	8	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Henry Schein Urispec / Urispec Plus	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunostics Detector Urine Strips	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iris Ichem VELOCITY Urine Chemistry System	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
McKesson 10SG Reagent Strips	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
McKesson 120 Urine Analyzer	24	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Medline 120 Urine Analyzer	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NDC Pro Advantage	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Dipstick Method	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrips	31	30	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche cobas u 411	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Criterion Analyzer	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche SuperUA/ChemstripUA	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Urisys	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 10 / 100	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 50	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 500	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Advantus	15	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	357	349	7	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Multistix Pro	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Reagent Strips	94	88	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uriscan Optima	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UriScan Reagent Strips	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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	620	7	28	266	69	7	127	76	7	-	4	1	28
Consult Diagnostics Reagent Strips	4	-	-	-	-	-	2	2	-	-	-	-	-
Consult Diagnostics Urine Analyzer	9	1	1	1	-	-	2	3	1	-	-	-	-
CTMI CT-120 Urine Analyzer	3	-	-	-	-	-	2	-	-	-	1	-	-
Diagnostic Test Group Clarity Urocheck	4	-	-	-	-	-	-	4	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	9	-	-	-	-	-	5	3	-	-	1	-	-
Henry Schein One Step Plus	2	-	-	1	-	-	-	-	-	-	-	-	1
Henry Schein Urispec / Urispec Plus	18	-	-	-	-	-	-	-	1	-	-	-	17
Immunostics Detector Urine Strips	1	-	-	-	-	-	1	-	-	-	-	-	-
Iris Ichem VELOCITY Urine Chemistry System	1	-	-	-	-	-	-	-	1	-	-	-	-
McKesson 10SG Reagent Strips	5	-	-	2	-	-	1	2	-	-	-	-	-
McKesson 120 Urine Analyzer	25	-	2	-	-	-	15	5	1	-	2	-	-
Medline 120 Urine Analyzer	4	-	-	-	-	-	2	2	-	-	-	-	-
Medline Urinalysis Reagent Strips	2	-	-	-	-	-	2	-	-	-	-	-	-
NDC Pro Advantage	1	-	-	-	-	-	1	-	-	-	-	-	-
Other Dipstick Method	4	-	-	-	2	1	-	-	-	-	-	1	-
Roche Chemstrips	31	-	-	-	-	1	1	29	-	-	-	-	-
Roche cobas u 411	1	-	-	-	-	-	-	-	-	-	-	-	1
Roche Criterion Analyzer	1	-	-	-	-	-	-	-	-	-	-	-	1
Roche SuperUA/ChemstripUA	1	-	-	-	-	-	-	1	-	-	-	-	-
Roche Urisys	9	-	-	-	-	-	-	1	-	-	-	-	8
Siemens Clinitek 10 / 100	2	1	-	1	-	-	-	-	-	-	-	-	-
Siemens Clinitek 50	6	-	2	2	-	1	1	-	-	-	-	-	-
Siemens Clinitek 500	2	-	1	-	-	-	1	-	-	-	-	-	-
Siemens Clinitek Advantus	15	-	-	7	-	-	8	-	-	-	-	-	-
Siemens Clinitek Status / Status+	355	1	13	233	30	1	66	9	2	-	-	-	-
Siemens Multistix Pro	9	-	4	1	2	-	-	2	-	-	-	-	-
Siemens Reagent Strips	93	4	5	17	35	3	17	12	-	-	-	-	-
Siemens Uristix	1	-	-	1	-	-	-	-	-	-	-	-	-
Uriscan Optima	1	-	-	-	-	-	-	1	-	-	-	-	-
UriScan Reagent Strips	1	-	-	-	-	-	-	-	1	-	-	-	-

