MEDICAL LABORATORY

EVALUATION

PARTICIPANT SUMMARY

2 • 0 • 2 • 2

Medical Laboratory
Evaluation

Table of Contents

Table of Contents (cont'd)

Table of Contents (cont'd)

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 $\pm$ 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	$\pm$ 15%
Automated Differential	$\pm$ 3 SD
Body Fluid - Red Cell Count	$\pm$ 2 SD
Body Fluid - White Cell Count	$\pm$ 2 SD
Creatinine, Urine (Quantitative)	$\pm$ 17%
Fibrinogen	$\pm$ 20%
Glucose, Whole Blood – HemoCue	$\pm$ 6 mg/dL or $\pm$ 20%*
Hematocrit	$\pm$ 6%
Hematocrit, Waived	$\pm$ 6% or $\pm$ 2 SD*
Hemoglobin	$\pm$ 7%
Hemoglobin, Waived	$\pm$ 7% or $\pm$ 2 SD*
International Normalized Ratio (INR)	$\pm$ 15%
Microalbumin (Quantitative)	$\pm$ 30%
Platelet Count	$\pm$ 25%
Prothrombin Time	$\pm$ 15%
Red Blood Cell Count	$\pm$ 6%
Reticulocyte Count	$\pm$ 30% or $\pm$ 2 SD*
Sedimentation Rate	$\pm$ 3 SD
Specific Gravity	$\pm$ 0.010
White Blood Cell Count	$\pm$ 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	38	14.08	2.37	16.8	12.9	13.0 - 15.1	38	5.54	0.68	12.3	5.2	5.1 - 6.0
All HemoCue 301/801	9	17.97	0.38	2.1	17.8	16.7 - 19.3	9	6.64	0.13	2.0	6.7	6.1 - 7.2
HemoCue 201/+	28	12.70	0.35	2.7	12.6	11.8 - 13.6	27	5.13	0.08	1.6	5.1	4.7 - 5.5
HemoCue 801	9	17.97	0.38	2.1	17.8	16.7 - 19.3	9	6.64	0.13	2.0	6.7	6.1 - 7.2

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	25	209.9	12.0	5.7	210	167 - 252	26	83.3	5.2	6.2	83	66 - 100
All HemoCue Methods	25	209.9	12.0	5.7	210	167 - 252	26	83.3	5.2	6.2	83	66 - 100
HemoCue Glucose 201	25	209.9	12.0	5.7	210	167 - 252	26	83.3	5.2	6.2	83	66 - 100

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	57	61.0	12.3	20.1	59	24 - 98	57	13.2	3.7	28.3	13	2 - 25
All Automated Methods	13	71.1	11.6	16.3	72	36 - 106	13	13.4	3.5	26.2	13	2 - 24
All Manual Methods	43	58.0	11.1	19.0	55	24 - 92	44	13.5	4.2	31.4	13	0 - 27
All Vital Diagnostics Methods	9	73.1	8.9	12.1	72	46 - 100	9	12.1	2.8	22.8	13	3 - 21
Westergren - diluted	38	57.7	11.2	19.5	55	23 - 92	38	12.8	3.6	28.2	12	1 - 24

SEDIMAT SEDIMENTATION RATE (MM/HR)

		Specimen MAT-5						Specimen MAT-6			
Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	7	66.4	6.1	9.2	66	48 - 85	7	2.7	1.0	35.0	3	0 - 6
Polymedco Sedimat 15	7	66.4	6.1	9.2	66	48 - 85	7	2.7	1.0	35.0	3	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	10	7.53	1.06	14.1	7.6	6.3 - 8.7	10	2.78	0.42	15.1	2.9	2.3 - 3.2
All Abbott Cell-Dyn Instruments	10	7.97	0.72	9.1	7.6	6.7 - 9.2	10	2.97	0.21	7.0	2.9	2.5 - 3.5
Abbott Cell-Dyn Ruby	8	7.97	0.72	9.1	7.6	6.7 - 9.2	8	2.97	0.21	7.0	2.9	2.5 - 3.5

	Specimen CL-13						Specimen CL-14				
All Method	10	7.20	0.61	8.4	7.5	6.1 - 8.3	10	20.28	1.47	7.3	20.7	17.2 - 23.4
All Abbott Cell-Dyn Instruments	10	7.50	0.10	1.3	7.5	6.3 - 8.7	10	20.93	0.81	3.9	21.4	17.7 - 24.1
Abbott Cell-Dyn Ruby	8	7.50	0.10	1.3	7.5	6.3 - 8.7	8	20.93	0.81	3.9	21.4	17.7 - 24.1

	Specimen CL-15					
All Method	10	3.30	0.24	7.4	3.3	2.8 - 3.8
All Abbott Cell-Dyn Instruments	10	3.20	0.17	5.4	3.3	2.7 - 3.7
Abbott Cell-Dyn Ruby	8	3.20	0.17	5.4	3.3	2.7 - 3.7

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	10	4.600	0.214	4.6	4.67	4.32 - 4.88	10	2.168	0.090	4.2	2.20	2.03 - 2.30
All Abbott Cell-Dyn Instruments	10	4.720	0.071	1.5	4.72	4.43 - 5.01	10	2.210	0.036	1.6	2.22	2.07 - 2.35
Abbott Cell-Dyn Ruby	8	4.720	0.071	1.5	4.72	4.43 - 5.01	8	2.210	0.036	1.6	2.22	2.07 - 2.35

	Specimen CL-13						Specimen CL-14				
All Method	10	4.660	0.196	4.2	4.72	4.38 - 4.94	10	5.293	0.209	3.9	5.39	4.97 - 5.62
All Abbott Cell-Dyn Instruments	10	4.750	0.096	2.0	4.79	4.46 - 5.04	10	5.397	0.015	0.3	5.40	5.07 - 5.73
Abbott Cell-Dyn Ruby	8	4.750	0.096	2.0	4.79	4.46 - 5.04	8	5.397	0.015	0.3	5.40	5.07 - 5.73

	Specimen CL-15					
All Method	10	2.615	0.790	30.2	2.23	2.45 - 2.78
All Abbott Cell-Dyn Instruments	10	2.220	0.017	0.8	2.21	2.08 - 2.36
Abbott Cell-Dyn Ruby	8	2.220	0.017	0.8	2.21	2.08 - 2.36

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	10	13.37	1.14	8.5	13.7	12.4 - 14.4	10	5.28	0.60	11.3	5.5	4.9 - 5.7
All Abbott Cell-Dyn Instruments	10	14.00	0.42	3.0	14.0	13.0 - 15.0	10	5.57	0.15	2.7	5.6	5.1 - 6.0
Abbott Cell-Dyn Ruby	8	14.00	0.42	3.0	14.0	13.0 - 15.0	8	5.57	0.15	2.7	5.6	5.1 - 6.0

		Specimen CL-13						Specimen CL-14				
All Method	10	13.40	0.90	6.7	13.7	12.4 - 14.4	10	16.58	0.78	4.7	17.0	15.4 - 17.8
All Abbott Cell-Dyn Instruments	10	13.83	0.31	2.2	13.9	12.8 - 14.9	10	16.97	0.06	0.3	17.0	15.7 - 18.2
Abbott Cell-Dyn Ruby	8	13.83	0.31	2.2	13.9	12.8 - 14.9	8	16.97	0.06	0.3	17.0	15.7 - 18.2

		Specimen CL- 15				
All Method	10	6.33	1.32	20.8	5.7	5.8 - 6.8
All Abbott Cell-Dyn Instruments	10	5.67	0.06	1.0	5.7	5.2 - 6.1
Abbott Cell-Dyn Ruby	8	5.67	0.06	1.0	5.7	5.2 - 6.1

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

		Specimen CL-11						Specimen CL-12				
Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	10	38.57	1.06	2.7	38.4	36.2 - 40.9	10	15.78	0.39	2.4	15.7	14.8 - 16.8
All Abbott Cell-Dyn Instruments	10	38.65	1.48	3.8	38.7	36.3 - 41.0	10	15.77	0.47	3.0	15.6	14.8 - 16.8
Abbott Cell-Dyn Ruby	8	38.65	1.48	3.8	38.7	36.3 - 41.0	8	15.77	0.47	3.0	15.6	14.8 - 16.8

		Specimen CL-13						Specimen CL-14				
All Method	10	38.75	0.90	2.3	38.7	36.4 - 41.1	10	45.73	0.74	1.6	45.8	42.9 - 48.5
All Abbott Cell-Dyn Instruments	10	38.73	1.11	2.9	38.6	36.4 - 41.1	10	45.50	0.72	1.6	45.3	42.7 - 48.3
Abbott Cell-Dyn Ruby	8	38.73	1.11	2.9	38.6	36.4 - 41.1	8	45.50	0.72	1.6	45.3	42.7 - 48.3

		Specimen CL-15				
All Method	10	19.20	6.61	34.4	16.1	18.0 - 20.4
All Abbott Cell-Dyn Instruments	10	15.90	0.40	2.5	15.9	14.9 - 16.9
Abbott Cell-Dyn Ruby	8	15.90	0.40	2.5	15.9	14.9 - 16.9

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	10	256.3	9.3	3.6	255	192 - 321	10	78.0	6.2	8.0	78	58 - 98
All Abbott Cell-Dyn Instruments	10	259.0	9.2	3.5	261	194 - 324	10	75.7	5.0	6.7	75	56 - 95
Abbott Cell-Dyn Ruby	8	259.0	9.2	3.5	261	194 - 324	8	75.7	5.0	6.7	75	56 - 95

		Specimen CL-13						Specimen CL-14			
All Method	10	247.3	10.7	4.3	247	185 - 310	10	456.3	30.9	6.8	457	342 - 571
All Abbott Cell-Dyn Instruments	10	251.3	8.5	3.4	248	188 - 315	10	462.3	34.8	7.5	475	346 - 578
Abbott Cell-Dyn Ruby	8	251.3	8.5	3.4	248	188 - 315	8	462.3	34.8	7.5	475	346 - 578

		Specimen CL-15				
All Method	10	74.5	8.8	11.8	74	55 - 94
All Abbott Cell-Dyn Instruments	10	71.3	7.5	10.5	67	53 - 90
Abbott Cell-Dyn Ruby	8	71.3	7.5	10.5	67	53 - 90

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	10	61.85	3.36	5.4	62.7	51.7 - 72.0	10	49.95	1.71	3.4	50.3	44.8 - 55.1
All Abbott Cell-Dyn Instruments	10	63.40	1.57	2.5	63.7	58.6 - 68.2	10	50.70	1.01	2.0	50.9	47.6 - 53.8
Abbott Cell-Dyn Ruby	8	63.40	1.57	2.5	63.7	58.6 - 68.2	8	50.70	1.01	2.0	50.9	47.6 - 53.8

		Specimen CL-13						Specimen CL-14			
All Method	10	62.08	3.52	5.7	63.3	51.5 - 72.7	10	72.83	2.46	3.4	73.9	65.4 - 80.2
All Abbott Cell-Dyn Instruments	10	63.80	0.87	1.4	63.4	61.1 - 66.5	10	74.03	0.55	0.7	74.3	72.3 - 75.7
Abbott Cell-Dyn Ruby	8	63.80	0.87	1.4	63.4	61.1 - 66.5	8	74.03	0.55	0.7	74.3	72.3 - 75.7

		Specimen CL-15				
All Method	10	52.43	1.27	2.4	52.1	48.6 - 56.3
All Abbott Cell-Dyn Instruments	10	51.83	0.55	1.1	51.8	50.1 - 53.5
Abbott Cell-Dyn Ruby	8	51.83	0.55	1.1	51.8	50.1 - 53.5

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	10	24.53	3.03	12.4	25.2	15.4 - 33.7	10	36.08	4.13	11.5	38.0	23.6 - 48.5
All Abbott Cell-Dyn Instruments	10	25.93	1.37	5.3	25.7	21.8 - 30.1	10	38.13	0.46	1.2	38.4	36.7 - 39.6
Abbott Cell-Dyn Ruby	8	25.93	1.37	5.3	25.7	21.8 - 30.1	8	38.13	0.46	1.2	38.4	36.7 - 39.6

		Specimen CL-13						Specimen CL-14			
All Method	10	23.93	2.53	10.6	24.9	16.3 - 31.6	10	14.15	0.48	3.4	14.1	12.7 - 15.6
All Abbott Cell-Dyn Instruments	10	25.17	0.61	2.4	25.3	23.3 - 27.0	10	14.27	0.51	3.6	14.4	12.7 - 15.9
Abbott Cell-Dyn Ruby	8	25.17	0.61	2.4	25.3	23.3 - 27.0	8	14.27	0.51	3.6	14.4	12.7 - 15.9

		Specimen CL-15				
All Method	10	34.70	6.18	17.8	37.5	16.1 - 53.3
All Abbott Cell-Dyn Instruments	10	37.77	0.92	2.4	38.3	34.9 - 40.6
Abbott Cell-Dyn Ruby	8	37.77	0.92	2.4	38.3	34.9 - 40.6

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	10	6.85	5.27	77.0	4.6	0.0 - 22.7	10	10.40	5.48	52.7	8.0	0.0 - 26.9
All Abbott Cell-Dyn Instruments	10	4.23	0.81	19.1	4.1	1.8 - 6.7	10	7.67	0.49	6.4	7.9	6.1 - 9.2
Abbott Cell-Dyn Ruby	8	4.23	0.81	19.1	4.1	1.8 - 6.7	8	7.67	0.49	6.4	7.9	6.1 - 9.2

		Specimen CL-13						Specimen CL-14			
All Method	10	6.93	5.19	74.9	4.5	0.0 - 22.5	10	5.20	2.75	52.8	4.0	0.0 - 13.5
All Abbott Cell-Dyn Instruments	10	4.33	0.31	7.1	4.4	3.4 - 5.3	10	3.83	0.32	8.4	3.7	2.8 - 4.8
Abbott Cell-Dyn Ruby	8	4.33	0.31	7.1	4.4	3.4 - 5.3	8	3.83	0.32	8.4	3.7	2.8 - 4.8

		Specimen CL-15				
All Method	10	8.95	4.37	48.8	6.9	0.0 - 22.1
All Abbott Cell-Dyn Instruments	10	6.77	0.25	3.7	6.8	6.0 - 7.6
Abbott Cell-Dyn Ruby	8	6.77	0.25	3.7	6.8	6.0 - 7.6

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	10	6.55	0.65	9.9	6.4	4.6 - 8.5	10	3.03	0.46	15.1	3.1	1.6 - 4.4
All Abbott Cell-Dyn Instruments	10	6.27	0.38	6.0	6.1	5.1 - 7.5	10	2.87	0.40	14.1	2.8	1.6 - 4.1
Abbott Cell-Dyn Ruby	8	6.27	0.38	6.0	6.1	5.1 - 7.5	8	2.87	0.40	14.1	2.8	1.6 - 4.1

		Specimen CL-13							Specimen CL-14			
All Method	10	6.93	0.66	9.5	6.7	4.9 - 8.9	10	7.45	0.31	4.2	7.4	6.5 - 8.4
All Abbott Cell-Dyn Instruments	10	6.60	0.10	1.5	6.6	6.3 - 6.9	10	7.47	0.38	5.1	7.3	6.3 - 8.7
Abbott Cell-Dyn Ruby	8	6.60	0.10	1.5	6.6	6.3 - 6.9	8	7.47	0.38	5.1	7.3	6.3 - 8.7

		Specimen CL-15				
All Method	10	3.38	0.67	19.7	3.3	1.3 - 5.4
All Abbott Cell-Dyn Instruments	10	3.10	0.46	14.8	3.0	1.7 - 4.5
Abbott Cell-Dyn Ruby	8	3.10	0.46	14.8	3.0	1.7 - 4.5

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	10	0.20	0.23	115.5	0.2	0.0 - 0.9	10	0.50	0.44	87.9	0.5	0.0 - 1.9
All Abbott Cell-Dyn Instruments	10	0.13	0.23	173.2	0.0	0.0 - 0.9	10	0.57	0.51	90.6	0.7	0.0 - 2.2
Abbott Cell-Dyn Ruby	8	0.13	0.23	173.2	0.0	0.0 - 0.9	8	0.57	0.51	90.6	0.7	0.0 - 2.2

		Specimen CL-13							Specimen CL-14			
All Method	10	0.15	0.13	86.1	0.2	0.0 - 0.6	10	0.35	0.26	75.6	0.4	0.0 - 1.2
All Abbott Cell-Dyn Instruments	10	0.10	0.10	100.0	0.1	0.0 - 0.4	10	0.37	0.32	87.7	0.5	0.0 - 1.4
Abbott Cell-Dyn Ruby	8	0.10	0.10	100.0	0.1	0.0 - 0.4	8	0.37	0.32	87.7	0.5	0.0 - 1.4

		Specimen CL-15				
All Method	10	0.55	0.17	31.5	0.6	0.0 - 1.1
All Abbott Cell-Dyn Instruments	10	0.53	0.21	39.0	0.6	0.0 - 1.2
Abbott Cell-Dyn Ruby	8	0.53	0.21	39.0	0.6	0.0 - 1.2

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

	Specimen SYX-11						Specimen SYX-12				
Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	43	8.40	0.24	2.8	8.4	7.1 - 9.7	45	2.88	0.10	3.5	2.9	2.4 - 3.4
All Sysmex Instruments	43	8.40	0.24	2.8	8.4	7.1 - 9.7	45	2.88	0.10	3.5	2.9	2.4 - 3.4
Sysmex pocH-100i	7	8.30	0.60	7.2	8.2	7.0 - 9.6	7	2.81	0.09	3.2	2.8	2.3 - 3.3
Sysmex XP-300	35	8.47	0.19	2.2	8.5	7.1 - 9.8	36	2.89	0.10	3.5	2.9	2.4 - 3.4

	Specimen SYX-13						Specimen SYX-14				
	Labs	*Mean*	*SD*	*CV*	*Median*	*Range*	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	46	8.37	0.22	2.7	8.4	7.1 - 9.7	45	20.83	0.51	2.5	20.8	17.7 - 24.0
All Sysmex Instruments	46	8.37	0.22	2.7	8.4	7.1 - 9.7	45	20.83	0.51	2.5	20.8	17.7 - 24.0
Sysmex pocH-100i	7	8.10	0.20	2.5	8.0	6.8 - 9.4	7	20.31	0.82	4.0	20.2	17.2 - 23.4
Sysmex XP-300	37	8.44	0.18	2.1	8.5	7.1 - 9.8	36	20.96	0.35	1.7	20.9	17.8 - 24.1

	Specimen SYX-15					
	Labs	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	46	2.87	0.10	3.5	2.9	2.4 - 3.4
All Sysmex Instruments	46	2.87	0.10	3.5	2.9	2.4 - 3.4
Sysmex pocH-100i	7	2.79	0.12	4.4	2.8	2.3 - 3.3
Sysmex XP-300	37	2.90	0.08	2.9	2.9	2.4 - 3.4

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

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
			Specimen SYX-11							**Specimen SYX-12**		
All Method	43	4.071	0.069	1.7	4.05	3.82 - 4.32	45	2.455	0.030	1.2	2.46	2.30 - 2.61
All Sysmex Instruments	43	4.071	0.069	1.7	4.05	3.82 - 4.32	45	2.455	0.030	1.2	2.46	2.30 - 2.61
Sysmex pocH-100i	7	4.169	0.160	3.8	4.13	3.91 - 4.42	7	2.477	0.021	0.9	2.47	2.32 - 2.63
Sysmex XP-300	35	4.067	0.072	1.8	4.05	3.82 - 4.32	36	2.453	0.030	1.2	2.45	2.30 - 2.60
			Specimen SYX-13							**Specimen SYX-14**		
All Method	46	4.067	0.048	1.2	4.07	3.82 - 4.32	44	5.803	0.077	1.3	5.80	5.45 - 6.16
All Sysmex Instruments	46	4.067	0.048	1.2	4.07	3.82 - 4.32	44	5.803	0.077	1.3	5.80	5.45 - 6.16
Sysmex pocH-100i	7	4.099	0.051	1.2	4.08	3.85 - 4.35	7	5.937	0.148	2.5	5.92	5.58 - 6.30
Sysmex XP-300	37	4.059	0.045	1.1	4.06	3.81 - 4.31	36	5.789	0.063	1.1	5.78	5.44 - 6.14
			Specimen SYX-15									
All Method	46	2.455	0.028	1.1	2.45	2.30 - 2.61						
All Sysmex Instruments	46	2.455	0.028	1.1	2.45	2.30 - 2.61						
Sysmex pocH-100i	7	2.470	0.026	1.1	2.47	2.32 - 2.62						
Sysmex XP-300	37	2.451	0.026	1.1	2.45	2.30 - 2.60						

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	43	11.97	0.24	2.0	11.9	11.1 - 12.9	44	6.25	0.16	2.5	6.3	5.8 - 6.7
All Sysmex Instruments	43	11.97	0.24	2.0	11.9	11.1 - 12.9	44	6.25	0.16	2.5	6.3	5.8 - 6.7
Sysmex pocH-100i	7	12.43	0.66	5.3	12.2	11.5 - 13.3	7	6.44	0.08	1.2	6.5	5.9 - 6.9
Sysmex XP-300	35	11.94	0.24	2.0	11.9	11.1 - 12.8	35	6.22	0.14	2.2	6.2	5.7 - 6.7

| | Specimen SYX-13 | | | | | | Specimen SYX-14 | | | | | |
Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	46	11.96	0.15	1.3	11.9	11.1 - 12.8	44	18.39	0.26	1.4	18.4	17.1 - 19.7
All Sysmex Instruments	46	11.96	0.15	1.3	11.9	11.1 - 12.8	44	18.39	0.26	1.4	18.4	17.1 - 19.7
Sysmex pocH-100i	7	12.10	0.19	1.6	12.1	11.2 - 13.0	7	18.86	0.68	3.6	18.7	17.5 - 20.2
Sysmex XP-300	37	11.94	0.13	1.1	11.9	11.1 - 12.8	36	18.36	0.21	1.2	18.4	17.0 - 19.7

| | Specimen SYX-15 | | | | | |
Instrument	Labs	Mean	SD	CV	Median	Range
All Method	46	6.26	0.14	2.2	6.3	5.8 - 6.7
All Sysmex Instruments	46	6.26	0.14	2.2	6.3	5.8 - 6.7
Sysmex pocH-100i	7	6.44	0.10	1.5	6.4	5.9 - 6.9
Sysmex XP-300	37	6.23	0.11	1.8	6.2	5.7 - 6.7

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	44	32.57	0.93	2.8	32.3	30.6 - 34.6	45	17.63	0.38	2.2	17.5	16.5 - 18.7
All Sysmex Instruments	44	32.57	0.93	2.8	32.3	30.6 - 34.6	45	17.63	0.38	2.2	17.5	16.5 - 18.7
Sysmex pocH-100i	7	34.23	1.35	3.9	33.9	32.1 - 36.3	7	18.30	0.33	1.8	18.3	17.2 - 19.4
Sysmex XP-300	35	32.29	0.60	1.9	32.1	30.3 - 34.3	35	17.53	0.19	1.1	17.5	16.4 - 18.6

	Specimen SYX-13						Specimen SYX-14				
	Labs	*Mean*	*SD*	*CV*	*Median*	*Range*	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	45	32.38	0.57	1.8	32.3	30.4 - 34.4	45	49.82	1.16	2.3	49.4	46.8 - 52.9
All Sysmex Instruments	45	32.38	0.57	1.8	32.3	30.4 - 34.4	45	49.82	1.16	2.3	49.4	46.8 - 52.9
Sysmex pocH-100i	7	33.56	0.61	1.8	33.4	31.5 - 35.6	7	51.96	1.29	2.5	52.0	48.8 - 55.1
Sysmex XP-300	37	32.20	0.37	1.2	32.3	30.2 - 34.2	36	49.40	0.50	1.0	49.4	46.4 - 52.4

	Specimen SYX-15					
	Labs	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	45	17.59	0.32	1.8	17.5	16.5 - 18.7
All Sysmex Instruments	45	17.59	0.32	1.8	17.5	16.5 - 18.7
Sysmex pocH-100i	7	18.26	0.35	1.9	18.2	17.1 - 19.4
Sysmex XP-300	36	17.50	0.16	0.9	17.5	16.4 - 18.6

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	46	207.2	9.9	4.8	205	155 - 260	46	63.2	3.7	5.9	63	47 - 80
All Sysmex Instruments	46	207.2	9.9	4.8	205	155 - 260	46	63.2	3.7	5.9	63	47 - 80
Sysmex pocH-100i	7	205.4	10.4	5.1	201	154 - 257	7	63.1	4.1	6.5	61	47 - 79
Sysmex XP-300	37	207.8	10.0	4.8	206	155 - 260	37	63.1	3.7	5.8	63	47 - 79
			Specimen SYX-13						**Specimen SYX-14**			
All Method	45	204.9	8.9	4.3	205	153 - 257	46	430.0	18.9	4.4	429	322 - 538
All Sysmex Instruments	45	204.9	8.9	4.3	205	153 - 257	46	430.0	18.9	4.4	429	322 - 538
Sysmex pocH-100i	7	195.1	18.4	9.4	199	146 - 244	7	411.9	14.7	3.6	409	308 - 515
Sysmex XP-300	37	205.2	9.3	4.6	205	153 - 257	37	433.6	18.1	4.2	432	325 - 543
			Specimen SYX-15									
All Method	45	62.6	4.3	6.9	62	46 - 79						
All Sysmex Instruments	45	62.6	4.3	6.9	62	46 - 79						
Sysmex pocH-100i	6	63.5	5.1	8.0	62	47 - 80						
Sysmex XP-300	37	62.3	4.3	6.8	62	46 - 78						

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	40	30.88	0.92	3.0	30.6	28.1 - 33.7	39	12.67	0.81	6.4	12.6	10.2 - 15.1
All Sysmex Instruments	40	30.88	0.92	3.0	30.6	28.1 - 33.7	39	12.67	0.81	6.4	12.6	10.2 - 15.1
Sysmex pocH-100i	6	30.87	1.21	3.9	30.4	27.2 - 34.5	6	11.45	0.98	8.6	11.6	8.4 - 14.5
Sysmex XP-300	33	30.88	0.89	2.9	30.7	28.2 - 33.6	33	12.78	0.76	5.9	12.6	10.5 - 15.1

| | Specimen SYX-13 | | | | | Specimen SYX-14 | | | | |
Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	40	30.89	0.77	2.5	30.9	28.5 - 33.2	39	62.52	0.75	1.2	62.4	60.2 - 64.8
All Sysmex Instruments	40	30.89	0.77	2.5	30.9	28.5 - 33.2	39	62.52	0.75	1.2	62.4	60.2 - 64.8
Sysmex pocH-100i	6	30.83	1.17	3.8	31.3	27.3 - 34.4	6	62.75	1.30	2.1	63.2	58.8 - 66.7
Sysmex XP-300	33	30.93	0.69	2.2	30.9	28.8 - 33.1	32	62.48	0.64	1.0	62.3	60.5 - 64.4

| | Specimen SYX-15 | | | | |
Instrument	Labs	Mean	SD	CV	Median	Range
All Method	39	12.92	1.38	10.7	13.0	8.7 - 17.1
All Sysmex Instruments	39	12.92	1.38	10.7	13.0	8.7 - 17.1
Sysmex pocH-100i	6	10.98	1.28	11.6	10.6	7.1 - 14.9
Sysmex XP-300	31	13.40	0.90	6.7	13.5	10.7 - 16.2

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

		Specimen SYX-11						Specimen SYX-12				
Instrument	_Labs_	_Mean_	_SD_	_CV_	_Median_	_Range_	_Labs_	_Mean_	_SD_	_CV_	_Median_	_Range_
All Method	40	17.42	1.52	8.7	17.5	12.8 - 22.0	39	18.24	1.84	10.1	18.0	12.7 - 23.8
All Sysmex Instruments	40	17.42	1.52	8.7	17.5	12.8 - 22.0	39	18.24	1.84	10.1	18.0	12.7 - 23.8
Sysmex pocH-100i	6	15.23	0.87	5.7	15.0	12.6 - 17.9	6	16.57	1.32	8.0	16.6	12.5 - 20.6
Sysmex XP-300	33	17.83	1.27	7.1	17.6	14.0 - 21.7	32	18.63	1.74	9.3	18.6	13.4 - 23.9

