NEW YORK
state department of
HEALTH

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Commissioner

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Executive Deputy Commissioner

To: Laboratory Directors and Laboratory Staff

From: Robert Rej, Ph.D.

Date: November 10, 2011

Subject: Results of the October 11, 2011 Hematology Proficiency Test

Enclosed are results from the hematology proficiency testing survey shipped October 11, 2011. Five samples were distributed for each test category:

Routine Blood Counts (B51, B52, B53, B54, B55)

Routine Coagulation (C51, C52, C53, C54, C55 - APTT, PT/INR and Fibrinogen assays)

Cell Identification (351, 352, 353, 354, 355)

Evaluation of Proficiency Test Results:

Note: This report includes evaluation of the International Normalized Ratio (INR).

Outlined below is a description of the process used to evaluate your laboratory's proficiency test results. A summary of your laboratory's performance for the three most recent surveys is also included with this report.

Target Value: When possible, targets utilized are derived from all-participant mean values calculated by a robust statistical technique. In some cases, however, it is recognized that reagent, and/or instrument specific targets may be required and "peer group" specific targets are used where appropriate. An asterisk placed adjacent to the manufacturer name or instrument name indicates that a peer group was used in establishing targets and acceptable ranges.

Not Gradable: Results for graded analytes for a few laboratories using unique instrument, reagent, or instrument/reagent combinations were considered "not gradable". For these laboratories pass credit (100%) has been issued. Since the laboratory is unable to participate in the NYS hematology proficiency test event as a graded participant, it is the responsibility of the laboratory to establish alternate means to verify the accuracy and precision of the test system for any ungraded analyte(s).

Acceptable Range: Represents limits established using criteria specified by CLIA '88 regulations, allowing for rounding to appropriate significant digits. Results falling within this range are scored as 100%. Any result exceeding these limits is considered unsatisfactory and receives a score of 0%.

Range Plots: The range plots graphically represent the relative distance of all results reported by your laboratory from the target value. Any result exceeding the high or low limit by >20% of the acceptable range is indicated by an asterisk (*).

Analyte Score: Scores for both individual samples and overall analyte performance are provided. Laboratories must achieve an overall analyte score >80% in order to meet performance criteria for that analyte.

Statistical Summary: Also enclosed is a statistical summary of participant data for the survey specimens. Mean and standard deviation (1 SD) values shown on the attached sheets are calculated by a robust statistical technique that does not assume a Gaussian distribution. Please note that standard deviation values are not used to determine acceptable ranges; CLIA '88 regulations established percentage limits for cellular and coagulation analytes.

Cellular Hematology (CBC): Results for individual instruments, where the number of laboratories using those systems is three or greater, are provided.

Coagulation: Results for individual instrument and reagent systems as well as instrument/reagent combinations, where the number of laboratories using those systems is three or greater, are provided.

The use of brand and/or trade names in this report does not constitute an endorsement of the products on the part of the Wadsworth Center or the New York State Department of Health.

So that this analysis can be as complete as possible, please review all future testings carefully and properly identify reagent and instrument systems used.

If you have any questions regarding these reports or wish to obtain an additional copy, please contact the Hematology Laboratory at (518) 474-9878. You may also contact us by E-mail: heme@wadsworth.org

World Wide Web: Results from this proficiency test event and selected previous proficiency test events are available on the Hematology and Clinical Chemistry web page at: http://www.wadsworth.org/chemheme

Summary of Participant Responses
Mean ± One Standard Deviation

White Cell Count (x 10^9/L)

Specimen: B51	Specimen: B52	Specimen: B53	Specimen: B54	Specimen: B55	Number	[Code] Instrument
3.03 ± 0.11	9.37 ± 0.29	9.37 ± 0.30	18.26 ± 0.61	2.53 ± 0.12	n = 414	[---] All Methods & Instruments
						<Instruments>
3.23 ± 0.09	9.63 ± 0.16	9.52 ± 0.15	18.63 ± 0.25	2.60 ± 0.00	n = 4	[ABF] Abbott Cell Dyn 3500
3.04 ± 0.10	9.25 ± 0.27	8.98 ± 0.32	17.46 ± 0.56	2.50 ± 0.09	n = 3	[ABG] Abbott Cell Dyn 1700
2.98 ± 0.13	9.36 ± 0.18	9.27 ± 0.09	17.96 ± 0.29	2.62 ± 0.15	n = 4	[ABJ] Abbott Cell Dyn 1800
3.11 ± 0.08	9.55 ± 0.26	9.48 ± 0.25	18.76 ± 0.39	2.52 ± 0.07	n = 9	[ABK] Abbott Cell Dyn 3200
3.12 ± 0.12	9.47 ± 0.28	9.47 ± 0.31	18.31 ± 0.46	2.57 ± 0.14	n = 11	[ABM] Abbott Cell Dyn 3700
3.10 ± 0.00	9.50 ± 0.29	9.49 ± 0.24	18.48 ± 0.48	2.57 ± 0.07	n = 15	[ABS] Abbott Cell Dyn Sapphire
3.12 ± 0.11	9.37 ± 0.18	9.49 ± 0.18	18.63 ± 0.32	2.55 ± 0.07	n = 18	[ABT] Abbott Cell Dyn Ruby
2.84 ± 0.10	8.54 ± 0.10	8.70 ± 0.09	16.25 ± 0.36	2.50 ± 0.09	n = 3	[ABU] Abbott Cell Dyn Emerald
2.90 ± 0.11	9.35 ± 0.31	9.29 ± 0.34	17.47 ± 0.49	2.48 ± 0.10	n = 22	[BTD] Siemens (Bayer)Advia 120
2.92 ± 0.09	9.19 ± 0.33	9.16 ± 0.22	17.56 ± 0.54	2.43 ± 0.10	n = 23	[BTE] Siemens (Bayer)Advia 2120
3.03 ± 0.05	9.32 ± 0.15	9.29 ± 0.17	18.59 ± 0.37	2.47 ± 0.05	n = 13	[CUL] Coulter UniCel DxH 800
3.00 ± 0.00	9.25 ± 0.11	9.26 ± 0.13	18.11 ± 0.22	2.42 ± 0.07	n = 7	[CUS] Coulter ACT 5 diff
3.09 ± 0.10	9.35 ± 0.19	9.38 ± 0.22	18.36 ± 0.39	2.63 ± 0.08	n = 26	[CUT] Coulter ACT series,not ACT5 diff
3.11 ± 0.09	9.45 ± 0.23	9.44 ± 0.19	18.96 ± 0.46	2.57 ± 0.09	n = 14	[CUW] Coulter HMX
3.00 ± 0.07	9.39 ± 0.19	9.43 ± 0.19	18.08 ± 0.39	2.60 ± 0.08	n = 75	[CUX] Coulter LH750,755
2.98 ± 0.05	9.31 ± 0.16	9.35 ± 0.15	18.03 ± 0.33	2.58 ± 0.08	n = 19	[CUY] Coulter LH 780
3.11 ± 0.07	9.44 ± 0.19	9.46 ± 0.23	18.92 ± 0.39	2.63 ± 0.09	n = 23	[CUZ] Coulter LH500
3.00 ± 0.05	9.50 ± 0.24	9.52 ± 0.20	18.63 ± 0.34	2.50 ± 0.08	n = 7	[ROB] ABX Pentra series
2.82 ± 0.15	8.91 ± 0.11	9.01 ± 0.11	17.24 ± 0.30	2.38 ± 0.04	n = 4	[SYB] Sysmex KX-21N
3.00 ± 0.09	9.13 ± 0.38	9.04 ± 0.37	18.06 ± 0.64	2.39 ± 0.10	n = 25	[SYO] Sysmex XE2100
3.06 ± 0.11	8.94 ± 0.17	8.82 ± 0.21	17.80 ± 0.16	2.34 ± 0.09	n = 7	[SYQ] Sysmex XE 2100D(Blood Center Only)
3.01 ± 0.11	9.05 ± 0.34	9.03 ± 0.38	18.12 ± 0.53	2.41 ± 0.10	n = 22	[SYA] Sysmex XE 5000
3.05 ± 0.10	9.51 ± 0.22	9.46 ± 0.23	18.39 ± 0.36	2.50 ± 0.07	n = 24	[SYI] Sysmex XT-1800i,XT-2000i
3.05 ± 0.08	9.43 ± 0.14	9.51 ± 0.22	18.26 ± 0.50	2.44 ± 0.06	n = 5	[SYV] Sysmex XT 4000i
3.15 ± 0.08	9.81 ± 0.28	9.81 ± 0.21	18.98 ± 0.42	2.61 ± 0.07	n = 17	[SYP] Sysmex XS-1000i,XS-1000iAL

Summary of Participant Responses
Mean ± One Standard Deviation

Red Cell Count (x 10^{12}/L)