URINALYSIS DIPSTICK–NITRITE

Specimen UA-3

		Participant Results	
Method	***Labs***	***Negative***	***Positive***
ALL METHODS	619	4	615
Consult Diagnostics Reagent Strips	4	-	4
Consult Diagnostics Urine Analyzer	9	1	8
CTMI CT-120 Urine Analyzer	3	-	3
Diagnostic Test Group Clarity Urocheck	5	-	5
Diagnostic Test Group Clarity Urocheck 120	8	1	7
Henry Schein One Step Plus	2	-	2
Henry Schein Urispec / Urispec Plus	17	-	17
Immunostics Detector Urine Strips	1	-	1
Iris Ichem VELOCITY Urine Chemistry System	1	-	1
McKesson 10SG Reagent Strips	5	-	5
McKesson 120 Urine Analyzer	24	-	24
Medline 120 Urine Analyzer	5	-	5
Medline Urinalysis Reagent Strips	2	-	2
NDC Pro Advantage	1	-	1
Other Dipstick Method	4	-	4
Roche Chemstrips	31	-	31
Roche cobas u 411	1	-	1
Roche Criterion Analyzer	1	-	1
Roche SuperUA/ChemstripUA	1	-	1
Roche Urisys	9	-	9
Siemens Clinitek 10 / 100	1	-	1
Siemens Clinitek 50	6	-	6
Siemens Clinitek 500	2	-	2
Siemens Clinitek Advantus	15	-	15
Siemens Clinitek Status / Status+	355	-	355
Siemens Multistix Pro	9	-	9
Siemens Reagent Strips	94	2	92
Siemens Uristix	1	-	1
Uriscan Optima	1	-	1
UriScan Reagent Strips	1	-	1

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	49	4	42	1	2	-	-	-	-	-	-
Henry Schein Urispec / Urispec Plus	1	1	-	-	-	-	-	-	-	-	-
McKesson 120 Urine Analyzer	1	-	1	-	-	-	-	-	-	-	-
Roche Micral - 1 minute	3	2	-	1	-	-	-	-	-	-	-
Siemens Clinitek Microalbumin	44	1	41	-	2	-	-	-	-	-	-

URINALYSIS –URINE hCG

Specimen UA-3

	Participant Results		
Method	***Labs***	***Positive***	***Negative***
ALL METHODS	367	2	365
Alere Acceava hCG-Urine	1	-	1
Alere Clearview hCG Cassette	5	-	5
Alere hCG Combo Cassette	5	-	5
Alfa Scientific Instant View	4	-	4
Beckman Coulter ICON 20 hCG	5	-	5
Beckman Coulter ICON 25 hCG	19	-	19
Beckman Coulter ICON II	1	-	1
BioSign hCG	1	-	1
BTNX Rapid Response hCG	1	-	1
Cardinal Health SP Brand combo	19	-	19
Cardinal Hlth SPBrand-cassette	4	-	4
Clarity Diagnostics hCG strip/cassette	12	-	12
CONSULT diagnostics hCG Cassette	47	-	47
CONSULT diagnostics hCG Combo	9	-	9
CONSULT diagnostics hCG Dipstick	24	-	24
Henry Schein One Step	41	-	41
Henry Schein One Step Plus	16	-	16
Jant Pharmacal Accutest	2	-	2
McKesson hCG Combo Cassette	4	-	4
McKesson hCG Urine Cassette	14	-	14
McKesson urine hCG-all 20 mIU kits	1	-	1
Medline hCG Combo Test Cassette	4	-	4
Medline hCG Test Cassette	5	-	5
NDC Pro Advantage	1	-	1
PEP (Lab Supply) HCG	1	-	1
Quidel QuickVue One-Step Combo	13	-	13
Quidel QuickVue One-Step Urine	27	1	26
Quidel QuickVue+ One-Step Combo	33	-	33
Quidel RapidVue	1	-	1
Quidel Sofia hCG	2	-	2
Sekisui OSOM - Urine Test	2	1	1
Sekisui OSOM Card Pregnancy	6	-	6
Sekisui OSOM hCG Combo Test	2	-	2
Siemens Clinitek Status / Status+	13	-	13
Stanbio QuPID	7	-	7
Stanbio QuPID Plus	2	-	2
Stanbio TRUE hCG	7	-	7
Sure-Vue hCG - 25mIU	1	-	1
Sure-Vue hCG-STAT	4	-	4