		Specimen SYX-13						Specimen SYX-14				
All Method	39	17.51	1.19	6.8	17.5	13.9 - 21.1	40	13.50	1.06	7.9	13.5	10.3 - 16.7
All Sysmex Instruments	39	17.51	1.19	6.8	17.5	13.9 - 21.1	40	13.50	1.06	7.9	13.5	10.3 - 16.7
Sysmex pocH-100i	6	15.07	0.93	6.2	15.4	12.2 - 17.9	6	12.10	0.64	5.3	12.1	10.1 - 14.1
Sysmex XP-300	33	17.82	0.94	5.3	17.6	14.9 - 20.7	33	13.78	0.92	6.6	13.8	11.0 - 16.6

		Specimen SYX-15				
All Method	40	17.70	1.54	8.7	17.9	13.0 - 22.4
All Sysmex Instruments	40	17.70	1.54	8.7	17.9	13.0 - 22.4
Sysmex pocH-100i	6	15.67	1.54	9.8	15.4	11.0 - 20.3
Sysmex XP-300	33	18.04	1.27	7.0	18.0	14.2 - 21.9

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	40	51.71	1.67	3.2	51.7	46.6 - 56.8	39	69.21	2.11	3.1	68.9	62.8 - 75.6
All Sysmex Instruments	40	51.71	1.67	3.2	51.7	46.6 - 56.8	39	69.21	2.11	3.1	68.9	62.8 - 75.6
Sysmex pocH-100i	6	53.90	1.38	2.6	53.5	49.7 - 58.1	6	71.98	1.15	1.6	72.0	68.5 - 75.5
Sysmex XP-300	33	51.28	1.41	2.8	51.2	47.0 - 55.6	32	68.64	1.84	2.7	68.7	63.1 - 74.2

		Specimen SYX-13						Specimen SYX-14				
	Labs	_Mean_	_SD_	_CV_	_Median_	_Range_	_Labs_	_Mean_	_SD_	_CV_	_Median_	_Range_
All Method	40	51.71	1.36	2.6	51.6	47.6 - 55.8	38	23.98	0.69	2.9	23.9	21.9 - 26.1
All Sysmex Instruments	40	51.71	1.36	2.6	51.6	47.6 - 55.8	38	23.98	0.69	2.9	23.9	21.9 - 26.1
Sysmex pocH-100i	6	54.10	0.94	1.7	53.8	51.2 - 57.0	6	25.15	0.99	3.9	25.3	22.1 - 28.2
Sysmex XP-300	33	51.25	0.90	1.8	51.4	48.5 - 54.0	32	23.82	0.55	2.3	23.9	22.1 - 25.5

		Specimen SYX-15				
	Labs	_Mean_	_SD_	_CV_	_Median_	_Range_
All Method	40	69.38	2.25	3.2	69.0	62.6 - 76.2
All Sysmex Instruments	40	69.38	2.25	3.2	69.0	62.6 - 76.2
Sysmex pocH-100i	6	73.35	0.66	0.9	73.3	71.3 - 75.4
Sysmex XP-300	33	68.67	1.61	2.3	68.6	63.8 - 73.6

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

Instrument		Specimen HD-11						Specimen HD-12				
	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	259	7.75	0.28	3.6	7.7	6.5 - 9.0	259	2.02	0.14	6.8	2.0	1.7 - 2.4
All Abbott Cell-Dyn Instruments	74	7.77	0.26	3.4	7.8	6.6 - 9.0	74	2.10	0.11	5.4	2.1	1.7 - 2.5
All ABX Instruments	40	7.77	0.22	2.8	7.8	6.6 - 9.0	41	2.03	0.07	3.7	2.0	1.7 - 2.4
All Boule (CDS) Instruments	96	7.61	0.20	2.6	7.6	6.4 - 8.8	97	1.90	0.08	4.2	1.9	1.6 - 2.2
All COULTER Instruments	36	8.00	0.22	2.8	8.0	6.8 - 9.3	35	2.17	0.10	4.5	2.2	1.8 - 2.5
Abbott Cell-Dyn 1800	14	7.53	0.36	4.8	7.6	6.3 - 8.7	14	1.97	0.10	5.0	2.0	1.6 - 2.3
Abbott Cell-Dyn Emerald	59	7.79	0.25	3.2	7.8	6.6 - 9.0	58	2.13	0.09	4.5	2.1	1.8 - 2.5
Boule (CDS) Medonic M series	96	7.61	0.20	2.6	7.6	6.4 - 8.8	97	1.90	0.08	4.2	1.9	1.6 - 2.2
COULTER AcT diff/diff 2	35	8.01	0.23	2.8	8.0	6.8 - 9.3	34	2.16	0.10	4.4	2.2	1.8 - 2.5
Diatron Abacus 3 CP	5	7.74	0.27	3.5	7.7	6.5 - 9.0	5	1.96	0.09	4.6	1.9	1.6 - 2.3
Horiba ABX Micros/45/60	40	7.77	0.22	2.8	7.8	6.6 - 9.0	41	2.03	0.07	3.7	2.0	1.7 - 2.4

Instrument		Specimen HD-13						Specimen HD-14				
All Method	260	7.75	0.27	3.5	7.7	6.5 - 9.0	258	20.91	0.71	3.4	20.9	17.7 - 24.1
All Abbott Cell-Dyn Instruments	75	7.78	0.26	3.4	7.8	6.6 - 9.0	76	20.60	0.74	3.6	20.5	17.5 - 23.7
All ABX Instruments	41	7.79	0.23	3.0	7.8	6.6 - 9.0	40	21.08	0.57	2.7	21.1	17.9 - 24.3
All Boule (CDS) Instruments	97	7.63	0.21	2.8	7.6	6.4 - 8.8	98	20.85	0.55	2.7	20.9	17.7 - 24.0
All COULTER Instruments	35	7.99	0.18	2.3	8.0	6.7 - 9.2	35	21.52	0.57	2.6	21.5	18.2 - 24.8
Abbott Cell-Dyn 1800	14	7.54	0.43	5.8	7.7	6.4 - 8.7	14	20.34	0.90	4.4	20.6	17.2 - 23.4
Abbott Cell-Dyn Emerald	60	7.81	0.22	2.9	7.8	6.6 - 9.0	59	20.61	0.62	3.0	20.5	17.5 - 23.7
Boule (CDS) Medonic M series	97	7.63	0.21	2.8	7.6	6.4 - 8.8	98	20.85	0.55	2.7	20.9	17.7 - 24.0
COULTER AcT diff/diff 2	35	7.99	0.18	2.3	8.0	6.7 - 9.2	35	21.52	0.57	2.6	21.5	18.2 - 24.8
Diatron Abacus 3 CP	5	7.54	0.34	4.5	7.6	6.4 - 8.7	5	20.32	1.05	5.2	20.7	17.2 - 23.4
Horiba ABX Micros/45/60	41	7.79	0.23	3.0	7.8	6.6 - 9.0	40	21.08	0.57	2.7	21.1	17.9 - 24.3

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	261	2.05	0.15	7.6	2.0	1.7 - 2.4
All Abbott Cell-Dyn Instruments	75	2.14	0.13	5.9	2.1	1.8 - 2.5
All ABX Instruments	41	2.03	0.08	3.9	2.1	1.7 - 2.4
All Boule (CDS) Instruments	97	1.92	0.09	4.4	1.9	1.6 - 2.3
All COULTER Instruments	38	2.21	0.10	4.6	2.2	1.8 - 2.6
Abbott Cell-Dyn 1800	14	2.02	0.11	5.2	2.0	1.7 - 2.4
Abbott Cell-Dyn Emerald	59	2.17	0.12	5.3	2.2	1.8 - 2.5
Boule (CDS) Medonic M series	97	1.92	0.09	4.4	1.9	1.6 - 2.3
COULTER AcT diff/diff 2	37	2.21	0.10	4.6	2.2	1.8 - 2.6
Diatron Abacus 3 CP	5	1.98	0.08	4.2	2.0	1.6 - 2.3
Horiba ABX Micros/45/60	41	2.03	0.08	3.9	2.1	1.7 - 2.4

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

	Specimen HD-11						Specimen HD-12				
Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	256	4.581	0.105	2.3	4.58	4.30 - 4.86	258	2.236	0.064	2.8	2.23	2.10 - 2.38
All Abbott Cell-Dyn Instruments	74	4.540	0.110	2.4	4.54	4.26 - 4.82	76	2.259	0.080	3.5	2.24	2.12 - 2.40
All ABX Instruments	39	4.602	0.100	2.2	4.60	4.32 - 4.88	39	2.225	0.048	2.1	2.23	2.09 - 2.36
All Boule (CDS) Instruments	100	4.607	0.073	1.6	4.61	4.33 - 4.89	99	2.211	0.038	1.7	2.22	2.07 - 2.35
All COULTER Instruments	38	4.586	0.194	4.2	4.57	4.31 - 4.87	36	2.271	0.067	2.9	2.28	2.13 - 2.41
Abbott Cell-Dyn 1800	14	4.626	0.092	2.0	4.63	4.34 - 4.91	14	2.370	0.056	2.3	2.39	2.22 - 2.52
Abbott Cell-Dyn Emerald	58	4.520	0.105	2.3	4.52	4.24 - 4.80	60	2.233	0.061	2.7	2.23	2.09 - 2.37
Boule (CDS) Medonic M series	100	4.607	0.073	1.6	4.61	4.33 - 4.89	99	2.211	0.038	1.7	2.22	2.07 - 2.35
COULTER AcT diff/diff 2	37	4.586	0.197	4.3	4.56	4.31 - 4.87	35	2.272	0.068	3.0	2.28	2.13 - 2.41
Diatron Abacus 3 CP	5	4.632	0.177	3.8	4.70	4.35 - 4.91	5	2.252	0.070	3.1	2.26	2.11 - 2.39
Horiba ABX Micros/45/60	39	4.602	0.100	2.2	4.60	4.32 - 4.88	39	2.225	0.048	2.1	2.23	2.09 - 2.36

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	256	4.583	0.095	2.1	4.59	4.30 - 4.86	257	5.568	0.131	2.4	5.58	5.23 - 5.91
All Abbott Cell-Dyn Instruments	74	4.540	0.100	2.2	4.54	4.26 - 4.82	74	5.454	0.118	2.2	5.44	5.12 - 5.79
All ABX Instruments	40	4.590	0.093	2.0	4.61	4.31 - 4.87	40	5.587	0.101	1.8	5.61	5.25 - 5.93
All Boule (CDS) Instruments	96	4.597	0.058	1.3	4.60	4.32 - 4.88	97	5.621	0.080	1.4	5.62	5.28 - 5.96
All COULTER Instruments	37	4.652	0.131	2.8	4.61	4.37 - 4.94	38	5.598	0.182	3.3	5.57	5.26 - 5.94
Abbott Cell-Dyn 1800	14	4.574	0.086	1.9	4.58	4.29 - 4.85	14	5.439	0.078	1.4	5.42	5.11 - 5.77
Abbott Cell-Dyn Emerald	58	4.531	0.103	2.3	4.54	4.25 - 4.81	60	5.471	0.146	2.7	5.46	5.14 - 5.80
Boule (CDS) Medonic M series	96	4.597	0.058	1.3	4.60	4.32 - 4.88	97	5.621	0.080	1.4	5.62	5.28 - 5.96
COULTER AcT diff/diff 2	36	4.651	0.133	2.9	4.61	4.37 - 4.94	37	5.595	0.184	3.3	5.57	5.25 - 5.94
Diatron Abacus 3 CP	5	4.536	0.127	2.8	4.50	4.26 - 4.81	5	5.698	0.178	3.1	5.78	5.35 - 6.04
Horiba ABX Micros/45/60	40	4.590	0.093	2.0	4.61	4.31 - 4.87	40	5.587	0.101	1.8	5.61	5.25 - 5.93

Specimen HD-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	256	2.239	0.057	2.6	2.24	2.10 - 2.38
All Abbott Cell-Dyn Instruments	75	2.263	0.076	3.4	2.25	2.12 - 2.40
All ABX Instruments	39	2.228	0.038	1.7	2.24	2.09 - 2.37
All Boule (CDS) Instruments	100	2.215	0.038	1.7	2.21	2.08 - 2.35
All COULTER Instruments	36	2.271	0.050	2.2	2.26	2.13 - 2.41
Abbott Cell-Dyn 1800	14	2.352	0.054	2.3	2.34	2.21 - 2.50
Abbott Cell-Dyn Emerald	59	2.242	0.065	2.9	2.23	2.10 - 2.38
Boule (CDS) Medonic M series	100	2.215	0.038	1.7	2.21	2.08 - 2.35
COULTER AcT diff/diff 2	35	2.271	0.051	2.2	2.26	2.13 - 2.41
Diatron Abacus 3 CP	5	2.278	0.083	3.6	2.27	2.14 - 2.42
Horiba ABX Micros/45/60	39	2.228	0.038	1.7	2.24	2.09 - 2.37

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

Specimen HD-11

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	259	13.60	0.30	2.2	13.6	12.6 - 14.6
All Abbott Cell-Dyn Instruments	74	13.59	0.31	2.3	13.6	12.6 - 14.6
All ABX Instruments	41	13.65	0.30	2.2	13.7	12.6 - 14.7
All Boule (CDS) Instruments	100	13.66	0.21	1.5	13.7	12.7 - 14.7
All COULTER Instruments	36	13.32	0.27	2.1	13.3	12.3 - 14.3
Abbott Cell-Dyn 1800	14	13.74	0.36	2.6	13.7	12.7 - 14.8
Abbott Cell-Dyn Emerald	59	13.58	0.32	2.3	13.6	12.6 - 14.6
Boule (CDS) Medonic M series	100	13.66	0.21	1.5	13.7	12.7 - 14.7
COULTER AcT diff/diff 2	35	13.34	0.26	2.0	13.3	12.4 - 14.3
Diatron Abacus 3 CP	5	13.98	0.39	2.8	14.0	13.0 - 15.0
Horiba ABX Micros/45/60	41	13.65	0.30	2.2	13.7	12.6 - 14.7

Specimen HD-12

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	259	6.08	0.15	2.5	6.1	5.6 - 6.6
All Abbott Cell-Dyn Instruments	75	6.09	0.19	3.2	6.1	5.6 - 6.6
All ABX Instruments	41	6.10	0.12	2.0	6.1	5.6 - 6.6
All Boule (CDS) Instruments	100	6.08	0.10	1.6	6.1	5.6 - 6.6
All COULTER Instruments	36	5.99	0.16	2.7	6.0	5.5 - 6.5
Abbott Cell-Dyn 1800	14	6.31	0.15	2.4	6.3	5.8 - 6.8
Abbott Cell-Dyn Emerald	59	6.03	0.16	2.7	6.0	5.6 - 6.5
Boule (CDS) Medonic M series	100	6.08	0.10	1.6	6.1	5.6 - 6.6
COULTER AcT diff/diff 2	35	5.97	0.14	2.4	6.0	5.5 - 6.4
Diatron Abacus 3 CP	5	6.36	0.19	3.1	6.5	5.9 - 6.9
Horiba ABX Micros/45/60	41	6.10	0.12	2.0	6.1	5.6 - 6.6

Specimen HD-13

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	259	13.65	0.26	1.9	13.7	12.6 - 14.7
All Abbott Cell-Dyn Instruments	74	13.65	0.25	1.9	13.6	12.6 - 14.7
All ABX Instruments	41	13.68	0.28	2.0	13.7	12.7 - 14.7
All Boule (CDS) Instruments	99	13.69	0.21	1.6	13.7	12.7 - 14.7
All COULTER Instruments	37	13.50	0.29	2.2	13.5	12.5 - 14.5
Abbott Cell-Dyn 1800	14	13.79	0.35	2.6	13.7	12.8 - 14.8
Abbott Cell-Dyn Emerald	59	13.64	0.26	1.9	13.6	12.6 - 14.6
Boule (CDS) Medonic M series	99	13.69	0.21	1.6	13.7	12.7 - 14.7
COULTER AcT diff/diff 2	36	13.49	0.30	2.2	13.5	12.5 - 14.5
Diatron Abacus 3 CP	5	13.72	0.47	3.4	13.7	12.7 - 14.7
Horiba ABX Micros/45/60	41	13.68	0.28	2.0	13.7	12.7 - 14.7

Specimen HD-14

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	261	18.61	0.38	2.1	18.6	17.3 - 20.0
All Abbott Cell-Dyn Instruments	75	18.56	0.35	1.9	18.6	17.2 - 19.9
All ABX Instruments	41	18.49	0.28	1.5	18.5	17.1 - 19.8
All Boule (CDS) Instruments	98	18.78	0.30	1.6	18.8	17.4 - 20.1
All COULTER Instruments	36	18.29	0.32	1.7	18.3	17.0 - 19.6
Abbott Cell-Dyn 1800	14	18.64	0.40	2.1	18.6	17.3 - 20.0
Abbott Cell-Dyn Emerald	60	18.57	0.37	2.0	18.6	17.2 - 19.9
Boule (CDS) Medonic M series	98	18.78	0.30	1.6	18.8	17.4 - 20.1
COULTER AcT diff/diff 2	36	18.29	0.32	1.7	18.3	17.0 - 19.6
Diatron Abacus 3 CP	5	19.08	0.53	2.8	18.8	17.7 - 20.5
Horiba ABX Micros/45/60	41	18.49	0.28	1.5	18.5	17.1 - 19.8

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

Specimen HD-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	260	6.08	0.14	2.4	6.1	5.6 - 6.6
All Abbott Cell-Dyn Instruments	76	6.08	0.19	3.1	6.0	5.6 - 6.6
All ABX Instruments	41	6.14	0.11	1.8	6.1	5.7 - 6.6
All Boule (CDS) Instruments	100	6.08	0.11	1.8	6.1	5.6 - 6.6
All COULTER Instruments	37	5.99	0.15	2.6	6.0	5.5 - 6.5
Abbott Cell-Dyn 1800	14	6.30	0.16	2.5	6.3	5.8 - 6.8
Abbott Cell-Dyn Emerald	60	6.03	0.15	2.5	6.0	5.6 - 6.5
Boule (CDS) Medonic M series	100	6.08	0.11	1.8	6.1	5.6 - 6.6
COULTER AcT diff/diff 2	36	5.98	0.14	2.3	6.0	5.5 - 6.4
Diatron Abacus 3 CP	5	6.16	0.18	2.9	6.1	5.7 - 6.6
Horiba ABX Micros/45/60	41	6.14	0.11	1.8	6.1	5.7 - 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	261	38.60	2.17	5.6	38.0	36.2 - 41.0	261	17.22	1.14	6.6	16.9	16.1 - 18.3
All Abbott Cell-Dyn Instruments	75	41.07	1.32	3.2	41.1	38.6 - 43.6	76	18.61	0.58	3.1	18.7	17.4 - 19.8
All ABX Instruments	41	38.45	1.06	2.8	38.6	36.1 - 40.8	40	16.38	0.37	2.2	16.3	15.3 - 17.4
All Boule (CDS) Instruments	100	36.60	0.87	2.4	36.7	34.4 - 38.9	100	16.29	0.42	2.6	16.3	15.3 - 17.3
All COULTER Instruments	38	38.69	1.44	3.7	38.3	36.3 - 41.1	37	17.55	0.57	3.2	17.6	16.5 - 18.7
Abbott Cell-Dyn 1800	14	40.11	1.25	3.1	40.7	37.7 - 42.6	14	18.58	0.56	3.0	18.6	17.4 - 19.7
Abbott Cell-Dyn Emerald	59	41.39	1.13	2.7	41.3	38.9 - 43.9	60	18.65	0.56	3.0	18.7	17.5 - 19.8
Boule (CDS) Medonic M series	100	36.60	0.87	2.4	36.7	34.4 - 38.9	100	16.29	0.42	2.6	16.3	15.3 - 17.3
COULTER AcT diff/diff 2	37	38.66	1.45	3.7	38.2	36.3 - 41.0	36	17.55	0.58	3.3	17.6	16.4 - 18.7
Diatron Abacus 3 CP	5	41.44	1.11	2.7	41.8	38.9 - 44.0	5	18.44	0.42	2.3	18.6	17.3 - 19.6
Horiba ABX Micros/45/60	41	38.45	1.06	2.8	38.6	36.1 - 40.8	40	16.38	0.37	2.2	16.3	15.3 - 17.4

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	259	38.58	2.14	5.5	38.3	36.2 - 40.9	259	52.39	2.38	4.5	52.1	49.2 - 55.6
All Abbott Cell-Dyn Instruments	74	41.05	1.29	3.1	41.1	38.5 - 43.6	76	54.88	1.98	3.6	55.0	51.5 - 58.2
All ABX Instruments	39	38.29	0.79	2.1	38.3	35.9 - 40.6	41	51.94	1.04	2.0	52.1	48.8 - 55.1
All Boule (CDS) Instruments	100	36.53	0.84	2.3	36.5	34.3 - 38.8	99	50.50	1.33	2.6	50.3	47.4 - 53.6
All COULTER Instruments	38	39.11	1.16	3.0	38.9	36.7 - 41.5	37	52.47	1.59	3.0	51.9	49.3 - 55.7
Abbott Cell-Dyn 1800	14	39.77	1.06	2.7	40.0	37.3 - 42.2	14	52.77	1.31	2.5	53.1	49.6 - 56.0
Abbott Cell-Dyn Emerald	58	41.43	1.06	2.6	41.6	38.9 - 44.0	58	55.31	1.41	2.5	55.3	51.9 - 58.7
Boule (CDS) Medonic M series	100	36.53	0.84	2.3	36.5	34.3 - 38.8	99	50.50	1.33	2.6	50.3	47.4 - 53.6
COULTER AcT diff/diff 2	37	39.07	1.15	2.9	38.8	36.7 - 41.5	36	52.40	1.56	3.0	51.9	49.2 - 55.6
Diatron Abacus 3 CP	5	40.68	0.73	1.8	40.7	38.2 - 43.2	5	57.04	1.52	2.7	57.4	53.6 - 60.5
Horiba ABX Micros/45/60	39	38.29	0.79	2.1	38.3	35.9 - 40.6	41	51.94	1.04	2.0	52.1	48.8 - 55.1

Specimen HD-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	261	17.24	1.12	6.5	16.9	16.2 - 18.3
All Abbott Cell-Dyn Instruments	74	18.56	0.61	3.3	18.5	17.4 - 19.7
All ABX Instruments	40	16.38	0.32	2.0	16.3	15.3 - 17.4
All Boule (CDS) Instruments	100	16.33	0.41	2.5	16.2	15.3 - 17.4
All COULTER Instruments	37	17.58	0.41	2.3	17.5	16.5 - 18.7
Abbott Cell-Dyn 1800	14	18.39	0.52	2.8	18.4	17.2 - 19.5
Abbott Cell-Dyn Emerald	59	18.67	0.64	3.5	18.6	17.5 - 19.8
Boule (CDS) Medonic M series	100	16.33	0.41	2.5	16.2	15.3 - 17.4
COULTER AcT diff/diff 2	36	17.58	0.42	2.4	17.5	16.5 - 18.7
Diatron Abacus 3 CP	5	18.64	0.57	3.1	18.6	17.5 - 19.8
Horiba ABX Micros/45/60	40	16.38	0.32	2.0	16.3	15.3 - 17.4

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	259	272.9	15.5	5.7	273	204 - 342	257	70.5	7.5	10.7	71	52 - 89
All Abbott Cell-Dyn Instruments	76	270.6	18.4	6.8	267	202 - 339	76	69.9	9.7	13.9	70	52 - 88
All ABX Instruments	41	275.0	13.5	4.9	275	206 - 344	41	76.8	7.6	9.9	79	57 - 97
All Boule (CDS) Instruments	98	270.9	12.6	4.6	271	203 - 339	98	68.1	5.2	7.7	68	51 - 86
All COULTER Instruments	38	282.6	14.5	5.1	283	211 - 354	36	71.6	5.3	7.4	72	53 - 90
Abbott Cell-Dyn 1800	14	273.0	21.5	7.9	277	204 - 342	14	67.5	5.0	7.4	68	50 - 85
Abbott Cell-Dyn Emerald	60	270.4	17.9	6.6	267	202 - 339	60	70.4	10.6	15.1	71	52 - 88
Boule (CDS) Medonic M series	98	270.9	12.6	4.6	271	203 - 339	98	68.1	5.2	7.7	68	51 - 86
COULTER AcT diff/diff 2	37	283.4	14.0	4.9	283	212 - 355	35	71.9	5.0	7.0	72	53 - 90
Diatron Abacus 3 CP	5	255.0	16.1	6.3	250	191 - 319	5	70.0	6.1	8.7	71	52 - 88
Horiba ABX Micros/45/60	41	275.0	13.5	4.9	275	206 - 344	41	76.8	7.6	9.9	79	57 - 97

		Specimen HD-13							Specimen HD-14			
All Method	258	272.2	15.0	5.5	272	204 - 341	258	540.4	31.7	5.9	539	405 - 676
All Abbott Cell-Dyn Instruments	76	270.4	17.9	6.6	272	202 - 339	76	532.2	37.9	7.1	528	399 - 666
All ABX Instruments	41	270.8	14.3	5.3	271	203 - 339	40	533.5	19.6	3.7	532	400 - 667
All Boule (CDS) Instruments	98	269.7	11.5	4.3	269	202 - 338	98	538.1	22.5	4.2	539	403 - 673
All COULTER Instruments	38	285.2	14.1	4.9	285	213 - 357	37	577.1	22.6	3.9	580	432 - 722
Abbott Cell-Dyn 1800	14	267.3	20.5	7.7	270	200 - 335	14	568.6	39.7	7.0	582	426 - 711
Abbott Cell-Dyn Emerald	60	271.0	17.4	6.4	273	203 - 339	60	522.6	32.1	6.1	523	391 - 654
Boule (CDS) Medonic M series	98	269.7	11.5	4.3	269	202 - 338	98	538.1	22.5	4.2	539	403 - 673
COULTER AcT diff/diff 2	37	286.0	13.4	4.7	285	214 - 358	36	578.3	21.8	3.8	581	433 - 723
Diatron Abacus 3 CP	5	253.6	8.3	3.3	252	190 - 317	5	512.2	34.1	6.7	526	384 - 641
Horiba ABX Micros/45/60	41	270.8	14.3	5.3	271	203 - 339	40	533.5	19.6	3.7	532	400 - 667

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	256	71.1	7.5	10.5	70	53 - 89
All Abbott Cell-Dyn Instruments	76	72.3	12.7	17.5	70	54 - 91
All ABX Instruments	41	77.1	5.3	6.9	78	57 - 97
All Boule (CDS) Instruments	99	68.6	4.8	7.0	68	51 - 86
All COULTER Instruments	37	71.3	4.4	6.2	70	53 - 90
Abbott Cell-Dyn 1800	14	66.4	6.4	9.6	67	49 - 84
Abbott Cell-Dyn Emerald	60	73.8	13.6	18.4	72	55 - 93
Boule (CDS) Medonic M series	99	68.6	4.8	7.0	68	51 - 86
COULTER AcT diff/diff 2	36	71.5	4.3	6.1	71	53 - 90
Diatron Abacus 3 CP	5	70.4	6.8	9.7	68	52 - 88
Horiba ABX Micros/45/60	41	77.1	5.3	6.9	78	57 - 97

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

Instrument	Specimen HD-11						Specimen HD-12					
	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	252	29.99	2.95	9.8	30.8	21.1 - 38.9	253	56.07	6.81	12.1	58.1	35.6 - 76.5
All Abbott Cell-Dyn Instruments	72	28.09	1.77	6.3	28.5	22.7 - 33.4	73	51.85	3.38	6.5	52.7	41.7 - 62.0
All ABX Instruments	41	26.20	2.32	8.8	26.5	19.2 - 33.2	41	46.02	4.98	10.8	47.1	31.0 - 61.0
All Boule (CDS) Instruments	95	32.17	1.09	3.4	32.2	28.9 - 35.5	96	61.82	2.18	3.5	61.9	55.2 - 68.4
All COULTER Instruments	36	32.29	0.98	3.0	32.1	29.3 - 35.3	36	60.25	1.71	2.8	60.3	55.1 - 65.4
Abbott Cell-Dyn 1800	14	25.35	1.30	5.1	25.8	21.4 - 29.3	14	46.61	2.62	5.6	46.4	38.7 - 54.5
Abbott Cell-Dyn Emerald	56	28.72	1.10	3.8	28.7	25.4 - 32.1	57	53.09	2.13	4.0	53.2	46.6 - 59.5
Boule (CDS) Medonic M series	95	32.17	1.09	3.4	32.2	28.9 - 35.5	96	61.82	2.18	3.5	61.9	55.2 - 68.4
COULTER AcT diff/diff 2	36	32.29	0.98	3.0	32.1	29.3 - 35.3	36	60.25	1.71	2.8	60.3	55.1 - 65.4
Diatron Abacus 3 CP	5	34.24	2.78	8.1	33.3	25.8 - 42.6	5	59.34	0.55	0.9	59.6	57.6 - 61.1
Horiba ABX Micros/45/60	41	26.20	2.32	8.8	26.5	19.2 - 33.2	41	46.02	4.98	10.8	47.1	31.0 - 61.0