Specimen: B51	Specimen: B52	Specimen: B53	Specimen: B54	Specimen: B55	Number	[Code] Instrument
2.073 ± 0.066	4.593 ± 0.108	4.596 ± 0.109	3.104 ± 0.084	4.823 ± 0.121	n = 413	[---] All Methods & Instruments
						<Instruments>
2.156 ± 0.019	4.723 ± 0.092	4.770 ± 0.058	3.178 ± 0.031	5.003 ± 0.087	n = 4	[ABF] Abbott Cell Dyn 3500
2.120 ± 0.036	4.735 ± 0.054	4.707 ± 0.076	3.150 ± 0.027	4.933 ± 0.014	n = 3	[ABG] Abbott Cell Dyn 1700
2.184 ± 0.039	4.652 ± 0.044	4.651 ± 0.031	3.222 ± 0.021	4.908 ± 0.081	n = 4	[ABJ] Abbott Cell Dyn 1800
2.137 ± 0.035	4.714 ± 0.084	4.717 ± 0.075	3.175 ± 0.057	4.952 ± 0.072	n = 9	[ABK] Abbott Cell Dyn 3200
2.139 ± 0.040	4.654 ± 0.105	4.645 ± 0.086	3.112 ± 0.043	4.892 ± 0.068	n = 11	[ABM] Abbott Cell Dyn 3700
2.127 ± 0.030	4.745 ± 0.060	4.740 ± 0.066	3.184 ± 0.046	4.992 ± 0.066	n = 15	[ABS] Abbott Cell Dyn Sapphire
2.112 ± 0.051	4.682 ± 0.086	4.696 ± 0.084	3.119 ± 0.057	4.939 ± 0.089	n = 18	[ABT] Abbott Cell Dyn Ruby
2.062 ± 0.059	4.405 ± 0.045	4.562 ± 0.068	3.029 ± 0.056	4.736 ± 0.088	n = 3	[ABU] Abbott Cell Dyn Emerald
2.121 ± 0.040	4.641 ± 0.063	4.666 ± 0.090	3.195 ± 0.067	4.879 ± 0.098	n = 22	[BTD] Siemens (Bayer)Advia 120
2.132 ± 0.039	4.642 ± 0.071	4.627 ± 0.072	3.188 ± 0.061	4.841 ± 0.082	n = 23	[BTE] Siemens (Bayer)Advia 2120
1.996 ± 0.024	4.463 ± 0.040	4.449 ± 0.046	3.025 ± 0.043	4.687 ± 0.043	n = 13	[CUL] Coulter UniCel DxH 800
2.070 ± 0.061	4.709 ± 0.105	4.694 ± 0.075	3.140 ± 0.077	4.879 ± 0.037	n = 7	[CUS] Coulter ACT 5 diff
2.021 ± 0.056	4.498 ± 0.081	4.486 ± 0.105	3.025 ± 0.065	4.679 ± 0.084	n = 25	[CUT] Coulter ACT series,not ACT5 diff
2.047 ± 0.043	4.542 ± 0.051	4.533 ± 0.050	3.084 ± 0.028	4.758 ± 0.059	n = 14	[CUW] Coulter HMX
2.010 ± 0.024	4.502 ± 0.042	4.508 ± 0.041	3.026 ± 0.029	4.722 ± 0.042	n = 75	[CUX] Coulter LH750,755
2.005 ± 0.017	4.477 ± 0.028	4.482 ± 0.031	3.025 ± 0.021	4.705 ± 0.032	n = 19	[CUY] Coulter LH 780
2.052 ± 0.040	4.537 ± 0.069	4.527 ± 0.060	3.097 ± 0.058	4.739 ± 0.079	n = 23	[CUZ] Coulter LH500
2.050 ± 0.063	4.625 ± 0.103	4.589 ± 0.095	3.115 ± 0.086	4.799 ± 0.100	n = 7	[ROB] ABX Pentra series
2.097 ± 0.015	4.556 ± 0.050	4.598 ± 0.028	3.090 ± 0.015	4.848 ± 0.028	n = 4	[SYB] Sysmex KX-21N
2.125 ± 0.019	4.658 ± 0.036	4.667 ± 0.046	3.185 ± 0.035	4.904 ± 0.037	n = 25	[SYO] Sysmex XE2100
2.134 ± 0.017	4.667 ± 0.041	4.679 ± 0.040	3.199 ± 0.020	4.920 ± 0.050	n = 7	[SYQ] Sysmex XE 2100D(Blood Center Only)
2.111 ± 0.024	4.642 ± 0.042	4.655 ± 0.037	3.173 ± 0.038	4.896 ± 0.036	n = 22	[SYA] Sysmex XE 5000
2.083 ± 0.026	4.621 ± 0.041	4.620 ± 0.040	3.110 ± 0.029	4.872 ± 0.040	n = 24	[SYI] Sysmex XT-1800i,XT-2000i
2.099 ± 0.036	4.622 ± 0.080	4.642 ± 0.090	3.144 ± 0.072	4.952 ± 0.034	n = 5	[SYV] Sysmex XT 4000i
2.072 ± 0.019	4.669 ± 0.049	4.674 ± 0.055	3.086 ± 0.025	4.912 ± 0.048	n = 17	[SYP] Sysmex XS-1000i,XS-1000iAL

Summary of Participant Responses
Mean ± One Standard Deviation

Hemoglobin (g/dL)

Specimen: B51	Specimen: B52	Specimen: B53	Specimen: B54	Specimen: B55	Number	[Code] Instrument
6.19 ± 0.13	13.81 ± 0.20	13.83 ± 0.20	9.50 ± 0.25	14.55 ± 0.20	n = 426	[---] All Methods & Instruments
						<Instruments>
<10.50	16.92 ± 0.32	16.92 ± 0.24	11.22 ± 0.15	17.63 ± 0.14	n = 3	[HQB] HemoCue Donor Hb Checker
6.29 ± 0.16	14.10 ± 0.18	13.86 ± 0.28	9.53 ± 0.11	14.88 ± 0.30	n = 7	[HQC] HemoCue Hb201+/B-Hb
6.31 ± 0.20	14.01 ± 0.54	14.04 ± 0.52	9.81 ± 0.43	14.75 ± 0.46	n = 4	[ABF] Abbott Cell Dyn 3500
6.15 ± 0.19	13.97 ± 0.23	13.97 ± 0.23	9.57 ± 0.23	14.68 ± 0.41	n = 3	[ABG] Abbott Cell Dyn 1700
6.22 ± 0.20	13.89 ± 0.26	13.98 ± 0.21	9.80 ± 0.17	14.66 ± 0.35	n = 4	[ABJ] Abbott Cell Dyn 1800
6.34 ± 0.09	14.17 ± 0.15	14.21 ± 0.14	9.95 ± 0.21	14.82 ± 0.15	n = 9	[ABK] Abbott Cell Dyn 3200
6.30 ± 0.12	13.93 ± 0.23	13.88 ± 0.23	9.74 ± 0.12	14.55 ± 0.13	n = 11	[ABM] Abbott Cell Dyn 3700
6.45 ± 0.07	14.05 ± 0.16	14.05 ± 0.14	9.72 ± 0.06	14.78 ± 0.17	n = 15	[ABS] Abbott Cell Dyn Sapphire
6.27 ± 0.13	14.02 ± 0.23	14.05 ± 0.20	9.78 ± 0.16	14.67 ± 0.23	n = 18	[ABT] Abbott Cell Dyn Ruby
6.10 ± 0.18	13.62 ± 0.32	13.90 ± 0.00	9.43 ± 0.05	14.70 ± 0.00	n = 3	[ABU] Abbott Cell Dyn Emerald
6.34 ± 0.10	13.89 ± 0.18	13.97 ± 0.23	9.79 ± 0.15	14.59 ± 0.15	n = 21	[BTD] Siemens (Bayer)Advia 120
6.34 ± 0.12	13.84 ± 0.23	13.86 ± 0.26	9.82 ± 0.17	14.50 ± 0.29	n = 24	[BTE] Siemens (Bayer)Advia 2120
6.12 ± 0.12	13.68 ± 0.18	13.67 ± 0.27	9.41 ± 0.22	14.39 ± 0.21	n = 13	[CUL] Coulter UniCel DxH 800
6.15 ± 0.11	13.94 ± 0.25	13.87 ± 0.20	9.52 ± 0.18	14.60 ± 0.24	n = 7	[CUS] Coulter ACT 5 diff
6.13 ± 0.12	13.83 ± 0.19	13.82 ± 0.22	9.49 ± 0.15	14.42 ± 0.20	n = 25	[CUT] Coulter ACT series,not ACT5 diff
6.15 ± 0.08	13.75 ± 0.18	13.80 ± 0.16	9.64 ± 0.17	14.44 ± 0.12	n = 14	[CUW] Coulter HMX
6.15 ± 0.08	13.74 ± 0.14	13.75 ± 0.12	9.36 ± 0.10	14.50 ± 0.12	n = 75	[CUX] Coulter LH750,755
6.15 ± 0.07	13.76 ± 0.13	13.75 ± 0.14	9.40 ± 0.13	14.48 ± 0.13	n = 19	[CUY] Coulter LH 780
6.26 ± 0.07	13.80 ± 0.17	13.82 ± 0.18	9.77 ± 0.10	14.46 ± 0.18	n = 23	[CUZ] Coulter LH500
6.03 ± 0.15	13.84 ± 0.21	13.86 ± 0.23	9.39 ± 0.12	14.60 ± 0.27	n = 7	[ROB] ABX Pentra series
5.98 ± 0.21	13.65 ± 0.06	13.75 ± 0.06	9.50 ± 0.08	14.45 ± 0.19	n = 4	[SYB] Sysmex KX-21N
6.15 ± 0.06	13.75 ± 0.11	13.75 ± 0.15	9.34 ± 0.12	14.57 ± 0.16	n = 25	[SYO] Sysmex XE2100
6.13 ± 0.05	13.83 ± 0.05	13.84 ± 0.10	9.33 ± 0.05	14.70 ± 0.00	n = 3	[SYL] Sysmex XE 2100C
6.18 ± 0.07	13.73 ± 0.10	13.68 ± 0.09	9.34 ± 0.12	14.58 ± 0.07	n = 6	[SYQ] Sysmex XE 2100D(Blood Center Only)
6.11 ± 0.05	13.71 ± 0.17	13.69 ± 0.16	9.30 ± 0.07	14.53 ± 0.13	n = 22	[SYA] Sysmex XE 5000
6.12 ± 0.05	13.79 ± 0.08	13.81 ± 0.12	9.33 ± 0.07	14.57 ± 0.15	n = 24	[SYI] Sysmex XT-1800i,XT-2000i
6.10 ± 0.09	13.81 ± 0.14	13.80 ± 0.15	9.30 ± 0.13	14.60 ± 0.10	n = 5	[SYV] Sysmex XT 4000i
6.07 ± 0.06	13.90 ± 0.06	13.92 ± 0.06	9.35 ± 0.07	14.68 ± 0.10	n = 17	[SYP] Sysmex XS-1000i,XS-1000iAL