FECAL OCCULT BLOOD

	Specimen OC-5			Specimen OC-6		
Method	***Labs***	***Positive***	***Negative***	***Labs***	***Positive***	***Negative***
ALL METHODS	266	9	257	266	262	4
Alere Clearview iFOBT Complete	1	-	1	1	1	-
Beckman Coulter Hemoccult ICT	46	1	45	46	46	-
Guaiac (slide) Test	147	4	143	147	145	2
Hemosure IFOB	24	1	23	24	24	-
Other Immunochemical FOB kit	33	3	30	33	31	2
Polymedco OC Auto Micro 80	4	-	4	4	4	-
Polymedco OC-Light iFOB	9	-	9	9	9	-
Quidel QuickVue iFOB	2	-	2	2	2	-

2020 M3
Urine Sediment Identification
SPECIMENS US-5 AND US-6

CASE HISTORY:

A 30-year-old male presented to an urgent care clinic complaining of dysuria and urethral discharge. He was waiting at the door when the clinic opened, with a first morning urine specimen that he collected at home. The patient had been previously been treated at the clinic for urethritis and sexually transmitted infections. A urinalysis was performed, and results appear below.

Color = Yellow
Appearance = Hazy

Dipstick results:

Specific gravity = 1.025
pH = 5.0
Protein = Negative
Glucose = Negative
Ketones = Negative
Bilirubin = Negative
Urobilinogen = Normal/0.2 mg/dL
Blood = Negative
Leukocyte Esterase = Small (1+)
Nitrite = Negative

This patient was diagnosed with Chlamydia.

Chlamydia is a sexually transmitted disease (STD) that can cause urethritis and proctitis. The bacterium *Chlamydia trachomatis* (CT) is generally spread through sexual contact with an infected partner. Chlamydia is especially common among young people aged 15 to 24. Risk factors include having multiple sex partners, previous infection or coinfection with other STD, and not using condoms correctly and consistently. Because chlamydia is usually asymptomatic, a large number of cases go undetected and unreported. Routine screening is necessary to identify most infections. Screening for, diagnosing, and treating chlamydia is very important in preventing long-term complications and spread of the infection to others.

Men who are symptomatic typically have urethritis, with a mucoid or watery penile discharge and painful urination. Some infected men develop epididymitis (with or without symptomatic urethritis), presenting with unilateral testicular pain, tenderness, and swelling. Rarely, men with untreated chlamydia become infertile. Chlamydia is easily cured with antibiotics. If not diagnosed and treated, it can cause severe reproductive and other health problems, especially in women. Women who have been treated for chlamydia are frequently reinfected if their partners do not also get treatment. Untreated chlamydia may increase a person's chances of acquiring or transmitting HIV. It can also lead to pelvic inflammatory disease, ectopic pregnancy, or infertility. Pregnant women who are infected may have heavy bleeding before delivery, premature rupture of the membranes, and/or babies with low birth weights. Babies that become infected during childbirth are at risk of complications such as pneumonia or conjunctivitis.

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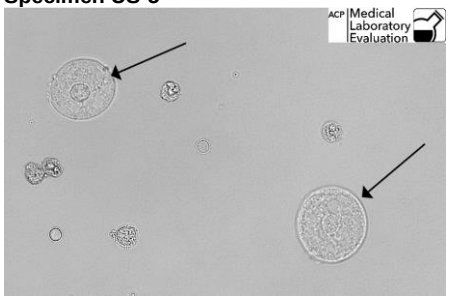
Urine Sediment Identification

Specimen US-5

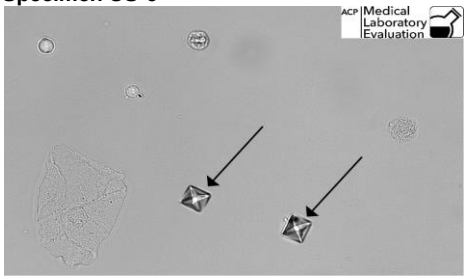


Identification	Labs	Percent	Performance
Transitional epithelial cell	229	63.61%	Acceptable
Identification unknown – referred	1	0.28%	Acceptable
Renal tubular epithelial (RTE)	102	28.33%	
White blood cell (WBC)	14	3.89%	
Squamous epithelial cell	6	1.67%	
Cellular (RTE) cast	3	0.83%	
RTE with fat globules	2	0.56%	