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	252	29.87	3.07	10.3	30.8	20.6 - 39.1	247	15.77	1.10	7.0	15.8	12.4 - 19.1
All Abbott Cell-Dyn Instruments	73	28.17	1.77	6.3	28.5	22.8 - 33.5	70	15.84	1.54	9.7	16.0	11.2 - 20.5
All ABX Instruments	41	25.40	2.41	9.5	24.9	18.1 - 32.7	41	15.11	1.08	7.2	14.9	11.8 - 18.4
All Boule (CDS) Instruments	95	31.99	1.10	3.4	31.9	28.6 - 35.3	93	16.01	0.60	3.7	16.1	14.2 - 17.9
All COULTER Instruments	36	32.48	0.80	2.5	32.5	30.0 - 34.9	36	15.55	0.90	5.8	15.5	12.8 - 18.3
Abbott Cell-Dyn 1800	14	25.71	1.60	6.2	25.8	20.9 - 30.6	14	13.45	0.75	5.6	13.4	11.2 - 15.7
Abbott Cell-Dyn Emerald	56	28.82	1.12	3.9	28.8	25.4 - 32.2	54	16.48	1.01	6.1	16.3	13.4 - 19.6
Boule (CDS) Medonic M series	95	31.99	1.10	3.4	31.9	28.6 - 35.3	93	16.01	0.60	3.7	16.1	14.2 - 17.9
COULTER AcT diff/diff 2	36	32.48	0.80	2.5	32.5	30.0 - 34.9	36	15.55	0.90	5.8	15.5	12.8 - 18.3
Diatron Abacus 3 CP	5	35.04	3.27	9.3	34.0	25.2 - 44.9	5	17.18	1.07	6.2	17.5	13.9 - 20.4
Horiba ABX Micros/45/60	41	25.40	2.41	9.5	24.9	18.1 - 32.7	41	15.11	1.08	7.2	14.9	11.8 - 18.4

Specimen HD-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	252	55.88	6.88	12.3	57.7	35.2 - 76.6
All Abbott Cell-Dyn Instruments	73	51.86	3.30	6.4	52.5	41.9 - 61.8
All ABX Instruments	41	45.65	5.21	11.4	45.1	30.0 - 61.3
All Boule (CDS) Instruments	95	61.64	2.53	4.1	62.1	54.0 - 69.3
All COULTER Instruments	35	60.20	1.42	2.4	60.0	55.9 - 64.5
Abbott Cell-Dyn 1800	14	47.42	2.73	5.8	47.3	39.2 - 55.7
Abbott Cell-Dyn Emerald	56	53.07	2.01	3.8	53.2	47.0 - 59.2
Boule (CDS) Medonic M series	95	61.64	2.53	4.1	62.1	54.0 - 69.3
COULTER AcT diff/diff 2	35	60.20	1.42	2.4	60.0	55.9 - 64.5
Diatron Abacus 3 CP	5	58.82	1.44	2.4	59.7	54.5 - 63.2
Horiba ABX Micros/45/60	41	45.65	5.21	11.4	45.1	30.0 - 61.3

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	252	7.28	2.08	28.6	6.9	1.0 - 13.6	252	10.91	4.91	45.0	9.5	0.0 - 25.7
All Abbott Cell-Dyn Instruments (excl Emerald)	16	11.49	1.36	11.8	11.8	7.4 - 15.6	16	18.11	2.53	13.9	18.9	10.5 - 25.7
All ABX Instruments	41	9.75	1.41	14.4	9.6	5.5 - 14.0	41	19.22	3.36	17.5	18.9	9.1 - 29.3
All Boule (CDS) Instruments	96	6.59	1.29	19.6	6.7	2.7 - 10.5	96	7.49	1.76	23.6	7.8	2.1 - 12.8
All COULTER Instruments	36	5.34	1.02	19.2	5.5	2.2 - 8.5	36	7.33	1.20	16.4	7.4	3.7 - 11.0
Abbott Cell-Dyn 1800	14	11.92	0.69	5.8	12.0	9.8 - 14.1	14	18.85	1.61	8.5	19.2	14.0 - 23.7
Abbott Cell-Dyn Emerald	56	6.71	0.71	10.6	6.5	4.5 - 8.9	55	11.17	1.21	10.9	11.0	7.5 - 14.9
Boule (CDS) Medonic M series	96	6.59	1.29	19.6	6.7	2.7 - 10.5	96	7.49	1.76	23.6	7.8	2.1 - 12.8
COULTER AcT diff/diff 2	36	5.34	1.02	19.2	5.5	2.2 - 8.5	36	7.33	1.20	16.4	7.4	3.7 - 11.0
Diatron Abacus 3 CP	5	8.22	1.98	24.1	8.9	2.2 - 14.2	5	9.92	0.99	10.0	10.2	6.9 - 12.9
Horiba ABX Micros/45/60	41	9.75	1.41	14.4	9.6	5.5 - 14.0	41	19.22	3.36	17.5	18.9	9.1 - 29.3

Specimen HD-13 / Specimen HD-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	252	7.32	2.17	29.6	6.7	0.8 - 13.9	251	4.44	1.04	23.5	4.3	1.3 - 7.6
All Abbott Cell-Dyn Instruments (excl Emerald)	16	11.55	1.28	11.1	11.9	7.7 - 15.4	16	5.92	0.60	10.2	6.1	4.1 - 7.8
All ABX Instruments	41	10.07	1.42	14.1	10.1	5.7 - 14.4	41	4.12	0.47	11.5	4.0	2.7 - 5.6
All Boule (CDS) Instruments	96	6.55	1.35	20.7	6.4	2.4 - 10.7	94	5.20	0.57	11.0	5.3	3.4 - 7.0
All COULTER Instruments	36	5.31	0.76	14.4	5.4	3.0 - 7.6	36	3.95	0.27	6.8	4.0	3.1 - 4.8
Abbott Cell-Dyn 1800	14	11.93	0.68	5.7	12.0	9.8 - 14.0	14	6.11	0.33	5.4	6.2	5.1 - 7.1
Abbott Cell-Dyn Emerald	55	6.59	0.69	10.5	6.4	4.5 - 8.7	57	3.19	0.28	8.7	3.1	2.3 - 4.1
Boule (CDS) Medonic M series	96	6.55	1.35	20.7	6.4	2.4 - 10.7	94	5.20	0.57	11.0	5.3	3.4 - 7.0
COULTER AcT diff/diff 2	36	5.31	0.76	14.4	5.4	3.0 - 7.6	36	3.95	0.27	6.8	4.0	3.1 - 4.8
Diatron Abacus 3 CP	4	8.80	1.07	12.1	9.1	5.5 - 12.1	5	6.64	0.18	2.7	6.6	6.0 - 7.2
Horiba ABX Micros/45/60	41	10.07	1.42	14.1	10.1	5.7 - 14.4	41	4.12	0.47	11.5	4.0	2.7 - 5.6

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	252	10.93	4.88	44.6	9.6	0.0 - 25.6
All Abbott Cell-Dyn Instruments (excl Emerald)	16	17.82	2.88	16.1	19.0	9.1 - 26.5
All ABX Instruments	41	19.11	3.65	19.1	18.6	8.1 - 30.1
All Boule (CDS) Instruments	96	7.63	1.98	26.0	7.6	1.6 - 13.6
All COULTER Instruments	35	7.41	0.99	13.3	7.6	4.4 - 10.4
Abbott Cell-Dyn 1800	14	18.58	2.08	11.2	19.1	12.3 - 24.9
Abbott Cell-Dyn Emerald	55	11.05	1.27	11.5	10.8	7.2 - 14.9
Boule (CDS) Medonic M series	96	7.63	1.98	26.0	7.6	1.6 - 13.6
COULTER AcT diff/diff 2	35	7.41	0.99	13.3	7.6	4.4 - 10.4
Diatron Abacus 3 CP	5	10.22	1.05	10.3	10.3	7.0 - 13.4
Horiba ABX Micros/45/60	41	19.11	3.65	19.1	18.6	8.1 - 30.1

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

	Specimen HD-11						Specimen HD-12				
Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	250	62.72	2.07	3.3	62.8	56.5 - 69.0	254	32.95	2.83	8.6	33.1	24.4 - 41.5
All Abbott Cell-Dyn Instruments	72	64.11	1.42	2.2	64.5	59.8 - 68.4	73	35.30	1.63	4.6	35.4	30.4 - 40.2
All ABX Instruments	41	64.08	1.16	1.8	63.8	60.6 - 67.6	41	34.77	1.94	5.6	34.6	28.9 - 40.7
All Boule (CDS) Instruments	95	61.31	1.72	2.8	61.2	56.1 - 66.5	97	30.68	2.32	7.6	30.4	23.7 - 37.7
All COULTER Instruments	35	62.41	1.30	2.1	62.4	58.5 - 66.4	35	32.35	1.29	4.0	32.1	28.4 - 36.3
Abbott Cell-Dyn 1800	14	62.70	1.17	1.9	62.5	59.1 - 66.3	14	34.33	1.37	4.0	34.2	30.2 - 38.5
Abbott Cell-Dyn Emerald	55	64.63	0.96	1.5	64.8	61.7 - 67.6	57	35.59	1.60	4.5	35.7	30.7 - 40.4
Boule (CDS) Medonic M series	95	61.31	1.72	2.8	61.2	56.1 - 66.5	97	30.68	2.32	7.6	30.4	23.7 - 37.7
COULTER AcT diff/diff 2	35	62.41	1.30	2.1	62.4	58.5 - 66.4	35	32.35	1.29	4.0	32.1	28.4 - 36.3
Diatron Abacus 3 CP	5	57.54	1.09	1.9	57.4	54.2 - 60.9	5	30.74	1.34	4.3	30.2	26.7 - 34.8
Horiba ABX Micros/45/60	41	64.08	1.16	1.8	63.8	60.6 - 67.6	41	34.77	1.94	5.6	34.6	28.9 - 40.7

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	252	62.80	2.10	3.3	62.9	56.5 - 69.1	248	79.81	1.32	1.7	79.9	75.8 - 83.8
All Abbott Cell-Dyn Instruments	71	64.15	1.22	1.9	64.4	60.4 - 67.9	70	80.40	1.07	1.3	80.6	77.1 - 83.6
All ABX Instruments	41	64.53	1.30	2.0	64.8	60.6 - 68.5	41	80.78	0.99	1.2	80.8	77.8 - 83.8
All Boule (CDS) Instruments	97	61.48	1.94	3.2	61.8	55.6 - 67.3	95	78.83	0.83	1.0	78.8	76.3 - 81.4
All COULTER Instruments	36	62.18	0.99	1.6	62.3	59.2 - 65.2	34	80.64	0.67	0.8	80.6	78.6 - 82.7
Abbott Cell-Dyn 1800	14	62.36	1.51	2.4	62.4	57.8 - 67.0	14	80.49	0.89	1.1	80.6	77.8 - 83.2
Abbott Cell-Dyn Emerald	56	64.57	0.90	1.4	64.7	61.8 - 67.3	54	80.38	1.13	1.4	80.5	76.9 - 83.8
Boule (CDS) Medonic M series	97	61.48	1.94	3.2	61.8	55.6 - 67.3	95	78.83	0.83	1.0	78.8	76.3 - 81.4
COULTER AcT diff/diff 2	36	62.18	0.99	1.6	62.3	59.2 - 65.2	34	80.64	0.67	0.8	80.6	78.6 - 82.7
Diatron Abacus 3 CP	5	57.06	1.24	2.2	57.6	53.3 - 60.8	5	76.18	1.12	1.5	76.1	72.8 - 79.6
Horiba ABX Micros/45/60	41	64.53	1.30	2.0	64.8	60.6 - 68.5	41	80.78	0.99	1.2	80.8	77.8 - 83.8

Specimen HD-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	251	33.06	2.90	8.8	33.4	24.3 - 41.8
All Abbott Cell-Dyn Instruments	70	35.33	1.51	4.3	35.4	30.7 - 39.9
All ABX Instruments	41	35.23	1.96	5.6	35.2	29.3 - 41.2
All Boule (CDS) Instruments	97	30.74	2.65	8.6	30.6	22.7 - 38.7
All COULTER Instruments	36	32.43	1.37	4.2	32.5	28.3 - 36.6
Abbott Cell-Dyn 1800	13	33.85	2.04	6.0	34.1	27.7 - 40.0
Abbott Cell-Dyn Emerald	56	35.65	1.29	3.6	35.7	31.7 - 39.6
Boule (CDS) Medonic M series	97	30.74	2.65	8.6	30.6	22.7 - 38.7
COULTER AcT diff/diff 2	36	32.43	1.37	4.2	32.5	28.3 - 36.6
Diatron Abacus 3 CP	5	30.96	0.72	2.3	31.0	28.7 - 33.2
Horiba ABX Micros/45/60	41	35.23	1.96	5.6	35.2	29.3 - 41.2

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	34	9.35	0.31	3.3	9.4	7.9 - 10.8	34	3.84	0.16	4.1	3.8	3.2 - 4.5
All COULTER Instruments	34	9.35	0.31	3.3	9.4	7.9 - 10.8	34	3.84	0.16	4.1	3.8	3.2 - 4.5
Coulter DxH 500	10	9.08	0.46	5.0	9.3	7.7 - 10.5	10	3.74	0.28	7.4	3.8	3.1 - 4.4
Coulter DxH 520	14	9.41	0.25	2.7	9.5	8.0 - 10.9	14	3.86	0.13	3.5	3.9	3.2 - 4.5
Coulter DxH 560	5	9.33	0.25	2.7	9.3	7.9 - 10.8	5	3.77	0.06	1.5	3.8	3.2 - 4.4

| | | Specimen DIF-13 | | | | | | Specimen DIF-14 | | | |
Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	34	9.25	0.32	3.5	9.3	7.8 - 10.7	34	21.04	0.51	2.4	21.1	17.8 - 24.2
All COULTER Instruments	34	9.25	0.32	3.5	9.3	7.8 - 10.7	34	21.04	0.51	2.4	21.1	17.8 - 24.2
Coulter DxH 500	10	9.04	0.32	3.5	9.1	7.6 - 10.4	10	20.51	0.68	3.3	20.6	17.4 - 23.6
Coulter DxH 520	14	9.34	0.23	2.5	9.4	7.9 - 10.8	14	21.26	0.41	1.9	21.2	18.0 - 24.5
Coulter DxH 560	5	9.20	0.14	1.5	9.2	7.8 - 10.6	5	21.00	0.42	2.0	21.0	17.8 - 24.2

| | | Specimen DIF-15 | | | | |
Instrument	Labs	Mean	SD	CV	Median	Range
All Method	34	3.83	0.20	5.2	3.9	3.2 - 4.5
All COULTER Instruments	34	3.83	0.20	5.2	3.9	3.2 - 4.5
Coulter DxH 500	10	3.81	0.28	7.3	3.9	3.2 - 4.4
Coulter DxH 520	14	3.84	0.16	4.3	3.9	3.2 - 4.5
Coulter DxH 560	5	3.77	0.06	1.5	3.8	3.2 - 4.4

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	34	4.097	0.069	1.7	4.10	3.85 - 4.35	34	2.513	0.063	2.5	2.51	2.36 - 2.67
All COULTER Instruments	34	4.097	0.069	1.7	4.10	3.85 - 4.35	34	2.513	0.063	2.5	2.51	2.36 - 2.67
Coulter DxH 500	10	4.067	0.060	1.5	4.08	3.82 - 4.32	10	2.482	0.066	2.7	2.49	2.33 - 2.64
Coulter DxH 520	14	4.116	0.076	1.8	4.12	3.86 - 4.37	14	2.526	0.060	2.4	2.52	2.37 - 2.68
Coulter DxH 560	5	4.077	0.012	0.3	4.07	3.83 - 4.33	5	2.530	0.020	0.8	2.53	2.37 - 2.69

		Specimen DIF-13						Specimen DIF-14				
All Method	34	4.075	0.098	2.4	4.09	3.83 - 4.32	34	5.445	0.146	2.7	5.44	5.11 - 5.78
All COULTER Instruments	34	4.075	0.098	2.4	4.09	3.83 - 4.32	34	5.445	0.146	2.7	5.44	5.11 - 5.78
Coulter DxH 500	10	4.027	0.115	2.9	4.01	3.78 - 4.27	10	5.442	0.205	3.8	5.42	5.11 - 5.77
Coulter DxH 520	14	4.095	0.084	2.0	4.09	3.84 - 4.35	14	5.457	0.118	2.2	5.46	5.12 - 5.79
Coulter DxH 560	5	4.085	0.049	1.2	4.09	3.83 - 4.34	5	5.430	0.014	0.3	5.43	5.10 - 5.76

		Specimen DIF-15				
All Method	34	2.510	0.066	2.6	2.52	2.35 - 2.67
All COULTER Instruments	34	2.510	0.066	2.6	2.52	2.35 - 2.67
Coulter DxH 500	10	2.474	0.078	3.2	2.47	2.32 - 2.63
Coulter DxH 520	14	2.526	0.057	2.2	2.53	2.37 - 2.68
Coulter DxH 560	5	2.527	0.032	1.3	2.54	2.37 - 2.68

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

Specimen DIF-11

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	34	11.91	0.27	2.3	11.9	11.0 - 12.8
All COULTER Instruments	34	11.91	0.27	2.3	11.9	11.0 - 12.8
Coulter DxH 500	10	11.72	0.25	2.2	11.7	10.8 - 12.6
Coulter DxH 520	14	11.98	0.14	1.1	11.9	11.1 - 12.9
Coulter DxH 560	5	11.93	0.32	2.7	11.8	11.0 - 12.8

Specimen DIF-12

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	34	5.93	0.22	3.8	5.9	5.5 - 6.4
All COULTER Instruments	34	5.93	0.22	3.8	5.9	5.5 - 6.4
Coulter DxH 500	10	5.80	0.18	3.0	5.8	5.3 - 6.3
Coulter DxH 520	14	5.94	0.16	2.7	6.0	5.5 - 6.4
Coulter DxH 560	5	6.03	0.15	2.5	6.0	5.6 - 6.5

Specimen DIF-13

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	34	11.87	0.31	2.6	11.8	11.0 - 12.8
All COULTER Instruments	34	11.87	0.31	2.6	11.8	11.0 - 12.8
Coulter DxH 500	10	11.73	0.37	3.1	11.6	10.9 - 12.6
Coulter DxH 520	14	11.89	0.13	1.1	11.9	11.0 - 12.8
Coulter DxH 560	5	11.85	0.07	0.6	11.9	11.0 - 12.7

Specimen DIF-14

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	34	17.69	0.24	1.3	17.7	16.4 - 19.0
All COULTER Instruments	34	17.69	0.24	1.3	17.7	16.4 - 19.0
Coulter DxH 500	10	17.60	0.32	1.8	17.6	16.3 - 18.9
Coulter DxH 520	14	17.79	0.10	0.5	17.8	16.5 - 19.1
Coulter DxH 560	5	17.80	0.14	0.8	17.8	16.5 - 19.1

Specimen DIF-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	34	5.92	0.20	3.5	5.9	5.5 - 6.4
All COULTER Instruments	34	5.92	0.20	3.5	5.9	5.5 - 6.4
Coulter DxH 500	10	5.82	0.11	1.9	5.8	5.4 - 6.3
Coulter DxH 520	14	5.91	0.17	2.9	5.9	5.4 - 6.4
Coulter DxH 560	5	5.93	0.06	1.0	5.9	5.5 - 6.4

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

		Specimen DIF-11						Specimen DIF-12			
Instrument	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*	*Labs*	*Mean*	*SD*	*CV*	*Median*	*Range*
All Method	34	37.15	0.88	2.4	37.1	34.9 - 39.4	34	19.54	0.59	3.0	19.5	18.3 - 20.8
All COULTER Instruments	34	37.15	0.88	2.4	37.1	34.9 - 39.4	34	19.54	0.59	3.0	19.5	18.3 - 20.8
Coulter DxH 500	10	36.75	0.61	1.7	36.8	34.5 - 39.0	10	19.26	0.49	2.5	19.4	18.1 - 20.5
Coulter DxH 520	14	37.28	0.88	2.4	37.2	35.0 - 39.6	14	19.61	0.65	3.3	19.6	18.4 - 20.8
Coulter DxH 560	5	36.77	0.46	1.3	36.5	34.5 - 39.0	5	19.67	0.21	1.1	19.6	18.4 - 20.9

		Specimen DIF-13						Specimen DIF-14			
All Method	34	37.07	1.08	2.9	37.0	34.8 - 39.3	34	55.11	1.60	2.9	55.0	51.8 - 58.5
All COULTER Instruments	34	37.07	1.08	2.9	37.0	34.8 - 39.3	34	55.11	1.60	2.9	55.0	51.8 - 58.5
Coulter DxH 500	10	36.53	1.14	3.1	36.5	34.3 - 38.8	10	55.04	2.18	4.0	54.7	51.7 - 58.4
Coulter DxH 520	14	37.22	0.87	2.3	37.1	34.9 - 39.5	14	55.18	1.35	2.4	55.2	51.8 - 58.5
Coulter DxH 560	5	37.05	0.21	0.6	37.1	34.8 - 39.3	5	55.00	0.28	0.5	55.0	51.7 - 58.3

		Specimen DIF-15				
All Method	34	19.57	0.64	3.3	19.6	18.3 - 20.8
All COULTER Instruments	34	19.57	0.64	3.3	19.6	18.3 - 20.8
Coulter DxH 500	10	19.25	0.65	3.4	19.3	18.0 - 20.5
Coulter DxH 520	14	19.68	0.62	3.2	19.6	18.4 - 20.9
Coulter DxH 560	5	19.60	0.10	0.5	19.6	18.4 - 20.8

HEMATOLOGY W/ 5-PART DIFFERENTIAL–PLATELET 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	34	279.0	17.1	6.1	279	209 - 349	34	100.6	7.9	7.8	100	75 - 126
All COULTER Instruments	34	279.0	17.1	6.1	279	209 - 349	34	100.6	7.9	7.8	100	75 - 126
Coulter DxH 500	10	285.8	21.8	7.6	287	214 - 358	10	103.7	8.2	8.0	104	77 - 130
Coulter DxH 520	14	277.0	14.5	5.2	280	207 - 347	14	99.6	7.0	7.0	98	74 - 125
Coulter DxH 560	5	278.0	3.0	1.1	278	208 - 348	5	100.7	10.0	10.0	100	75 - 126

Specimen DIF-13 / Specimen DIF-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	34	277.5	19.2	6.9	278	208 - 347	34	499.7	24.4	4.9	501	374 - 625
All COULTER Instruments	34	277.5	19.2	6.9	278	208 - 347	34	499.7	24.4	4.9	501	374 - 625
Coulter DxH 500	10	274.6	24.5	8.9	280	205 - 344	10	494.2	25.8	5.2	500	370 - 618
Coulter DxH 520	14	278.5	17.9	6.4	277	208 - 349	14	514.1	39.6	7.7	515	385 - 643
Coulter DxH 560	5	275.0	2.8	1.0	275	206 - 344	5	492.0	35.4	7.2	492	369 - 615

Specimen DIF-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	34	100.5	8.9	8.9	100	75 - 126
All COULTER Instruments	34	100.5	8.9	8.9	100	75 - 126
Coulter DxH 500	10	105.6	11.8	11.2	105	79 - 132
Coulter DxH 520	14	98.9	5.9	6.0	101	74 - 124
Coulter DxH 560	5	96.0	3.5	3.6	98	72 - 120

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

Specimen DIF-11 / Specimen DIF-12

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	34	38.23	3.46	9.1	38.2	27.8 - 48.7	34	40.38	6.05	15.0	39.9	22.2 - 58.6
All COULTER DxH 500 Series	29	38.23	3.46	9.1	38.2	27.8 - 48.7	29	39.20	4.37	11.2	39.6	26.0 - 52.4
All COULTER Instruments	5	59.40	0.57	1.0	59.4	57.7 - 61.1	5	55.75	1.20	2.2	55.8	52.1 - 59.4
Coulter DxH 500	10	37.82	4.09	10.8	37.1	25.5 - 50.1	10	39.91	5.26	13.2	40.4	24.1 - 55.7
Coulter DxH 520	14	38.24	3.41	8.9	38.6	28.0 - 48.5	14	38.70	4.35	11.2	38.9	25.6 - 51.8
Coulter DxH 560	5	39.50	1.35	3.4	39.4	35.4 - 43.6	5	39.40	1.10	2.8	39.4	36.1 - 42.7

Specimen DIF-13 / Specimen DIF-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	34	37.81	2.35	6.2	37.7	30.7 - 44.9	34	29.67	1.61	5.4	29.9	24.8 - 34.6
All COULTER DxH 500 Series	29	37.81	2.35	6.2	37.7	30.7 - 44.9	29	29.67	1.61	5.4	29.9	24.8 - 34.6
All COULTER Instruments	5	58.80	0.28	0.5	58.8	57.9 - 59.7	5	66.70	0.42	0.6	66.7	65.4 - 68.0
Coulter DxH 500	10	38.01	2.67	7.0	37.6	30.0 - 46.1	10	29.49	2.14	7.3	29.9	23.0 - 36.0
Coulter DxH 520	14	37.83	2.28	6.0	38.1	30.9 - 44.7	14	29.90	1.28	4.3	30.1	26.0 - 33.8
Coulter DxH 560	5	36.70	1.84	5.0	36.7	31.1 - 42.3	5	29.00	0.71	2.4	29.0	26.8 - 31.2

Specimen DIF-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	34	40.59	5.41	13.3	40.1	24.3 - 56.9
All COULTER DxH 500 Series	29	39.40	3.32	8.4	39.1	29.4 - 49.4
All COULTER Instruments	5	56.05	0.07	0.1	56.1	55.8 - 56.3
Coulter DxH 500	10	40.73	3.63	8.9	40.9	29.8 - 51.7
Coulter DxH 520	14	38.92	3.30	8.5	38.9	29.0 - 48.9
Coulter DxH 560	5	37.63	0.49	1.3	37.4	36.1 - 39.2

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

Instrument		Specimen DIF-11						Specimen DIF-12				
	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	34	0.65	0.18	28.1	0.6	0.1 - 1.2	34	0.19	0.14	73.3	0.2	0.0 - 0.7
All COULTER DxH 500 Series	29	0.65	0.18	28.1	0.6	0.1 - 1.2	29	0.19	0.14	73.3	0.2	0.0 - 0.7
All COULTER Instruments	5	30.05	0.49	1.6	30.1	28.5 - 31.6	5	29.35	1.20	4.1	29.4	25.7 - 33.0
Coulter DxH 500	10	0.64	0.30	47.3	0.6	0.0 - 1.6	10	0.15	0.08	56.7	0.2	0.0 - 0.5
Coulter DxH 520	14	0.69	0.18	26.1	0.7	0.1 - 1.3	14	0.22	0.17	75.5	0.2	0.0 - 0.8
Coulter DxH 560	5	0.73	0.23	31.5	0.6	0.0 - 1.5	5	0.20	0.17	86.6	0.3	0.0 - 0.8

Instrument		Specimen DIF-13						Specimen DIF-14				
All Method	34	0.58	0.16	27.7	0.6	0.0 - 1.1	34	0.58	0.16	28.5	0.6	0.0 - 1.1
All COULTER DxH 500 Series	29	0.58	0.16	27.7	0.6	0.0 - 1.1	29	0.58	0.16	28.5	0.6	0.0 - 1.1
All COULTER Instruments	5	30.25	0.07	0.2	30.3	30.0 - 30.5	5	19.45	0.78	4.0	19.5	17.1 - 21.8
Coulter DxH 500	10	0.59	0.14	23.2	0.6	0.1 - 1.1	10	0.62	0.13	21.2	0.6	0.2 - 1.1
Coulter DxH 520	14	0.61	0.26	43.6	0.6	0.0 - 1.5	14	0.59	0.27	46.1	0.6	0.0 - 1.5
Coulter DxH 560	5	0.70	0.14	20.2	0.7	0.2 - 1.2	5	0.60	0.14	23.6	0.6	0.1 - 1.1