Summary of Participant Responses
Mean ± One Standard Deviation

Hematocrit (%)

Specimen: B51	Specimen: B52	Specimen: B53	Specimen: B54	Specimen: B55	Number	[Code] Instrument
18.19 ± 1.15	38.93 ± 1.54	38.94 ± 1.61	26.97 ± 1.38	41.40 ± 1.90	n = 419	[---] All Methods & Instruments
						<Instruments>
17.19 ± 0.73	37.23 ± 1.45	36.50 ± 1.86	24.46 ± 1.24	38.96 ± 1.92	n = 6	[MHC] Microhematocrit
18.89 ± 0.35	40.80 ± 1.10	40.99 ± 0.89	27.65 ± 0.70	43.51 ± 1.31	n = 4	[ABF] Abbott Cell Dyn 3500
18.79 ± 0.44	41.07 ± 0.51	40.96 ± 0.74	27.63 ± 0.14	43.15 ± 0.27	n = 3	[ABG] Abbott Cell Dyn 1700
19.46 ± 0.61	40.25 ± 0.80	40.30 ± 1.01	28.41 ± 0.59	43.19 ± 1.44	n = 4	[ABJ] Abbott Cell Dyn 1800
16.41 ± 0.50	35.12 ± 0.95	35.28 ± 0.96	23.80 ± 0.47	37.19 ± 0.93	n = 9	[ABK] Abbott Cell Dyn 3200
19.33 ± 0.35	40.90 ± 0.53	41.02 ± 0.67	27.93 ± 0.53	43.63 ± 0.40	n = 11	[ABM] Abbott Cell Dyn 3700
17.38 ± 0.26	37.56 ± 0.61	37.52 ± 0.64	25.54 ± 0.43	39.86 ± 0.61	n = 15	[ABS] Abbott Cell Dyn Sapphire
16.01 ± 0.57	34.59 ± 0.79	34.69 ± 0.74	23.32 ± 0.52	36.77 ± 0.62	n = 18	[ABT] Abbott Cell Dyn Ruby
19.14 ± 0.84	39.42 ± 0.88	40.80 ± 1.09	27.69 ± 0.85	42.53 ± 1.22	n = 3	[ABU] Abbott Cell Dyn Emerald
16.41 ± 0.43	35.60 ± 0.72	35.91 ± 0.81	24.64 ± 0.62	37.77 ± 1.01	n = 21	[BTD] Siemens (Bayer)Advia 120
16.51 ± 0.35	35.69 ± 0.91	35.55 ± 0.85	24.57 ± 0.64	37.46 ± 0.89	n = 24	[BTE] Siemens (Bayer)Advia 2120
18.35 ± 0.33	39.82 ± 0.51	39.64 ± 0.55	27.67 ± 0.48	42.25 ± 0.58	n = 13	[CUL] Coulter UniCel DxH 800
17.16 ± 0.46	38.43 ± 0.43	38.50 ± 0.47	26.01 ± 0.59	40.05 ± 0.80	n = 7	[CUS] Coulter ACT 5 diff
18.15 ± 0.48	39.14 ± 0.78	39.03 ± 1.03	26.84 ± 0.71	40.94 ± 0.89	n = 25	[CUT] Coulter ACT series,not ACT5 diff
18.28 ± 0.36	39.42 ± 0.52	39.41 ± 0.59	27.34 ± 0.36	41.88 ± 0.42	n = 14	[CUW] Coulter HMX
18.03 ± 0.27	39.45 ± 0.49	39.53 ± 0.51	27.02 ± 0.34	41.87 ± 0.49	n = 74	[CUX] Coulter LH750,755
17.94 ± 0.22	39.29 ± 0.48	39.32 ± 0.37	26.99 ± 0.28	41.80 ± 0.45	n = 20	[CUY] Coulter LH 780
18.14 ± 0.37	39.23 ± 0.57	39.13 ± 0.49	27.38 ± 0.50	41.40 ± 0.72	n = 23	[CUZ] Coulter LH500
17.31 ± 0.36	38.34 ± 0.72	38.06 ± 0.61	26.06 ± 0.23	39.67 ± 0.86	n = 7	[ROB] ABX Pentra series
18.23 ± 0.43	36.98 ± 0.43	37.27 ± 0.43	26.15 ± 0.38	39.96 ± 0.61	n = 4	[SYB] Sysmex KX-21N
19.44 ± 0.32	39.56 ± 0.43	39.62 ± 0.55	28.09 ± 0.49	42.60 ± 0.57	n = 25	[SYO] Sysmex XE2100
19.45 ± 0.20	39.58 ± 0.57	39.84 ± 0.56	28.35 ± 0.27	42.69 ± 0.75	n = 7	[SYQ] Sysmex XE 2100D(Blood Center Only)
19.23 ± 0.35	39.43 ± 0.44	39.62 ± 0.46	28.13 ± 0.49	42.54 ± 0.49	n = 22	[SYA] Sysmex XE 5000
19.53 ± 0.43	38.82 ± 0.53	38.93 ± 0.58	27.88 ± 0.37	41.99 ± 0.50	n = 24	[SYI] Sysmex XT-1800i,XT-2000i
19.75 ± 0.47	38.78 ± 0.70	39.00 ± 0.76	28.10 ± 0.73	42.38 ± 0.82	n = 5	[SYV] Sysmex XT 4000i
19.44 ± 0.39	39.29 ± 0.57	39.34 ± 0.60	27.66 ± 0.48	42.35 ± 0.69	n = 17	[SYP] Sysmex XS-1000i,XS-1000iAL

Summary of Participant Responses
Mean ± One Standard Deviation

Platelet Count (x 10^9/L)

Specimen: B51	Specimen: B52	Specimen: B53	Specimen: B54	Specimen: B55	Number	[Code] Instrument
48.3 ± 5.18	237.9 ± 19.48	238.6 ± 20.37	454.8 ± 33.92	93.3 ± 8.87	n = 415	[---] All Methods & Instruments
						<Instruments>
55.6 ± 5.28	264.1 ± 6.57	272.2 ± 12.19	519.6 ± 11.53	113.9 ± 9.78	n = 4	[ABF] Abbott Cell Dyn 3500
46.3 ± 3.16	258.5 ± 4.53	260.3 ± 7.58	470.9 ± 17.90	102.0 ± 4.60	n = 3	[ABG] Abbott Cell Dyn 1700
56.8 ± 17.78	256.6 ± 3.91	258.0 ± 0.75	477.2 ± 11.74	103.9 ± 4.54	n = 4	[ABJ] Abbott Cell Dyn 1800
68.6 ± 1.40	273.8 ± 8.44	274.0 ± 4.53	503.6 ± 16.04	130.1 ± 6.60	n = 9	[ABK] Abbott Cell Dyn 3200
55.6 ± 3.15	270.3 ± 17.40	268.7 ± 18.71	506.0 ± 25.23	104.4 ± 6.14	n = 11	[ABM] Abbott Cell Dyn 3700
55.3 ± 3.42	246.5 ± 8.62	250.3 ± 14.94	453.2 ± 17.28	105.4 ± 5.88	n = 15	[ABS] Abbott Cell Dyn Sapphire
68.2 ± 4.56	273.4 ± 10.60	279.7 ± 14.96	483.1 ± 15.89	134.8 ± 7.99	n = 18	[ABT] Abbott Cell Dyn Ruby
40.4 ± 8.97	253.4 ± 7.34	257.4 ± 7.34	504.9 ± 2.05	106.7 ± 5.97	n = 3	[ABU] Abbott Cell Dyn Emerald
52.8 ± 5.34	260.2 ± 15.67	261.2 ± 12.77	503.1 ± 27.66	102.2 ± 6.08	n = 22	[BTD] Siemens (Bayer)Advia 120
51.3 ± 2.83	256.3 ± 12.04	258.1 ± 9.05	492.1 ± 21.60	99.1 ± 5.88	n = 23	[BTE] Siemens (Bayer)Advia 2120
45.8 ± 1.64	229.0 ± 5.22	225.3 ± 4.69	435.3 ± 10.88	87.8 ± 1.51	n = 13	[CUL] Coulter UniCel DxH 800
51.5 ± 1.24	257.0 ± 7.45	257.1 ± 9.49	500.1 ± 13.24	100.7 ± 3.10	n = 7	[CUS] Coulter ACT 5 diff
47.5 ± 3.40	232.9 ± 10.91	235.2 ± 8.53	454.3 ± 12.62	91.1 ± 4.54	n = 26	[CUT] Coulter ACT series,not ACT5 diff
46.5 ± 3.60	225.8 ± 7.37	224.5 ± 8.84	440.8 ± 15.87	90.1 ± 3.47	n = 14	[CUW] Coulter HMX
48.2 ± 1.53	230.3 ± 6.08	230.6 ± 5.48	436.3 ± 12.86	93.1 ± 2.71	n = 75	[CUX] Coulter LH750,755
48.5 ± 1.52	229.4 ± 4.61	230.9 ± 4.55	434.7 ± 10.69	92.5 ± 2.31	n = 19	[CUY] Coulter LH 780
46.5 ± 2.94	227.8 ± 9.37	225.9 ± 11.72	449.4 ± 20.85	88.2 ± 3.55	n = 23	[CUZ] Coulter LH500
48.4 ± 2.03	248.2 ± 13.47	252.3 ± 11.72	480.2 ± 11.81	96.9 ± 7.35	n = 7	[ROB] ABX Pentra series
53.3 ± 3.37	249.3 ± 10.44	251.9 ± 19.85	489.6 ± 16.38	98.7 ± 4.06	n = 3	[ROC] ABX Micro
42.0 ± 1.50	250.5 ± 15.04	249.7 ± 11.19	474.7 ± 12.26	95.5 ± 5.72	n = 4	[SYB] Sysmex KX-21N
41.7 ± 2.36	209.7 ± 10.14	212.0 ± 9.59	409.0 ± 14.05	79.4 ± 4.96	n = 25	[SYO] Sysmex XE2100
52.1 ± 1.98	250.0 ± 3.68	252.9 ± 3.53	501.5 ± 10.50	96.4 ± 3.94	n = 7	[SYQ] Sysmex XE 2100D(Blood Center Only)
41.6 ± 2.37	210.1 ± 8.16	211.6 ± 5.65	406.8 ± 13.67	78.8 ± 4.80	n = 22	[SYA] Sysmex XE 5000
48.0 ± 2.43	242.2 ± 7.19	243.2 ± 7.23	464.2 ± 13.27	92.6 ± 2.80	n = 24	[SYI] Sysmex XT-1800i,XT-2000i
48.7 ± 1.38	242.7 ± 6.82	239.1 ± 5.88	471.5 ± 12.89	98.4 ± 3.86	n = 5	[SYV] Sysmex XT 4000i
44.7 ± 2.38	232.4 ± 3.40	232.8 ± 6.16	449.3 ± 7.88	87.1 ± 2.98	n = 17	[SYP] Sysmex XS-1000i,XS-1000iAL