The arrows in this photograph point to **transitional epithelial cells**, also called urothelial cells. Transitional epithelial (TE) cells occasionally appear singly or in pairs in normal urines, especially in the first morning specimen. They are increased in urinary tract infections, and may appear in clusters after being dislodged by catheterization. TE cells line the ureters and bladder. The TE is most commonly spherical in shape, although some may be oval or triangular if they originate near the kidney. They absorb water from the urine and swell, so the nucleus of a TE appears small relative to the large volume of cytoplasm surrounding it. This relative size of the nucleus compared to the cytoplasm, or the N:C ratio, is an important feature in distinguishing TE cells from renal tubular epithelial cells (RTE). TE cells have a lower N:C, while RTE cells have a higher N:C. Renal cells generally do not swell up with water so they have less cytoplasm and the nucleus appears to take up most of the space in the cell. Other distinguishing features are size and shape. The TE is 2-4 times larger than a WBC, while a RTE is only slightly larger than a WBC. On the very rare occasion when RTE cells are seen in urine, they will tend have a cuboidal or polyhedral shape with at least one flat side. To view another photo of Transitional Epithelial cells, see 2016 M1 Specimen US-2. To view a photo of Renal Tubular Epithelial cells, see 2011 M2 Specimen US-3. This challenge was graded by 87% referee consensus.

Urine Sediment Identification

Specimen US-6



Identification	Labs	Percent	Performance
Calcium oxalate crystal	352	97.78%	Acceptable
Uric acid crystal	3	0.83%	
Triple phosphate crystal	3	0.83%	

The arrows in this photograph point to calcium oxalate crystals. Calcium oxalate crystals are octahedral in shape. The typical form resembles a square envelope with diagonal lines forming a distinctive "X". Rarely, calcium oxalate may also appear as oval spheres or biconcave disks. Calcium oxalate crystals are normally seen in the urine after ingestion of oxalate-rich foods such as tomatoes, spinach, garlic, asparagus, and oranges. Although considered a normal urinary crystal, calcium oxalate may be seen in pathologic conditions such as ethylene glycol poisoning, diabetes mellitus, liver disease, and severe chronic renal disease. If seen in freshly voided urine, these crystals may suggest the possibility of oxalate calculi. Calcium oxalate is the most common source of kidney stones (renal calculi.) To view another photo of calcium oxalate crystals, see 2016 M2 Specimen US-4.

REFERENCES:

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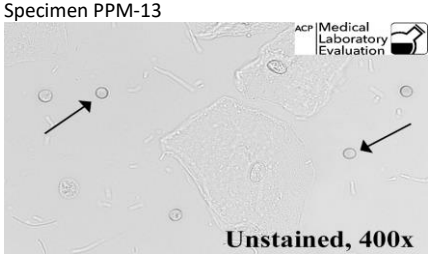
2020 M3
PROVIDER-PERFORMED MICROSCOPY (PPM)
Specimens PPM-13 through PPM-18

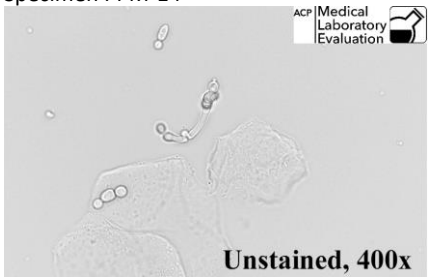
Wet Mount Preparation
Specimen PPM-13



Identification	Labs	Percent	Performance
Red blood cell (RBC)	369	88.49%	Acceptable
White blood cell (WBC)	15	3.60%	
Yeast/fungi	8	1.92%	
Bacteria	4	0.96%	

The arrows in this photograph point to **red blood cells (RBC)**. To view another photo of red blood cells in a wet mount, see 2016 M3 Specimen PPM-13.