Instrument		Specimen DIF-15				
All Method	34	0.22	0.11	52.4	0.2	0.0 - 0.6
All COULTER DxH 500 Series	29	0.22	0.11	52.4	0.2	0.0 - 0.6
All COULTER Instruments	5	28.45	0.35	1.2	28.5	27.3 - 29.6
Coulter DxH 500	10	0.18	0.06	35.1	0.2	0.0 - 0.4
Coulter DxH 520	14	0.23	0.13	55.4	0.2	0.0 - 0.7
Coulter DxH 560	5	0.30	0.17	57.7	0.4	0.0 - 0.9

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	34	0.11	0.07	65.9	0.1	0.0 - 0.4	34	0.16	0.13	86.1	0.1	0.0 - 0.6
All COULTER DxH 500 Series	29	0.11	0.07	65.9	0.1	0.0 - 0.4	29	0.16	0.13	86.1	0.1	0.0 - 0.6
All COULTER Instruments	5	4.85	0.35	7.3	4.9	3.7 - 6.0	5	7.05	0.21	3.0	7.1	6.4 - 7.7
Coulter DxH 500	10	0.12	0.09	76.6	0.1	0.0 - 0.4	10	0.12	0.09	76.6	0.1	0.0 - 0.4
Coulter DxH 520	14	0.10	0.06	63.6	0.1	0.0 - 0.3	14	0.14	0.13	94.0	0.1	0.0 - 0.6
Coulter DxH 560	5	0.10	0.01	0.0	0.1	0.0 - 0.2	5	0.33	0.15	45.8	0.3	0.0 - 0.8

Specimen DIF-13 / Specimen DIF-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	34	0.08	0.07	87.2	0.1	0.0 - 0.4	34	0.35	0.17	49.2	0.3	0.0 - 0.9
All COULTER DxH 500 Series	29	0.08	0.07	87.2	0.1	0.0 - 0.4	29	0.35	0.17	49.2	0.3	0.0 - 0.9
All COULTER Instruments	5	4.90	0.57	11.5	4.9	3.2 - 6.6	5	10.00	0.85	8.5	10.0	7.4 - 12.6
Coulter DxH 500	10	0.05	0.07	141.4	0.0	0.0 - 0.3	10	0.38	0.23	60.5	0.4	0.0 - 1.1
Coulter DxH 520	14	0.11	0.07	69.4	0.1	0.0 - 0.4	14	0.34	0.12	35.7	0.3	0.0 - 0.8
Coulter DxH 560	5	0.10	0.01	0.0	0.1	0.0 - 0.2	5	0.20	0.01	0.0	0.2	0.1 - 0.3

Specimen DIF-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	34	0.11	0.09	86.8	0.1	0.0 - 0.4
All COULTER DxH 500 Series	29	0.11	0.09	86.8	0.1	0.0 - 0.4
All COULTER Instruments	5	7.20	0.57	7.9	7.2	5.5 - 8.9
Coulter DxH 500	10	0.11	0.09	79.6	0.1	0.0 - 0.4
Coulter DxH 520	14	0.15	0.19	124.7	0.1	0.0 - 0.8
Coulter DxH 560	5	0.10	0.10	100.0	0.1	0.0 - 0.4

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	34	61.21	3.13	5.1	60.9	51.8 - 70.6	34	60.80	3.99	6.6	60.0	48.8 - 72.8
All COULTER DxH 500 Series	29	61.21	3.13	5.1	60.9	51.8 - 70.6	29	60.80	3.99	6.6	60.0	48.8 - 72.8
All COULTER Instruments	5	5.65	0.21	3.8	5.7	5.0 - 6.3	5	7.85	0.21	2.7	7.9	7.2 - 8.5
Coulter DxH 500	10	62.28	2.74	4.4	62.6	54.0 - 70.5	10	60.94	4.36	7.1	59.9	47.8 - 74.1
Coulter DxH 520	14	60.86	3.51	5.8	60.4	50.3 - 71.4	14	60.87	4.35	7.1	60.9	47.8 - 74.0
Coulter DxH 560	5	59.67	1.53	2.6	60.0	55.0 - 64.3	5	60.10	1.05	1.8	60.0	56.9 - 63.3

	Specimen DIF-13						Specimen DIF-14				
All Method	34	61.45	2.40	3.9	61.4	54.2 - 68.7	34	69.23	1.85	2.7	69.1	63.6 - 74.8
All COULTER DxH 500 Series	29	61.45	2.40	3.9	61.4	54.2 - 68.7	29	69.23	1.85	2.7	69.1	63.6 - 74.8
All COULTER Instruments	5	6.00	0.14	2.4	6.0	5.5 - 6.5	5	3.80	0.42	11.2	3.8	2.5 - 5.1
Coulter DxH 500	10	61.33	2.63	4.3	61.8	53.4 - 69.3	10	69.40	2.42	3.5	69.2	62.1 - 76.7
Coulter DxH 520	14	61.38	2.41	3.9	61.1	54.1 - 68.7	14	68.98	1.52	2.2	68.8	64.4 - 73.6
Coulter DxH 560	5	62.55	1.77	2.8	62.6	57.2 - 67.9	5	70.15	0.64	0.9	70.2	68.2 - 72.1

	Specimen DIF-15					
All Method	34	60.22	3.30	5.5	60.9	50.3 - 70.2
All COULTER DxH 500 Series	29	60.22	3.30	5.5	60.9	50.3 - 70.2
All COULTER Instruments	5	8.30	0.14	1.7	8.3	7.8 - 8.8
Coulter DxH 500	10	58.92	3.62	6.1	58.7	48.0 - 69.8
Coulter DxH 520	14	60.68	3.28	5.4	61.1	50.8 - 70.6
Coulter DxH 560	5	61.97	0.32	0.5	62.1	61.0 - 63.0

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	34	0.01	0.03	294.0	0.0	0.0 - 0.2	34	0.00	0.01	0.0	0.0	0.0 - 0.1
All COULTER DxH 500 Series	29	0.00	0.01	0.0	0.0	0.0 - 0.1	29	0.00	0.01	0.0	0.0	0.0 - 0.1
All COULTER Instruments	5	0.05	0.07	141.4	0.1	0.0 - 0.3	5	0.00	0.01	0.0	0.0	0.0 - 0.1
Coulter DxH 500	10	0.01	0.03	299.9	0.0	0.0 - 0.2	10	0.00	0.01	0.0	0.0	0.0 - 0.1
Coulter DxH 520	14	0.00	0.01	0.0	0.0	0.0 - 0.1	14	0.00	0.01	0.0	0.0	0.0 - 0.1
Coulter DxH 560	5	0.00	0.01	0.0	0.0	0.0 - 0.1	5	0.00	0.01	0.0	0.0	0.0 - 0.1

Specimen DIF-13 / Specimen DIF-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	34	0.00	0.01	0.0	0.0	0.0 - 0.1	34	0.08	0.06	82.7	0.1	0.0 - 0.3
All COULTER DxH 500 Series	29	0.00	0.01	0.0	0.0	0.0 - 0.1	29	0.08	0.06	81.1	0.1	0.0 - 0.3
All COULTER Instruments	5	0.05	0.07	141.4	0.1	0.0 - 0.3	5	0.05	0.07	141.4	0.1	0.0 - 0.3
Coulter DxH 500	10	0.00	0.01	0.0	0.0	0.0 - 0.1	10	0.04	0.05	118.6	0.0	0.0 - 0.3
Coulter DxH 520	14	0.00	0.01	0.0	0.0	0.0 - 0.1	14	0.10	0.07	68.7	0.1	0.0 - 0.3
Coulter DxH 560	5	0.00	0.01	0.0	0.0	0.0 - 0.1	5	0.10	0.01	0.0	0.1	0.0 - 0.2

Specimen DIF-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	34	0.00	0.01	0.0	0.0	0.0 - 0.1
All COULTER DxH 500 Series	29	0.00	0.01	0.0	0.0	0.0 - 0.1
All COULTER Instruments	5	0.00	0.01	0.0	0.0	0.0 - 0.1
Coulter DxH 500	10	0.00	0.01	0.0	0.0	0.0 - 0.1
Coulter DxH 520	14	0.00	0.01	0.0	0.0	0.0 - 0.1
Coulter DxH 560	5	0.00	0.01	0.0	0.0	0.0 - 0.1

RETICULOCYTE COUNT (percent)

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
			Specimen RT-5							**Specimen RT-6**		
All Method	22	5.81	0.69	11.8	5.9	4.0 - 7.6	23	2.89	0.47	16.4	2.9	1.9 - 3.9
All Automated Methods	20	5.81	0.69	11.9	5.9	4.0 - 7.6	20	2.82	0.41	14.7	2.9	1.9 - 3.7
Sysmex XN-1000	17	5.95	0.57	9.7	5.9	4.1 - 7.8	17	2.91	0.36	12.3	3.0	2.0 - 3.8

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

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
			Specimen BCX-11							**Specimen BCX-12**		
All Method	85	4.05	0.13	3.2	4.1	3.4 - 4.7	85	17.08	0.41	2.4	17.1	14.5 - 19.7
All ABX Instruments	80	4.05	0.13	3.1	4.1	3.4 - 4.7	80	17.08	0.41	2.4	17.1	14.5 - 19.7
All COULTER Instruments	5	4.25	0.07	1.7	4.3	3.6 - 4.9	5	17.10	0.28	1.7	17.1	14.5 - 19.7
ABX Pentra 60C+	75	4.04	0.12	3.0	4.1	3.4 - 4.7	75	17.07	0.42	2.5	17.1	14.5 - 19.7
ABX Pentra 80 / XL 80	5	4.14	0.19	4.7	4.2	3.5 - 4.8	5	17.14	0.18	1.1	17.2	14.5 - 19.8
COULTER AcT 5diff	5	4.25	0.07	1.7	4.3	3.6 - 4.9	5	17.10	0.28	1.7	17.1	14.5 - 19.7
			Specimen BCX-13							**Specimen BCX-14**		
All Method	85	7.01	0.20	2.8	7.0	5.9 - 8.1	85	2.51	0.09	3.6	2.5	2.1 - 2.9
All ABX Instruments	80	7.01	0.20	2.8	7.0	5.9 - 8.1	80	2.51	0.09	3.5	2.5	2.1 - 2.9
All COULTER Instruments	5	7.10	0.14	2.0	7.1	6.0 - 8.2	5	2.60	0.14	5.4	2.6	2.2 - 3.0
ABX Pentra 60C+	75	7.00	0.20	2.9	7.0	5.9 - 8.1	75	2.50	0.08	3.4	2.5	2.1 - 2.9
ABX Pentra 80 / XL 80	5	7.14	0.11	1.6	7.1	6.0 - 8.3	5	2.62	0.08	3.2	2.6	2.2 - 3.1
COULTER AcT 5diff	5	7.10	0.14	2.0	7.1	6.0 - 8.2	5	2.60	0.14	5.4	2.6	2.2 - 3.0
			Specimen BCX-15									
All Method	85	26.23	0.59	2.3	26.2	22.2 - 30.2						
All ABX Instruments	80	26.23	0.60	2.3	26.3	22.2 - 30.2						
All COULTER Instruments	5	26.10	0.14	0.5	26.1	22.1 - 30.1						
ABX Pentra 60C+	75	26.21	0.65	2.5	26.3	22.2 - 30.2						
ABX Pentra 80 / XL 80	5	26.12	0.40	1.5	25.9	22.2 - 30.1						
COULTER AcT 5diff	5	26.10	0.14	0.5	26.1	22.1 - 30.1						

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

Specimen BCX-11

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	3.852	0.065	1.7	3.84	3.62 - 4.09
All ABX Instruments	80	3.853	0.064	1.7	3.84	3.62 - 4.09
All COULTER Instruments	5	3.810	0.085	2.2	3.81	3.58 - 4.04
ABX Pentra 60C+	75	3.853	0.066	1.7	3.84	3.62 - 4.09
ABX Pentra 80 / XL 80	5	3.860	0.048	1.3	3.85	3.62 - 4.10
COULTER AcT 5diff	5	3.810	0.085	2.2	3.81	3.58 - 4.04

Specimen BCX-12

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	5.517	0.081	1.5	5.52	5.18 - 5.85
All ABX Instruments	80	5.519	0.081	1.5	5.52	5.18 - 5.85
All COULTER Instruments	5	5.475	0.007	0.1	5.48	5.14 - 5.81
ABX Pentra 60C+	75	5.514	0.080	1.4	5.52	5.18 - 5.85
ABX Pentra 80 / XL 80	5	5.588	0.083	1.5	5.59	5.25 - 5.93
COULTER AcT 5diff	5	5.475	0.007	0.1	5.48	5.14 - 5.81

Specimen BCX-13

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	4.662	0.072	1.5	4.66	4.38 - 4.95
All ABX Instruments	80	4.662	0.072	1.5	4.66	4.38 - 4.95
All COULTER Instruments	5	4.660	0.071	1.5	4.66	4.38 - 4.94
ABX Pentra 60C+	75	4.663	0.072	1.5	4.66	4.38 - 4.95
ABX Pentra 80 / XL 80	5	4.650	0.080	1.7	4.65	4.37 - 4.93
COULTER AcT 5diff	5	4.660	0.071	1.5	4.66	4.38 - 4.94

Specimen BCX-14

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	2.019	0.040	2.0	2.02	1.89 - 2.15
All ABX Instruments	80	2.019	0.040	2.0	2.02	1.89 - 2.14
All COULTER Instruments	5	2.045	0.021	1.0	2.05	1.92 - 2.17
ABX Pentra 60C+	75	2.022	0.039	1.9	2.02	1.90 - 2.15
ABX Pentra 80 / XL 80	5	1.966	0.026	1.3	1.96	1.84 - 2.09
COULTER AcT 5diff	5	2.045	0.021	1.0	2.05	1.92 - 2.17

Specimen BCX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	4.632	0.081	1.8	4.63	4.35 - 4.92
All ABX Instruments	80	4.637	0.076	1.6	4.64	4.35 - 4.92
All COULTER Instruments	5	4.570	0.127	2.8	4.57	4.29 - 4.85
ABX Pentra 60C+	75	4.634	0.082	1.8	4.63	4.35 - 4.92
ABX Pentra 80 / XL 80	5	4.630	0.063	1.4	4.65	4.35 - 4.91
COULTER AcT 5diff	5	4.570	0.127	2.8	4.57	4.29 - 4.85

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	85	10.61	0.13	1.2	10.6	9.8 - 11.4	85	16.76	0.21	1.3	16.8	15.5 - 18.0
All ABX Instruments	80	10.61	0.13	1.2	10.6	9.8 - 11.4	80	16.76	0.21	1.3	16.8	15.5 - 18.0
All COULTER Instruments	5	10.65	0.21	2.0	10.7	9.9 - 11.4	5	16.75	0.35	2.1	16.8	15.5 - 18.0
ABX Pentra 60C+	75	10.60	0.13	1.2	10.6	9.8 - 11.4	75	16.76	0.22	1.3	16.8	15.5 - 18.0
ABX Pentra 80 / XL 80	5	10.64	0.05	0.5	10.6	9.8 - 11.4	5	16.80	0.16	0.9	16.8	15.6 - 18.0
COULTER AcT 5diff	5	10.65	0.21	2.0	10.7	9.9 - 11.4	5	16.75	0.35	2.1	16.8	15.5 - 18.0

		Specimen BCX-13							Specimen BCX-14			
All Method	85	14.09	0.16	1.1	14.1	13.1 - 15.1	85	6.45	0.09	1.5	6.4	6.0 - 7.0
All ABX Instruments	80	14.09	0.15	1.1	14.1	13.1 - 15.1	80	6.45	0.09	1.4	6.4	5.9 - 7.0
All COULTER Instruments	5	14.15	0.35	2.5	14.2	13.1 - 15.2	5	6.75	0.21	3.1	6.8	6.2 - 7.3
ABX Pentra 60C+	75	14.09	0.16	1.1	14.1	13.1 - 15.1	75	6.45	0.09	1.5	6.5	6.0 - 7.0
ABX Pentra 80 / XL 80	5	14.08	0.08	0.6	14.1	13.0 - 15.1	5	6.42	0.04	0.7	6.4	5.9 - 6.9
COULTER AcT 5diff	5	14.15	0.35	2.5	14.2	13.1 - 15.2	5	6.75	0.21	3.1	6.8	6.2 - 7.3

		Specimen BCX-15				
All Method	85	13.92	0.18	1.3	13.9	12.9 - 14.9
All ABX Instruments	80	13.92	0.18	1.3	13.9	12.9 - 14.9
All COULTER Instruments	5	13.90	0.14	1.0	13.9	12.9 - 14.9
ABX Pentra 60C+	75	13.93	0.19	1.4	13.9	12.9 - 15.0
ABX Pentra 80 / XL 80	5	13.86	0.13	1.0	13.8	12.8 - 14.9
COULTER AcT 5diff	5	13.90	0.14	1.0	13.9	12.9 - 14.9

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	85	30.80	0.59	1.9	30.7	28.9 - 32.7	85	47.84	0.81	1.7	47.9	44.9 - 50.8
All ABX Instruments	80	30.80	0.59	1.9	30.7	28.9 - 32.7	80	47.84	0.81	1.7	47.9	44.9 - 50.8
All COULTER Instruments	5	30.60	0.99	3.2	30.6	28.7 - 32.5	5	47.65	0.78	1.6	47.7	44.7 - 50.6
ABX Pentra 60C+	75	30.76	0.57	1.8	30.7	28.9 - 32.7	75	47.82	0.82	1.7	47.9	44.9 - 50.7
ABX Pentra 80 / XL 80	5	31.48	0.55	1.7	31.5	29.5 - 33.4	5	48.10	0.65	1.4	48.4	45.2 - 51.0
COULTER AcT 5diff	5	30.60	0.99	3.2	30.6	28.7 - 32.5	5	47.65	0.78	1.6	47.7	44.7 - 50.6

Specimen BCX-13 / Specimen BCX-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	85	40.10	0.68	1.7	40.1	37.6 - 42.6	85	18.47	0.36	2.0	18.5	17.3 - 19.6
All ABX Instruments	80	40.09	0.68	1.7	40.1	37.6 - 42.5	80	18.46	0.36	1.9	18.5	17.3 - 19.6
All COULTER Instruments	5	40.35	1.20	3.0	40.4	37.9 - 42.8	5	18.75	0.49	2.6	18.8	17.6 - 19.9
ABX Pentra 60C+	75	40.09	0.68	1.7	40.1	37.6 - 42.5	75	18.44	0.36	1.9	18.4	17.3 - 19.6
ABX Pentra 80 / XL 80	5	40.12	0.77	1.9	40.4	37.7 - 42.6	5	18.74	0.30	1.6	18.7	17.6 - 19.9
COULTER AcT 5diff	5	40.35	1.20	3.0	40.4	37.9 - 42.8	5	18.75	0.49	2.6	18.8	17.6 - 19.9

Specimen BCX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	39.97	0.76	1.9	39.9	37.5 - 42.4
All ABX Instruments	80	39.97	0.75	1.9	39.9	37.5 - 42.4
All COULTER Instruments	5	39.80	1.27	3.2	39.8	37.4 - 42.2
ABX Pentra 60C+	75	39.97	0.75	1.9	39.9	37.5 - 42.4
ABX Pentra 80 / XL 80	5	40.00	0.78	2.0	40.2	37.6 - 42.4
COULTER AcT 5diff	5	39.80	1.27	3.2	39.8	37.4 - 42.2

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	85	108.8	5.8	5.4	109	81 - 137	85	278.1	11.1	4.0	279	208 - 348
All ABX Instruments	80	108.9	5.7	5.3	109	81 - 137	80	278.3	10.9	3.9	279	208 - 348
All COULTER Instruments	5	107.5	13.4	12.5	108	80 - 135	5	270.0	19.8	7.3	270	202 - 338
ABX Pentra 60C+	75	108.9	5.9	5.4	109	81 - 137	75	277.7	10.9	3.9	277	208 - 348
ABX Pentra 80 / XL 80	5	107.6	2.7	2.5	108	80 - 135	5	287.4	7.2	2.5	284	215 - 360
COULTER AcT 5diff	5	107.5	13.4	12.5	108	80 - 135	5	270.0	19.8	7.3	270	202 - 338

Specimen BCX-13 | Specimen BCX-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	85	240.0	11.4	4.8	241	179 - 300	85	67.7	4.2	6.2	68	50 - 85
All ABX Instruments	80	240.1	11.3	4.7	241	180 - 301	80	67.7	4.2	6.1	68	50 - 85
All COULTER Instruments	5	236.5	20.5	8.7	237	177 - 296	5	68.5	6.4	9.3	69	51 - 86
ABX Pentra 60C+	75	239.8	11.5	4.8	240	179 - 300	75	67.7	4.2	6.2	68	50 - 85
ABX Pentra 80 / XL 80	5	244.4	6.6	2.7	245	183 - 306	5	66.8	3.8	5.6	67	50 - 84
COULTER AcT 5diff	5	236.5	20.5	8.7	237	177 - 296	5	68.5	6.4	9.3	69	51 - 86

Specimen BCX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	478.4	19.5	4.1	478	358 - 599
All ABX Instruments	80	479.4	18.5	3.9	479	359 - 600
All COULTER Instruments	5	440.5	29.0	6.6	441	330 - 551
ABX Pentra 60C+	75	479.4	19.0	4.0	480	359 - 600
ABX Pentra 80 / XL 80	5	479.2	9.2	1.9	477	359 - 599
COULTER AcT 5diff	5	440.5	29.0	6.6	441	330 - 551

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	85	63.86	4.32	6.8	64.4	50.8 - 76.9	85	52.25	2.82	5.4	52.2	43.7 - 60.8
All ABX Instruments	80	64.11	4.05	6.3	64.6	51.9 - 76.3	80	52.30	2.76	5.3	52.2	44.0 - 60.6
All COULTER Instruments	5	53.65	2.33	4.3	53.7	46.6 - 60.7	5	50.10	5.52	11.0	50.1	33.5 - 66.7
ABX Pentra 60C+	75	64.52	3.68	5.7	65.0	53.4 - 75.6	75	52.43	2.72	5.2	52.5	44.2 - 60.6
ABX Pentra 80 / XL 80	5	57.90	4.82	8.3	58.0	43.4 - 72.4	5	45.96	4.28	9.3	47.9	33.1 - 58.9
COULTER AcT 5diff	5	53.65	2.33	4.3	53.7	46.6 - 60.7	5	50.10	5.52	11.0	50.1	33.5 - 66.7

		Specimen BCX-13						Specimen BCX-14			
All Method	85	62.17	3.46	5.6	62.3	51.7 - 72.6	85	65.87	4.39	6.7	66.6	52.6 - 79.1
All ABX Instruments	80	62.22	3.45	5.5	62.3	51.8 - 72.6	80	65.87	4.39	6.7	66.6	52.6 - 79.1
All COULTER Instruments	5	53.50	6.51	12.2	53.5	33.9 - 73.1	5	43.20	6.51	15.1	43.2	23.6 - 62.8
ABX Pentra 60C+	75	62.41	3.37	5.4	62.4	52.3 - 72.6	75	66.04	4.39	6.6	66.8	52.8 - 79.2
ABX Pentra 80 / XL 80	5	59.24	3.75	6.3	57.3	47.9 - 70.6	5	63.26	3.96	6.3	63.3	51.3 - 75.2
COULTER AcT 5diff	5	53.50	6.51	12.2	53.5	33.9 - 73.1	5	43.20	6.51	15.1	43.2	23.6 - 62.8

		Specimen BCX-15				
All Method	85	51.51	2.86	5.5	51.6	42.9 - 60.1
All ABX Instruments	80	51.48	2.83	5.5	51.6	42.9 - 60.0
All COULTER Instruments	5	52.70	4.95	9.4	52.7	37.8 - 67.6
ABX Pentra 60C+	75	51.65	2.66	5.2	51.7	43.6 - 59.7
ABX Pentra 80 / XL 80	5	47.02	4.99	10.6	46.2	32.0 - 62.0
COULTER AcT 5diff	5	52.70	4.95	9.4	52.7	37.8 - 67.6

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	85	27.37	3.98	14.5	27.1	15.4 - 39.4	85	41.55	3.16	7.6	42.0	32.0 - 51.1
All ABX Instruments	80	27.61	3.72	13.5	27.2	16.4 - 38.8	80	41.65	3.04	7.3	42.0	32.5 - 50.8
All COULTER Instruments	5	17.75	1.63	9.2	17.8	12.8 - 22.7	5	32.10	2.12	6.6	32.1	25.7 - 38.5
ABX Pentra 60C+	75	27.23	3.40	12.5	27.1	17.0 - 37.5	75	41.54	3.04	7.3	42.0	32.4 - 50.7
ABX Pentra 80 / XL 80	5	33.42	3.93	11.8	35.1	21.6 - 45.3	5	48.20	5.26	10.9	46.2	32.4 - 64.0
COULTER AcT 5diff	5	17.75	1.63	9.2	17.8	12.8 - 22.7	5	32.10	2.12	6.6	32.1	25.7 - 38.5

		Specimen BCX-13						Specimen BCX-14				
Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	85	29.50	3.92	13.3	29.4	17.7 - 41.3	85	21.86	3.57	16.3	21.6	11.1 - 32.6
All ABX Instruments	80	29.67	3.80	12.8	29.5	18.2 - 41.1	80	21.98	3.43	15.6	21.7	11.6 - 32.3
All COULTER Instruments	5	22.60	2.97	13.1	22.6	13.6 - 31.6	5	11.10	1.84	16.6	11.1	5.5 - 16.7
ABX Pentra 60C+	75	29.47	3.72	12.6	29.5	18.3 - 40.7	75	21.90	3.45	15.7	21.6	11.5 - 32.3
ABX Pentra 80 / XL 80	5	32.58	4.33	13.3	33.3	19.5 - 45.6	5	25.96	5.98	23.0	25.7	8.0 - 43.9
COULTER AcT 5diff	5	22.60	2.97	13.1	22.6	13.6 - 31.6	5	11.10	1.84	16.6	11.1	5.5 - 16.7

		Specimen BCX-15				
Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	42.31	3.15	7.5	42.1	32.8 - 51.8
All ABX Instruments	80	42.41	3.05	7.2	42.2	33.2 - 51.6
All COULTER Instruments	5	33.25	1.91	5.7	33.3	27.5 - 39.0
ABX Pentra 60C+	75	42.24	2.89	6.8	42.1	33.5 - 51.0
ABX Pentra 80 / XL 80	5	47.28	5.47	11.6	46.5	30.8 - 63.7
COULTER AcT 5diff	5	33.25	1.91	5.7	33.3	27.5 - 39.0

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

Specimen BCX-11

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	0.86	0.43	49.9	0.8	0.0 - 2.2
All ABX Instruments	80	0.86	0.42	49.2	0.8	0.0 - 2.2
All COULTER Instruments	5	0.80	0.85	106.1	0.8	0.0 - 3.4
ABX Pentra 60C+	75	0.80	0.36	44.8	0.7	0.0 - 1.9
ABX Pentra 80 / XL 80	5	1.54	0.47	30.7	1.3	0.1 - 3.0
COULTER AcT 5diff	5	0.80	0.85	106.1	0.8	0.0 - 3.4

Specimen BCX-12

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	1.24	0.53	42.9	1.1	0.0 - 2.9
All ABX Instruments	80	1.22	0.52	42.2	1.1	0.0 - 2.8
All COULTER Instruments	5	1.95	0.92	47.1	2.0	0.0 - 4.8
ABX Pentra 60C+	75	1.25	0.52	41.3	1.1	0.0 - 2.8
ABX Pentra 80 / XL 80	5	0.82	0.34	41.7	0.9	0.0 - 1.9
COULTER AcT 5diff	5	1.95	0.92	47.1	2.0	0.0 - 4.8

Specimen BCX-13

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	0.79	0.36	45.6	0.7	0.0 - 1.9
All ABX Instruments	80	0.79	0.36	45.8	0.7	0.0 - 1.9
All COULTER Instruments	5	0.95	0.49	52.1	1.0	0.0 - 2.5
ABX Pentra 60C+	75	0.80	0.36	45.6	0.8	0.0 - 1.9
ABX Pentra 80 / XL 80	5	0.58	0.19	33.2	0.6	0.0 - 1.2
COULTER AcT 5diff	5	0.95	0.49	52.1	1.0	0.0 - 2.5