Summary of Participant Responses
Mean ± One Standard Deviation

Prothrombin Time (seconds)

Specimen: C51	Specimen: C52	Specimen: C53	Specimen: C54	Specimen: C55	Number	[Code] Instrument or Reagent
11.93 ± 0.78	42.85 ± 7.55	11.38 ± 0.58	27.76 ± 4.22	11.39 ± 0.61	n = 322	[---] All Methods & Instruments
						<Instruments>
11.76 ± 0.97	33.23 ± 7.01	11.17 ± 1.13	22.90 ± 3.47	11.37 ± 0.69	n = 3	[BBA] BBL Fibrometer
11.25 ± 0.25	38.75 ± 1.42	11.32 ± 0.23	25.38 ± 0.94	11.26 ± 0.26	n = 19	[BEB] Dade-Behring BCS,BCSXP
13.35 ± 0.27	45.21 ± 1.89	12.53 ± 0.34	30.24 ± 1.57	12.45 ± 0.19	n = 3	[BXE] Trinity Biotech MDA
13.37 ± 0.29	47.92 ± 2.14	12.90 ± 0.34	30.75 ± 1.12	12.95 ± 0.38	n = 30	[DGC] Diagnostica Stago STA Compact
13.72 ± 0.43	48.45 ± 2.66	13.28 ± 0.75	31.44 ± 1.61	13.34 ± 0.57	n = 13	[DGD] Diagnostica Stago STA-R, STA-R Ev
12.10 ± 0.58	28.64 ± 1.95	11.68 ± 0.58	20.72 ± 1.15	11.84 ± 0.41	n = 15	[ILA] IL ACL(All models except 810,ELIT
12.08 ± 0.41	46.82 ± 11.36	11.26 ± 0.36	30.16 ± 6.08	11.32 ± 0.39	n = 35	[ILC] IL ACL Futura/Advance
11.68 ± 0.32	41.89 ± 8.41	11.10 ± 0.34	27.36 ± 4.28	11.32 ± 0.49	n = 36	[ILD] IL ACL(ELITE,ELITE PRO,8/9/10000)
12.37 ± 0.51	49.23 ± 3.13	11.46 ± 0.42	31.61 ± 1.86	11.29 ± 0.43	n = 50	[ILE] IL ACL TOP Series (ACLTOP,ACLTOP
11.36 ± 0.27	39.11 ± 2.00	10.94 ± 0.25	25.62 ± 1.21	10.92 ± 0.30	n = 38	[SYW] Sysmex CA500,540,560
11.50 ± 0.16	39.32 ± 1.49	11.30 ± 0.22	25.70 ± 0.88	11.30 ± 0.23	n = 55	[SYX] Sysmex CA 1500
11.85 ± 0.12	39.48 ± 1.32	11.52 ± 0.15	25.94 ± 0.87	11.59 ± 0.19	n = 16	[SYY] Sysmex CA 7000
15.03 ± 0.31	50.83 ± 0.95	14.85 ± 0.19	33.28 ± 0.95	14.89 ± 0.20	n = 3	[TRE] Trinity Biotech AMAX Destiny/Dest
						<Reagents>
13.48 ± 0.36	48.36 ± 2.14	13.01 ± 0.39	31.10 ± 1.20	13.07 ± 0.45	n = 43	[TA3] STA Neoplastine CL+
11.45 ± 0.29	39.24 ± 1.67	11.22 ± 0.31	25.71 ± 0.99	11.21 ± 0.35	n = 128	[TD2] Dade Innovin
11.78 ± 0.15	30.19 ± 7.20	11.46 ± 0.39	20.93 ± 3.32	11.32 ± 0.41	n = 3	[TD4] Dade Thromboplastin C+
11.86 ± 0.37	28.48 ± 1.31	11.40 ± 0.45	20.66 ± 0.85	11.64 ± 0.52	n = 36	[TJ2] HemosIL PT-Fibrinogen
12.13 ± 0.53	48.87 ± 3.82	11.29 ± 0.41	31.21 ± 2.33	11.27 ± 0.40	n = 97	[TJ8] HemosIL RecombiPlasTin 2G
15.03 ± 0.31	50.83 ± 0.95	14.85 ± 0.19	33.28 ± 0.95	14.89 ± 0.20	n = 3	[TK3] Trin Bio TriniCLOT PT ExcelS (Sim
13.10 ± 0.18	43.81 ± 1.93	12.22 ± 0.24	28.93 ± 1.34	12.25 ± 0.19	n = 3	[TK6] Trinity Biotech TriniCLOT PT HTF
12.21 ± 0.29	30.33 ± 2.23	11.90 ± 0.55	21.34 ± 0.65	11.82 ± 0.24	n = 3	[TP2] Fisher/PH Thromboplastin D

Summary of Participant Responses
Mean ± One Standard Deviation

Prothrombin Time (seconds) - continued

Specimen: C51	Specimen: C52	Specimen: C53	Specimen: C54	Specimen: C55	Number	[Code] Reagent & Instrument
13.37 ± 0.29	47.92 ± 2.14	12.90 ± 0.34	30.75 ± 1.12	12.95 ± 0.38	n = 30	[TA3]&[DGC] STA Neoplastin & Diagnostica St
13.75 ± 0.38	48.81 ± 1.38	13.39 ± 0.49	31.73 ± 1.04	13.42 ± 0.45	n = 11	[TA3]&[DGD] STA Neoplastin & Diagnostica St
11.23 ± 0.22	38.75 ± 1.42	11.31 ± 0.20	25.38 ± 0.93	11.25 ± 0.24	n = 18	[TD2]&[BEB] Dade Innovin & Dade-Behring B
11.35 ± 0.27	39.11 ± 1.99	10.93 ± 0.25	25.63 ± 1.20	10.93 ± 0.31	n = 37	[TD2]&[SYW] Dade Innovin & Sysmex CA500,5
11.50 ± 0.16	39.29 ± 1.50	11.30 ± 0.22	25.71 ± 0.89	11.29 ± 0.23	n = 54	[TD2]&[SYX] Dade Innovin & Sysmex CA 1500
11.85 ± 0.12	39.48 ± 1.32	11.52 ± 0.15	25.94 ± 0.87	11.59 ± 0.19	n = 16	[TD2]&[SYY] Dade Innovin & Sysmex CA 7000
12.02 ± 0.50	28.37 ± 1.69	11.59 ± 0.50	20.58 ± 1.08	11.78 ± 0.33	n = 13	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All mod
11.75 ± 0.31	28.37 ± 1.34	11.06 ± 0.24	20.69 ± 0.80	11.09 ± 0.40	n = 12	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Futura/
11.85 ± 0.35	28.77 ± 0.87	11.59 ± 0.39	20.78 ± 0.68	11.97 ± 0.21	n = 10	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELITE,E
12.25 ± 0.33	52.23 ± 2.46	11.37 ± 0.37	33.02 ± 1.92	11.45 ± 0.31	n = 21	[TJ8]&[ILC] HemosIL Recomb & IL ACL Futura/
11.63 ± 0.29	45.85 ± 2.33	10.99 ± 0.23	29.22 ± 1.50	11.12 ± 0.32	n = 26	[TJ8]&[ILD] HemosIL Recomb & IL ACL(ELITE,E
12.38 ± 0.51	49.30 ± 3.14	11.45 ± 0.42	31.60 ± 1.89	11.27 ± 0.42	n = 49	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP Ser
15.03 ± 0.31	50.83 ± 0.95	14.85 ± 0.19	33.28 ± 0.95	14.89 ± 0.20	n = 3	[TK3]&[TRE] Trin Bio Trini & Trinity Biotec

Summary of Participant Responses
Mean ± One Standard Deviation

Act Partial Thromboplastin Time (seconds)