KOH PREPARATION
Specimen PPM-14



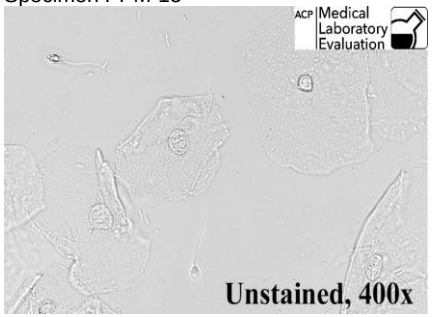
Identification	Labs	Percent	Performance
Yeast/fungal elements present	354	98.88%	Acceptable
Yeast/fungal elements absent	4	1.12%	

Yeast and fungal elements are present in this photograph of a vaginal KOH preparation. Budding and hyphal forms are both exhibited. To view another positive KOH prep, see 2019 M1 Specimen PPM-2.

PROVIDER-PERFORMED MICROSCOPY (PPM)

SPERM DETECTION

Specimen PPM-15

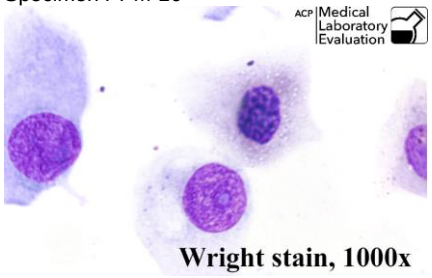


Identification	Labs	Percent	Performance
Sperm present	221	98.22%	Acceptable
Sperm absent	4	1.78%	

Two spermatozoa are present in this photograph of a vaginal wet mount preparation. To view another photo of spermatozoa, see 2019 M3 Specimen PPM-15.

NASAL SMEAR

Specimen PPM-16



Identification	Labs	Percent	Performance
Eosinophils absent	55	82.09%	Acceptable
Eosinophils present	12	17.91%	

Eosinophils are absent in this photograph of Wright-stained nasal mucus. The eosinophil is a specific type of leukocyte that is increased in allergic conditions. "Eos" have a unique red-orange color that comes from the dye eosin, which is a component of Wright stain. The cells shown in this photo are **not** orange/eosinophilic. Another distinguishing characteristic is the nucleus of an eosinophil normally has two segments or lobes, whereas the cells shown are mononuclear. To view a photo of eosinophils in a nasal smear, see 2019 M3 Specimen PPM-16.

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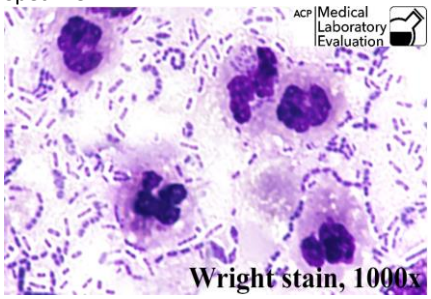
PROVIDER-PERFORMED MICROSCOPY (PPM)

STOOL PREPARATION

Specimen PPM-17

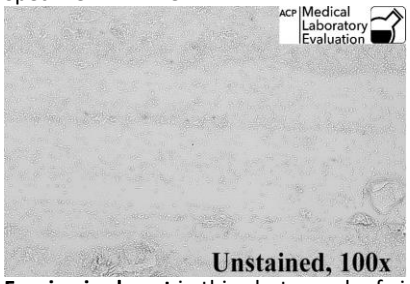


Identification	Labs	Percent	Performance
Leukocytes present	135	99.26%	Acceptable
Leukocytes absent	1	0.74%	

Leukocytes are present in this photograph of a Wright-stained stool preparation. Leukocytes are white blood cells (WBC). The presence of fecal leukocytes indicates inflammation due enteritis or ulcerative colitis. To view another photo of a positive fecal leukocyte prep, see 2019 M2 Specimen PPM-11.

FERN TEST

Specimen PPM-18



Identification	Labs	Percent	Performance
Ferning absent	100	95.24%	Acceptable
Ferning present	5	4.76%	

Ferning is absent in this photograph of air-dried vaginal secretions. The fern test is used to detect ruptured membranes. Amniotic fluid crystallizes when dried on a microscope slide to form a pattern resembling a leaf, unlike normal vaginal secretions or urine, which do not crystallize. Ferning indicates leakage of amniotic fluid. To view a photo of a positive fern prep, see 2019 M3 Specimen PPM-18.

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