Specimen BCX-14

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	0.61	0.51	83.8	0.4	0.0 - 2.2
All ABX Instruments	80	0.61	0.52	85.0	0.4	0.0 - 2.2
All COULTER Instruments	5	0.65	0.07	10.9	0.7	0.4 - 0.9
ABX Pentra 60C+	75	0.66	0.55	82.9	0.4	0.0 - 2.4
ABX Pentra 80 / XL 80	5	0.14	0.19	139.2	0.0	0.0 - 0.8
COULTER AcT 5diff	5	0.65	0.07	10.9	0.7	0.4 - 0.9

Specimen BCX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	1.92	0.57	29.4	1.9	0.2 - 3.7
All ABX Instruments	80	1.92	0.57	29.6	1.9	0.2 - 3.7
All COULTER Instruments	5	3.15	1.20	38.2	3.2	0.0 - 6.8
ABX Pentra 60C+	75	1.96	0.56	28.4	1.9	0.2 - 3.7
ABX Pentra 80 / XL 80	5	1.34	0.44	33.2	1.2	0.0 - 2.7
COULTER AcT 5diff	5	3.15	1.20	38.2	3.2	0.0 - 6.8

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	85	6.75	1.67	24.8	6.6	1.7 - 11.8	85	4.40	0.89	20.2	4.3	1.7 - 7.1
All ABX Instruments	80	6.75	1.67	24.8	6.6	1.7 - 11.8	80	4.40	0.89	20.3	4.3	1.7 - 7.1
All COULTER Instruments	5	17.75	2.33	13.1	17.8	10.7 - 24.8	5	6.25	1.91	30.5	6.3	0.5 - 12.0
ABX Pentra 60C+	75	6.76	1.68	24.9	6.6	1.7 - 11.9	75	4.38	0.88	20.1	4.3	1.7 - 7.1
ABX Pentra 80 / XL 80	5	6.54	1.65	25.3	6.2	1.5 - 11.6	5	4.72	1.17	24.8	4.6	1.2 - 8.3
COULTER AcT 5diff	5	17.75	2.33	13.1	17.8	10.7 - 24.8	5	6.25	1.91	30.5	6.3	0.5 - 12.0

Specimen BCX-13 / Specimen BCX-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	85	6.79	1.41	20.7	6.8	2.5 - 11.1	85	10.54	2.68	25.4	10.7	2.5 - 18.6
All ABX Instruments	80	6.78	1.41	20.8	6.8	2.5 - 11.1	80	10.54	2.68	25.4	10.7	2.5 - 18.6
All COULTER Instruments	5	9.70	2.97	30.6	9.7	0.7 - 18.7	5	31.05	3.46	11.2	31.1	20.6 - 41.5
ABX Pentra 60C+	75	6.74	1.33	19.8	6.7	2.7 - 10.8	75	10.56	2.68	25.4	10.7	2.5 - 18.7
ABX Pentra 80 / XL 80	5	7.48	2.41	32.2	7.5	0.2 - 14.8	5	10.10	2.90	28.7	10.1	1.4 - 18.8
COULTER AcT 5diff	5	9.70	2.97	30.6	9.7	0.7 - 18.7	5	31.05	3.46	11.2	31.1	20.6 - 41.5

Specimen BCX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	85	3.90	0.79	20.2	3.8	1.5 - 6.3
All ABX Instruments	80	3.88	0.78	20.2	3.7	1.5 - 6.3
All COULTER Instruments	5	4.80	0.14	2.9	4.8	4.3 - 5.3
ABX Pentra 60C+	75	3.86	0.75	19.5	3.8	1.5 - 6.2
ABX Pentra 80 / XL 80	5	4.16	1.25	30.1	3.6	0.3 - 8.0
COULTER AcT 5diff	5	4.80	0.14	2.9	4.8	4.3 - 5.3

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	80	0.51	0.04	7.0	0.5	0.3 - 0.7	80	0.30	0.01	0.0	0.3	0.2 - 0.4
All ABX Instruments	80	0.51	0.04	7.0	0.5	0.3 - 0.7	80	0.30	0.01	0.0	0.3	0.2 - 0.4
All COULTER Instruments	5	10.05	0.78	7.7	10.1	7.7 - 12.4	5	6.60	0.57	8.6	6.6	4.9 - 8.3
ABX Pentra 60C+	75	0.51	0.04	7.2	0.5	0.3 - 0.7	75	0.30	0.01	0.0	0.3	0.2 - 0.4
ABX Pentra 80 / XL 80	5	0.50	0.01	0.0	0.5	0.4 - 0.6	5	0.30	0.01	0.0	0.3	0.2 - 0.4
COULTER AcT 5diff	5	10.05	0.78	7.7	10.1	7.7 - 12.4	5	6.60	0.57	8.6	6.6	4.9 - 8.3

Specimen BCX-13 / Specimen BCX-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	80	0.42	0.04	9.2	0.4	0.3 - 0.6	80	0.54	0.05	10.1	0.5	0.3 - 0.8
All ABX Instruments	80	0.42	0.04	9.2	0.4	0.3 - 0.6	80	0.54	0.05	10.1	0.5	0.3 - 0.8
All COULTER Instruments	5	9.25	0.35	3.8	9.3	8.1 - 10.4	5	12.00	1.98	16.5	12.0	6.0 - 18.0
ABX Pentra 60C+	75	0.42	0.04	9.4	0.4	0.3 - 0.6	75	0.55	0.06	10.1	0.5	0.3 - 0.8
ABX Pentra 80 / XL 80	5	0.40	0.01	0.0	0.4	0.3 - 0.5	5	0.52	0.04	8.6	0.5	0.3 - 0.7
COULTER AcT 5diff	5	9.25	0.35	3.8	9.3	8.1 - 10.4	5	12.00	1.98	16.5	12.0	6.0 - 18.0

Specimen BCX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	80	0.24	0.05	20.5	0.2	0.0 - 0.4
All ABX Instruments	80	0.24	0.05	20.5	0.2	0.0 - 0.4
All COULTER Instruments	5	5.10	0.28	5.5	5.1	4.2 - 6.0
ABX Pentra 60C+	75	0.24	0.05	20.5	0.2	0.0 - 0.4
ABX Pentra 80 / XL 80	5	0.20	0.01	0.0	0.2	0.1 - 0.3
COULTER AcT 5diff	5	5.10	0.28	5.5	5.1	4.2 - 6.0

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

Specimen MX-11 / Specimen MX-12

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	126	7.13	0.24	3.3	7.1	6.0 - 8.3	126	3.69	0.18	4.9	3.6	3.1 - 4.3
All Sysmex XN/XS Instruments	126	7.13	0.24	3.3	7.1	6.0 - 8.3	126	3.69	0.18	4.9	3.6	3.1 - 4.3
Sysmex XN-1000	20	7.47	0.13	1.7	7.5	6.3 - 8.6	20	3.87	0.10	2.7	3.9	3.2 - 4.5
Sysmex XN-330	11	6.98	0.18	2.5	6.9	5.9 - 8.1	11	3.58	0.17	4.8	3.5	3.0 - 4.2
Sysmex XN-430	39	7.14	0.21	2.9	7.1	6.0 - 8.3	39	3.67	0.16	4.2	3.6	3.1 - 4.3
Sysmex XN-450	12	7.06	0.15	2.1	7.1	5.9 - 8.2	12	3.65	0.08	2.2	3.7	3.1 - 4.2
Sysmex XN-530	5	7.18	0.10	1.3	7.2	6.0 - 8.3	5	3.53	0.10	2.7	3.6	2.9 - 4.1
Sysmex XN-550	22	7.03	0.17	2.5	7.0	5.9 - 8.1	22	3.56	0.11	3.2	3.6	3.0 - 4.1
Sysmex XS-1000i	16	7.01	0.18	2.6	7.0	5.9 - 8.1	16	3.87	0.18	4.7	3.9	3.2 - 4.5

Specimen MX-13 / Specimen MX-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	126	7.13	0.26	3.6	7.1	6.0 - 8.3	126	20.88	0.52	2.5	20.8	17.7 - 24.1
All Sysmex XN/XS Instruments	126	7.13	0.26	3.6	7.1	6.0 - 8.3	126	20.88	0.52	2.5	20.8	17.7 - 24.1
Sysmex XN-1000	20	7.47	0.15	2.0	7.5	6.3 - 8.6	20	21.32	0.31	1.4	21.3	18.1 - 24.6
Sysmex XN-330	11	6.95	0.22	3.1	6.9	5.9 - 8.0	11	20.59	0.68	3.3	20.3	17.5 - 23.7
Sysmex XN-430	39	7.10	0.21	3.0	7.1	6.0 - 8.2	39	20.94	0.54	2.6	20.8	17.7 - 24.1
Sysmex XN-450	12	7.13	0.32	4.5	7.1	6.0 - 8.3	12	21.01	0.48	2.3	20.9	17.8 - 24.2
Sysmex XN-530	5	7.08	0.13	1.8	7.1	6.0 - 8.2	5	20.95	0.44	2.1	20.8	17.8 - 24.1
Sysmex XN-550	22	7.04	0.12	1.7	7.1	5.9 - 8.1	22	20.69	0.43	2.1	20.8	17.5 - 23.8
Sysmex XS-1000i	16	7.04	0.13	1.9	7.1	5.9 - 8.1	16	20.62	0.30	1.4	20.7	17.5 - 23.8

Specimen MX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	3.68	0.18	4.8	3.7	3.1 - 4.3
All Sysmex XN/XS Instruments	126	3.68	0.18	4.8	3.7	3.1 - 4.3
Sysmex XN-1000	20	3.86	0.07	1.8	3.9	3.2 - 4.5
Sysmex XN-330	11	3.53	0.16	4.4	3.5	2.9 - 4.1
Sysmex XN-430	39	3.66	0.16	4.5	3.6	3.1 - 4.3
Sysmex XN-450	12	3.63	0.15	4.1	3.6	3.0 - 4.2
Sysmex XN-530	5	3.63	0.17	4.7	3.7	3.0 - 4.2
Sysmex XN-550	22	3.60	0.11	3.0	3.6	3.0 - 4.2
Sysmex XS-1000i	16	3.83	0.16	4.2	3.9	3.2 - 4.4

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

Specimen MX-11

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	4.765	0.048	1.0	4.77	4.47 - 5.06
All Sysmex XN/XS Instruments	126	4.765	0.048	1.0	4.77	4.47 - 5.06
Sysmex XN-1000	20	4.771	0.043	0.9	4.78	4.48 - 5.06
Sysmex XN-330	11	4.744	0.070	1.5	4.74	4.45 - 5.03
Sysmex XN-430	39	4.771	0.047	1.0	4.77	4.48 - 5.06
Sysmex XN-450	12	4.745	0.040	0.8	4.75	4.46 - 5.03
Sysmex XN-530	5	4.805	0.054	1.1	4.80	4.51 - 5.10
Sysmex XN-550	22	4.761	0.040	0.8	4.76	4.47 - 5.05
Sysmex XS-1000i	16	4.769	0.051	1.1	4.78	4.48 - 5.06

Specimen MX-12

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	2.306	0.036	1.6	2.30	2.16 - 2.45
All Sysmex XN/XS Instruments	126	2.306	0.036	1.6	2.30	2.16 - 2.45
Sysmex XN-1000	20	2.314	0.036	1.6	2.31	2.17 - 2.46
Sysmex XN-330	11	2.297	0.050	2.2	2.30	2.15 - 2.44
Sysmex XN-430	39	2.302	0.032	1.4	2.30	2.16 - 2.44
Sysmex XN-450	12	2.287	0.020	0.9	2.29	2.14 - 2.43
Sysmex XN-530	5	2.318	0.039	1.7	2.31	2.17 - 2.46
Sysmex XN-550	22	2.303	0.036	1.5	2.30	2.16 - 2.45
Sysmex XS-1000i	16	2.338	0.025	1.1	2.34	2.19 - 2.48

Specimen MX-13

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	4.770	0.053	1.1	4.78	4.48 - 5.06
All Sysmex XN/XS Instruments	126	4.770	0.053	1.1	4.78	4.48 - 5.06
Sysmex XN-1000	20	4.764	0.046	1.0	4.78	4.47 - 5.05
Sysmex XN-330	11	4.763	0.070	1.5	4.77	4.47 - 5.05
Sysmex XN-430	39	4.771	0.050	1.0	4.78	4.48 - 5.06
Sysmex XN-450	12	4.758	0.056	1.2	4.75	4.47 - 5.05
Sysmex XN-530	5	4.803	0.053	1.1	4.79	4.51 - 5.10
Sysmex XN-550	22	4.775	0.060	1.2	4.77	4.48 - 5.07
Sysmex XS-1000i	16	4.781	0.039	0.8	4.78	4.49 - 5.07

Specimen MX-14

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	5.668	0.056	1.0	5.68	5.32 - 6.01
All Sysmex XN/XS Instruments	126	5.668	0.056	1.0	5.68	5.32 - 6.01
Sysmex XN-1000	20	5.642	0.053	0.9	5.64	5.30 - 5.98
Sysmex XN-330	11	5.702	0.097	1.7	5.70	5.35 - 6.05
Sysmex XN-430	39	5.675	0.052	0.9	5.67	5.33 - 6.02
Sysmex XN-450	12	5.675	0.046	0.8	5.68	5.33 - 6.02
Sysmex XN-530	5	5.738	0.112	2.0	5.72	5.39 - 6.09
Sysmex XN-550	22	5.673	0.058	1.0	5.68	5.33 - 6.02
Sysmex XS-1000i	16	5.662	0.050	0.9	5.68	5.32 - 6.01

Specimen MX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	2.306	0.033	1.4	2.31	2.16 - 2.45
All Sysmex XN/XS Instruments	126	2.306	0.033	1.4	2.31	2.16 - 2.45
Sysmex XN-1000	20	2.312	0.035	1.5	2.31	2.17 - 2.46
Sysmex XN-330	11	2.289	0.038	1.7	2.29	2.15 - 2.43
Sysmex XN-430	39	2.300	0.026	1.1	2.30	2.16 - 2.44
Sysmex XN-450	12	2.300	0.028	1.2	2.30	2.16 - 2.44
Sysmex XN-530	5	2.305	0.041	1.8	2.31	2.16 - 2.45
Sysmex XN-550	22	2.300	0.031	1.3	2.30	2.16 - 2.44
Sysmex XS-1000i	16	2.339	0.023	1.0	2.34	2.19 - 2.48

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

Specimen MX-11 / Specimen MX-12

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	126	13.45	0.13	0.9	13.5	12.5 - 14.4	126	5.98	0.09	1.4	6.0	5.5 - 6.4
All Sysmex XN/XS Instruments	126	13.45	0.13	0.9	13.5	12.5 - 14.4	126	5.98	0.09	1.4	6.0	5.5 - 6.4
Sysmex XN-1000	20	13.57	0.11	0.8	13.6	12.6 - 14.6	20	6.07	0.07	1.2	6.1	5.6 - 6.5
Sysmex XN-330	11	13.35	0.14	1.0	13.3	12.4 - 14.3	11	5.95	0.08	1.3	6.0	5.5 - 6.4
Sysmex XN-430	39	13.44	0.11	0.8	13.5	12.4 - 14.4	39	5.97	0.07	1.2	6.0	5.5 - 6.4
Sysmex XN-450	12	13.44	0.12	0.9	13.4	12.5 - 14.4	12	5.96	0.11	1.8	5.9	5.5 - 6.4
Sysmex XN-530	5	13.53	0.10	0.7	13.6	12.5 - 14.5	5	6.03	0.05	0.8	6.0	5.6 - 6.5
Sysmex XN-550	22	13.42	0.11	0.8	13.4	12.4 - 14.4	22	5.97	0.06	1.1	6.0	5.5 - 6.4
Sysmex XS-1000i	16	13.43	0.10	0.8	13.5	12.4 - 14.4	16	5.92	0.07	1.1	5.9	5.5 - 6.4

Specimen MX-13 / Specimen MX-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	126	13.45	0.12	0.9	13.4	12.5 - 14.4	126	17.65	0.15	0.9	17.7	16.4 - 18.9
All Sysmex XN/XS Instruments	126	13.45	0.12	0.9	13.4	12.5 - 14.4	126	17.65	0.15	0.9	17.7	16.4 - 18.9
Sysmex XN-1000	20	13.58	0.11	0.8	13.6	12.6 - 14.6	20	17.78	0.15	0.9	17.8	16.5 - 19.1
Sysmex XN-330	11	13.38	0.08	0.6	13.4	12.4 - 14.4	11	17.68	0.18	1.0	17.7	16.4 - 19.0
Sysmex XN-430	39	13.44	0.12	0.9	13.4	12.4 - 14.4	39	17.59	0.12	0.7	17.6	16.3 - 18.9
Sysmex XN-450	12	13.43	0.13	1.0	13.4	12.4 - 14.4	12	17.59	0.15	0.9	17.6	16.3 - 18.9
Sysmex XN-530	5	13.48	0.05	0.4	13.5	12.5 - 14.5	5	17.70	0.08	0.5	17.7	16.4 - 19.0
Sysmex XN-550	22	13.40	0.13	0.9	13.4	12.4 - 14.4	22	17.60	0.13	0.8	17.6	16.3 - 18.9
Sysmex XS-1000i	16	13.44	0.08	0.6	13.4	12.5 - 14.4	16	17.74	0.13	0.7	17.8	16.4 - 19.0

Specimen MX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	6.00	0.08	1.3	6.0	5.5 - 6.5
All Sysmex XN/XS Instruments	126	6.00	0.08	1.3	6.0	5.5 - 6.5
Sysmex XN-1000	20	6.07	0.09	1.4	6.1	5.6 - 6.5
Sysmex XN-330	11	5.98	0.07	1.2	6.0	5.5 - 6.5
Sysmex XN-430	39	5.98	0.06	1.0	6.0	5.5 - 6.5
Sysmex XN-450	12	6.01	0.08	1.3	6.0	5.5 - 6.5
Sysmex XN-530	5	5.98	0.05	0.8	6.0	5.5 - 6.4
Sysmex XN-550	22	6.00	0.07	1.1	6.0	5.5 - 6.5
Sysmex XS-1000i	16	5.93	0.06	1.0	5.9	5.5 - 6.4

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

Specimen MX-11

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	39.92	0.66	1.6	40.0	37.5 - 42.4
All Sysmex XN/XS Instruments	126	39.92	0.66	1.6	40.0	37.5 - 42.4
Sysmex XN-1000	20	39.75	0.49	1.2	39.9	37.3 - 42.2
Sysmex XN-330	11	39.64	0.82	2.1	39.5	37.2 - 42.1
Sysmex XN-430	39	39.88	0.62	1.6	39.9	37.4 - 42.3
Sysmex XN-450	12	39.73	0.77	1.9	39.8	37.3 - 42.2
Sysmex XN-530	5	40.15	0.66	1.6	40.0	37.7 - 42.6
Sysmex XN-550	22	40.00	0.66	1.6	40.1	37.6 - 42.5
Sysmex XS-1000i	16	40.43	0.50	1.2	40.4	38.0 - 42.9

Specimen MX-12

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	17.86	0.38	2.1	17.9	16.7 - 19.0
All Sysmex XN/XS Instruments	126	17.86	0.38	2.1	17.9	16.7 - 19.0
Sysmex XN-1000	20	17.69	0.32	1.8	17.7	16.6 - 18.8
Sysmex XN-330	11	17.78	0.43	2.4	17.7	16.7 - 18.9
Sysmex XN-430	39	17.82	0.31	1.7	17.9	16.7 - 18.9
Sysmex XN-450	12	17.76	0.33	1.9	17.9	16.6 - 18.9
Sysmex XN-530	5	17.90	0.41	2.3	17.8	16.8 - 19.0
Sysmex XN-550	22	17.85	0.36	2.0	17.9	16.7 - 19.0
Sysmex XS-1000i	16	18.38	0.17	0.9	18.5	17.2 - 19.5

Specimen MX-13

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	39.93	0.67	1.7	40.0	37.5 - 42.4
All Sysmex XN/XS Instruments	126	39.93	0.67	1.7	40.0	37.5 - 42.4
Sysmex XN-1000	20	39.67	0.56	1.4	39.6	37.2 - 42.1
Sysmex XN-330	11	39.72	0.85	2.1	39.7	37.3 - 42.1
Sysmex XN-430	39	39.87	0.57	1.4	40.0	37.4 - 42.3
Sysmex XN-450	12	39.88	0.91	2.3	40.0	37.4 - 42.3
Sysmex XN-530	5	40.18	0.70	1.8	40.0	37.7 - 42.6
Sysmex XN-550	22	40.01	0.69	1.7	40.1	37.6 - 42.5
Sysmex XS-1000i	16	40.47	0.36	0.9	40.6	38.0 - 42.9

Specimen MX-14

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	52.45	0.90	1.7	52.4	49.3 - 55.7
All Sysmex XN/XS Instruments	126	52.45	0.90	1.7	52.4	49.3 - 55.7
Sysmex XN-1000	20	51.86	0.78	1.5	51.9	48.7 - 55.0
Sysmex XN-330	11	52.53	1.06	2.0	52.2	49.3 - 55.7
Sysmex XN-430	39	52.33	0.82	1.6	52.3	49.1 - 55.5
Sysmex XN-450	12	52.41	0.88	1.7	52.5	49.2 - 55.6
Sysmex XN-530	5	52.75	1.17	2.2	52.5	49.5 - 56.0
Sysmex XN-550	22	52.43	0.73	1.4	52.5	49.2 - 55.6
Sysmex XS-1000i	16	53.45	0.49	0.9	53.5	50.2 - 56.7

Specimen MX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	17.84	0.37	2.1	17.9	16.7 - 19.0
All Sysmex XN/XS Instruments	126	17.84	0.37	2.1	17.9	16.7 - 19.0
Sysmex XN-1000	20	17.66	0.28	1.6	17.7	16.5 - 18.8
Sysmex XN-330	11	17.66	0.36	2.0	17.6	16.5 - 18.8
Sysmex XN-430	39	17.82	0.29	1.6	17.9	16.7 - 18.9
Sysmex XN-450	12	17.81	0.33	1.8	17.9	16.7 - 18.9
Sysmex XN-530	5	17.80	0.32	1.8	17.8	16.7 - 18.9
Sysmex XN-550	22	17.81	0.29	1.6	17.8	16.7 - 18.9
Sysmex XS-1000i	16	18.38	0.19	1.1	18.4	17.2 - 19.5

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

	Specimen MX-11					Specimen MX-12				
Instrument	_Labs_	_Mean_	_SD_	_CV_	_Median_	_Range_	_Labs_	_Mean_	_SD_	_CV_	_Median_	_Range_
All Method	126	197.5	7.1	3.6	197	148 - 247	126	53.7	3.4	6.4	53	40 - 68
All Sysmex XN/XS Instruments	126	197.5	7.1	3.6	197	148 - 247	126	53.7	3.4	6.4	53	40 - 68
Sysmex XN-1000	20	201.2	8.0	4.0	201	150 - 252	20	53.3	3.5	6.5	54	39 - 67
Sysmex XN-330	11	191.9	6.2	3.2	192	143 - 240	11	51.8	3.5	6.8	52	38 - 65
Sysmex XN-430	39	196.1	5.7	2.9	197	147 - 246	39	53.6	2.5	4.7	54	40 - 67
Sysmex XN-450	12	201.7	8.2	4.1	202	151 - 253	12	54.4	5.4	10.0	53	40 - 69
Sysmex XN-530	5	196.8	6.8	3.4	198	147 - 246	5	50.3	2.2	4.4	50	37 - 63
Sysmex XN-550	22	198.4	7.1	3.6	198	148 - 248	22	53.1	2.6	4.8	53	39 - 67
Sysmex XS-1000i	16	195.8	5.4	2.7	195	146 - 245	16	58.0	2.5	4.4	58	43 - 73

	Specimen MX-13					Specimen MX-14				
	Labs	_Mean_	_SD_	_CV_	_Median_	_Range_	_Labs_	_Mean_	_SD_	_CV_	_Median_	_Range_
All Method	126	198.1	6.0	3.0	198	148 - 248	126	409.2	14.7	3.6	410	306 - 512
All Sysmex XN/XS Instruments	126	198.1	6.0	3.0	198	148 - 248	126	409.2	14.7	3.6	410	306 - 512
Sysmex XN-1000	20	199.4	6.5	3.3	202	149 - 250	20	414.5	11.9	2.9	413	310 - 519
Sysmex XN-330	11	195.0	5.9	3.0	196	146 - 244	11	405.8	15.4	3.8	403	304 - 508
Sysmex XN-430	39	196.9	6.7	3.4	198	147 - 247	39	407.7	12.7	3.1	408	305 - 510
Sysmex XN-450	12	199.4	5.1	2.6	200	149 - 250	12	419.6	13.6	3.2	417	314 - 525
Sysmex XN-530	5	198.3	7.3	3.7	197	148 - 248	5	419.3	22.3	5.3	412	314 - 525
Sysmex XN-550	22	198.9	7.3	3.7	199	149 - 249	22	413.0	12.5	3.0	414	309 - 517
Sysmex XS-1000i	16	198.3	3.8	1.9	198	148 - 248	16	393.4	11.6	2.9	393	295 - 492

	Specimen MX-15					
	Labs	_Mean_	_SD_	_CV_	_Median_	_Range_
All Method	126	53.6	3.5	6.6	53	40 - 67
All Sysmex XN/XS Instruments	126	53.6	3.5	6.6	53	40 - 67
Sysmex XN-1000	20	53.5	3.4	6.4	54	40 - 67
Sysmex XN-330	11	53.1	2.1	3.9	53	39 - 67
Sysmex XN-430	39	52.7	3.2	6.1	53	39 - 66
Sysmex XN-450	12	53.0	3.1	5.9	54	39 - 67
Sysmex XN-530	5	53.3	4.1	7.7	54	39 - 67
Sysmex XN-550	22	52.9	3.3	6.3	53	39 - 67
Sysmex XS-1000i	16	58.1	3.9	6.7	59	43 - 73

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

Specimen MX-11

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	51.50	1.82	3.5	51.2	46.0 - 57.0
All Sysmex XN/XS Instruments	126	51.50	1.82	3.5	51.2	46.0 - 57.0
Sysmex XN-1000	20	54.66	0.72	1.3	54.6	52.5 - 56.9
Sysmex XN-330	11	51.26	0.97	1.9	51.4	48.3 - 54.2
Sysmex XN-430	39	50.82	1.01	2.0	50.8	47.8 - 53.9
Sysmex XN-450	12	51.07	1.47	2.9	51.1	46.6 - 55.5
Sysmex XN-530	5	51.03	0.97	1.9	51.1	48.1 - 54.0
Sysmex XN-550	22	51.53	1.26	2.5	51.8	47.7 - 55.4
Sysmex XS-1000i	16	49.76	1.19	2.4	49.6	46.1 - 53.4

Specimen MX-12

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	62.58	1.44	2.3	62.5	58.2 - 66.9
All Sysmex XN/XS Instruments	126	62.58	1.44	2.3	62.5	58.2 - 66.9
Sysmex XN-1000	20	64.51	0.64	1.0	64.4	62.5 - 66.5
Sysmex XN-330	11	62.55	1.45	2.3	62.2	58.1 - 67.0
Sysmex XN-430	39	61.85	0.97	1.6	61.8	58.9 - 64.8
Sysmex XN-450	12	61.89	1.43	2.3	62.0	57.6 - 66.2
Sysmex XN-530	5	61.35	1.35	2.2	61.8	57.3 - 65.4
Sysmex XN-550	22	62.84	1.11	1.8	62.8	59.5 - 66.2
Sysmex XS-1000i	16	62.64	1.41	2.2	62.8	58.4 - 66.9

Specimen MX-13

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	51.66	1.67	3.2	51.3	46.6 - 56.7
All Sysmex XN/XS Instruments	126	51.66	1.67	3.2	51.3	46.6 - 56.7
Sysmex XN-1000	20	54.58	0.55	1.0	54.7	52.9 - 56.3
Sysmex XN-330	11	51.87	1.33	2.6	51.5	47.8 - 55.9
Sysmex XN-430	39	51.00	0.94	1.8	51.0	48.1 - 53.9
Sysmex XN-450	12	51.52	0.98	1.9	51.6	48.5 - 54.5
Sysmex XN-530	5	50.93	0.33	0.6	50.8	49.9 - 52.0
Sysmex XN-550	22	51.24	1.07	2.1	51.3	48.0 - 54.5
Sysmex XS-1000i	16	50.28	1.22	2.4	50.3	46.6 - 54.0