Specimen: C51	Specimen: C52	Specimen: C53	Specimen: C54	Specimen: C55	Number	[Code] Instrument or Reagent
31.25 ± 1.99	75.07 ± 7.19	27.96 ± 1.72	57.62 ± 6.23	28.08 ± 1.68	n = 314	[---] All Methods & Instruments
						<Instruments>
29.39 ± 1.39	68.13 ± 2.94	26.67 ± 1.28	52.83 ± 1.80	26.66 ± 1.43	n = 19	[BEB] Dade-Behring BCS,BCSXP
27.90 ± 1.28	70.91 ± 2.49	25.88 ± 0.88	53.35 ± 0.45	25.93 ± 1.97	n = 3	[BXE] Trinity Biotech MDA
32.34 ± 1.18	72.36 ± 3.71	28.52 ± 3.74	54.52 ± 2.19	29.61 ± 0.85	n = 3	[DGB] Diagnostica Stago STA
32.97 ± 1.26	71.72 ± 3.83	30.29 ± 1.04	54.30 ± 3.03	30.10 ± 0.89	n = 28	[DGC] Diagnostica Stago STA Compact
31.20 ± 1.25	70.03 ± 0.68	29.56 ± 0.87	52.80 ± 1.38	29.64 ± 0.91	n = 12	[DGD] Diagnostica Stago STA-R, STA-R Ev
29.31 ± 1.33	67.71 ± 2.70	27.41 ± 1.21	52.42 ± 1.68	27.88 ± 1.08	n = 17	[ILA] IL ACL(All models except 810,ELIT
31.40 ± 1.64	85.42 ± 2.31	28.05 ± 1.13	65.74 ± 1.58	28.10 ± 1.09	n = 35	[ILC] IL ACL Futura/Advance
30.24 ± 1.43	78.59 ± 7.55	27.74 ± 1.09	61.65 ± 5.55	28.25 ± 1.21	n = 33	[ILD] IL ACL(ELITE,ELITE PRO,8/9/10000)
33.20 ± 1.15	81.23 ± 2.31	29.12 ± 0.95	63.27 ± 2.04	28.99 ± 0.96	n = 49	[ILE] IL ACL TOP Series (ACLTOP,ACLTOP
30.04 ± 1.42	71.72 ± 3.71	26.03 ± 1.40	53.54 ± 3.40	25.95 ± 1.43	n = 36	[SYW] Sysmex CA500,540,560
31.37 ± 1.30	72.99 ± 2.78	27.71 ± 1.08	55.51 ± 2.16	27.73 ± 1.13	n = 55	[SYX] Sysmex CA 1500
31.34 ± 1.14	71.22 ± 2.26	27.62 ± 1.02	54.22 ± 1.43	27.62 ± 1.22	n = 14	[SYY] Sysmex CA 7000
31.50 ± 1.44	84.88 ± 7.94	29.80 ± 0.55	62.31 ± 4.93	29.89 ± 1.08	n = 3	[TRE] Trinity Biotech AMAX Destiny/Dest
						<Reagents>
32.52 ± 1.39	71.13 ± 3.52	30.09 ± 1.02	53.78 ± 2.73	29.91 ± 0.81	n = 41	[AA2] Diagnostica Stago STA PTT-Auto
30.52 ± 1.40	103.82 ± 15.44	26.54 ± 1.26	75.85 ± 10.20	26.67 ± 0.85	n = 6	[AD2] Dade Actin
30.20 ± 0.64	123.31 ± 3.24	27.44 ± 0.55	94.38 ± 1.89	27.28 ± 0.56	n = 6	[AD3] Dade Actin FS
30.70 ± 1.64	71.83 ± 3.52	27.07 ± 1.44	54.45 ± 2.64	27.07 ± 1.54	n = 114	[AD4] Dade Actin FSL
28.83 ± 1.04	68.09 ± 2.25	26.95 ± 1.37	52.86 ± 1.97	27.51 ± 1.54	n = 29	[AJ3] HemosIL Test APTT-SP
29.79 ± 2.72	79.03 ± 2.21	27.85 ± 2.97	59.70 ± 3.85	27.68 ± 3.45	n = 5	[AK3] Trin Bio TriniCLOT aPTTS (Plateli
27.20 ± 0.00	68.97 ± 1.06	25.33 ± 0.14	52.18 ± 1.67	24.95 ± 0.19	n = 3	[AK5] Trinity Biotech MDA Platelin L
32.16 ± 1.61	82.59 ± 3.32	28.58 ± 1.07	64.32 ± 2.40	28.67 ± 1.01	n = 104	[AO4] HemosIL SynthASil

Summary of Participant Responses
Mean ± One Standard Deviation

Act Partial Thromboplastin Time (seconds) - continued

Specimen: C51	Specimen: C52	Specimen: C53	Specimen: C54	Specimen: C55	Number	[Code] Reagent & Instrument
32.34 ± 1.18	72.36 ± 3.71	28.52 ± 3.74	54.52 ± 2.19	29.61 ± 0.85	n = 3	[AA2]&[DGB] Diagnostica St & Diagnostica St
32.97 ± 1.26	71.72 ± 3.83	30.29 ± 1.04	54.30 ± 3.03	30.10 ± 0.89	n = 28	[AA2]&[DGC] Diagnostica St & Diagnostica St
31.36 ± 1.02	70.03 ± 0.67	29.59 ± 0.61	52.82 ± 1.35	29.70 ± 0.50	n = 10	[AA2]&[DGD] Diagnostica St & Diagnostica St
30.15 ± 0.38	122.28 ± 2.65	27.73 ± 0.42	95.03 ± 1.25	27.55 ± 0.55	n = 4	[AD3]&[SYX] Dade Actin FS & Sysmex CA 1500
29.28 ± 1.35	68.11 ± 2.89	26.58 ± 1.17	52.84 ± 1.80	26.53 ± 1.32	n = 16	[AD4]&[BEB] Dade Actin FSL & Dade-Behring B
29.94 ± 1.45	71.72 ± 3.71	25.96 ± 1.45	53.53 ± 3.39	25.85 ± 1.49	n = 33	[AD4]&[SYW] Dade Actin FSL & Sysmex CA500,5
31.52 ± 1.27	73.08 ± 2.73	27.75 ± 1.11	55.58 ± 2.10	27.80 ± 1.15	n = 49	[AD4]&[SYX] Dade Actin FSL & Sysmex CA 1500
31.34 ± 1.14	71.22 ± 2.26	27.62 ± 1.02	54.22 ± 1.43	27.62 ± 1.22	n = 14	[AD4]&[SYY] Dade Actin FSL & Sysmex CA 7000
28.86 ± 0.95	67.48 ± 2.66	27.07 ± 1.13	52.22 ± 1.49	27.65 ± 1.08	n = 13	[AJ3]&[ILA] HemosIL Test A & IL ACL(All mod
28.04 ± 0.85	67.31 ± 1.35	25.27 ± 0.90	51.60 ± 1.83	25.42 ± 1.25	n = 5	[AJ3]&[ILC] HemosIL Test A & IL ACL Futura/
29.18 ± 1.04	69.19 ± 1.66	27.27 ± 0.80	54.25 ± 1.47	27.80 ± 1.21	n = 10	[AJ3]&[ILD] HemosIL Test A & IL ACL(ELITE,E
31.50 ± 1.44	84.88 ± 7.94	29.80 ± 0.55	62.31 ± 4.93	29.89 ± 1.08	n = 3	[AK3]&[TRE] Trin Bio Trini & Trinity Biotec
30.49 ± 1.13	83.92 ± 9.48	28.25 ± 0.67	65.10 ± 6.64	28.47 ± 0.61	n = 4	[AO4]&[ILA] HemosIL SynthA & IL ACL(All mod
31.70 ± 1.11	85.28 ± 2.30	28.26 ± 0.80	65.72 ± 1.49	28.31 ± 0.86	n = 28	[AO4]&[ILC] HemosIL SynthA & IL ACL Futura/
30.65 ± 1.26	82.34 ± 3.76	27.96 ± 1.10	64.40 ± 2.62	28.44 ± 1.14	n = 23	[AO4]&[ILD] HemosIL SynthA & IL ACL(ELITE,E
33.16 ± 1.13	81.24 ± 2.29	29.09 ± 0.94	63.28 ± 2.02	28.96 ± 0.93	n = 48	[AO4]&[ILE] HemosIL SynthA & IL ACL TOP Ser

Summary of Participant Responses
Mean ± One Standard Deviation

Fibrinogen (mg/dL)

Specimen: C51	Specimen: C52	Specimen: C53	Specimen: C54	Specimen: C55	Number	[Code] Instrument or Reagent
463.5 ± 64.37	275.8 ± 39.01	279.4 ± 31.15	276.5 ± 34.89	281.7 ± 32.03	n = 213	[---] All Methods & Instruments
						<Instruments>
533.8 ± 41.45	299.0 ± 22.76	296.8 ± 19.42	301.6 ± 21.67	303.9 ± 20.86	n = 18	[BEB] Dade-Behring BCS,BCSXP
503.3 ± 36.84	277.1 ± 16.52	287.2 ± 16.35	277.6 ± 12.93	286.0 ± 15.04	n = 25	[DGC] Diagnostica Stago STA Compact
487.4 ± 18.51	268.0 ± 8.28	280.3 ± 11.65	267.2 ± 11.13	280.2 ± 14.18	n = 13	[DGD] Diagnostica Stago STA-R, STA-R Ev
487.2 ± 6.86	393.5 ± 22.59	321.2 ± 17.73	401.3 ± 27.09	325.2 ± 13.32	n = 4	[ILA] IL ACL(All models except 810,ELIT
406.1 ± 63.65	362.0 ± 44.63	264.8 ± 34.58	331.3 ± 34.52	266.8 ± 35.31	n = 28	[ILC] IL ACL Futura/Advance
553.7 ± 61.22	354.2 ± 95.09	319.2 ± 15.68	324.6 ± 75.85	317.7 ± 13.30	n = 11	[ILD] IL ACL(ELITE,ELITE PRO,8/9/10000)
485.2 ± 50.87	282.0 ± 32.25	301.4 ± 26.79	283.7 ± 31.55	306.4 ± 21.54	n = 45	[ILE] IL ACL TOP Series (ACLTOP,ACLTOP
420.1 ± 31.05	243.4 ± 5.33	258.1 ± 5.31	250.4 ± 9.91	257.7 ± 13.88	n = 5	[SYW] Sysmex CA500,540,560
418.1 ± 22.19	249.7 ± 10.66	255.4 ± 13.22	249.8 ± 11.48	255.0 ± 13.48	n = 44	[SYX] Sysmex CA 1500
418.6 ± 18.48	249.9 ± 14.99	253.1 ± 13.81	247.5 ± 11.36	251.9 ± 10.92	n = 12	[SYY] Sysmex CA 7000
						<Reagents>
477.8 ± 30.71	397.6 ± 40.61	314.9 ± 25.52	377.0 ± 34.57	315.4 ± 24.62	n = 14	[TJ2] HemosIL PT-Fibrinogen
423.7 ± 61.83	336.6 ± 37.85	290.6 ± 44.89	319.4 ± 17.51	291.9 ± 43.24	n = 36	[TJ8] HemosIL RecombiPlasTin 2G
498.1 ± 32.05	274.3 ± 16.05	285.1 ± 15.17	274.3 ± 13.71	284.4 ± 15.25	n = 39	[FA4] Stago STA-Fibrinogen 5
542.2 ± 28.14	304.7 ± 19.59	298.7 ± 20.37	304.3 ± 19.46	305.5 ± 21.67	n = 15	[FB2] Behring Multifibren U
418.9 ± 24.32	249.8 ± 12.11	256.0 ± 14.04	250.0 ± 12.04	255.4 ± 14.29	n = 64	[FD2] Dade Fib (thrombin)
513.9 ± 59.68	272.2 ± 18.60	301.4 ± 18.54	272.9 ± 15.40	304.6 ± 17.24	n = 26	[FJ2] HemosIL Fibrinogen C,XL
424.5 ± 17.13	264.9 ± 11.54	270.1 ± 14.68	266.1 ± 10.97	271.8 ± 16.69	n = 3	[FM1] Kamiya K-Assay Fibrinogen
539.1 ± 67.95	254.9 ± 29.12	269.5 ± 24.14	256.2 ± 25.52	286.5 ± 20.06	n = 11	[FO3] HemosIL QFA(bovine)

Summary of Participant Responses
Mean ± One Standard Deviation

Fibrinogen (mg/dL) - continued

Specimen: C51	Specimen: C52	Specimen: C53	Specimen: C54	Specimen: C55	Number	[Code] Reagent & Instrument
487.2 ± 6.86	393.5 ± 22.59	321.2 ± 17.73	401.3 ± 27.09	325.2 ± 13.32	n = 4	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All mod
463.9 ± 40.44	384.9 ± 50.95	300.8 ± 29.09	371.8 ± 36.84	299.4 ± 26.06	n = 7	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Futura/
482.7 ± 39.96	421.4 ± 32.66	327.9 ± 18.05	359.7 ± 18.48	331.7 ± 23.79	n = 3	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELITE,E
364.7 ± 12.19	370.8 ± 11.85	243.2 ± 10.12	331.8 ± 13.65	245.7 ± 11.35	n = 15	[TJ8]&[ILC] HemosIL Recomb & IL ACL Futura/
467.7 ± 13.18	309.7 ± 11.91	321.2 ± 8.25	309.7 ± 12.52	321.5 ± 8.77	n = 19	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP Ser
503.3 ± 36.84	277.1 ± 16.52	287.2 ± 16.35	277.6 ± 12.93	286.0 ± 15.04	n = 25	[FA4]&[DGC] Stago STA-Fibr & Diagnostica St
487.4 ± 18.51	268.0 ± 8.28	280.3 ± 11.65	267.2 ± 11.13	280.2 ± 14.18	n = 13	[FA4]&[DGD] Stago STA-Fibr & Diagnostica St
542.2 ± 28.14	304.7 ± 19.59	298.7 ± 20.37	304.3 ± 19.46	305.5 ± 21.67	n = 15	[FB2]&[BEB] Behring Multif & Dade-Behring B
442.9 ± 46.99	271.9 ± 8.31	288.7 ± 11.29	286.5 ± 25.25	297.0 ± 15.32	n = 3	[FD2]&[BEB] Dade Fib (thro & Dade-Behring B
420.1 ± 31.05	243.4 ± 5.33	258.1 ± 5.31	250.4 ± 9.91	257.7 ± 13.88	n = 5	[FD2]&[SYW] Dade Fib (thro & Sysmex CA500,5
418.1 ± 22.19	249.7 ± 10.66	255.4 ± 13.22	249.8 ± 11.48	255.0 ± 13.48	n = 44	[FD2]&[SYX] Dade Fib (thro & Sysmex CA 1500
418.6 ± 18.48	249.9 ± 14.99	253.1 ± 13.81	247.5 ± 11.36	251.9 ± 10.92	n = 12	[FD2]&[SYY] Dade Fib (thro & Sysmex CA 7000
483.6 ± 23.22	281.4 ± 17.80	305.0 ± 17.77	278.4 ± 14.32	308.4 ± 20.55	n = 4	[FJ2]&[ILC] HemosIL Fibrin & IL ACL Futura/
592.8 ± 34.01	288.3 ± 11.31	313.3 ± 8.08	279.3 ± 5.52	312.4 ± 7.79	n = 6	[FJ2]&[ILD] HemosIL Fibrin & IL ACL(ELITE,E
497.6 ± 47.56	264.1 ± 15.62	294.4 ± 19.19	267.8 ± 17.74	299.5 ± 17.84	n = 16	[FJ2]&[ILE] HemosIL Fibrin & IL ACL TOP Ser
541.0 ± 72.62	252.0 ± 29.41	266.4 ± 23.22	253.2 ± 25.59	283.8 ± 18.44	n = 10	[FO3]&[ILE] HemosIL QFA(bo & IL ACL TOP Ser

Summary of Participant Responses
Mean ± One Standard Deviation

INR (International Normalized Ratio)

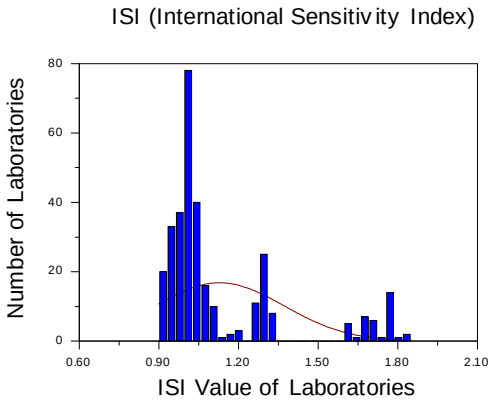
Specimen: C51	Specimen: C52	Specimen: C53	Specimen: C54	Specimen: C55	Number	[Code] Instrument or Reagent
1.074 ± 0.053	4.175 ± 0.544	1.029 ± 0.060	2.644 ± 0.246	1.029 ± 0.059	n = 322	[---] All Methods & Instruments
						<Instruments>
1.025 ± 0.046	4.360 ± 0.918	1.017 ± 0.031	2.575 ± 0.198	1.000 ± 0.000	n = 3	[BBA] BBL Fibrometer
1.055 ± 0.052	4.005 ± 0.189	1.065 ± 0.049	2.620 ± 0.114	1.067 ± 0.050	n = 19	[BEB] Dade-Behring BCS,BCSXP
1.089 ± 0.066	4.567 ± 0.106	1.014 ± 0.074	2.827 ± 0.104	1.002 ± 0.069	n = 3	[BXE] Trinity Biotech MDA
1.036 ± 0.041	5.461 ± 0.386	0.999 ± 0.034	3.076 ± 0.181	0.997 ± 0.038	n = 30	[DGC] Diagnostica Stago STA Compact
1.048 ± 0.053	5.233 ± 0.591	1.020 ± 0.061	3.027 ± 0.253	1.023 ± 0.046	n = 13	[DGD] Diagnostica Stago STA-R, STA-R Ev
1.026 ± 0.122	4.729 ± 0.582	0.962 ± 0.133	2.682 ± 0.338	0.984 ± 0.126	n = 17	[ILA] IL ACL(All models except 810,ELIT
1.083 ± 0.060	4.318 ± 0.328	1.001 ± 0.058	2.746 ± 0.159	1.002 ± 0.057	n = 35	[ILC] IL ACL Futura/Advance
1.043 ± 0.062	4.328 ± 0.298	0.996 ± 0.048	2.700 ± 0.142	1.015 ± 0.051	n = 34	[ILD] IL ACL(ELITE,ELITE PRO,8/9/10000)
1.089 ± 0.045	4.130 ± 0.260	1.009 ± 0.039	2.690 ± 0.152	1.001 ± 0.035	n = 49	[ILE] IL ACL TOP Series (ACLTOP,ACLTOP
1.093 ± 0.038	3.866 ± 0.298	1.061 ± 0.042	2.495 ± 0.162	1.055 ± 0.049	n = 39	[SYW] Sysmex CA500,540,560
1.091 ± 0.026	3.804 ± 0.151	1.069 ± 0.041	2.462 ± 0.104	1.068 ± 0.041	n = 55	[SYX] Sysmex CA 1500
1.100 ± 0.000	3.838 ± 0.116	1.100 ± 0.000	2.461 ± 0.082	1.100 ± 0.000	n = 16	[SYY] Sysmex CA 7000
1.028 ± 0.068	4.000 ± 0.144	1.016 ± 0.065	2.509 ± 0.145	1.020 ± 0.064	n = 3	[TRE] Trinity Biotech AMAX Destiny/Dest
						<Reagents>
1.042 ± 0.046	5.438 ± 0.369	1.002 ± 0.038	3.083 ± 0.176	1.004 ± 0.041	n = 43	[TA3] STA Neoplastine CL+
1.090 ± 0.033	3.843 ± 0.197	1.070 ± 0.041	2.494 ± 0.129	1.068 ± 0.044	n = 129	[TD2] Dade Innovin
1.003 ± 0.041	4.507 ± 0.654	0.982 ± 0.087	2.489 ± 0.335	0.950 ± 0.100	n = 3	[TD4] Dade Thromboplastin C+
1.030 ± 0.100	4.632 ± 0.481	0.958 ± 0.087	2.689 ± 0.261	0.985 ± 0.093	n = 35	[TJ2] HemosIL PT-Fibrinogen
1.082 ± 0.050	4.192 ± 0.268	1.010 ± 0.043	2.711 ± 0.147	1.008 ± 0.039	n = 97	[TJ8] HemosIL RecombiPlasTin 2G
1.028 ± 0.068	4.000 ± 0.144	1.016 ± 0.065	2.509 ± 0.145	1.020 ± 0.064	n = 3	[TK3] Trin Bio TriniCLOT PT ExcelS (Sim
1.070 ± 0.064	4.488 ± 0.180	0.990 ± 0.075	2.770 ± 0.140	0.985 ± 0.065	n = 4	[TK6] Trinity Biotech TriniCLOT PT HTF
0.997 ± 0.086	4.608 ± 0.636	0.963 ± 0.122	2.559 ± 0.226	0.944 ± 0.102	n = 3	[TP2] Fisher/PH Thromboplastin D