Specimen MX-14

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	56.47	1.63	2.9	56.2	51.5 - 61.4
All Sysmex XN/XS Instruments	126	56.47	1.63	2.9	56.2	51.5 - 61.4
Sysmex XN-1000	20	59.36	0.64	1.1	59.3	57.4 - 61.3
Sysmex XN-330	11	56.80	0.94	1.7	56.7	53.9 - 59.7
Sysmex XN-430	39	56.01	0.94	1.7	56.1	53.1 - 58.9
Sysmex XN-450	12	55.63	0.93	1.7	55.8	52.8 - 58.5
Sysmex XN-530	5	56.60	1.24	2.2	56.4	52.8 - 60.4
Sysmex XN-550	22	56.09	0.93	1.7	56.3	53.2 - 58.9
Sysmex XS-1000i	16	54.88	0.87	1.6	54.9	52.2 - 57.5

Specimen MX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	62.57	1.62	2.6	62.7	57.7 - 67.5
All Sysmex XN/XS Instruments	126	62.57	1.62	2.6	62.7	57.7 - 67.5
Sysmex XN-1000	20	64.52	0.96	1.5	64.5	61.6 - 67.5
Sysmex XN-330	11	63.07	1.11	1.8	62.9	59.7 - 66.5
Sysmex XN-430	39	62.14	1.41	2.3	62.1	57.9 - 66.4
Sysmex XN-450	12	61.94	1.45	2.3	62.3	57.5 - 66.3
Sysmex XN-530	5	62.50	1.70	2.7	62.7	57.4 - 67.6
Sysmex XN-550	22	61.96	1.50	2.4	62.2	57.4 - 66.5
Sysmex XS-1000i	16	62.23	1.65	2.7	62.7	57.2 - 67.2

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

Specimen MX-11 / Specimen MX-12

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	126	26.51	1.29	4.9	26.7	22.6 - 30.4	126	11.93	1.41	11.8	11.8	7.7 - 16.2
All Sysmex XN/XS Instruments	126	26.51	1.29	4.9	26.7	22.6 - 30.4	126	11.93	1.41	11.8	11.8	7.7 - 16.2
Sysmex XN-1000	20	24.53	0.62	2.5	24.4	22.6 - 26.4	20	13.94	1.11	8.0	14.2	10.6 - 17.3
Sysmex XN-330	11	26.06	1.50	5.7	26.1	21.5 - 30.6	11	11.52	0.85	7.4	11.7	8.9 - 14.1
Sysmex XN-430	39	26.93	0.68	2.5	26.9	24.8 - 29.0	39	11.69	0.89	7.6	11.7	9.0 - 14.4
Sysmex XN-450	12	26.53	0.88	3.3	26.5	23.8 - 29.2	12	11.63	1.35	11.6	11.8	7.5 - 15.7
Sysmex XN-530	5	26.23	0.97	3.7	26.5	23.3 - 29.2	5	11.70	0.52	4.4	11.7	10.1 - 13.3
Sysmex XN-550	22	26.86	0.78	2.9	27.0	24.5 - 29.3	22	11.67	1.18	10.1	11.8	8.1 - 15.2
Sysmex XS-1000i	16	27.86	1.16	4.2	28.0	24.3 - 31.4	16	10.93	1.42	13.0	11.0	6.6 - 15.2

Specimen MX-13 / Specimen MX-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	126	26.40	1.27	4.8	26.5	22.5 - 30.3	126	19.88	0.75	3.8	20.0	17.6 - 22.2
All Sysmex XN/XS Instruments	126	26.40	1.27	4.8	26.5	22.5 - 30.3	126	19.88	0.75	3.8	20.0	17.6 - 22.2
Sysmex XN-1000	20	24.49	0.64	2.6	24.2	22.5 - 26.5	20	18.86	0.34	1.8	18.9	17.8 - 19.9
Sysmex XN-330	11	25.67	1.25	4.9	25.9	21.9 - 29.5	11	19.34	0.83	4.3	19.6	16.8 - 21.9
Sysmex XN-430	39	26.84	0.67	2.5	26.9	24.8 - 28.9	39	20.10	0.53	2.7	20.1	18.4 - 21.7
Sysmex XN-450	12	26.47	0.70	2.7	26.4	24.3 - 28.6	12	19.88	0.34	1.7	19.9	18.8 - 20.9
Sysmex XN-530	5	26.88	0.33	1.2	27.0	25.8 - 27.9	5	19.80	0.74	3.7	20.1	17.5 - 22.1
Sysmex XN-550	22	26.50	0.95	3.6	26.6	23.6 - 29.4	22	20.06	0.53	2.6	20.2	18.4 - 21.7
Sysmex XS-1000i	16	27.91	0.88	3.1	27.9	25.2 - 30.6	16	20.69	0.54	2.6	20.8	19.0 - 22.4

Specimen MX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	11.93	1.49	12.5	11.9	7.4 - 16.4
All Sysmex XN/XS Instruments	126	11.93	1.49	12.5	11.9	7.4 - 16.4
Sysmex XN-1000	20	13.84	1.09	7.9	14.0	10.5 - 17.2
Sysmex XN-330	11	10.66	0.99	9.3	10.6	7.6 - 13.7
Sysmex XN-430	39	11.71	1.13	9.7	12.1	8.3 - 15.1
Sysmex XN-450	12	11.74	1.08	9.2	11.7	8.5 - 15.0
Sysmex XN-530	5	11.58	0.83	7.2	11.5	9.0 - 14.1
Sysmex XN-550	22	11.59	0.81	7.0	11.7	9.1 - 14.1
Sysmex XS-1000i	16	11.99	1.82	15.1	11.9	6.5 - 17.5

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

Specimen MX-11

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	1.06	0.50	47.6	0.9	0.0 - 2.6
All Sysmex XN/XS Instruments	126	1.06	0.50	47.6	0.9	0.0 - 2.6
Sysmex XN-1000	20	2.12	0.19	9.1	2.1	1.5 - 2.7
Sysmex XN-330	11	0.81	0.19	23.1	0.8	0.2 - 1.4
Sysmex XN-430	39	0.78	0.13	16.2	0.8	0.4 - 1.2
Sysmex XN-450	12	0.97	0.19	19.4	1.0	0.4 - 1.6
Sysmex XN-530	5	0.78	0.15	19.4	0.7	0.3 - 1.3
Sysmex XN-550	22	0.78	0.20	25.5	0.8	0.1 - 1.4
Sysmex XS-1000i	16	1.12	0.21	19.1	1.1	0.4 - 1.8

Specimen MX-12

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	0.32	0.16	49.1	0.3	0.0 - 0.9
All Sysmex XN/XS Instruments	126	0.32	0.16	49.1	0.3	0.0 - 0.9
Sysmex XN-1000	20	0.48	0.20	42.7	0.5	0.0 - 1.1
Sysmex XN-330	11	0.19	0.15	79.3	0.3	0.0 - 0.7
Sysmex XN-430	39	0.28	0.13	47.2	0.3	0.0 - 0.7
Sysmex XN-450	12	0.36	0.11	30.2	0.3	0.0 - 0.7
Sysmex XN-530	5	0.23	0.15	66.7	0.3	0.0 - 0.7
Sysmex XN-550	22	0.29	0.14	49.7	0.3	0.0 - 0.8
Sysmex XS-1000i	16	0.43	0.14	32.7	0.5	0.0 - 0.9

Specimen MX-13

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	1.08	0.56	51.3	0.9	0.0 - 2.8
All Sysmex XN/XS Instruments	126	1.08	0.56	51.3	0.9	0.0 - 2.8
Sysmex XN-1000	20	2.24	0.25	11.4	2.3	1.4 - 3.0
Sysmex XN-330	11	0.73	0.16	22.2	0.7	0.2 - 1.3
Sysmex XN-430	39	0.80	0.16	19.6	0.8	0.3 - 1.3
Sysmex XN-450	12	0.89	0.17	19.4	0.9	0.3 - 1.5
Sysmex XN-530	5	0.73	0.29	39.6	0.7	0.0 - 1.6
Sysmex XN-550	22	0.79	0.21	26.4	0.7	0.1 - 1.5
Sysmex XS-1000i	16	1.24	0.17	14.1	1.3	0.7 - 1.8

Specimen MX-14

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	0.95	0.39	40.8	0.8	0.0 - 2.2
All Sysmex XN/XS Instruments	126	0.95	0.39	40.8	0.8	0.0 - 2.2
Sysmex XN-1000	20	1.80	0.19	10.6	1.8	1.2 - 2.4
Sysmex XN-330	11	0.73	0.14	19.5	0.8	0.3 - 1.2
Sysmex XN-430	39	0.73	0.11	14.9	0.7	0.4 - 1.1
Sysmex XN-450	12	0.83	0.09	10.5	0.9	0.5 - 1.1
Sysmex XN-530	5	0.70	0.12	16.5	0.7	0.3 - 1.1
Sysmex XN-550	22	0.76	0.11	13.9	0.7	0.4 - 1.1
Sysmex XS-1000i	16	1.08	0.15	13.8	1.1	0.6 - 1.6

Specimen MX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	0.32	0.17	52.3	0.3	0.0 - 0.9
All Sysmex XN/XS Instruments	126	0.32	0.17	52.3	0.3	0.0 - 0.9
Sysmex XN-1000	20	0.47	0.21	44.5	0.5	0.0 - 1.1
Sysmex XN-330	11	0.25	0.12	49.4	0.3	0.0 - 0.7
Sysmex XN-430	39	0.29	0.13	45.9	0.3	0.0 - 0.7
Sysmex XN-450	12	0.36	0.21	58.8	0.3	0.0 - 1.0
Sysmex XN-530	5	0.30	0.24	81.6	0.3	0.0 - 1.1
Sysmex XN-550	22	0.31	0.16	52.3	0.3	0.0 - 0.9
Sysmex XS-1000i	16	0.33	0.23	68.6	0.3	0.0 - 1.1

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	126	13.47	0.63	4.7	13.4	11.5 - 15.4	126	16.17	0.71	4.4	16.2	14.0 - 18.3
All Sysmex XN/XS Instruments	126	13.47	0.63	4.7	13.4	11.5 - 15.4	126	16.17	0.71	4.4	16.2	14.0 - 18.3
Sysmex XN-1000	20	13.92	0.49	3.5	13.8	12.4 - 15.4	20	16.14	0.47	2.9	16.0	14.7 - 17.6
Sysmex XN-330	11	13.59	0.47	3.4	13.7	12.1 - 15.0	11	15.78	0.56	3.5	16.0	14.1 - 17.5
Sysmex XN-430	39	13.60	0.62	4.6	13.8	11.7 - 15.5	39	16.41	0.65	4.0	16.4	14.4 - 18.4
Sysmex XN-450	12	13.38	0.54	4.0	13.3	11.7 - 15.0	12	16.76	0.66	3.9	16.9	14.7 - 18.8
Sysmex XN-530	5	13.63	0.68	5.0	13.6	11.5 - 15.7	5	16.08	1.21	7.5	16.1	12.4 - 19.8
Sysmex XN-550	22	13.20	0.59	4.5	13.1	11.4 - 15.0	22	15.81	0.67	4.2	15.8	13.8 - 17.9
Sysmex XS-1000i	16	13.03	0.57	4.4	13.2	11.3 - 14.8	16	16.01	0.74	4.6	16.3	13.8 - 18.3

Specimen MX-13 / Specimen MX-14

Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
All Method	126	13.56	0.67	4.9	13.7	11.5 - 15.6	126	14.82	0.60	4.0	14.8	13.0 - 16.7
All Sysmex XN/XS Instruments	126	13.56	0.67	4.9	13.7	11.5 - 15.6	126	14.82	0.60	4.0	14.8	13.0 - 16.7
Sysmex XN-1000	20	13.95	0.42	3.0	13.9	12.6 - 15.3	20	15.21	0.53	3.5	15.1	13.6 - 16.8
Sysmex XN-330	11	13.77	0.74	5.4	14.0	11.5 - 16.0	11	14.90	0.72	4.8	15.0	12.7 - 17.1
Sysmex XN-430	39	13.55	0.60	4.4	13.5	11.7 - 15.4	39	14.79	0.53	3.6	14.8	13.1 - 16.4
Sysmex XN-450	12	13.76	0.66	4.8	14.0	11.7 - 15.8	12	14.93	0.71	4.7	15.3	12.8 - 17.1
Sysmex XN-530	5	13.83	0.67	4.8	13.9	11.8 - 15.9	5	14.25	0.49	3.5	14.3	12.7 - 15.8
Sysmex XN-550	22	13.43	0.58	4.3	13.5	11.6 - 15.2	22	14.75	0.56	3.8	14.7	13.0 - 16.5
Sysmex XS-1000i	16	12.85	0.68	5.3	12.6	10.8 - 14.9	16	14.56	0.54	3.7	14.7	12.9 - 16.2

Specimen MX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	16.35	0.69	4.2	16.4	14.2 - 18.5
All Sysmex XN/XS Instruments	126	16.35	0.69	4.2	16.4	14.2 - 18.5
Sysmex XN-1000	20	16.29	0.67	4.1	16.4	14.2 - 18.4
Sysmex XN-330	11	16.63	0.88	5.3	16.5	13.9 - 19.3
Sysmex XN-430	39	16.27	0.69	4.2	16.1	14.2 - 18.4
Sysmex XN-450	12	16.39	0.65	4.0	16.6	14.4 - 18.4
Sysmex XN-530	5	16.53	0.82	5.0	16.7	14.0 - 19.0
Sysmex XN-550	22	16.43	0.75	4.6	16.6	14.1 - 18.7
Sysmex XS-1000i	16	16.31	0.54	3.3	16.3	14.6 - 18.0

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

Specimen MX-11

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	7.96	0.66	8.3	7.8	5.9 - 10.0
All Sysmex XN/XS Instruments	126	7.52	1.36	18.1	7.8	3.4 - 11.6
Sysmex XN-1000	20	4.77	0.14	2.9	4.7	4.3 - 5.2
Sysmex XN-330	11	8.27	0.75	9.1	8.0	6.0 - 10.6
Sysmex XN-430	39	7.98	0.62	7.8	8.0	6.1 - 9.9
Sysmex XN-450	12	8.08	0.72	8.9	8.1	5.9 - 10.3
Sysmex XN-530	5	8.35	1.04	12.5	8.4	5.2 - 11.5
Sysmex XN-550	22	7.71	0.67	8.7	7.7	5.7 - 9.8
Sysmex XS-1000i	16	8.26	0.81	9.8	8.3	5.8 - 10.7

Specimen MX-12

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	9.68	0.78	8.1	9.4	7.3 - 12.1
All Sysmex XN/XS Instruments	126	8.95	1.96	21.9	9.4	3.0 - 14.9
Sysmex XN-1000	20	4.77	0.21	4.5	4.8	4.1 - 5.5
Sysmex XN-330	11	9.95	0.91	9.1	10.3	7.2 - 12.7
Sysmex XN-430	39	9.76	0.72	7.4	9.8	7.6 - 12.0
Sysmex XN-450	12	9.37	0.67	7.2	9.3	7.3 - 11.4
Sysmex XN-530	5	10.65	0.62	5.9	10.6	8.7 - 12.6
Sysmex XN-550	22	9.38	0.74	7.9	9.2	7.1 - 11.7
Sysmex XS-1000i	16	10.01	0.84	8.4	10.0	7.4 - 12.6

Specimen MX-13

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	7.83	0.75	9.6	7.5	5.5 - 10.1
All Sysmex XN/XS Instruments	126	7.34	1.32	18.0	7.5	3.3 - 11.4
Sysmex XN-1000	20	4.74	0.16	3.3	4.7	4.2 - 5.3
Sysmex XN-330	11	7.95	0.85	10.7	7.7	5.4 - 10.6
Sysmex XN-430	39	7.83	0.72	9.2	7.9	5.6 - 10.0
Sysmex XN-450	12	7.38	0.76	10.3	7.0	5.0 - 9.7
Sysmex XN-530	5	7.65	0.47	6.1	7.6	6.2 - 9.1
Sysmex XN-550	22	8.03	0.75	9.4	7.7	5.7 - 10.3
Sysmex XS-1000i	16	7.79	0.75	9.6	7.7	5.5 - 10.1

Specimen MX-14

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	8.48	0.66	7.7	8.2	6.5 - 10.5
All Sysmex XN/XS Instruments	126	7.96	1.48	18.5	8.2	3.5 - 12.4
Sysmex XN-1000	20	4.88	0.10	2.0	4.9	4.5 - 5.2
Sysmex XN-330	11	8.24	0.52	6.3	8.2	6.6 - 9.8
Sysmex XN-430	39	8.38	0.58	7.0	8.3	6.6 - 10.2
Sysmex XN-450	12	8.75	0.59	6.7	8.8	6.9 - 10.6
Sysmex XN-530	5	8.65	0.68	7.8	8.6	6.6 - 10.7
Sysmex XN-550	22	8.57	0.81	9.4	8.4	6.1 - 11.0
Sysmex XS-1000i	16	8.83	0.78	8.8	8.9	6.4 - 11.2

Specimen MX-15

Instrument	Labs	Mean	SD	CV	Median	Range
All Method	126	9.64	0.84	8.7	9.3	7.1 - 12.2
All Sysmex XN/XS Instruments	126	8.83	1.88	21.3	9.3	3.1 - 14.5
Sysmex XN-1000	20	4.88	0.16	3.3	4.9	4.3 - 5.4
Sysmex XN-330	11	9.39	0.68	7.2	9.1	7.3 - 11.5
Sysmex XN-430	39	9.59	0.93	9.7	9.7	6.7 - 12.4
Sysmex XN-450	12	9.57	0.77	8.0	9.6	7.2 - 11.9
Sysmex XN-530	5	9.10	0.79	8.7	8.9	6.7 - 11.5
Sysmex XN-550	22	9.94	0.77	7.8	10.0	7.6 - 12.3
Sysmex XS-1000i	16	9.18	0.78	8.5	9.1	6.8 - 11.6

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	101	14.15	0.90	6.3	14.2	11.4 - 16.9	101	16.71	0.95	5.7	16.5	13.8 - 19.6
All Sysmex XN/XS Instruments	101	14.15	0.90	6.3	14.2	11.4 - 16.9	101	16.71	0.95	5.7	16.5	13.8 - 19.6
Sysmex XN-1000	18	13.86	0.77	5.6	13.8	11.5 - 16.2	18	15.98	0.61	3.8	16.1	14.1 - 17.8
Sysmex XN-330	11	14.14	1.03	7.3	13.7	11.0 - 17.3	11	17.20	0.88	5.1	17.1	14.5 - 19.9
Sysmex XN-430	35	14.29	0.88	6.2	14.4	11.6 - 17.0	35	16.67	0.91	5.4	16.4	13.9 - 19.4
Sysmex XN-450	12	14.25	0.99	7.0	14.4	11.2 - 17.3	12	16.71	0.91	5.4	16.7	13.9 - 19.5
Sysmex XN-530	5	13.20	0.22	1.6	13.2	12.5 - 13.9	5	16.88	1.38	8.2	17.1	12.7 - 21.1
Sysmex XN-550	19	14.29	0.92	6.4	14.1	11.5 - 17.1	19	17.07	0.95	5.6	17.0	14.2 - 20.0

			Specimen MX-13						Specimen MX-14		
All Method	101	14.11	0.87	6.2	14.1	11.4 - 16.8	101	14.83	0.67	4.5	14.7	12.8 - 16.9
All Sysmex XN/XS Instruments	101	14.11	0.87	6.2	14.1	11.4 - 16.8	101	14.83	0.67	4.5	14.7	12.8 - 16.9
Sysmex XN-1000	18	13.97	0.63	4.5	14.0	12.0 - 15.9	18	14.33	0.31	2.2	14.3	13.3 - 15.3
Sysmex XN-330	11	14.46	0.96	6.6	14.4	11.5 - 17.4	11	15.15	0.66	4.4	15.0	13.1 - 17.2
Sysmex XN-430	35	14.05	0.91	6.5	13.8	11.3 - 16.8	35	14.92	0.64	4.3	15.0	12.9 - 16.9
Sysmex XN-450	12	14.31	0.82	5.7	14.3	11.8 - 16.8	12	14.73	0.69	4.7	14.5	12.6 - 16.9
Sysmex XN-530	5	14.08	1.01	7.2	14.1	11.0 - 17.2	5	14.58	0.70	4.8	14.4	12.4 - 16.7
Sysmex XN-550	19	13.97	0.95	6.8	14.0	11.1 - 16.9	19	15.06	0.74	4.9	15.0	12.8 - 17.3

			Specimen MX-15			
All Method	101	16.88	0.99	5.9	16.8	13.8 - 19.9
All Sysmex XN/XS Instruments	101	16.88	0.99	5.9	16.8	13.8 - 19.9
Sysmex XN-1000	18	16.07	0.62	3.8	16.2	14.2 - 18.0
Sysmex XN-330	11	16.61	0.59	3.6	16.5	14.8 - 18.4
Sysmex XN-430	35	17.31	0.99	5.7	17.3	14.3 - 20.3
Sysmex XN-450	12	16.93	0.84	5.0	16.8	14.3 - 19.5
Sysmex XN-530	5	16.98	0.46	2.7	17.2	15.6 - 18.4
Sysmex XN-550	19	17.03	1.18	6.9	17.0	13.4 - 20.6

CASE HISTORY:

A 26-year-old male presented to a hospital emergency department with fever, shortness of breath, chest pain, and a painful, swollen leg. A CBC was performed, and the results appear below.
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Test	Results	Reference Range
WBC	16.2 x 10^9/L	4.5 – 15.0 x 10^9/L
RBC	3.1 x 10^{12}/L	4.6 - 6.0 x 10^{12}/L
HGB	8.1 g/dL	14.0 - 18.0 g/dL
HCT	25.7 %	40 - 54 %
PLT	433 x 10^9/L	150 - 450 x 10^9/L
MCV	83 fL	80 - 94 fL
MCH	26 pg	27 - 32 pg
MCHC	32 g/dL	32 - 36 g/dL
RDW	19 %	11.5 - 14.5 %

Sickle cell disease (SCD) is a group of inherited genetic disorders affecting the hemoglobin molecule, which carries oxygen throughout the body and gives red blood cells their color. People with sickle cell conditions produce abnormal forms of hemoglobin. Erythrocytes containing the variant hemoglobin S become "sickled" (elongated and rigid) in response to certain triggering conditions. The deformed red cells cannot easily pass through the smallest blood vessels, causing painful blockages and damage to tissues and organs. These recurrent episodes are referred to as *crises.* Potential triggers include exposure to cold temperature, high altitude, exertion, dehydration, acidosis, infection, and fever.

Damage to the spleen puts patients with SCD at high risk for immune dysfunction, infection, and sepsis throughout life. One of the many complications of sickle cell conditions is osteomyelitis. Sluggish circulation or blockage in a bone's microcirculation causes thrombosis, infarction, and ultimately, necrosis. Osteomyelitis commonly affects the femur, tibia, or humerus. However, any bone can be affected, and it may become multifocal after hematogenous spread of bacteria.

SCD is a chronic multisystem disease with many serious complications that cause long-term disability and premature death. There are several different types of SCD, and the severity of each person's disease can vary widely depending upon their genotype. Common variants of sickle cell disease include hemoglobin SS disease (the most severe type), hemoglobin SC disease, and the sickle beta-thalassemias. Millions of people throughout the world have SCD, most frequently those of African, South or Central American, Caribbean, Mediterranean, Indian, or Saudi Arabian descent. A patient's race should not be used to rule in or out the diagnosis, because sickle cell disease and its variants affect many races and nationalities.

BLOOD CELL IDENTIFICATION

Specimen BC-13
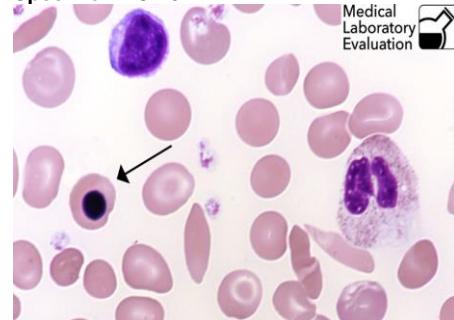
Identification	Labs	Percent	Performance
Nucleated red cell	91	70.54%	Acceptable
Immature/abnormal cell – refer	37	28.68%	Acceptable

The arrow in this challenge points to a **nucleated red blood cell** (NRBC). These immature RBCs are not normally seen in the peripheral blood of healthy adults. Their presence is a response to severe anemia, as the bone marrow releases the needed RBCs into circulation before they have fully matured. A red cell normally ejects its nucleus before leaving the bone marrow and entering the peripheral blood stream. In persons with sickle cell conditions the abnormal red cells have a shortened survival time. This contributes to chronic hemolytic anemia, jaundice, and formation of gallstones. To view another photo of NRBCs, see 2018 Specimen BC-8.

Specimen BC-14
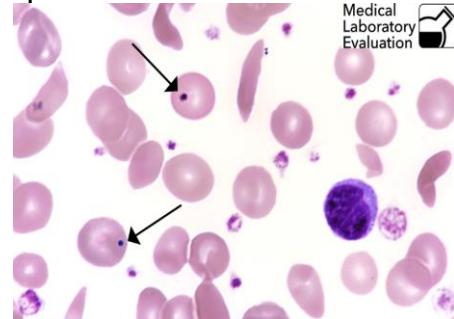
Identification	Labs	Percent	Performance
Howell-Jolly body	77	59.69%	Acceptable
Immature/abnormal cell -refer	48	37.21%	Acceptable

The arrows in this challenge point to **Howell-Jolly bodies**. These bodies are very small, round, dense, blue erythrocyte inclusions. They are remnants of nuclear chromatin that would normally be removed by the pitting action of the spleen. People with sickle cell disease usually have damaged, nonfunctional spleens that are unable to remove this cellular debris. Howell-Jolly bodies are also commonly found in patients with hemolytic and megaloblastic anemias. To view another photo of Howell-Jolly bodies, see 2015 Specimen BC-18.

Specimen BC-15
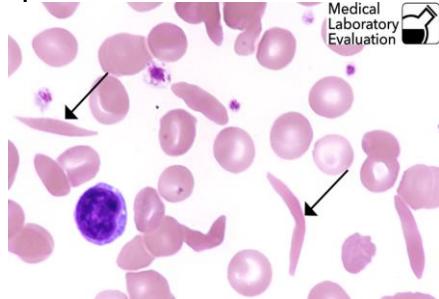
Identification	Labs	Percent	Performance
Sickle cell	127	98.45%	Acceptable
Immature/abnormal cell – refer	2	1.55%	Acceptable

The arrows in this photograph point to **sickle cells**. The characteristic sickle cell is long, curved, and pointed at both ends. These erythrocytes containing the variant hemoglobin S start out as normal flexible, biconcave disc shaped cells, but become distorted, rigid, crescent (sickle) shaped. The peripheral smear morphology typically shows marked anisocytosis, poikilocytosis, and polychromasia. To view another photo of sickle cells, see 2015 Specimen BC-15.

Specimen BC-16
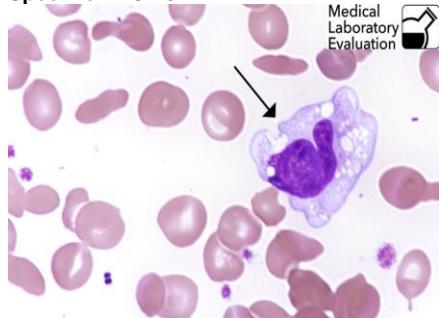
Identification	Labs	Percent	Performance
Monocyte	128	99.22%	Acceptable

The arrow in this photograph points to a **monocyte**. The nucleus is convoluted and the nuclear chromatin is lacy with small clumps. The cytoplasm is abundant, pale gray-blue, contains numerous vacuoles, and has a cloudy or turbid appearance described as "ground glass". The cytoplasmic membrane is irregular, with pseudopods that appear to be trying to push away nearby red cells. To view another photo of a monocyte, see 2021 M1 Specimen BC-2.