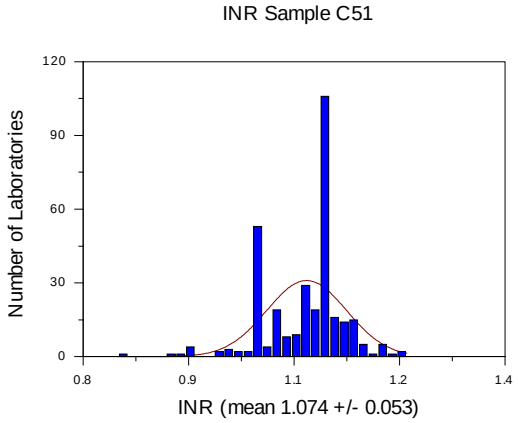
Summary of Participant Responses
Mean ± One Standard Deviation

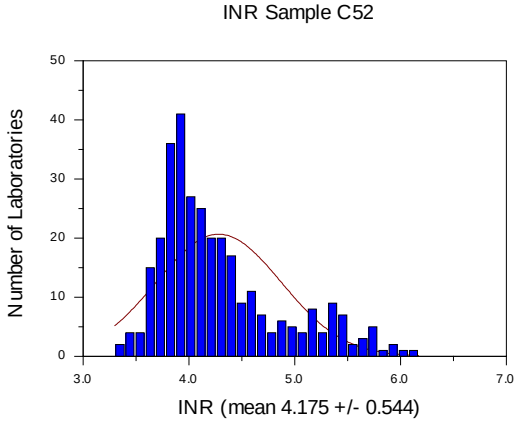
INR (International Normalized Ratio) - continued

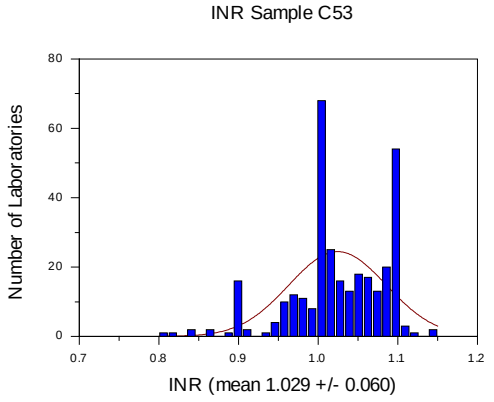
Specimen: C51	Specimen: C52	Specimen: C53	Specimen: C54	Specimen: C55	Number	[Code] Reagent & Instrument
1.036 ± 0.041	5.461 ± 0.386	0.999 ± 0.034	3.076 ± 0.181	0.997 ± 0.038	n = 30	[TA3]&[DGC] STA Neoplastin & Diagnostica St
1.049 ± 0.054	5.321 ± 0.255	1.023 ± 0.048	3.087 ± 0.181	1.020 ± 0.046	n = 11	[TA3]&[DGD] STA Neoplastin & Diagnostica St
1.056 ± 0.054	4.005 ± 0.187	1.065 ± 0.051	2.616 ± 0.098	1.071 ± 0.048	n = 18	[TD2]&[BEB] Dade Innovin & Dade-Behring B
1.094 ± 0.036	3.851 ± 0.272	1.062 ± 0.041	2.501 ± 0.160	1.055 ± 0.049	n = 38	[TD2]&[SYW] Dade Innovin & Sysmex CA500,5
1.092 ± 0.025	3.807 ± 0.152	1.071 ± 0.040	2.465 ± 0.102	1.069 ± 0.040	n = 54	[TD2]&[SYX] Dade Innovin & Sysmex CA 1500
1.100 ± 0.000	3.838 ± 0.116	1.100 ± 0.000	2.461 ± 0.082	1.100 ± 0.000	n = 16	[TD2]&[SYY] Dade Innovin & Sysmex CA 7000
1.038 ± 0.124	4.770 ± 0.609	0.969 ± 0.132	2.701 ± 0.340	1.002 ± 0.121	n = 15	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All mod
1.054 ± 0.082	4.565 ± 0.378	0.936 ± 0.060	2.690 ± 0.208	0.940 ± 0.068	n = 11	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Futura/
0.981 ± 0.065	4.555 ± 0.313	0.975 ± 0.053	2.647 ± 0.178	1.018 ± 0.060	n = 8	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELITE,E
1.098 ± 0.040	4.253 ± 0.254	1.022 ± 0.038	2.771 ± 0.139	1.022 ± 0.035	n = 22	[TJ8]&[ILC] HemosIL Recomb & IL ACL Futura/
1.057 ± 0.053	4.267 ± 0.265	1.001 ± 0.046	2.710 ± 0.131	1.014 ± 0.048	n = 26	[TJ8]&[ILD] HemosIL Recomb & IL ACL(ELITE,E
1.090 ± 0.044	4.125 ± 0.262	1.009 ± 0.040	2.685 ± 0.151	1.000 ± 0.035	n = 48	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP Ser
1.028 ± 0.068	4.000 ± 0.144	1.016 ± 0.065	2.509 ± 0.145	1.020 ± 0.064	n = 3	[TK3]&[TRE] Trin Bio Trini & Trinity Biotec
1.089 ± 0.066	4.567 ± 0.106	1.014 ± 0.074	2.827 ± 0.104	1.002 ± 0.069	n = 3	[TK6]&[BXE] Trinity Biotec & Trinity Biotec

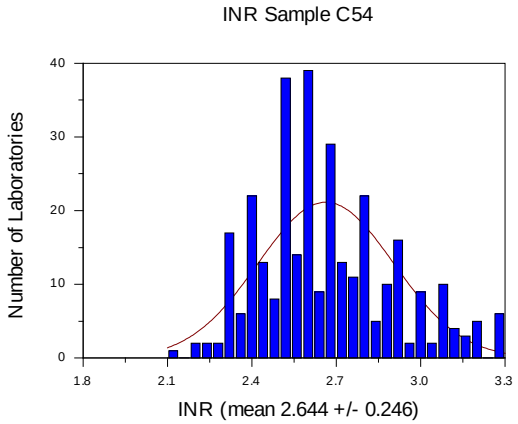
Hematology Proficiency Test Event
October 11, 2011
International Sensitivity Index (ISI) and International Normalized Ratio (INR)