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BLOOD CELL IDENTIFICATION

Specimen BC-17
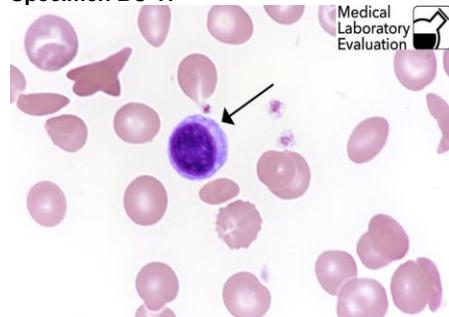
Identification	Labs	Percent	Performance
Lymphocyte	128	99.22%	Acceptable

The arrow in this photograph points to a **normal lymphocyte**. Its nucleus is round, approximately the same size as a normal red blood cell, typically eccentric/off-center and contains dense, coarse, clumped chromatin. The cytoplasm is scant, taking up a much smaller portion of the cell than the nucleus (the cell has a high N:C ratio). There is another normal, resting lymph shown in BC-15 above.

BLOOD CELL IDENTIFICATION

Specimen BC-18
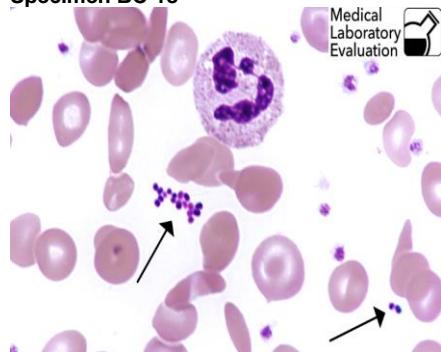
Identification	Labs	Percent	Performance
Bacteria, extracellular	98	75.97%	Educational challenge
Immature/abnormal cell – refer	23	17.83%	
Platelet, abnormal morphology	4	2.10%	
Fungi	3	2.33%	
Platelet normal	1	0.78%	

The arrows in this ungraded challenge point to bacteria. Patients with all sickle cell disease genotypes are prone to infections, bacteremia, and sepsis for a variety of reasons, mainly dysfunction of the spleen and immune system. In North America, Staphylococcus aureus and Salmonella species are the most common pathogens causing acute osteomyelitis. The bacteria in this photo are large round cocci resembling Staphylococci. The infecting organism can be identified by blood culture, aspiration of the bone lesion, or bone biopsy. To view another photo of extracellular bacteria, see 2019 M2 Specimen BC-12.

References:

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

Ochocinski D, Dalal M, Black LV, Carr S, Lew J, Sullivan K, Kissoon N. "Life-Threatening Infectious Complications in Sickle Cell Disease: A Concise Narrative Review." Front Pediatr. 2020 Feb 20;8:38. doi: 10.3389/fped.2020.00038. PMID: 32154192; PMCID: PMC7044152. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7044152/

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

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

Schrier, S. L. "Hemoglobinopathies and Hemolytic Anemias." *ACP Medicine.* Ed. D. C. Dale. New York: WebMD, Inc., 2004. 1096-1099.

Tanabe, P., Spratling, R., Smith, D., Grissom, P., Hulihan, M. "CE: Understanding the Complications of Sickle Cell Disease." AJN, American Journal of Nursing: June 2019 - Volume 119 - Issue 6 - p 26-35 doi: 10.1097/01.NAJ.0000559779.40570.2c Available at: https://journals.lww.com/ajnonline/Fulltext/2019/06000/CE__Understanding_the_Complications_of_Sickle_Cell.23.aspx

"What Is Sickle Cell Disease (SCD)?" *Sickle Cell Disease Association of America Inc.*, Sickle Cell Disease Association of America, Inc., 14 Jan. 2022, available at: https://www.sicklecelldisease.org/sickle-cell-health-and-disease/types/

BLOOD BANK

ABO GROUP

Specimen	Results	Labs	Percent	Performance
BB-11	Group 0	5	100%	Acceptable
BB-12	Group A	5	100%	Acceptable
BB-13	Group B	5	100%	Acceptable
BB-14	Group A	5	100%	Acceptable
BB-15	Group O	5	100%	Acceptable

RH FACTOR (D TYPE)

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

UNEXPECTED ANTIBODY DETECTION

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

BLOOD BANK

ANTIBODY IDENTIFICATION

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

COMPATIBILITY TESTING

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

PROTHROMBIN TIME (seconds)

Reagent/Instrument	Labs	Mean	SD	CV	Median	Range	Labs	Mean	SD	CV	Median	Range
			Specimen CG-11							**Specimen CG-12**		
All Method	16	12.23	0.44	3.6	12.1	10.3 - 14.1	16	26.80	1.40	5.2	26.5	22.7 - 30.9
Dade Innovin												
Dade Behring BFT II	5	11.95	0.21	1.8	12.0	10.1 - 13.8	5	29.05	2.05	7.1	29.1	24.6 - 33.5
Sysmex CA-500/600 series	11	12.28	0.46	3.7	12.1	10.4 - 14.2	11	26.39	0.85	3.2	26.5	22.4 - 30.4
All Coagulation Instruments	16	12.23	0.44	3.6	12.1	10.3 - 14.1	16	26.80	1.40	5.2	26.5	22.7 - 30.9
			Specimen CG-13							**Specimen CG-14**		
All Method	16	19.48	0.75	3.8	19.3	16.5 - 22.4	16	10.92	0.25	2.3	10.9	9.2 - 12.6
Dade Innovin												
Dade Behring BFT II	5	20.55	1.06	5.2	20.6	17.4 - 23.7	5	10.90	0.14	1.3	10.9	9.2 - 12.6
Sysmex CA-500/600 series	11	19.28	0.53	2.8	19.3	16.3 - 22.2	11	11.08	0.59	5.4	10.9	9.4 - 12.8
All Coagulation Instruments	16	19.48	0.75	3.8	19.3	16.5 - 22.4	16	10.92	0.25	2.3	10.9	9.2 - 12.6
			Specimen CG-15									
All Method	16	10.90	0.22	2.1	10.9	9.2 - 12.6						
Dade Innovin												
Dade Behring BFT II	5	10.75	0.07	0.7	10.8	9.1 - 12.4						
Sysmex CA-500/600 series	11	10.93	0.23	2.1	11.0	9.2 - 12.6						
All Coagulation Instruments	16	10.90	0.22	2.1	10.9	9.2 - 12.6						

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	16	1.22	0.07	5.7	1.2	1.0 - 1.4	16	2.67	0.13	4.9	2.6	2.2 - 3.1
Dade Innovin												
Dade Behring BFT II	5	1.25	0.07	5.7	1.3	1.0 - 1.5	5	2.70	0.28	10.5	2.7	2.2 - 3.2
Sysmex CA-500/600 series	11	1.21	0.07	5.8	1.2	1.0 - 1.4	11	2.66	0.11	4.2	2.6	2.2 - 3.1
All Coagulation Instruments	16	1.22	0.07	5.7	1.2	1.0 - 1.4	16	2.67	0.13	4.9	2.6	2.2 - 3.1

			Specimen CG-13						Specimen CG-14		
	Labs	**Mean**	**SD**	**CV**	**Median**	**Range**	**Labs**	**Mean**	**SD**	**CV**	**Median**	**Range**
All Method	16	1.95	0.09	4.5	1.9	1.6 - 2.3	16	1.08	0.07	6.4	1.1	0.9 - 1.3
Dade Innovin												
Dade Behring BFT II	5	2.00	0.14	7.1	2.0	1.7 - 2.3	5	1.15	0.07	6.1	1.2	0.9 - 1.4
Sysmex CA-500/600 series	11	1.94	0.08	4.2	1.9	1.6 - 2.3	11	1.07	0.06	6.0	1.1	0.9 - 1.3
All Coagulation Instruments	16	1.95	0.09	4.5	1.9	1.6 - 2.3	16	1.08	0.07	6.4	1.1	0.9 - 1.3

			Specimen CG-15			
	Labs	**Mean**	**SD**	**CV**	**Median**	**Range**
All Method	16	1.08	0.06	5.1	1.1	0.9 - 1.3
Dade Innovin						
Dade Behring BFT II	5	1.15	0.07	6.1	1.2	0.9 - 1.4
Sysmex CA-500/600 series	11	1.07	0.05	4.4	1.1	0.9 - 1.3
All Coagulation Instruments	16	1.08	0.06	5.1	1.1	0.9 - 1.3

ACTIVATED PARTIAL THROMBOPLASTIN (seconds)

	Specimen CG-11						Specimen CG-12				
Reagent/Instrument	_Labs_	_Mean_	_SD_	_CV_	_Median_	_Range_	_Labs_	_Mean_	_SD_	_CV_	_Median_	_Range_
All Method	10	25.4	1.1	4.5	25	21 - 30	10	42.2	3.0	7.2	44	35 - 49
Dade Actin FSL												
Sysmex CA-500/600 series	10	25.4	1.1	4.5	25	21 - 30	10	42.2	3.0	7.2	44	35 - 49

	Specimen CG-13						Specimen CG-14				
All Method	10	35.6	2.7	7.6	36	30 - 41	10	24.4	1.7	6.9	24	20 - 29
Dade Actin FSL												
Sysmex CA-500/600 series	10	35.6	2.7	7.6	36	30 - 41	10	24.4	1.7	6.9	24	20 - 29

	Specimen CG-15					
All Method	10	25.0	1.2	4.9	25	21 - 29
Dade Actin FSL						
Sysmex CA-500/600 series	10	25.0	1.2	4.9	25	21 - 29

Fibrinogen (mg/dL)

One participant reported Fibrinogen. The vendor assay values on a Sysmex CA-540 for specimens CG-11 through CG-15 are: 113 mg/dL, 192 mg/dL, 175 mg/dL, 162 mg/dL, and 381 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	20	15.16	0.43	2.9	15.1	12.8 - 17.5	20	21.81	1.12	5.1	21.9	18.5 - 25.1
All Roche CoaguChek XS Plus Instruments	20	15.16	0.43	2.9	15.1	12.8 - 17.5	20	21.81	1.12	5.1	21.9	18.5 - 25.1
Roche CoaguChek XS Plus - Waived	10	15.13	0.47	3.1	15.0	12.8 - 17.5	10	21.88	1.15	5.2	21.9	18.5 - 25.2
Roche CoaguChek XS Plus	8	15.20	0.41	2.7	15.2	12.9 - 17.5	8	21.68	1.19	5.5	21.9	18.4 - 25.0

		Specimen XS-13						Specimen XS-14				
All Method	10	32.48	2.82	8.7	32.5	27.6 - 37.4	10	22.63	1.50	6.6	22.8	19.2 - 26.1
All Roche CoaguChek XS Plus Instruments	10	32.48	2.82	8.7	32.5	27.6 - 37.4	10	22.63	1.50	6.6	22.8	19.2 - 26.1
Roche CoaguChek XS Plus - Waived	5	30.75	2.47	8.0	30.8	26.1 - 35.4	5	21.55	1.20	5.6	21.6	18.3 - 24.8
Roche CoaguChek XS Plus	5	34.20	2.40	7.0	34.2	29.0 - 39.4	5	23.70	0.85	3.6	23.7	20.1 - 27.3

		Specimen XS-15										
All Method	10	35.13	1.29	3.7	34.6	29.8 - 40.5						
All Roche CoaguChek XS Plus Instruments	10	35.13	1.29	3.7	34.6	29.8 - 40.5						
Roche CoaguChek XS Plus - Waived	4	-	-	-	34.2	29.8 - 40.5						
Roche CoaguChek XS Plus	5	35.60	1.41	4.0	35.6	30.2 - 41.0						

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	30	1.27	0.05	3.8	1.3	1.0 - 1.5	30	1.84	0.11	5.7	1.9	1.5 - 2.2
All Roche CoaguChek XS Plus Instruments	30	1.27	0.05	3.8	1.3	1.0 - 1.5	30	1.84	0.11	5.7	1.9	1.5 - 2.2
Roche CoaguChek XS Plus - Waived	24	1.27	0.05	3.8	1.3	1.0 - 1.5	24	1.84	0.11	5.9	1.9	1.5 - 2.2
Roche CoaguChek XS Plus	6	1.26	0.05	4.3	1.3	1.0 - 1.5	6	1.80	0.09	5.0	1.8	1.5 - 2.1

		Specimen XS-13						Specimen XS-14				
All Method	10	2.73	0.21	7.6	2.7	2.3 - 3.2	10	1.90	0.11	5.8	1.9	1.6 - 2.2
All Roche CoaguChek XS Plus Instruments	10	2.73	0.21	7.6	2.7	2.3 - 3.2	10	1.90	0.11	5.8	1.9	1.6 - 2.2
Roche CoaguChek XS Plus - Waived	6	2.68	0.21	7.7	2.7	2.2 - 3.1	6	1.88	0.13	6.7	1.9	1.5 - 2.2
Roche CoaguChek XS Plus	4	-	-	-	2.9	2.3 - 3.2	4	-	-	-	2.0	1.6 - 2.2

		Specimen XS-15										
All Method	10	2.82	0.08	3.0	2.8	2.3 - 3.3						
All Roche CoaguChek XS Plus Instruments	10	2.82	0.08	3.0	2.8	2.3 - 3.3						
Roche CoaguChek XS Plus - Waived	6	2.80	0.10	3.6	2.8	2.3 - 3.3						
Roche CoaguChek XS Plus	4	-	-	-	2.9	2.3 - 3.3						

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**
All Method	93	1.87	0.07	3.8	1.9	1.5 - 2.2	83	1.20	0.01	0.0	1.2	1.0 - 1.4
Roche CoaguChek XS	93	1.87	0.07	3.8	1.9	1.5 - 2.2	83	1.20	0.01	0.0	1.2	1.0 - 1.4

i-Stat PROTHROMBIN TIME (seconds)

	Specimen PTI-11						Specimen PTI-12				
Instrument	**Labs**	**Mean**	**SD**	**CV**	**Median**	**Range**	**Labs**	**Mean**	**SD**	**CV**	**Median**	**Range**
All Method	8	16.07	1.68	10.5	15.7	13.6 - 18.5	8	25.83	0.98	3.8	26.4	21.9 - 29.8
i-Stat Prothrombin Time	8	16.07	1.68	10.5	15.7	13.6 - 18.5	8	25.83	0.98	3.8	26.4	21.9 - 29.8

	Specimen PTI-13						Specimen PTI-14				
All Method	8	16.53	1.02	6.2	16.1	14.0 - 19.1	8	25.57	0.64	2.5	25.3	21.7 - 29.5
i-Stat Prothrombin Time	8	16.53	1.02	6.2	16.1	14.0 - 19.1	8	25.57	0.64	2.5	25.3	21.7 - 29.5

	Specimen PTI-15					
All Method	8	16.20	1.08	6.7	16.5	13.7 - 18.7
i-Stat Prothrombin Time	8	16.20	1.08	6.7	16.5	13.7 - 18.7

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**
All Method	8	1.33	0.15	11.5	1.3	1.1 - 1.6	8	2.23	0.12	5.2	2.3	1.8 - 2.6
i-Stat Prothrombin Time	8	1.33	0.15	11.5	1.3	1.1 - 1.6	8	2.23	0.12	5.2	2.3	1.8 - 2.6

	Specimen PTI-13						Specimen PTI-14				
All Method	8	1.40	0.10	7.1	1.4	1.1 - 1.7	8	2.23	0.06	2.6	2.2	1.8 - 2.6
i-Stat Prothrombin Time	8	1.40	0.10	7.1	1.4	1.1 - 1.7	8	2.23	0.06	2.6	2.2	1.8 - 2.6

	Specimen PTI-15					
All Method	8	1.40	0.10	7.1	1.4	1.1 - 1.7
i-Stat Prothrombin Time	8	1.40	0.10	7.1	1.4	1.1 - 1.7

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	3	-	-	-	296	Not graded	3	-	-	-	5	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	3	-	-	-	1213	Not graded	3	-	-	-	0	Not graded

2022 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
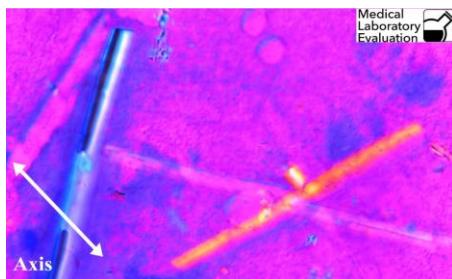
Identification	Labs	Percent	Performance
Steroid crystals	4	80.00%	Acceptable
No crystal observed	1	20.00%	

The large rectangular objects in this photograph are **steroid crystals**. Corticosteroids (aka. steroids) are drugs that are used to treat joint pain by reducing inflammation. These drugs are often injected directly into the joints to treat conditions such as rheumatoid arthritis and gout. Examples of steroids include cortisone, triamcinolone, and prednisone. The morphology and birefringent properties of steroid crystals vary with the specific preparation. Some steroid drugs form rod shapes like the ones pictured here, and other kinds will form clumps of tiny, pleomorphic fragments. Having the patient's clinical history is helpful in these cases, as steroid crystals may remain in synovial fluid for weeks after injection. To view another photo of steroid crystals, see 2021 M1 Specimen FC-1.

2022 M3
FLUID CRYSTAL IDENTIFICATION

Specimen FC-6
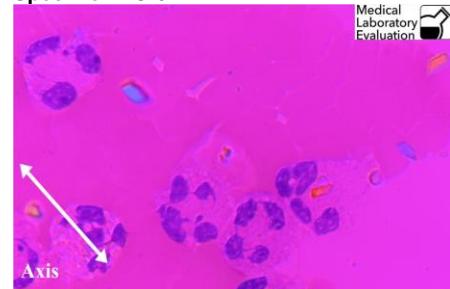
Identification	Labs	Percent	Performance
CPPD crystals	5	100%	Acceptable

The objects in this photograph are **calcium pyrophosphate dihydrate (CPPD) crystals**. These crystals cause calcium pyrophosphate disease, commonly called pseudogout. CPPD crystals are usually rhomboidal as seen here, or can be rod-shaped and occasionally needle-shaped. These crystals demonstrate **positive birefringence.** The two blue crystals located at 3 and 10 o'clock are aligned with/parallel to the axis. The pink-red-orange crystals are perpendicular to the filter/axis. The presence of several polymorphonuclear white blood cells in this fluid specimen is a sign of acute inflammation. To view another photo of CPPD crystals, see 2020 M3 Specimen FC-6.

REFERENCES:

Abramowitz, M, Davidson, MW. "Optical Birefringence." *Olympus Microscopy Resource Center*. Accessed 7/28/16. Available at: http://www.olympusmicro.com/primer/lightandcolor/birefringence.html

Al-Ashkar, F. "Gout and Pseudogout." *Cleveland Clinic Center for Continuing Education*. Accessed 7/28/16. Available at: http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/rheumatology/gout-and-pseudogout/default.htm

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

"Double Refraction / Optics." *Encyclopedia Britannica Online*. Encyclopedia Britannica, n.d. Web. 18 May 2015. Available at: http://www.britannica.com/EBchecked/topic/170003/double-refraction

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

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

MICROALBUMIN, DIPSTICK

Specimen UM-3

<p align="center">Participant Results</p>

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	18	1	12	-	4	1	-	-	-	-	-
Consult Diagnostics Reagent Strips	2	-	2	-	-	-	-	-	-	-	-
McKesson Reagent Strips	1	-	1	-	-	-	-	-	-	-	-
Roche Micral - 1 minute	1	-	-	-	-	1	-	-	-	-	-
Siemens Clinitek Microalbumin	13	-	9	-	4	-	-	-	-	-	-
UriScan Reagent Strips	1	1	-	-	-	-	-	-	-	-	-

CREATININE, DIPSTICK

Specimen UM-3

<p align="center">Participant Results</p>

Method	Labs	Negative	10 mg/dL	30 mg/dL	50 mg/dL	100 mg/dL	200 mg/dL	300 mg/dL
ALL METHODS	19	-	-	-	-	-	1	18
Consult Diagnostics Reagent Strips	2	-	-	-	-	-	-	2
McKesson Reagent Strips	1	-	-	-	-	-	-	1
Siemens Clinitek Microalbumin	13	-	-	-	-	-	1	12
Siemens Multistix Pro	2	-	-	-	-	-	-	2
UriScan Reagent Strips	1	-	-	-	-	-	-	1

MICROALBUMIN, QUANTITATIVE (mg/L)

Specimen UM-3

Method	Labs	Mean	SD	CV	Median	Range
All Method	35	36.46	2.37	6.5	36.8	25.5 - 47.4
All Alere Afinion Analyzers	6	37.73	2.56	6.8	37.7	26.4 - 49.1
Alere Afinion AS100	5	37.44	2.75	7.3	36.7	26.2 - 48.7
Beckman AU	8	31.35	11.50	36.7	34.8	21.9 - 40.8
Siemens Dimension	9	38.88	3.35	8.6	38.0	27.2 - 50.6

CREATININE, URINE (mg/dL)

Specimen UM-3

Method	Labs	Mean	SD	CV	Median	Range
All Method	30	202.67	11.84	5.8	203.4	168.2 - 237.2
All Alere Afinion Analyzers	5	193.72	4.05	2.1	193.9	160.7 - 226.7
Beckman AU	7	188.91	5.29	2.8	187.0	156.7 - 221.1
Siemens Dimension	6	211.08	6.49	3.1	210.8	175.1 - 247.0

KOH SKIN PREPARATION

Technical note: 10-20% KOH is a suitable concentration for KOH preparations. The recommended wait time for read is up to 30 minutes to allow cellular tissue and debris to dissolve. Alternatively, the slide may be heated using a heating block. Follow your laboratory specific protocol for KOH concentrations and wait times.

Specimen	Identification	Labs	Percent	Performance
K-5	Yeast/fungal elements present	57	82.61%	Acceptable
	Yeast/fungal elements absent	12	17.39%	

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

Specimen	Identification	Labs	Percent	Performance
K-6	Yeast/fungal elements absent	64	92.75%	Acceptable
	Yeast/fungal elements present	5	7.25%	

Organism present in specimen K-6: *Capnocytophaga sputigena..*

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	82	14.38	2.14	14.9	13.6	10.0 - 18.7	81	6.70	1.35	20.2	6.3	3.9 - 9.5
All HemoCue 301/801	12	18.93	0.40	2.1	19.1	17.6 - 20.3	12	9.79	0.27	2.7	9.8	9.1 - 10.5
All Stanbio Methods	10	13.63	0.73	5.3	13.9	12.1 - 15.1	10	6.37	0.20	3.1	6.4	5.9 - 6.9
Alere (Stanbio) HemoPoint H2	10	13.63	0.73	5.3	13.9	12.1 - 15.1	10	6.37	0.20	3.1	6.4	5.9 - 6.9
HemoCue 201/+	56	13.51	0.35	2.6	13.4	12.5 - 14.5	57	6.21	0.16	2.5	6.2	5.7 - 6.7
HemoCue 801	11	19.02	0.28	1.5	19.1	17.6 - 20.4	11	9.84	0.23	2.3	9.8	9.1 - 10.6

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	6	40.08	1.10	2.7	39.9	37.6 - 42.5	6	18.23	1.69	9.3	18.6	14.8 - 21.7

URINALYSIS DIPSTICK–SPECIFIC GRAVITY

Specimen UA-3

Method	Labs	Mean	SD	CV	Median	Range
All Method	558	1.0252	0.0044	0.4	1.025	1.015 - 1.036
All Roche Methods	10	1.0180	0.0114	1.1	1.015	1.008 - 1.028
All Siemens Methods	426	1.0266	0.0034	0.3	1.025	1.016 - 1.037
Consult Diagnostics Urine Analyzer	7	1.0243	0.0020	0.2	1.025	1.014 - 1.035
Diagnostic Test Group Clarity Urocheck 120	10	1.0240	0.0021	0.2	1.025	1.014 - 1.034
Henry Schein Urispec / Urispec Plus	20	1.0180	0.0025	0.2	1.020	1.008 - 1.028
McKesson 120 Urine Analyzer	27	1.0237	0.0023	0.2	1.025	1.013 - 1.034
McKesson Reagent Strips	11	1.0214	0.0023	0.2	1.020	1.011 - 1.032
Roche Chemstrips	21	1.0155	0.0021	0.2	1.015	1.005 - 1.026
Roche Urisys	8	1.0194	0.0124	1.2	1.015	1.009 - 1.030
Siemens Clinitek Advantus	11	1.0250	0.0001	0.0	1.025	1.015 - 1.035
Siemens Clinitek Status / Status+	330	1.0275	0.0025	0.2	1.030	1.017 - 1.038
Siemens Multistix Pro	16	1.0222	0.0073	0.7	1.020	1.012 - 1.033
Siemens Reagent Strips	71	1.0223	0.0044	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	576	-	-	-	5	-	89	224	255	3	-	-	-
Arkray Aution Eleven AE-4022	1	-	-	-	-	-	-	1	-	-	-	-	-
BTNX Rapid Response Test Strips	1	-	-	-	-	-	-	1	-	-	-	-	-
Consult Diagnostics Reagent Strips	4	-	-	-	-	-	4	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	6	-	-	-	-	-	4	2	-	-	-	-	-
CTMI CT-120 Urine Analyzer	1	-	-	-	-	-	1	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck	2	-	-	-	-	-	2	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	11	-	-	-	-	-	7	4	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	-	-	-	-	-	1	1	-	-	-	-	-
Henry Schein One Step Plus	1	-	-	-	-	-	-	1	-	-	-	-	-
Henry Schein Urispec / Urispec Plus	22	-	-	-	-	-	-	21	1	-	-	-	-
Immunostics Detector Urine Strips	2	-	-	-	-	-	1	1	-	-	-	-	-
Jant Pharmacal Accustrip	1	-	-	-	-	-	-	1	-	-	-	-	-
McKesson 120 Urine Analyzer	27	-	-	-	-	-	20	7	-	-	-	-	-
McKesson Reagent Strips	10	-	-	-	-	-	6	4	-	-	-	-	-
Medline 120 Urine Analyzer	3	-	-	-	-	-	2	1	-	-	-	-	-
Medline Urinalysis Reagent Strips	3	-	-	-	-	-	2	1	-	-	-	-	-
NDC Pro Advantage	1	-	-	-	-	-	1	-	-	-	-	-	-
Other Dipstick Method	3	-	-	-	-	-	-	2	1	-	-	-	-
Roche Chemstrips	23	-	-	-	3	-	20	-	-	-	-	-	-
Roche SuperUA/ChemstripUA	1	-	-	-	-	-	1	-	-	-	-	-	-
Roche Urisys	9	-	-	-	1	-	5	3	-	-	-	-	-
Siemens Clinitek 50	3	-	-	-	-	-	-	3	-	-	-	-	-
Siemens Clinitek Advantus	12	-	-	-	-	-	-	12	-	-	-	-	-
Siemens Clinitek Status / Status+	336	-	-	-	-	-	7	99	230	-	-	-	-
Siemens Multistix Pro	14	-	-	-	-	-	-	5	7	2	-	-	-
Siemens Reagent Strips	75	-	-	-	1	-	4	53	16	1	-	-	-
Teco Diagnostics URS	1	-	-	-	-	-	-	1	-	-	-	-	-
UriScan Reagent Strips	1	-	-	-	-	-	1	-	-	-	-	-	-