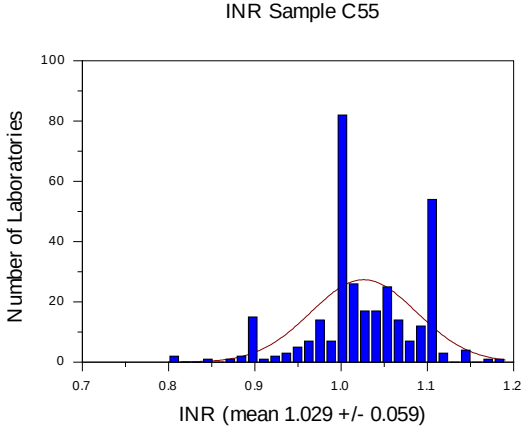






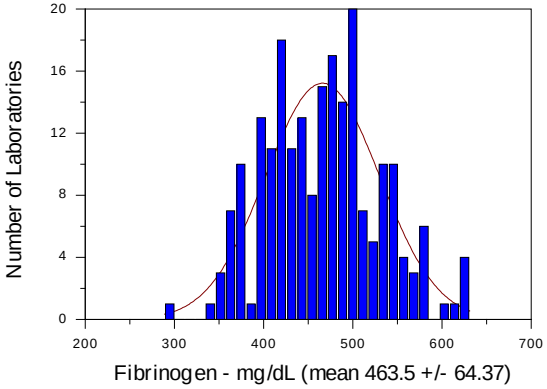




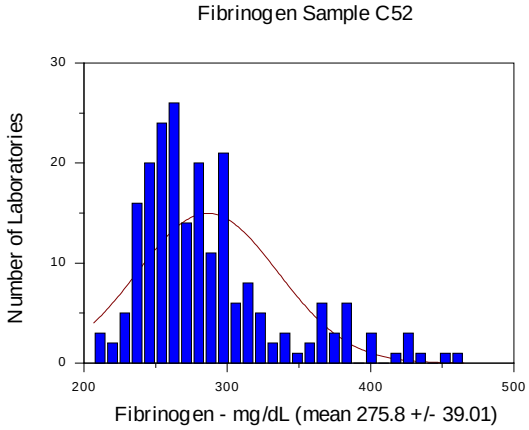


Hematology Proficiency Test Event
October 11, 2011
Fibrinogen Data

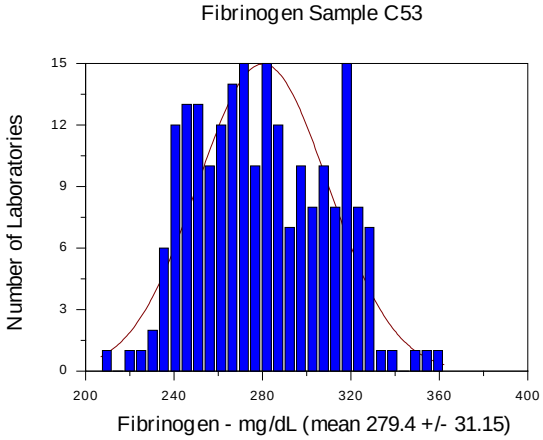
Fibrinogen Sample C51



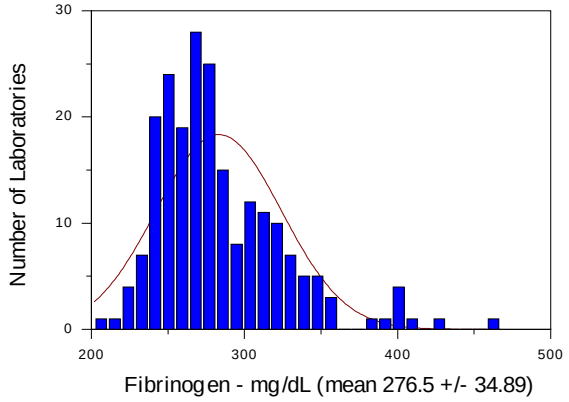
Fibrinogen Sample C52



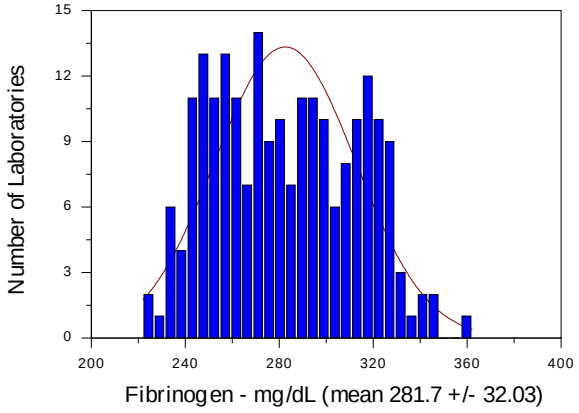
Fibrinogen Sample C53



Fibrinogen Sample C54



Fibrinogen Sample C55

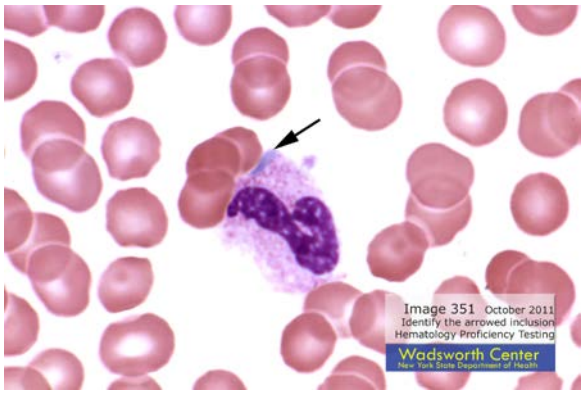


NEW YORK STATE HEMATOLOGY PROFICIENCY TESTING PROGRAM

October 11, 2011

Images on the Hematology and Clinical Chemistry web page: http://www.wadsworth.org/chemheme/cellPT were used to test all laboratories that perform manual white cell differentials. A summary of responses appear below, acceptable responses are shown in shaded areas.

Image 351



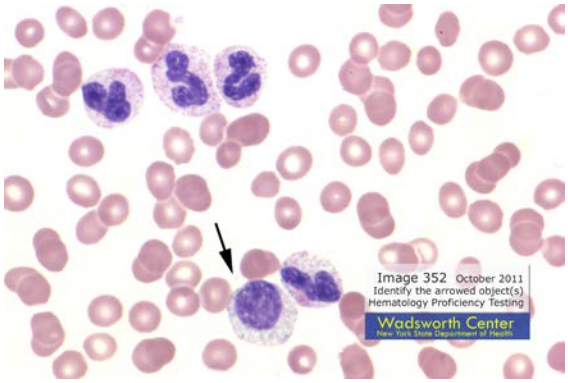
The arrowed cytoplasmic inclusion in Image 351 is pale blue and has an irregular shape. It is a Döhle body as correctly identified by 99.7% of participants. Döhle bodies are remnants of rough endoplasmic reticulum named after German pathologist Karl Gottfried Paul Döhle, who first described these inclusions.

Rough endoplasmic reticulum (ER) appears rough under the microscope in contrast to smooth ER. ER is a cellular organelle that forms an interconnected network of tubules, vesicles, and cisternae within cells. Rough ER synthesize proteins and stains blue because of the presence of RNA. In normal maturation ER is eliminated from myeloid cells before they enter circulation.

Döhle bodies appear in cells of the peripheral smear when the marrow is challenged to accelerate cell production. Consequently, cells are released to the peripheral blood before full maturation. Such demand is commonly found in cases of infection, trauma, and malignancy.

Number of Responses	Percent of Laboratories	Cell type or finding
366	**99.7%**	**Döhle body**
1	0.3%	Auer rod

Image 352

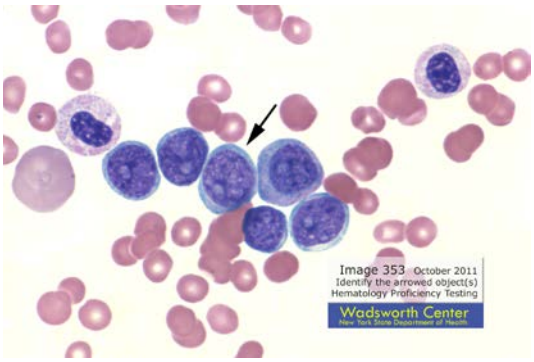


The nucleus of the arrowed cell in Image 352 is round and eccentrically located. The nuclear chromatin is clumped. The cell in Image 352 is a myelocyte as correctly reported by 92.4% of participants.

Fourteen responders identified the arrowed cell in Image 352 as a metamyelocyte. A metamyelocyte is classified by the characteristic indentation of the nucleus. The indentation signifies the cell has begun transition to the more mature metamyelocytic form. The nucleus of the cell in Image 352 is round and does not display an area of indentation.

Number of Responses	Percent of Laboratories	Cell type or finding
339	**92.4%**	**Myelocyte**
14	3.8%	Metamyelocyte
8	2.2%	Neutrophil with Pelger Huët nucleus
3	0.8%	Monocyte
1	0.3%	Band neutrophil
1	0.3%	Normal lymphocyte
1	0.3%	Reactive/Atypical lymphocyte

Image 353

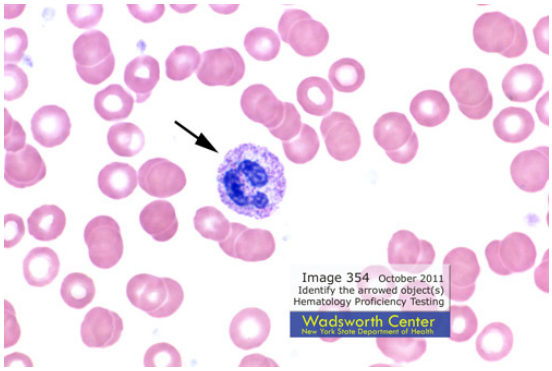


The prominent features in the arrowed cell of Image 353 are the eye catching distinct nucleoli. The nucleoli, smooth chromatin, high nucleus to cytoplasm ratio and the appearance of accompanying cells aid in the correct identification of the arrowed cell as a blast cell. Ninety-nine percent of participants concurred.

Without lineage specific markers such as Auer rods, granules or specific stain studies it is not possible to accurately identify the lineage of a blast cell. All blast forms were acceptable responses.

Number of Responses	Percent of Laboratories	Cell type or finding
342	**93.2%**	**Blast cell, not classified**
17	**4.6%**	**Myeloblast**
5	**1.4%**	**Lymphoblast**
3	0.8%	Lymphoma/Sézary cell

Image 354

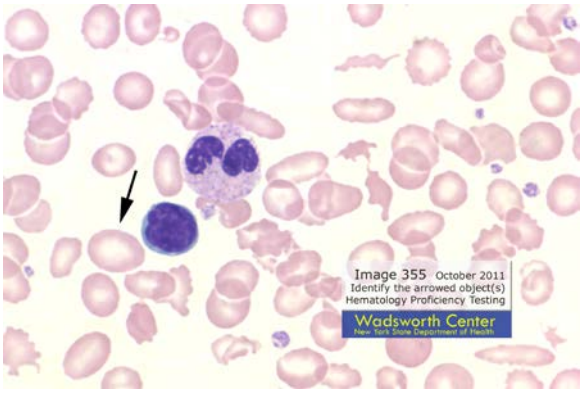


The granules in the cytoplasm of the arrowed cell in Image 354 are larger and darker than normal neutrophilic granules and are classified as toxic granules. The presence of a significant amount of toxic granules gives the neutrophil a bluish appearance. The arrowed cell in Image 354 is a segmented neutrophil with toxic granulation as correctly identified by 309 participants.

Toxic granules are thought to be primary granules and appear in the cells of the peripheral blood under conditions of acute infections, burns and drug poisoning.

Number of Responses	Percent of Laboratories	Cell type or finding
309	**84.2%**	**Segmented/band neutrophil with toxic granulation**
57	15.5%	Segmented neutrophil
1	0.3%	Band neutrophil

Image 355



The arrowed red blood cell in Image 355 is large, oval, and hypochromic. These three characteristics were correctly identified as such by 98% of participants. The image was taken from a case of β-Thalassemia Major (post-splenectomy), a hereditary hypochromic anemia. The types of cells present in the image; target cells, elliptocytes, acanthocytes, schistocytes are expected findings in such a case.

Most participants chose to classify the cell in Image 355 as erythrocyte-macrocytic. Macrocytes can be round or oval. “Oval macrocytes are more clinically worrisome. They are most commonly associated with B_{12} or folic acid deficiency. Dietary deficiency, increased physiologic demand, or increased loss by malabsorption are the usual causes of deficits. Lack of either factor affects DNA synthesis in rapidly dividing cells with effects present in the epithelia throughout the body as well as in blood cells”. Glassy, E.T. Color Atlas of Hematology, CAP Northfield, 1998, p. 86.

Oval macrocytes are also caused by abnormal red cell maturation and may be observed in chronic infection, malignancy, and anemia.

Number of Responses	Percent of Laboratories	Cell type or finding
207	**56.4%**	**Erythrocyte - macrocytic**
101	**27.5%**	**Elliptocyte / Ovalocyte**
52	**14.2%**	**Erythrocyte - hypochromic**
7	1.9%	Erythrocyte - normal