URINALYSIS DIPSTICK–PROTEIN QUALITATIVE

Specimen UA-3

<div align="center">Participant Results</div>

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	581	4	-	3	166	48	2	-	10	-	296	52	-
Arkray Aution Eleven AE-4022	1	-	-	-	1	-	-	-	-	-	-	-	-
BTNX Rapid Response Test Strips	1	-	-	-	-	-	-	-	-	-	1	-	-
Consult Diagnostics Reagent Strips	3	-	-	-	3	-	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	7	-	-	-	5	2	-	-	-	-	-	-	-
CTMI CT-120 Urine Analyzer	1	-	-	-	-	-	-	-	-	-	1	-	-
Diagnostic Test Group Clarity Urocheck	2	-	-	-	2	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	11	-	-	-	11	-	-	-	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	-	-	-	2	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	1	-	-	-	-	-	-	-	-	-	1	-	-
Henry Schein Urispec / Urispec Plus	21	-	-	-	-	-	-	-	3	-	18	-	-
Immunostics Detector Urine Strips	2	-	-	-	-	-	-	-	-	-	2	-	-
Jant Pharmacal Accustrip	1	-	-	-	-	-	-	-	-	-	1	-	-
McKesson 120 Urine Analyzer	26	-	-	-	20	4	-	-	-	-	2	-	-
McKesson Reagent Strips	11	-	-	1	6	3	-	-	-	-	1	-	-
Medline 120 Urine Analyzer	3	-	-	-	-	3	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	3	-	-	-	3	-	-	-	-	-	-	-	-
NDC Pro Advantage	1	-	-	-	1	-	-	-	-	-	-	-	-
Other Dipstick Method	2	-	-	-	2	-	-	-	-	-	-	-	-
Roche Chemstrip 101	1	1	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrips	25	1	-	-	19	2	-	-	-	-	3	-	-
Roche SuperUA/ChemstripUA	1	-	-	-	-	-	-	-	1	-	-	-	-
Roche Urisys	9	-	-	-	-	-	-	-	4	-	5	-	-
Siemens Clinitek 50	3	-	-	-	-	-	-	-	-	-	2	1	-
Siemens Clinitek Advantus	11	-	-	-	7	-	-	-	-	-	4	-	-
Siemens Clinitek Atlas	2	-	-	-	1	-	-	-	-	-	1	-	-
Siemens Clinitek Status / Status+	335	1	-	-	57	17	1	-	1	-	212	46	-
Siemens Multistix Pro	12	1	-	-	3	2	1	-	-	-	5	-	-
Siemens Reagent Strips	79	-	-	2	21	14	-	-	1	-	36	5	-
Siemens Uristix	1	-	-	-	1	-	-	-	-	-	-	-	-
Sulfosalicylic Acid	1	-	-	-	1	-	-	-	-	-	-	-	-
Teco Diagnostics URS	1	-	-	-	-	-	-	-	-	-	1	-	-
UriScan Reagent Strips	1	-	-	-	-	1	-	-	-	-	-	-	-

URINALYSIS DIPSTICK–GLUCOSE

Specimen UA-3

Method	Labs	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	582	4	1	2	81	81	6	-	3	207	197
Arkray Aution Eleven AE-4022	1	-	-	-	-	-	1	-	-	-	-
BTNX Rapid Response Test Strips	1	-	-	-	-	-	-	-	-	-	1
Consult Diagnostics Reagent Strips	3	-	-	1	-	2	-	-	-	-	-
Consult Diagnostics Urine Analyzer	8	-	-	-	2	6	-	-	-	-	-
CTMI CT-120 Urine Analyzer	1	-	-	-	-	-	-	-	-	1	-
Diagnostic Test Group Clarity Urocheck	3	-	-	-	1	2	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	10	-	-	-	2	8	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	-	-	-	1	1	-	-	-	-	-
Henry Schein One Step Plus	1	-	-	-	-	-	-	-	-	-	1
Henry Schein Urispec / Urispec Plus	22	-	-	-	-	-	-	-	1	4	17
Immunostics Detector Urine Strips	2	-	-	-	-	-	-	-	-	1	1
Jant Pharmacal Accustrip	1	-	-	-	-	-	-	-	-	1	-
McKesson 120 Urine Analyzer	25	-	-	-	4	19	-	-	-	-	2
McKesson Reagent Strips	10	-	-	-	4	3	-	-	-	1	2
Medline 120 Urine Analyzer	4	-	-	-	-	4	-	-	-	-	-
Medline Urinalysis Reagent Strips	3	-	-	-	1	1	-	-	-	-	1
NDC Pro Advantage	1	-	-	-	-	1	-	-	-	-	-
Other Dipstick Method	2	-	-	-	-	1	-	-	-	-	1
Roche Chemstrip 101	1	-	-	-	-	-	-	-	-	-	1
Roche Chemstrips	25	-	-	-	-	1	1	-	-	-	23
Roche SuperUA/ChemstripUA	1	-	-	-	-	-	-	-	-	-	1
Roche Urisys	9	-	-	-	-	-	-	-	-	-	9
Siemens Clinitek 50	3	-	-	-	-	-	-	-	-	-	3
Siemens Clinitek Advantus	12	-	-	-	1	7	-	-	-	-	4
Siemens Clinitek Status / Status+	337	3	-	-	54	19	2	-	-	187	72
Siemens Multistix Pro	12	1	1	-	2	1	-	-	-	2	5
Siemens Reagent Strips	79	-	-	1	9	5	-	-	2	10	52
Siemens Uristix	1	-	-	-	-	-	1	-	-	-	-
Teco Diagnostics URS	1	-	-	-	-	-	-	-	-	-	1
UriScan Reagent Strips	1	-	-	-	-	-	1	-	-	-	-

URINALYSIS DIPSTICK–KETONES

Specimen UA-3

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
						Participant Results									
ALL METHODS	575	572	1	-	-	1	-	-	1	-	-	-	-	-	-
Arkray Aution Eleven AE-4022	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Reagent Strips	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	7	6	-	-	-	-	-	-	1	-	-	-	-	-	-
CTMI CT-120 Urine Analyzer	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Henry Schein Urispec / Urispec Plus	22	22	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunostics Detector Urine Strips	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Jant Pharmacal Accustrip	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
McKesson 120 Urine Analyzer	25	25	-	-	-	-	-	-	-	-	-	-	-	-	-
McKesson Reagent Strips	10	9	1	-	-	-	-	-	-	-	-	-	-	-	-
Medline 120 Urine Analyzer	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
NDC Pro Advantage	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Dipstick Method	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrip 101	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrips	23	23	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche SuperUA/ChemstripUA	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Urisys	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 50	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Advantus	12	12	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	337	336	-	-	-	1	-	-	-	-	-	-	-	-	-
Siemens Multistix Pro	12	12	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Reagent Strips	77	77	-	-	-	-	-	-	-	-	-	-	-	-	-

URINALYSIS DIPSTICK–BILIRUBIN

Specimen UA-3

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	560	558	-	-	-	2	-	-	-	-	-	-	-	-	-
Arkray Aution Eleven AE-4022	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
BTNX Rapid Response Test Strips	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Reagent Strips	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	7	7	-	-	-	-	-	-	-	-	-	-	-	-	-
CTMI CT-120 Urine Analyzer	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Henry Schein Urispec / Urispec Plus	22	22	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunostics Detector Urine Strips	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Jant Pharmacal Accustrip	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
McKesson 120 Urine Analyzer	27	27	-	-	-	-	-	-	-	-	-	-	-	-	-
McKesson Reagent Strips	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-
Medline 120 Urine Analyzer	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
NDC Pro Advantage	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Dipstick Method	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrip 101	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrips	22	22	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche SuperUA/ChemstripUA	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Roche Urisys	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 50	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Advantus	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	329	329	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Ictotest	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Multistix Pro	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Reagent Strips	73	71	-	-	-	2	-	-	-	-	-	-	-	-	-

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	561	561	-	-	-	-
Arkray Aution Eleven AE-4022	1	1	-	-	-	-
BTNX Rapid Response Test Strips	1	1	-	-	-	-
Consult Diagnostics Reagent Strips	3	3	-	-	-	-
Consult Diagnostics Urine Analyzer	7	7	-	-	-	-
CTMI CT-120 Urine Analyzer	1	1	-	-	-	-
Diagnostic Test Group Clarity Urocheck	2	2	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	11	11	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	2	-	-	-	-
Henry Schein One Step Plus	1	1	-	-	-	-
Henry Schein Urispec / Urispec Plus	22	22	-	-	-	-
Immunostics Detector Urine Strips	2	2	-	-	-	-
Jant Pharmacal Accustrip	1	1	-	-	-	-
McKesson 120 Urine Analyzer	27	27	-	-	-	-
McKesson Reagent Strips	10	10	-	-	-	-
Medline 120 Urine Analyzer	3	3	-	-	-	-
Medline Urinalysis Reagent Strips	2	2	-	-	-	-
NDC Pro Advantage	1	1	-	-	-	-
Other Dipstick Method	2	2	-	-	-	-
Roche Chemstrip 101	1	1	-	-	-	-
Roche Chemstrips	23	23	-	-	-	-
Roche SuperUA/ChemstripUA	1	1	-	-	-	-
Roche Urisys	9	9	-	-	-	-
Siemens Clinitek 50	3	3	-	-	-	-
Siemens Clinitek Advantus	11	11	-	-	-	-
Siemens Clinitek Status / Status+	331	331	-	-	-	-
Siemens Multistix Pro	11	11	-	-	-	-
Siemens Reagent Strips	72	72	-	-	-	-

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	578	4	2	1	11	327	-	4	168	1	2	-	2	56	-	-	-	-
Arkray Aution Eleven AE-4022	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
BTNX Rapid Response Test Strips	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Consult Diagnostics Reagent Strips	4	-	-	-	-	-	-	-	3	-	-	-	1	-	-	-	-	-
Consult Diagnostics Urine Analyzer	6	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-
CTMI CT-120 Urine Analyzer	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Diagnostic Test Group Clarity Urocheck	3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Henry Schein Urispec / Urispec Plus	22	-	-	-	1	-	-	-	-	-	-	-	1	20	-	-	-	-
Immunostics Detector Urine Strips	2	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-
Jant Pharmacal Accustrip	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
McKesson 120 Urine Analyzer	26	-	-	-	-	-	-	-	25	-	-	-	-	1	-	-	-	-
McKesson Reagent Strips	10	-	-	-	-	2	-	1	7	-	-	-	-	-	-	-	-	-
Medline 120 Urine Analyzer	4	-	-	-	-	-	-	-	3	-	-	-	-	1	-	-	-	-
Medline Urinalysis Reagent Strips	3	-	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-
NDC Pro Advantage	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Other Dipstick Method	2	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrips	26	-	-	-	-	3	-	-	2	-	1	-	-	20	-	-	-	-
Roche SuperUA/ChemstripUA	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Roche Urisys	9	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-
Siemens Clinitek 50	3	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Advantus	12	-	-	-	-	4	-	-	8	-	-	-	-	-	-	-	-	-
Siemens Clinitek Atlas	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	335	2	2	-	9	250	-	2	70	-	-	-	-	-	-	-	-	-
Siemens Multistix Pro	12	1	-	-	-	6	-	-	4	1	-	-	-	-	-	-	-	-
Siemens Reagent Strips	78	1	-	1	1	54	-	1	19	-	-	-	-	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	577	574	1	-	-	-	-	-	-	-	1	1	-
Arkray Aution Eleven AE-4022	1	1	-	-	-	-	-	-	-	-	-	-	-
BTNX Rapid Response Test Strips	1	1	-	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Reagent Strips	3	3	-	-	-	-	-	-	-	-	-	-	-
Consult Diagnostics Urine Analyzer	7	7	-	-	-	-	-	-	-	-	-	-	-
CTMI CT-120 Urine Analyzer	1	1	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck	2	2	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Test Group Clarity Urocheck 120	11	11	-	-	-	-	-	-	-	-	-	-	-
Germaine Labs AimStrip Urine Analyzer	2	2	-	-	-	-	-	-	-	-	-	-	-
Henry Schein One Step Plus	1	1	-	-	-	-	-	-	-	-	-	-	-
Henry Schein Urispec / Urispec Plus	22	22	-	-	-	-	-	-	-	-	-	-	-
Immunostics Detector Urine Strips	2	2	-	-	-	-	-	-	-	-	-	-	-
Jant Pharmacal Accustrip	1	1	-	-	-	-	-	-	-	-	-	-	-
McKesson 120 Urine Analyzer	27	27	-	-	-	-	-	-	-	-	-	-	-
McKesson Reagent Strips	10	9	1	-	-	-	-	-	-	-	-	-	-
Medline 120 Urine Analyzer	3	3	-	-	-	-	-	-	-	-	-	-	-
Medline Urinalysis Reagent Strips	3	2	-	-	-	-	-	-	-	-	1	-	-
NDC Pro Advantage	1	1	-	-	-	-	-	-	-	-	-	-	-
Other Dipstick Method	2	2	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrip 101	1	1	-	-	-	-	-	-	-	-	-	-	-
Roche Chemstrips	25	25	-	-	-	-	-	-	-	-	-	-	-
Roche SuperUA/ChemstripUA	1	1	-	-	-	-	-	-	-	-	-	-	-
Roche Urisys	9	9	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek 50	3	3	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Advantus	12	12	-	-	-	-	-	-	-	-	-	-	-
Siemens Clinitek Status / Status+	335	334	-	-	-	-	-	-	-	-	-	1	-
Siemens Multistix Pro	12	12	-	-	-	-	-	-	-	-	-	-	-
Siemens Reagent Strips	77	77	-	-	-	-	-	-	-	-	-	-	-
Siemens Uristix	1	1	-	-	-	-	-	-	-	-	-	-	-
UriScan Reagent Strips	1	1	-	-	-	-	-	-	-	-	-	-	-

URINALYSIS DIPSTICK–NITRITE

Specimen UA-3

Participant Results

Method	Labs	Positive	Negative
ALL METHODS	579	4	575
Arkray Aution Eleven AE-4022	1	-	1
BTNX Rapid Response Test Strips	1	-	1
Consult Diagnostics Reagent Strips	3	-	3
Consult Diagnostics Urine Analyzer	7	-	7
CTMI CT-120 Urine Analyzer	1	-	1
Diagnostic Test Group Clarity Urocheck	3	-	3
Diagnostic Test Group Clarity Urocheck 120	10	-	10
Germaine Labs AimStrip Urine Analyzer	2	-	2
Henry Schein One Step Plus	1	-	1
Henry Schein Urispec / Urispec Plus	22	1	21
Immunostics Detector Urine Strips	2	-	2
Jant Pharmacal Accustrip	1	-	1
McKesson 120 Urine Analyzer	27	-	27
McKesson Reagent Strips	10	-	10
Medline 120 Urine Analyzer	4	-	4
Medline Urinalysis Reagent Strips	3	-	3
NDC Pro Advantage	1	-	1
Other Dipstick Method	2	-	2
Roche Chemstrip 101	1	-	1
Roche Chemstrips	25	-	25
Roche SuperUA/ChemstripUA	1	-	1
Roche Urisys	9	-	9
Siemens Clinitek 50	3	-	3
Siemens Clinitek Advantus	12	-	12
Siemens Clinitek Status / Status+	336	-	336
Siemens Multistix Pro	12	1	11
Siemens Reagent Strips	77	2	75
Siemens Uristix	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	36	1	-	-	1	1	-	2	31	-	-
Medline Urinalysis Reagent Strips	1	-	-	-	-	-	-	-	1	-	-
Roche Micral - 1 minute	5	1	-	-	-	2	-	2	-	-	-
Siemens Clinitek Microalbumin	32	-	-	-	1	-	-	1	30	-	-

URINALYSIS –URINE hCG

Specimen UA-3

	Participant Results		
Method	**Labs**	**Positive**	**Negative**
ALL METHODS	335	-	335
Alere Acceava hCG-Urine	1	-	1
Alere Clearview hCG Cassette	5	-	5
Alere hCG Combo Cassette	3	-	3
Alfa Scientific Instant View	4	-	4
Beckman Coulter ICON 20 hCG	4	-	4
Beckman Coulter ICON 25 hCG	16	-	16
Beckman Coulter ICON II	1	-	1
BioSign hCG	1	-	1
BTNX Rapid Response hCG	5	-	5
Cardinal Health SP Brand combo	20	-	20
Cardinal Hlth SPBrand-cassette	11	-	11
Clarity Diagnostics hCG strip/cassette	11	-	11
CONSULT diagnostics hCG Cassette	40	-	40
CONSULT diagnostics hCG Combo	7	-	7
CONSULT diagnostics hCG Dipstick	22	-	22
CTMI CT-120 Urine Analyzer	1	-	1
Henry Schein One Step	32	-	32
Henry Schein One Step Plus	26	-	26
Jant Pharmacal Accutest	2	-	2
LifeSign Status hCG	1	-	1
McKesson hCG Combo Cassette	6	-	6
McKesson hCG Urine Cassette	13	-	13
Medline hCG Combo Test Cassette	4	-	4
Medline hCG Test Cassette	8	-	8
Medline hCG Test Strip	1	-	1
NDC Pro Advantage	1	-	1
Quidel QuickVue One-Step Combo	5	-	5
Quidel QuickVue One-Step Urine	17	-	17
Quidel QuickVue+ One-Step Combo	14	-	14
Sekisui OSOM Card Pregnancy	6	-	6
Sekisui OSOM hCG Combo Test	2	-	2
Siemens Clinitek Status / Status+	12	-	12
Siemens Multistix Pro	1	-	1
Stanbio QuPID	6	-	6
Stanbio QuPID One-Step Preg.	2	-	2
Stanbio TRUE hCG	6	-	6
Sure-Vue hCG - 25mIU	2	-	2
Sure-Vue hCG-STAT	14	-	14

FECAL OCCULT BLOOD

Method	Specimen OC-5			Specimen OC-6		
	Labs	*Positive*	*Negative*	*Labs*	*Positive*	*Negative*
ALL METHODS	241	5	236	241	235	6
Alere Clearview iFOBT Complete	1	-	1	1	1	-
Beckman Coulter Hemoccult ICT	43	2	41	43	43	-
Guaiac (slide) Test	130	3	127	130	124	6
Hemosure IFOB	27	-	27	27	27	-
Other Immunochemical FOB kit	33	-	33	33	33	-
Polymedco OC Auto Micro 80	4	-	4	4	4	-
Polymedco OC-Light iFOB	1	-	1	1	1	-
Quidel QuickVue iFOB	2	-	2	2	2	-

2022 M3
Urine Sediment Identification
SPECIMENS US-5 AND US-6

CASE HISTORY:

A 22-year-old male presented to his university student health center. He became very ill soon after returning to campus from a family reunion. Symptoms include sore throat, cough, headache, fatigue, diarrhea, and loss of smell. A urinalysis was performed, and results appear below.

Color = Yellow
Appearance = Clear

DIPSTICK RESULTS:
Specific gravity = 1.020
pH = 6.0
Protein = Trace
Glucose = Negative
Ketones = Negative
Bilirubin = Negative
Urobilinogen = Normal/0.2 mg/dL
Blood = Trace
Leukocyte Esterase = Trace
Nitrite = Negative

This patient was diagnosed with COVID-19.

COVID-19 is the disease caused by the virus SARS-CoV-2. The pathogen is a highly contagious new virus belonging to the Coronaviridae family, identified in 2019 and defined as "severe acute respiratory syndrome coronavirus 2." Current evidence suggests that COVID-19 mainly spreads between people in close proximity with each other, for example at a conversational distance. An infected person breathes out droplets and very small particles that contain the virus when they cough, sneeze, speak, sing, or breathe, then another person can contract the virus when infectious particles are inhaled or land in their eyes, nose, or mouth. People may also become infected after touching surfaces that have been contaminated by the virus then touching their eyes, nose, or mouth.

After being infected, it takes an average of 5–6 days for symptoms to develop. Symptoms of COVID-19 are numerous and highly variable. They include fever, chills, cough, shortness of breath, myalgia, fatigue, loss of taste or smell, sore throat, headache, nasal congestion, runny nose, conjunctivitis, hemoptysis, nausea, and diarrhea. Potentially fatal complications of COVID-19 include acute respiratory distress syndrome, respiratory failure, sepsis, thromboembolism, and multiorgan failure, including injury to the heart, liver, or kidneys.

Currently available data suggests that many laboratory parameters are affected in patients with COVID-19, and some may be predictors of poor clinical outcomes. Common abnormal urinary findings include protein, white blood cells, red blood cells, hyaline casts and granular casts. Peripheral blood smears may include reactive lymphocytes, hyposegmented neutrophils (pseudo Pelger-Huet cells), band neutrophils, and vacuolated monocytes. Other abnormalities include lymphopenia, increased CRP, LDH, ESR and D-dimer, and low hemoglobin and serum albumin.

Urine Sediment Identification

Specimen US-5
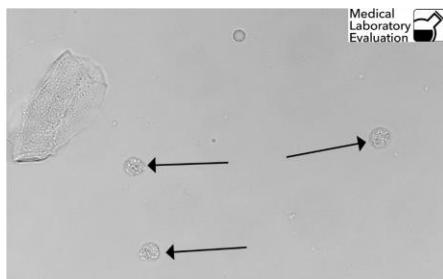
Identification	Labs	Percent	Performance
White blood cell (WBC)	287	96	Acceptable

The arrows in this photograph point to **white blood cells**. White blood cells (aka, leukocytes) appear granular due to the nuclear material inside. Low numbers of WBC are often seen in normal patient specimens, while increased WBCs are a sign of infection in the bladder or kidneys. White blood cells that respond to infection produce enzymes called esterases. When the dipstick turns positive for leukocyte esterase, indicating pyuria, there are many WBCs present in the urine. To view another photo of WBCs, see 2020 M2 Specimen US-3.

Urine Sediment Identification

Specimen US-6
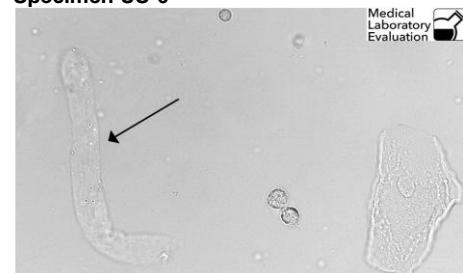
Identification	Labs	Percent	Performance
Hyaline cast	268	89.93%	Acceptable
Waxy cast	14	4.70%	

The arrow in this photo points to a **hyaline cast**. Hyaline casts are the most commonly seen casts in the urine. They are colorless and smooth, with a finely wrinkled surface and no granules. The sides are parallel and the ends are rounded. Hyaline casts are normal, and frequently seen in small numbers in the urine of healthy people. They may be increased after strenuous exercise or in renal disease. Sometimes hyaline casts are confused with waxy or finely granular casts. Waxy casts appear very broad and square, with cracks and blunt ends. Granular casts appear to contain a lot of debris. To view another hyaline cast, see 2020 M1 Specimen US-1. To view a photo of a waxy cast, see 2019 M1 Specimen US-1. To view a granular cast, see 2021 M3 Specimen US-5.

Technical tip: Hyaline casts have a low refractive index, which makes them hard to see if the microscope's illumination is not set correctly. Use subdued lighting to examine urine sediment, with the sub-stage condenser raised all the way up, and the condenser iris diaphragm approximately 70% closed / 30% open. Although lowering the condenser will decrease brightness and increase contrast, this also reduces the resolution and sharpness of the image, which could cause you to miss important elements like casts.

REFERENCES:

Bonetti, G., et al. "Urinalysis parameters for predicting severity in coronavirus disease 2019 (COVID-19)" *Clinical Chemistry and Laboratory Medicine (CCLM)* 58, no. 9 (2020): e163-e165. Accessed October 17, 2022. Available at https://doi.org/10.1515/cclm-2020-0576

"Coronavirus." World Health Organization. World Health Organization. Accessed October 17, 2022. Available at: https://www.who.int/health-topics/coronavirus#tab=tab_1

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

Moore, M.C.: *Troubleshooting Clinical Microscopes.* Microscopy USA, Pottstown, PA, 2008.

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

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

Spring, K R., et al. "Basic Concepts and Formulas in Microscopy." Nikon's MicroscopyU. Nikon Instruments Inc., 2022. Available at: https://www.microscopyu.com/microscopy-basics

"Your Health." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, August 11, 2022. Available at: https://www.cdc.gov/coronavirus/2019-ncov/your-health/index.html

2022 M3
PROVIDER-PERFORMED MICROSCOPY (PPM)
Specimens PPM-13 through PPM-18

WET MOUNT PREPARATION
Specimen PPM-13
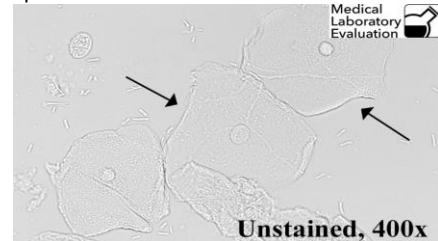
Identification	Labs	Percent	Performance
Squamous epithelial cell	323	91.24%	Acceptable
Clue sell	26	7.34%	

The arrows in this photograph of a vaginal wet mount point to **squamous epithelial cells.** Squamous cells are large, flat, and irregularly shaped, with a single small nucleus and plentiful cytoplasm. They often appear folded or rolled. Squamous epithelial cells are a normal finding, while clue cells are indicative of bacterial vaginosis. Clue cells are so covered with bacteria that the cell appears speckled or glittery, and the edges of the cell are obscured. To view another squamous cell, see 2020 M2 Specimen PPM-7. To view a clue cell, see 2019 M2 Specimen PPM-7.

KOH PREPARATION
Specimen PPM-14
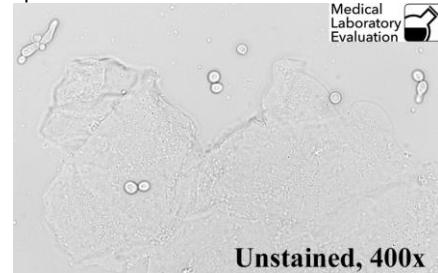
Identification	Labs	Percent	Performance
Yeast/fungal elements present	282	93.38%	Acceptable
Yeast/fungal elements absent	20	9.92%	

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

SPERM DETECTION

Specimen PPM-15

Unstained, 400x
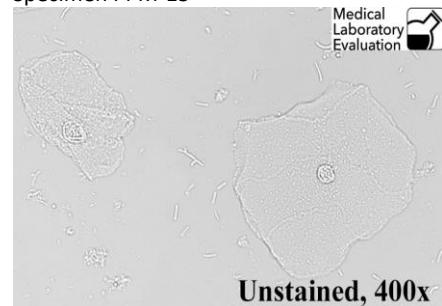
Identification	Labs	Percent	Performance
Sperm absent	167	97.66%	Acceptable

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

PROVIDER-PERFORMED MICROSCOPY (PPM)

NASAL SMEAR

Specimen PPM-16
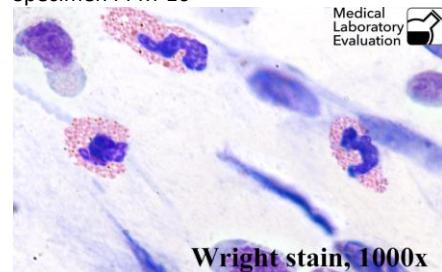
Wright stain, 1000x

Identification	Labs	Percent	Performance
Eosinophils present	42	97.67%	Acceptable

Three eosinophils are present in this photograph of Wright-stained nasal mucus. The orange color comes from the dye eosin, which is a component of Wright stain. This unique red-orange color makes "Eos" easy to spot and identify. To view another photo of eosinophils in a nasal smear, see 2018 M2 Specimen PPM-10.

Fecal Leukocytes

Specimen PPM-17

Wright stain, 1000x

Identification	Labs	Percent	Performance
Leukocytes absent	108	93.10%	Acceptable
Leukocytes present	8	6.90%	
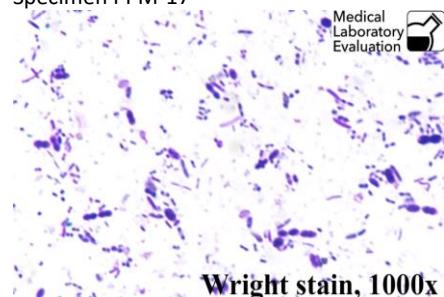
Leukocytes are absent in this photograph of a Wright-stained stool preparation. To view a photo of a positive fecal leukocyte prep, see 2019 M2 Specimen PPM-11.

Vaginal Fluid Preparation

Specimen PPM-18

Unstained, 100x

Identification	Labs	Percent	Performance
Ferning present	89	100%	Acceptable
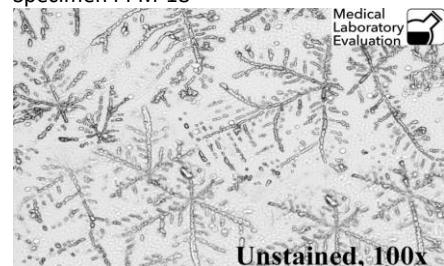
Ferning is present in this photograph of air-dried vaginal secretions. The fern test is used to detect ruptured fetal membranes. Unlike normal vaginal secretions or urine, which do not crystallize, amniotic fluid crystallizes when dried on a microscope slide to form a pattern resembling a leaf. Ferning indicates leakage of amniotic fluid. To view another photo of a positive fern test, see 2019 M3 Specimen PPM-18.

REFERENCES:

Fischer, P. M.: *The Office Laboratory.* Norwalk, Conn.: Appleton-Century-Crofts, 1983.

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

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